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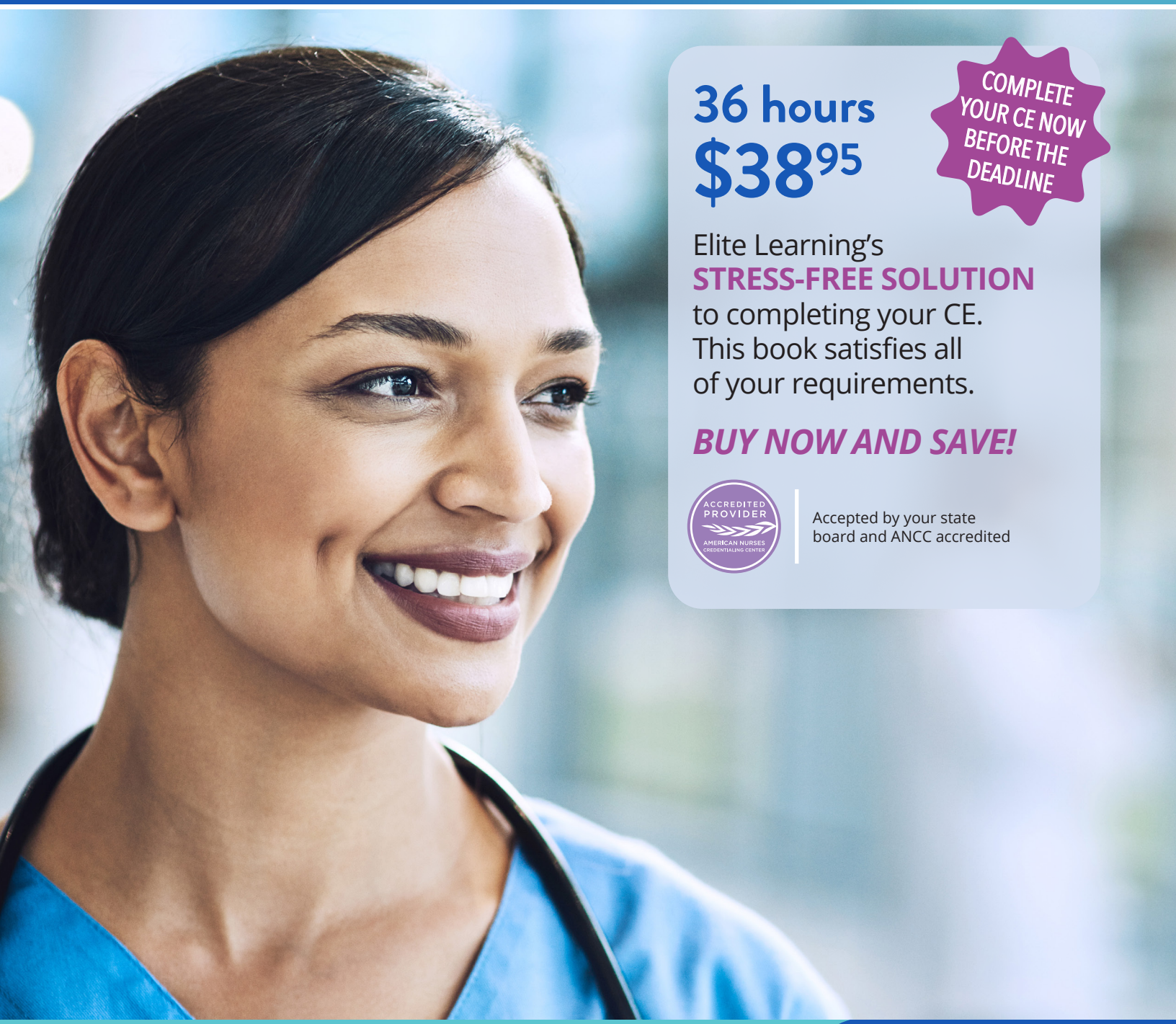

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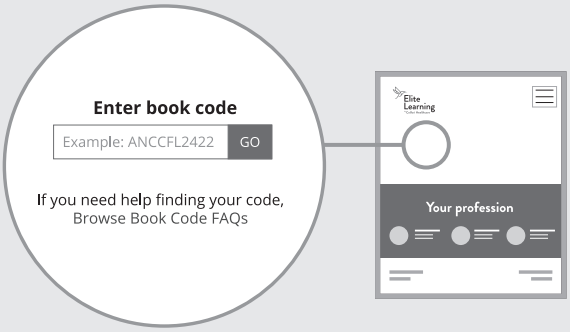

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Asthma: A Comprehensive Overview

4 Contact Hours

Release Date: June 28, 2021

Expiration Date: June 28, 2024

Faculty

Judith Quaranta, PhD, RN, CPN, AE-C, FNAP, is an Associate Professor in the Decker College of Nursing and Health Sciences, Binghamton University. She received her PhD from the Decker School of Nursing, with her dissertation focusing on asthma management for school nurses. Dr. Quaranta's research focus is on barriers and facilitators for asthma management as well as factors that impact asthma and asthma development. As a Train the Trainer for the American Lung Association's *Open Airways for Schools* curriculum, she has worked collaboratively with the Broome County Health Department, the Asthma Coalition of the Southern Tier, United Health Services Hospital, and the local American Lung Association to implement this program in local schools. She has presented at multiple national conferences on the topic of asthma and self-management and authored manuscripts for journals including the *Public Health Nursing, Journal of School Nursing, Journal of Asthma and Allergy Educators, Online Journal of Rural Nursing, Journal of Family Social Work, Journal of Interprofessional Care*, in addition to authoring textbook chapters on research and community and public health.

Judith Quaranta has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Reviewer: Karen Meyerson, MSN, RN, FNP-C, AE-C, is Director of Commercial Care Management for Priority Health, the second largest health plan in the state of Michigan. Karen previously served as Manager of the Asthma Network of West Michigan (ANWM), a nationally recognized asthma coalition serving western Michigan. She has served as a national speaker/consultant and has lectured extensively on asthma for professional and lay audiences. Karen graduated with her Bachelor of Science degree in nursing from the University of Wisconsin-Madison and her Master of Science degree in Nursing from Grand Valley State University in Grand Rapids, Michigan. A board-certified family nurse practitioner, Karen specialized in asthma and allergies in private practice for 9 years. At the national level, Karen was elected to the National Asthma Educator Certification Board (NAECB), where she now serves as an Emeritus member, and has presented on asthma-related issues at Congressional Briefings on Capitol Hill in Washington, DC.

Karen Meyerson has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Course overview

This course defines asthma and frames its discussion in accordance with the Expert Panel Report 3 ([EPR3]; National Heart, Lung, and Blood Institute [NHLBI], 2007), the 2020 Focused Updates to the EPR3 (Expert Panel Working Group of the NHLBI et al., 2020), and the Global Initiative for Asthma ([GINA]; 2020), which together comprise the most recent asthma guidelines. Updated research has been included to supplement these documents. This course introduces the learner to the state of asthma globally and nationally. Asthma prevalence and cost burden to society will be discussed. National objectives for asthma management will be presented. This course also focuses on the definition, pathophysiology, consequences of lack of control, and clinical signs and symptoms of asthma. Common asthma triggers as well as individual and family education regarding basic environmental control are also discussed. The content reflects current research findings and evidence-based practice guidelines.

Learning objectives

After completing this course, the learner will be able to:

- Analyze the current trends for prevalence and societal burdens of asthma.
- Evaluate national and global goals for the management of asthma.
- Distinguish risk and protective factors in the development of asthma.
- Differentiate the protective factors for asthma.
- Examine the evolving medical understanding and definition of asthma.
- Distinguish asthma phenotypes.
- Analyze the components of asthma pathophysiology.
- Illustrate the process for diagnosing asthma.Evaluate asthma triggers and strategies for controlling the triggers.
- Distinguish components of individualized education on trigger management.

How to receive credit

- Read the entire course online or in print which requires a 4-hour commitment of time.
- Complete the self-assessment quiz questions which are at the end of the course or integrated throughout the course. These questions are NOT GRADED. The correct answer is shown after you answer the question. If the incorrect answer is selected, the rationale for the correct answer is provided. These questions help to affirm what you have learned from the course.
- Depending on your state requirements you will be asked to complete either:
  - An affirmation that you have completed the educational activity.
  - A mandatory test (a passing score of 70 percent is required). Test questions link content to learning objectives as a method to enhance individualized learning and material retention.
- If requested, provide required personal information and payment information.
- Complete the MANDATORY Course Evaluation.
- Print your Certificate of Completion.

CE Broker reporting

Colibri Healthcare, LLC, provider # 50-4007, reports course completion results within 1 business day to CE Broker. If you are licensed in Arkansas, District of Columbia, Florida, Georgia, Kentucky, Michigan, Mississippi, New Mexico, North Dakota, South Carolina, or West Virginia, your successful completion results will be automatically reported for you.

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Individual state nursing approvals

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Activity director

Shirley Aycock, DNP, RN, Executive Director of Quality and Accreditation

Disclosures

Resolution of conflict of interest
In accordance with the ANCC Standards for Commercial Support for continuing education, Colibri Healthcare, LLC implemented mechanisms prior to the planning and implementation of the continuing education activity, to identify and resolve conflicts of interest for all individuals in a position to control content of the course activity.

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Disclaimer

The information provided in this activity is for continuing education purposes only and is not meant to substitute for the independent medical judgment of a healthcare provider relative to diagnostic and treatment options of a specific patient's medical condition.

Course verification

All individuals involved have disclosed that they have no significant financial or other conflicts of interest pertaining to this course. Likewise, and in compliance with California Assembly Bill No. 241, every reasonable effort has been made to ensure that the content in this course is balanced and unbiased.

ASTHMA TRENDS AND COSTS

Asthma prevalence

Asthma is a disease characterized by chronic airway inflammation. It is a heterogeneous disease, meaning that asthma is no longer considered a single entity disease but rather a complex biological network of distinct and interrelating inflammatory pathways. An asthma diagnosis encompasses several processes with distinct mechanistic pathways (endotypes) and variable clinical presentations (phenotypes). Understanding these variations is crucial for appropriate asthma management (Kuruvilla et al., 2019). Diagnosis is based on the history of respiratory symptoms, such as wheeze, shortness of breath, chest tightness, and cough, which vary over time and in intensity with variable expiratory airflow limitation (GINA, 2020). Asthma, as a lifelong disease, can be controlled with proper management, thus preventing many adverse outcomes associated with this chronic condition. Key tasks in the study of asthma include determining who is affected by this disease (distribution) and what that entails, identifying risk factors associated with the development and severity of asthma (determinants), and exploring preventive and therapeutic interventions (Friis, 2018).

Asthma is a major public health issue worldwide. Globally, 339 million people had asthma in 2016 (World Health Organization [WHO], 2020). In the United States, 7.7% (19.2 million) of the adult population has an asthma diagnosis (Centers for Disease Control and Prevention [CDC], 2020c). Consistent with global trends, the number of people diagnosed with asthma in the United States has steadily increased since the 1980s in all age, sex, and racial groups (Asthma and Allergy Foundation of America [AAFA], 2019b). Industrialized countries – such as Canada, England, Australia, Germany, and New Zealand – have higher rates of asthma prevalence and asthma severity than do nonindustrialized countries, especially in children older than 6 years of age. Factors implicated in this increase include urbanization, air pollution, exposure to passive smoking, and change in exposure to environmental allergens (Soto-Martinez, 2017).

Asthma prevalence refers to the number of people affected and varies among populations. Statistics from the United States show asthma prevalence for children younger than 18 years at 7.5% (5.5 million). However, this varies significantly by age group. Whereas children ages 0 to 4 years have a low prevalence of 3.8%, this increases dramatically to 11% for 15- to 19-year olds. Asthma is more prevalent among males during childhood but among females during adulthood. Non-Hispanic African American, American Indian and Alaska Natives, and Puerto Rican children have the highest asthma rates of all groups, at 9.6%,

10.5%, and 14.2%, respectively (CDC, 2020c). The good news is that asthma prevalence among children has not increased in recent years, and the disparity between non-Hispanic African American children and White children has plateaued. Poverty increases the risk for asthma, with 10.8% of all people below the federal poverty level having an asthma diagnosis (CDC, 2020c).

Asthma-related deaths

Several factors have been identified that increase the risk of asthma-related death. These include (GINA, 2020):

- A history of near-fatal asthma requiring intubation and mechanical ventilation
- Hospitalization or emergency care for asthma in the past year
- Currently using or recently stopped the use of oral corticosteroids
- Not currently using inhaled corticosteroids
- Overuse of short-acting beta agonists (SABAs)
- History of psychiatric illness or psychosocial issues
- Poor adherence with asthma medications and/or poor adherence to or lack of an asthma management plan
- Food allergy or anaphylaxis in a patient with asthma

Risk for asthma-related mortality in the United States may be related to underestimation of asthma severity. Kritikos and colleagues (2019) found that patients who inaccurately reported "well-controlled" asthma were 14 times more likely to have taken 5 to 12 puffs or more from an asthma inhaler in a single day within the previous 4 weeks, nine times more likely to be female, nearly nine times more likely to have required oral corticosteroids for worsening asthma in the previous year, and nearly four times more likely to have seen a respiratory specialist more than a year ago rather than in the previous year. Furthermore, if someone incorrectly believes that their asthma is under control, they are less likely to adhere to their asthma treatment plan. Lycett and colleagues (2018) conducted a systematic review and found that beliefs about the necessity for asthma treatment and concerns about treatment were associated with adherence. Medication issues, including side effects and concerns about addiction, as well as social stigma and embarrassment led to undertreatment of asthma.

Self-Assessment Quiz Question #1

Which of the following is true regarding asthma prevalence?

a. Prevalence rates of asthma have increased more in industrialized countries than nonindustrialized countries.
b. Puerto Rican children have the lowest asthma prevalence rates.
c. Prevalence rates are higher for girls during childhood.
d. Asthma prevalence in children continues to increase.

Personal and societal costs of asthma

Uncontrolled asthma gives rise not only to personal burdens but also to social and financial ones. Uncontrolled asthma often is treated in a hospital's emergency department (ED). The CDC reported 1.6 million ED visits and 182,620 hospitalizations in 2017 (CDC, 2020b). The overall rate of asthma-related physician office visits was 307.8 per 10,000 in 2016. However, non-Hispanic African Americans had a higher ED utilization of 482.2 per 10,000 for the period 2014 to 2016. In 2017, 43% of adults (18 years and older) with asthma and 53.8% of children (younger than 18 years) with asthma reported one or more asthma attacks in the past 12 months. Death rates in 2018 from asthma were 12.8 per 1 million adults and 2.6 per 1 million children (CDC, 2020a, 2020c, 2021).

The overall burden of costs associated with asthma is high, but it could be significantly reduced with appropriate diagnosis, management, and treatment. The total annual cost of asthma in the United States, including medical care, absenteeism and mortality, was $81.9 billion when examining expenditures from 2008 to 2013. Per-person medical cost of asthma was $3,266, which included $1,830 for prescriptions, $640 for office visits, $529 for hospitalizations, $176 for hospital outpatient visits, and $105 for ED care. Asthma-related mortality costs were $29 billion per year, representing on average 3,168 deaths. Missed work and school days combined cost $3 billion per year, accounting for 8.7 million workdays and more than 5.2 million school days lost because of asthma. However, these costs may be underestimated as nonmedical costs associated with asthma, including transportation expenses, time lost waiting for appointments, and diminished productivity while functioning at work or school with asthma, were not included (Nurmagambetov et al., 2018).

Evidence-based practice! A recent study examined the cost benefit of a nurse-supervised community health worker asthma home-visiting program, exploring the reduction in asthma treatment costs using claims data from one Medicaid managed care organization. The data was used to determine asthma-related utilization cost reductions between 1-year preintervention and 1-, 2-, and 3-years postintervention. The cost reductions were compared for patients receiving home visits and patients not receiving home visits for asthma. Results indicated that those patients receiving the home visits had statistically significant cost savings for healthcare utilization, which improved each year of the intervention. The reduction in asthma utilization costs of the home visit program by nurse-supervised community health workers exceeded program costs. The findings support the business case for the provision of secondary prevention of home-based asthma services through reimbursement from payers or integration into accountable care organizations (Bhaumik et al., 2020).

NATIONAL AND GLOBAL GOALS FOR ASTHMA MANAGEMENT

Healthy People 2030

Healthy People is a national initiative with targeted clinical and public health goals to improve the health and well-being of individuals, organizations, and communities, and it includes reducing asthma burden. This initiative first began in 1979 with the release of *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*, focusing on reducing preventable death and injury. Quantifiable objectives to achieve national health promotion and disease prevention goals for the United States within a 10-year period (by 1990) were developed and tracked. This report was later followed by updated, 10-year Healthy People goals and objectives, including *Healthy People 2000, Healthy People 2010*, and *Healthy People 2020*. Healthy People 2030 builds upon previous knowledge gained over the past 4 decades (US Department of Health and Human Services [HHS], 2020).

The overarching goals of Healthy People 2030 are pertinent to asthma (HHS, 2020):

- Attain healthy, thriving lives and well-being free of preventable disease, disability, injury, and premature death.
- Eliminate health disparities, achieve health equity, and attain health literacy to improve the health and well-being of all.
- Create social, physical, and economic environments that promote attaining the full potential for health and well-being for all.
- Promote healthy development, healthy behaviors, and well-being across all life stages.
- Engage leadership, key constituents, and the public across multiple sectors to take action and design policies that improve the health and well-being of all.

Self-Assessment Quiz Question #2

Which of the following is true concerning the high cost of asthma?

a. Reported costs for asthma are usually overestimated.
b. Overall asthma costs include transportation expenses.
c. The highest cost burden for asthma is prescription costs.
d. Costs related to mortality are not included in the overall cost of asthma.

For each new version of Healthy People, changes are made based on feedback from a diverse group of individuals and organizations. Healthy People 2030 has reduced the number of objectives to avoid overlap and prioritize what is considered the most pressing public health issues. The current Healthy People 2030 objectives addressing asthma include reducing asthma deaths, hospitalizations, and ED visits (HHS, n.d.a.). Objectives removed from Healthy People 2020 include reductions in activity limitations and school and work days missed; increasing formal asthma education, written asthma management plans, and instruction on the use of inhalers; environment and trigger management; follow-up visits; and assessment of asthma control (HHS, n.d.b). Although these are no longer specific objectives of Healthy People 2030, these activities are still vital to reducing the burden of asthma.

National Asthma Education and Prevention Program asthma guidelines

The National Asthma Education and Prevention Program (NAEPP) was initiated in 1989 to address the growing national health problem of asthma. NAEPP convenes diverse stakeholders with an interest in improving asthma management to address this national health concern through development of standards of care. The goals of the NAEPP include raising awareness of asthma as a serious chronic condition and encouraging collaboration among patients, health professionals, and the public. Emphasis is on the recognition of the signs and symptoms of asthma through treatment and education to ensure effective asthma control. The outcomes of this initiative focus on quality of life for those with asthma, reducing the burden of asthma, and decreasing asthma-related deaths. The NAEPP first developed guidelines for diagnosing and managing asthma in 1991, followed by revisions in 1997, 2002, 2007, and 2020. The most recent update to these guidelines, the 2020 Focused Updates to the Asthma Management Guidelines, provides guidance on six selected topic areas (NAEPP, n.d.).

Global Initiative for Asthma

GINA was established by the WHO and the NHLBI in 1993 with the focus to increase awareness about asthma among health professionals, public health authorities, and the community. The goal is to improve asthma prevention and management through a coordinated worldwide effort. GINA prepares scientific reports on asthma, encourages dissemination and implementation of the recommendations, and promotes international collaboration on asthma research. The GINA report, updated annually, provides evidence-based strategies for managing asthma for translation into practice. GINA strategy has a strong focus on preventing asthma-related deaths and severe exacerbations, and on efficacy and effectiveness of asthma management and treatment options for symptom control and lung function. The guidelines promote individualized treatment decisions based on asthma severity (Reddel et al., 2019).

Self-Assessment Quiz Question #3

The asthma objectives of Healthy People 2030 include:

a. Referral of all persons with asthma to a specialist.
b. Reduced ED visits.
c. Instruction on the use of inhalers.
d. Administration of the influenza vaccine.

RISK FACTORS FOR ASTHMA DEVELOPMENT

Although the exact cause of asthma is unknown, several risk factors have been implicated in its development. The American Lung Association lists the following influences (ALA, 2020a):

- Having a parent with asthma
- Viral respiratory infections during infancy and childhood
- Allergic conditions such as atopic dermatitis (eczema) or allergic rhinitis (hay fever)
- Workplace exposures
- Smoking
- In utero exposure to tobacco smoke
- Secondhand exposure to tobacco smoke during childhood
- Indoor and outdoor air pollution
- Obesity

Additional risk factors have been identified. These include maternal weight gain during pregnancy, urogenital infections, psychological stress, and cesarean section. Preterm birth, birth weight, and neonatal hyperbilirubinemia are also risk factors for asthma (dos Santos & Isoppo, 2019). Although these factors increase a person's risk for developing the disease, there are additional factors, such as poverty and lack of health insurance, that contribute to more asthma symptoms, ED visits, and hospitalizations (ALA, 2020a).

The ability to accurately predict which children will develop asthma is challenging. The Asthma Predictive Index (API), the most commonly used predictive tool, identifies risk factors for developing persistent asthma among children younger than 3 years of age who have wheezed at least once. Major criteria include either parental history of asthma or a physician diagnosis of atopic dermatitis (eczema). Minor criteria include clinician-diagnosed allergic rhinitis, wheezing apart from colds, and eosinophilia ≥4%. A positive loose index was defined as any parental report of wheezing at 2 or 3 years of age and either one major criterion or two minor criteria. A positive stringent index was defined as frequent wheezing plus the same combination of major or minor criteria. Children with a positive loose index were four times more likely to have active asthma at 6, 8, 11, or 13 years of age. Children with a positive stringent index were seven times more likely to have active asthma (Guilbert & Lemanske, 2019). A modified version of the Asthma Predictive Index (mAPI) was developed with the following criteria: recurrent wheezing in preschool children (four or more episodes with at least one physician diagnosis) with one major criterion (parental history of asthma, history of atopic dermatitis, or allergic sensitization to ≥1 aeroallergen); or two of three minor criteria (allergic sensitization to milk, egg, or peanuts; wheezing unrelated to colds; or eosinophils ≥4%; Hossny, 2020).

Biagini Myers and colleagues (2019) developed a quantitative tool to predict asthma development in young children, the Pediatric Asthma Risk Score (PARS). Although the API, mAPI, and PARS all predicted asthma development in high-risk children, the PARS was able to reliably predict asthma with mild to moderate asthma risk. The PARS risk factors are parental asthma, eczema at ages 1 to 3 years, early wheezing at ages 1 to 3 years, wheezing apart from colds, polysensitization (aeroallergens or food allergens), and African ancestry.

The role of genetics in the development of asthma is currently being studied. It is currently thought that asthma is likely transmitted by multiple genes. Different genes in different individuals have been shown to lead to the same phenotype. Some genes may influence the development of asthma, whereas others modify asthma severity or the patient's response to therapy. Genetic influences may also play a role in an individual's

response to specific medications. Additionally, interactions between genetic factors and environmental influences further complicate understanding. Studies with twin siblings raised together suggest that differences in exposure to certain environmental triggers may account for some of the disparity of disease expression. Other studies have demonstrated that genes and the environment contribute equally to asthma.

The interaction of specific genes and early life tobacco smoke exposure is being investigated. The presence of a specific gene variant was found to increase the risk of early-onset asthma. This risk was further increased by early life tobacco smoke exposure. An association has also been found between specific genes and increased airway responsiveness and increased asthma exacerbation rates related to dust mite exposure (Barnes, 2020).

Children

Asthma is a leading chronic illness among children and adolescents in the United States. It is also one of the leading causes of school absenteeism (CDC, 2019a). On average, 1 out of every 12 school-aged children has asthma. Although the percentage of children with asthma who had an asthma attack declined from 2001 to 2016, nearly half of children with diagnosed asthma had one or more asthma attacks in 2016. Among children who were taking asthma control medicines, only 54.5% were using their control medicines regularly as prescribed (Zahran et al., 2018). More males under the age of 18 years have asthma (8.3%) compared with females (6.7%). This then reverses for those older than 18 years, with 5.5% of men having asthma compared with 9.8% of women (CDC, 2020c). Several risk factors for asthma development in childhood have been identified.

Atopy, which is the genetic tendency to develop allergic diseases such as asthma, is associated with heightened immune responses to common allergens, especially inhaled allergens and food allergens (American Academy of Allergy, Asthma, and Immunology [AAAAI], n.d.a). Family history of atopy is one of the most relevant risk factors for developing asthma. Almost 60% of schoolchildren with asthma are allergic, mainly to perennial allergens such as house dust mites, animal dander, and molds. Aeroallergen sensitization before the age of 5 years was found to significantly increase the risk of asthma, with persistence into adolescence (Ferrante & La Grutta, 2018).

Reduced microbial exposure since early life through improved sanitation and increased rates of immunization have been linked to the increased prevalence of asthma observed in childhood. This has been referred to as the "hygiene hypothesis." Living in environments with little exposures to microbes is thought to result in an understimulation of the immune system, increasing the likelihood of developing allergic disease. Conversely, certain respiratory viral infections in early life have been implicated in asthma development. Respiratory syncytial virus (RSV) and human rhinovirus (HRV) are most frequently associated with wheezing episodes in preschool children and with future asthma development. Additionally, infections by atypical bacteria, such as *Mycoplasma pneumoniae* and *Chlamydia pneumoniae*, may play a role in inducing and exacerbating asthma (Ferrante & La Grutta, 2018).

Environmental exposures also increase the risk for childhood asthma. Exposure to both outdoor and indoor pollutants has been associated with increased asthma exacerbations, rates of hospitalization, and reduced lung function. The most dangerous environmental exposure in children derives from environmental tobacco smoke (ETS) during the prenatal and postnatal periods. The use of electronic cigarettes has been associated with asthma symptoms in adolescents (Ferrante & La Grutta, 2018). There is also evidence that indoor dampness and molds are associated with increased asthma risk (von Mutius & Smits, 2020).

A significant association has been reported between obesity and asthma. Prenatal factors such as maternal stress, weight gain, or obesity during pregnancy, and mother's and child's use of antibiotics may play a role in increasing the risk of asthma. Cesarean birth has also been implicated for risk of asthma development. Prematurity and low birth weight have also been shown to be associated with subsequent asthma, but these findings may be confounded by neonatal chronic lung disease (von Mutius & Smits, 2020).

Adults

The onset of asthma can occur at any time in life. Those who develop asthma as adults (adult-onset asthma) usually have persistent symptoms and require daily medications. Women are more likely to develop asthma after the age of 20 years and during pregnancy or menopause, as onset appears to be related to hormonal changes. Obesity also increases the risk for adult-onset asthma. Someone with asthma as a child might see a reoccurrence as an adult. Allergies are the cause of 30% of cases of adult-onset asthma. Cat allergies increase the risk for onset of asthma as an adult. Prolonged exposure to workplace chemicals also has been implicated in the development of asthma as an adult. Viral illnesses also can be causative for adult-onset asthma (AAFA, New England Chapter, n.d.). Healthy People 2030 objectives related to adults with asthma are similar to those listed for children.

Racial and ethnic disparities

Racial and ethnic disparities in asthma outcomes are well-documented. Nearly 25 million people in the United States are living with asthma, but prevalence rates differ significantly by race and ethnicity. Puerto Ricans have the highest rate of asthma of all racial or ethnic groups in the United States. African Americans are also disproportionally diagnosed with asthma compared with White Americans. African American individuals are nearly three times as likely to die from asthma than White individuals. Asthma-related ED visits are nearly five times as high for African American patients compared with White patients (AAFA, 2020).

The AAFA identifies the complex interaction of social, structural, biological, and behavioral determinants of health as the resultant cause of these disparities. Social determinants include economic stability, education, physical environment, social environment, and healthcare. Structural determinants of health relate to US policies, governance, and culture and include systemic racism and discrimination, residential segregation and discriminatory housing policies, discriminatory hiring and promotion, and environmental injustice. At least some of the differences in asthma outcomes can also be attributed to potential genetic factors. Daya and colleagues (2019) identified two novel regions on a specific chromosome in individuals with African ancestry that may be linked to asthma risk. Additionally, an individual's behaviors play a substantial role in determining asthma outcomes. Historical exploitation of African American bodies in unethical medical experiments, including the Tuskegee Study, has led to lasting, intergenerational distrust of the medical establishment among African American families (AAFA, 2020).

Self-Assessment Quiz Question #4

Young children are particularly at risk for asthma if they:

a. Are thin.
b. Live with adults who smoke.
c. Live in an unsanitary environment.
d. Take their controller medications as prescribed.

The following studies provide evidence that disparities in asthma outcomes may not be because of race or ethnicity but rather those determinants that affect health status, including socioeconomic status (SES) and housing conditions. Levy and colleagues (2018) conducted a review to evaluate the evidence supporting a link between environmental exposures and health disparities. Findings suggest that co-occurring factors related to the home environment, neighborhood environment, nonmodifiable individual factors, and individual behaviors and attributes can increase or modify the risk of adverse respiratory outcomes among socioeconomically disadvantaged and racially and ethnically diverse populations. Indoor pollutants, including particulate matter, nitrogen dioxide, and pesticides, were found to be elevated among lower SES populations, implicated in the development or exacerbation of respiratory-related conditions. Neighborhood crime and the scarcity of green space were associated with SES and linked with asthma outcomes. Genetic predisposition was found to potentially increase susceptibility to air pollution and other stressors. Individual behaviors and attributes, including obesity and physical activity, also contributed to worse outcomes among those with asthma. Glick and colleagues (2016) found that race and ethnicity were not associated with inpatient asthma mortality. The hospital length stay was longer in children with public insurance and from low-income areas.

PROTECTIVE FACTORS IN ASTHMA DEVELOPMENT

Protection from asthma can be either absence of risk or specific protective exposures that might be needed for normal, healthy development. Intake of fish oil, zinc, and vitamin E during pregnancy appear as protective factors, as well as breastfeeding, fish intake in the first 2 years, and BCG (Bacillus Calmette-Guérin) vaccination (dos Santos & Isoppo, 2019). Day-care attendance during the first 6 months of life may reduce the risk of asthma in school-aged children, possibly related to exposure to other children and increased exposure to diverse microbes (Rantala et al., 2020). Growing up on farms has also shown to be protective in asthma development, possibly related to exposures to high concentrations of allergens, plant and animal materials, and bacteria, fungi, and other microbes in the environment. In children at risk for asthma, more than 80% reduction in risk was found with continued high exposure to animal sheds. Farm upbringing was also strongly inversely associated with multiple asthma-related traits, such as allergic sensitization, respiratory infections, and reduced lung function (von Mutius & Smits, 2020). When comparing rural and urban children in China, Feng and colleagues (2016) found the prevalence of physician-diagnosed asthma was lower in children from the rural areas. The authors concluded that early life exposure to crop farming and high environmental endotoxin levels might be protective in preventing asthma in these children. This is related to the hygiene theory, discussed previously, suggesting that exposure to germs would be protective for an individual's development of asthma.

Evidence-based practice! A secondary analysis of the 2011 American Housing Survey was conducted to determine if racial disparities in pediatric asthma are explained by material hardship and home ownership. A total of 33,201 households with children ages 6 to 17 years were surveyed for childhood asthma diagnosis and ED visits for asthma (for the youngest child with asthma in the household). Material hardship was defined as poor housing quality, crowded housing, lack of amenities, and no vehicle access. Results found that non-Hispanic African American heads of household were more likely to have a child diagnosed with asthma in the home, compared with non-Hispanic White heads of household, and a higher likelihood of ED visits for asthma. The race-asthma association was decreased but not eliminated after adjusting for material hardship and home ownership. Poor housing quality was independently associated with an asthma diagnosis and ED visits. Home ownership was associated with a lower likelihood of asthma-related ED visits. The authors concluded that racial disparities in pediatric asthma are lessened after controlling for material hardship. Poor housing quality in particular is strongly associated with asthma morbidity (Hughes et al., 2017).

Stein and colleagues (2016) compared two farming communities, the Amish and the Hutterites. Their lifestyles are similar; however, whereas the Amish practice traditional farming, live on single-family dairy farms, and use horses for fieldwork and transportation, the Hutterites live on large, highly industrialized, communal farms. The prevalence of asthma in Amish versus Hutterite schoolchildren is 5.2% versus 21.3%. The authors relate this stark difference to microbe exposure from traditional farming.

Protective factors must also be considered for those already diagnosed with asthma. Chen and colleagues (2019) evaluated the impact of family relationships on asthma outcomes for youth who live in dangerous and/or disorderly neighborhoods. They found that when neighborhood danger and/or disorder was low, family relationships were not associated with asthma. When neighborhood danger and/or disorder was high, better family relationship quality was associated with fewer asthma symptoms, fewer activity limitations, and higher percentile for FEV1 (forced expiratory volume in 1 s). Similar patterns emerged for asthma management behaviors. When youth live in dangerous and/or disorderly neighborhoods, high-quality family relationships can buffer youth from poor asthma outcomes.

Evidence-based practice! Researchers wanted to find out if green space lowers a child's asthma risk in areas with heavy traffic. Data from 4,447 children ages 6 to 7 years old in Australia was analyzed. The children included in the study had to have doctor-diagnosed asthma, asthma-related medications, and illness with wheezing lasting for at least 1 week within the 12 months before the study. Findings revealed that among children exposed to high traffic volumes in areas with 0% to 20% green space, asthma rates were almost two times higher. However, the association between high traffic and asthma was significantly lower for children living in areas with over 40% green space. No association between asthma and green space was observed for children not exposed to high traffic. The researchers concluded that protecting existing and investing in new green space may help to promote child respiratory health through the buffering of traffic-related air pollution (Feng & Astell-Burt, 2017).

THE EVOLVING MEDICAL UNDERSTANDING AND DEFINITION OF ASTHMA

History of asthma

Asthma has been around for a long time. Described as noisy breathing, asthma was first recorded by the ancient Chinese in 2600 B.C.E. The ancient Egyptians mentioned breathlessness and symptoms of respiratory distress, with treatments including inhalation of heated herbs. Asthma symptoms were also noted by the ancient Babylonians, who recorded them in the Code of Hammurabi in 1792 B.C.E. (Cannizzaro, 2017; Felman, 2018).

In the 19th century, Henry Hyde Salter, who himself had this disease, defined asthma as paroxysmal dyspnea of a peculiar character with intervals of healthy respiration between attacks. This was a nonspecific diagnosis, which allowed for the treatment of many "asthmas." As a treatment for asthmatic spasms, he described black coffee, which actually contained a derivative of theophylline, a medication used to treat asthma today (Kim, n.d.).

By the late 19th century, physicians adopted the view that asthma was a distinct disease with a specific set of causes, clinical consequences, and requirements for treatment. Sir William Osler, considered the father of modern medicine in the Western world, described asthma in his 1892 edition of the textbook *Principles and Practice of Medicine*. Osler noted the similarities between asthma and allergic conditions. Bronchial muscle spasms, swelling of the bronchial mucous membrane, and inflammation of bronchioles were identified as the underlying causes of symptoms. Osler discussed risk factors for asthma including family history, environmental exposures, emotions, and viral infections (Felman, 2018; Kim, n.d.).

Asthma, considered a disease of "bronchospasm" in the first part of the 20th century, was treated with bronchodilators. Unfortunately, their effectiveness in reversing bronchospasm and initial apparent safety led to an overreliance, with unrestricted access through over-the-counter purchase. This use has been implicated in the epidemic of asthma deaths in the mid-1960s and mid-1980s (Kim, n.d.). Allergy immunotherapy was also introduced during the same period for treating asthma (Patel, 2019).

In 1916, the realization that asthma could result from reasons other than allergy led to distinguishing allergic and nonallergic asthma triggers. Immunoglobulin E (IgE) was identified in 1921 with its correlation to allergic reactions in persons with asthma (Patel, 2019). IgE are antibodies produced by the immune system in response to an allergen, causing an allergic reaction. IgE is specific for each allergen, and someone can have multiple types of IgE antibodies if they have more than one allergy (AAAAI, n.d.b).

During the 1930s, skin tests for allergies could be performed so that particular environmental triggers could be identified (O'Donovan, 2019). The 1940s and 1950s saw increased use of aminophylline, adrenaline, and inhaled anticholinergics.

During the 1970s, inhaled corticosteroids became the foundation of asthma treatment. Peak flow meter development and lung function testing aided in asthma treatment. Increased understanding of the allergic reaction led to use of antileukotrienes, chromones, and anti-IgE therapies in more recent years (O'Donovan, 2019; Patel, 2019).

Current definition of asthma

Asthma is a chronic disease that causes a hyperresponse resulting in inflammation of the airways, which in turn results in a narrowing and swelling of the lungs. Asthma has many nonspecific symptoms, making it difficult to distinguish it from other respiratory diseases. Three components to define asthma include chronic airway inflammation, reversible airflow obstruction, and enhanced bronchial reactivity. These components represent the major pathophysiological events leading to the symptoms of wheezing, breathlessness, chest tightness, cough, and sputum production by which physicians clinically diagnose this disorder (Global Asthma Network, n.d., WHO, n.d.).

GINA (2020) defines asthma as a heterogenous disease characterized by chronic airway inflammation. It is defined by a history of respiratory symptoms that include wheezing, shortness of breath, chest tightness, and cough. These vary over time and in intensity, and they occur with variable airflow limitation. Asthma is deemed reversible and intermittent. As stated, the current asthma definition places the emphasis on the presence of inflammation and resulting symptoms. Asthma is considered a chronic inflammatory disorder of the airways involving several components, including mast cells, eosinophils, T lymphocytes, macrophages, neutrophils, and epithelial cells. This inflammation causes recurrent episodes of wheezing, breathlessness, chest tightness, and coughing, particularly at night or in the early morning, associated with widespread but variable reversible airflow obstruction. The inflammation also causes an associated increase in the existing bronchial hyperresponsiveness to a variety of stimuli (NHLBI, 2007).

Self-Assessment Quiz Question #5

The Global Initiative for Asthma (2020) and the Expert Panel Report 3 (NHLBI, 2007) describe asthma as a disease that is:

a. Acute and temporary.
b. Intermittent and severe.
c. Seasonal and autoimmune.
d. Chronic and inflammatory.

ASTHMA PHENOTYPES

As a heterogeneous disease, asthma has several different underlying disease processes. These are referred to as phenotypes, each of which has recognizable demographic, clinical, and/or pathophysiological characteristics (GINA, 2020). Phenotypes are differentiated as T2-high (eosinophilic airway inflammation) and non-T2-high groups (neutrophilic airway inflammation). It is believed that those individuals with non-T2-high asthma are more likely to be resistant to steroid therapy (Kuruvilla et al., 2019).

GINA (2020) identifies the most common phenotypes. Allergic asthma usually begins in childhood and is associated with either a personal or family history of allergic disease (e.g., eczema, allergic rhinitis, or food or drug allergy). Sputum reveals eosinophilic airway inflammation, which usually responds well to inhaled corticosteroids. Nonallergic asthma, as the name implies, is not associated with a history of allergy. Sputum from these patients may contain neutrophils or eosinophils, and does not usually respond well to inhaled corticosteroids. Adult-onset (i.e., late-onset) asthma occurs mainly in women. This asthma is usually nonallergic and does not respond well to inhaled corticosteroids. Asthma with persistent airflow limitation occurs in patients with long-standing asthma and is thought to be the result of airway remodeling, which will be discussed later in this section. Asthma with obesity displays prominent respiratory symptoms but little eosinophilic inflammation (GINA, 2020). The incidence of allergic asthma is highest in early childhood and steadily decreases with advancing age, whereas the incidence of nonallergic asthma is low until it peaks in late adulthood. After approximately 40 years of age, most of the new cases of asthma are nonallergic (Pakkasela et al., 2020).

It should be noted that no strong relationship has been found between specific pathological features and treatment responses. However, Kuruvilla and colleagues (2019) assert that understanding the distinct pathophysiologic mechanisms

(endotypes) allow for precision medicine to directly target the cause of symptoms for each phenotype.

In contrast with GINA (2020), Kuruvilla and colleagues (2019) view asthma phenotypes beyond demographic characteristics of allergic versus nonallergic, age of onset, disease severity, symptom triggers, inflammatory patterns, exacerbations, and airflow obstruction. Many of these categories are not distinct, and many overlap.

Self-Assessment Quiz Question #6

All asthma phenotypes:

a. Have the same underlying disease processes.
b. Can be categorized as either eosinophilic or neutrophilic inflammation.
c. Are allergic asthma.
d. Respond well to inhaled corticosteroids.

ASTHMA PATHOPHYSIOLOGY

Asthma impacts the respiratory system, which is characterized by the conducting zone and respiratory zone. The conducting zone goes from the nose to the bronchioles, and the respiratory zone, where gas exchange takes place, is from the alveolar duct to the alveoli. Asthma primarily involves the bronchial tree, which distributes air throughout the lungs to the alveolar sacs. The primary bronchi stem from the end of the trachea and then divide into secondary and tertiary bronchi. Bronchi contain smooth muscle and elastic fibers to maintain their wall integrity, which changes based on the contraction and relaxation of smooth muscle. In patients with asthma, the physiologic mechanism changes because of inflammation, decreasing the radius of the airway (Sinyor & Concepcion Perez, 2020).

Asthma is an obstructive airway disorder of the lower airways. This means that expiratory airflow is limited because of narrowing of the airways. In asthma, which is intermittent and reversible, obstruction is caused by bronchospasm because of airway hyperresponsiveness, inflammation, and increased secretions. There are two pathways for asthma: one for extrinsic, or allergic, responses and one for intrinsic, or nonatopic, responses. The underlying mechanism for both types of asthma is an exaggerated response to a stimulus. After exposure, macrophages, eosinophils, mast cells, and basophils release inflammatory mediators, leading to bronchoconstriction, increased vascular permeability, and mucus production (Norris, 2019).

Airway inflammation

Inflammation in asthma generally involves the same cells that play prominent roles in the allergic response in the nasal passages and skin, whether the individual is atopic or not. This supports the belief that mast cell activation, mediated by a variety of cells, cytokines, and other mediators, are key to the development of clinical asthma. Airway inflammation is categorized into two phases: the early phase and the late phase (Liu, 2019).

Early phase of airway inflammation

The first, or early phase, is immediate and short-lived. When inhalation of an allergen occurs, the early phase is initiated by IgE antibodies that bind to mast cells and basophils. The mast cells release cytokines, histamine, prostaglandins, and leukotrienes. These cells, in turn, contract the smooth muscle and cause muscle band tightening and airway narrowing. Airway smooth muscle contraction in asthma, also known as airway hyperresponsiveness, results in excessive bronchoconstriction and airflow obstruction with little provocation (Liu, 2019; Norris, 2019; Sinyor & Concepcion Perez, 2020).

Late phase of airway inflammation

The late phase response occurs 4 to 8 hr after exposure, resulting in inflammation and increased airway responsiveness in addition to recurrence of bronchoconstriction. Th2 lymphocytes produce a series of interleukins (IL-4, IL-5, IL-13) and granulocyte-macrophage colony-stimulating factor (GM-CSF), which sustains inflammation. IL-3 and IL-5 help eosinophils and basophils to survive. Within the next several hours, the late phase occurs, when eosinophils, basophils, neutrophils, and helper and memory T-cells localize to the lungs, causing bronchoconstriction and inflammation. Mast cells also play an essential role in the late phase. This reaction is more difficult to treat (Liu, 2019; Sinyor & Concepcion Perez, 2020).

Major cells involved in the inflammatory process

Eosinophils
Eosinophils are the cardinal cell associated with allergic asthma and subsequent inflammation. The presence of eosinophils is often related to disease severity. Activated eosinophils produce leukotrienes that mediate smooth muscle contraction and bronchoconstriction, toxic products that can damage airway epithelium and nerves, and cytokines that may be involved in airway remodeling through thickening of the basement membrane and fibrosis (Kuruvilla et al., 2019; Liu, 2019).

Mast Cells and Macrophages
Mast cells and macrophages are the predominant inflammatory mediators associated with asthma. The mast cell is the central feature in the initiation of an acute allergic reaction. Mast cells are white blood cells that line the upper and lower respiratory tract, the skin, and the digestive tract. When a person has an allergy, they develop IgE antibodies. Circulating IgE antibodies attach to high-affinity IgE receptors on the surface of mast cells in tissue or peripheral blood basophils. When the person with asthma subsequently reencounters an offending allergen, binding of the allergen with IgE induces the release of inflammatory mediators, leading to the bronchoconstriction that is characteristic of an exacerbation. The higher the number of circulating IgE antibodies, the higher the number of mast cells affected. Mast cells degranulate as the person comes in contact with their specific allergen. As a result of mast cell degranulation, chemical mediators are released, including histamines, eosinophils, neutrophils, leukotrienes, and cytokines. Once released, these mediators cause acute bronchospasm, airway inflammation, and mucus production. Mast cells also store and release tumor necrosis factor-a, which recruits and activates inflammatory cells. Macrophages are also white blood cells that produce vasoactive mediators including prostaglandins, leukotrienes, and inflammatory cytokines (Liu, 2019; Norris, 2019).

The activation of mast cells in the upper respiratory tract yields allergic rhinitis symptoms and in the lower respiratory tract yields asthma symptoms. When mast cells are activated on the skin, symptoms of atopic dermatitis or eczema result. Food allergies are caused by activation of mast cells in the digestive tract. Given the location of mast cells in the body, it is clear how asthma, allergic rhinitis, and atopic dermatitis are connected. When a person has been diagnosed with asthma, allergic rhinitis, and atopic dermatitis, the three diseases are together commonly referred to as the allergic triad (NHLBI, 2007).

Basophils
Whereas mast cells are tissue based, basophils are blood-borne and often recruited to tissues for activation. Basophils have been shown to be increased in bronchial walls of T2-high asthma likely because of increased inflammation. Upon activation, in addition to the mast cells, basophils secrete histamine and lipid

mediators. Basophils have been shown to secrete IL-4, which directly modulates the functioning of innate lymphoid type-2 cells (ILC2). Tissue basophils have been strongly associated with patients with allergic disease, and the mediators secreted by mast cells and basophils have been shown to correlate with disease severity in asthma (Sinyor & Concepcion Perez, 2020).

T-Helper Lymphocytes

Innate, or nonspecific, immunity is the defense system with which one is born. It protects against antigens. Innate immunity involves barriers that form the first line of defense in the immune response. Examples of innate immunity include the cough reflex, enzymes, and mucus. There is also innate humoral immunity, which includes interferon and IL-1 (US National Library of Medicine, 2021). Current research is exploring the role of immune imbalance as a cause of asthma. T-helper (Th) lymphocytes are the drivers of allergic responses. Th1 and Th2 cells are in a balanced state in healthy individuals and are both derived from CD4 T lymphocytes. Th1 cells produce IgM and IgG, which are protective and help fight infection. Th2 cells produce IgE, which binds to mucosal mast cells that cause asthma and allergy. Th2 cells are responsible for the inflammation associated with the asthmatic response to a trigger, resulting in the release of cytokines (IL-3, IL-4, IL-5, and IL-13) and GM-CSF. IL-3 is associated with eosinophils and basophils. IL-4 helps with Th2 production and synthesis of IgE. IL-5 and GM-CSF regulate eosinophils. IL-13 contributes to airway eosinophilia, mucous gland hyperplasia, and airway fibrosis and remodeling (Liu, 2019; Norris, 2019). Overexpression of Th2 is likely because of a combination of genetic and environmental factors (Liu, 2019; Norris, 2019).

Evidence-based practice! Caminati and colleagues (2018) conducted a review to look at innate and adaptive type-2 (Th2) immunity in asthma pathogenesis. The authors focused on severe asthma and the role of allergens in its development. A Th2 response was found not only in allergic individuals with specific IgE sensitization but also with exposure to other environmental stimuli, including viruses and pollutants. Dust mites and molds are able to activate both innate and adaptive Th2 immune reaction even in the absence of specific IgE antibodies. An increasing amount of evidence supports the relevance of airways, particularly bronchial epithelium dysfunction, as the predisposing condition of such impaired response. Under this perspective the Th2 polarization is the result of a both innate and adaptive immunity. It entails major clinical implications in terms of preventive and therapeutic options. Particularly, innate response can be considered as a new target for innovative selective treatments.

Serum IgE

Serum IgE develops in response to an allergen exposure and binds to mast cells. In addition to mediating the immediate hypersensitivity response in allergic asthma through mast cell activation, allergen-specific IgE also leads to a delayed phase reaction characterized by the massive influx of eosinophils and other inflammatory cells. IgE may play a role in airway remodeling through its impact on airway smooth muscle cells and mast cell activation, which causes an increase in vascular damage and infiltration by inflammatory cells (Kuruvilla et al., 2019).

Prostaglandins and Leukotrienes

Other mediators released by the mast cell include powerful chemicals, such as prostaglandins and leukotrienes, which also act to constrict the airway. These chemicals send signals that result in recruitment of many other inflammatory agents to the airway. These agents stimulate each other in a process that is both redundant and self-perpetuating. Prostaglandins induce inflammation and potentiate the effects of histamine and other inflammatory mediators. Leukotrienes affect permeability of postcapillary venules, adhesion properties of epithelial cells, and extravasation and chemotaxis of neutrophils, eosinophils, and monocytes. These mediators cause slow and sustained constriction of bronchioles (Norris, 2019).

Airway Remodeling

Intact epithelium is critical for healthy functioning of the airways. Normally, the epithelium is lined with ciliated cells that increase mucus clearance. This layer of cells is destroyed as a result of chronic inflammation. Airway remodeling refers to structural changes in the airways that may cause irreversible airflow limitation, superimposed on the effects of inflammation and smooth muscle contraction for the person with asthma. Some of the changes associated with airway remodeling include damage or loss of the normal structure of airway epithelium, an increase in mucus-producing goblet cells, fibrotic thickening of the subepithelial reticular basement membrane, increased vascularity, and increased airway smooth muscle mass caused by long-term inflammation. This results in permanent structural narrowing of airways and hyperinflation, which are associated with increased bronchial hyperresponsiveness. Subbasement membrane thickening in adults with severe asthma as well as in children with early diagnosed asthma causes accelerated lung function loss from this remodeling (Liu, 2019; Norris, 2019).

Self-Assessment Quiz Question #7

Airway remodeling can best be described as:

a. Permanent structural narrowing of the airway.
b. A static effect of the acute phase reaction.
c. Reversible airway damage.
d. A temporary restructuring of the airway.

DIAGNOSIS OF ASTHMA

Clinical signs and symptoms

Asthma is usually associated with airway hyperresponsiveness and chronic airway inflammation. These characteristics are present even when symptoms appear to be under control (GINA, 2020). Early recognition of these signs and symptoms is imperative to maintain asthma control and reduce or limit airway remodeling. Asthma symptoms are intermittent and vary over time and in response to a triggering event. Because changes often occur in the airways before symptoms are felt by the person with asthma, it is imperative to monitor asthma status. The disconnect between the inflammation and symptoms can allow for poor self-awareness of asthma, which can foster poor recognition and nonadherence with treatments (Campbell, 2017).

There are certain respiratory symptoms that increase the likelihood of an asthma diagnosis (GINA, 2020). Wheezing, shortness of breath, cough, and/chest tightness are typical of asthma. These symptoms usually worsen at night or in the early morning, and vary over time and in intensity. A history of worsening symptoms related to viral infections, exercise, allergen exposures or irritants (e.g., car fumes, smoke, strong smells), or changes in weather are indicative of asthma and would need clinical confirmation.

Wheezing is a musical, high-pitched sound that can be either audible or heard only through auscultation with a stethoscope, and it is commonly experienced by people who have asthma. The quality and duration of wheezing depends upon which part of the airways is affected. In asthma, the wheezing occurs because of narrowing of the lower airways. Wheeze is predominantly heard on expiration but in severe asthma may be heard on inspiration. In severe asthma no wheeze may be heard, as the air flow is severely reduced and might foreshadow an emergency because of decreased airflow, fatigue from respiratory effort, or impending respiratory failure (Patel et al., 2020).

Asthma can occur without wheezing when obstruction involves predominantly the small airways. Additionally, wheezing can be associated with other causes of airway obstruction distinct from asthma. In exercise-induced bronchoconstriction, wheezing may be present after exercise, and in nocturnal asthma, wheezing is present during the night (Morris, 2020).

Cough is frequently the sole presenting complaint for children, presenting typically as a dry, hacking, nonparoxysmal cough. The presence of a nocturnal cough, a cough that recurs seasonally, a cough in response to specific exposures (e.g., cold air, exercise, laughing, allergen exposure, or crying), or a cough that lasts more than 3 weeks increases the likelihood of an asthma diagnosis. When the cough is productive, the sputum is usually clear or white and contains eosinophils (Morris, 2020; Sawicki & Haver, 2020). Children with nocturnal asthma tend to cough after midnight and during the early hours of morning. The timing of the cough is related to circadian rhythms and hormone variations. The greatest decrease in respiratory function occurs at 4:00 a.m., when cortisol levels are low, melatonin levels are high, and eosinophil activity is increased (Norris, 2019). Other factors contributing to nocturnal cough are obesity, gastroesophageal reflux disease (GERD), cold air, and viral infection (Newsom, 2021).

He and colleagues (2020) conducted a systematic review and meta-analysis to determine signs and symptoms of asthma. Nasal congestion, sleep disturbance, and chest tightness were the most common symptoms of asthma, followed by wheezing and breathlessness with a combination of symptoms (e.g., wheezing, breathlessness, chest tightness, and cough). Therefore, a combination of symptoms needs to be included when considering an asthma diagnosis.

If early signs of an asthma exacerbation are not addressed, these symptoms may progress and become an emergency. These signs include breathlessness, cyanosis of the lips and nails, retractions, difficulty walking and talking, peak flows less than 40% of personal best, and wheezing that does not improve with rescue medication (NHLBI, 2007).

Screening tools for asthma

Use of screening tools can assist in assessing asthma symptoms. Sometimes people with asthma are not aware that their asthma is not in control. Commonly used validated tools include the Asthma Control Test (ACT), the Childhood Asthma Control Test (C-ACT), and the Asthma Control Questionnaire (ACQ). The ACT contains five items with a recall window of 4 weeks. The C-ACT is for use in children 4 to 11 years of age and consists of four pictorial items and three verbal items that are scored by the children and parents, respectively. The Asthma Control Questionnaire (ACQ) contains six items with a recall window of 1 week, supplemented by percentage of predicted FEV1 measurement. The Test for Respiratory and Asthma Control in Kids (TRACK) is a five-question caregiver-completed questionnaire that determines respiratory control in children 0 to 5 years of age with symptoms consistent with asthma. Another less commonly used instrument is the Asthma Therapy Assessment Questionnaire (ATAQ), a 20-item parent-completed questionnaire exploring several domains, with four questions relating to symptom control and primarily used in research (Dinakar et al., 2017).

Nursing Consideration: Given the high prevalence of asthma, nurses in adult and pediatric practice are likely to encounter patients with this chronic disease. It is imperative that all nurses be aware of the early warning signs of asthma so interventions can be done to reduce the likelihood of an adverse outcome and the need for preventable ED visits and hospitalizations. It is important to provide asthma self-management education to the person with asthma and include identification of the warning signs. The person with asthma also needs to be able to distinguish and recognize emergency signs and understand when the need to call 911 arises.

ASTHMA TRIGGERS

Asthma is a complex disease that is caused by a complex interaction of genetic, environmental, and social factors. Although pharmacotherapy is extremely important, it is only one aspect of asthma management. Avoidance of triggers is an effective strategy in controlling asthma, as triggers are the cause of airway inflammation and symptoms in sensitized persons. For optimal control of asthma, the individual must incorporate environmental control measures into the treatment plan. Healthcare professionals play an important role in assisting individuals and families in identifying and avoiding asthma triggers.

Nursing Consideration: Nurses need to be aware of who might be at greater risk for developing asthma. Reducing exposure to risk factors may prevent the development of asthma or reduce its severity. A good family history needs to be completed, as there is a strong hereditary component for asthma. Modifiable risk factors need to be addressed, with education provided on how to reduce exposure. The nurse should use a validated assessment tool to determine asthma risk and intervene as indicated.

Asthma triggers can be classified as allergic or nonallergic and can be found both indoors and outdoors. Allergic triggers (i.e., allergens) can include pollens, mold spores, dust mites, cockroaches, animal dander, or food. Exposure to allergens produces airway inflammation and can exacerbate asthma. The role of allergens is greater in children with asthma than in adults with asthma. Nonallergic triggers (i.e., irritants) can include smoke, odors, air pollution, cold air, weather, chemicals, certain medications, exercise, hormonal changes, and food additives. Irritants cause bronchoconstriction and increased asthma symptoms. Respiratory infections can trigger asthma as well (Asthma and Allergy Foundation of America, 2019c; Miller, 2020). These lists of asthma triggers are not exhaustive, as exposure to newly developed substances expands daily. It is important to note that not every trigger affects asthma in each person. People with asthma each respond differently to the various stimuli, related to the genetic effects, as mentioned previously. Trigger identification and avoidance are the keys to effective asthma management (Gautier & Charpin, 2017).

Gene-environment interaction

Research shows that asthma is the result of interactions between genetics and environmental influences (Barnes, 2020). Asthma is likely transmitted by multiple genes, but this transmission is not consistent from person to person. Different genes in different individuals may lead to similar asthma severity, and multiple genes within the same individual may lead to the expression of asthma severity. Some genes may influence asthma development, others may modify asthma severity or response to treatment, and still others may interact with environmental factors to affect one's asthma status. There is also investigation into epigenetics, which is the effect of the environment on gene expression of asthma (Dowshen, 2018). However, interpreting results from studies focusing on the genetic influence on asthma becomes difficult because there is no absolute diagnostic test for asthma, and clinical diagnoses are inconsistent.

Allergy testing

In nearly 90% of children and 50% of adults with asthma, the condition is classified as allergic asthma (US National Library of Medicine, 2020). Because a person's medical history is not sufficient to determine sensitivity to allergens, the NAEPP recommends allergy testing for those with persistent asthma exposed to perennial allergens (NHLBI, 2007). IgE-mediated allergies account for the majority of clinically significant allergies. To accurately diagnose someone with allergies, a careful history needs to be obtained; testing for specific IgE for the allergen-causing symptoms needs to be conducted either through skin prick testing or in vitro (i.e., blood test); additionally, it needs to be determined that exposure to the allergen causes symptoms (Nolte & DuBuske, 2020).

Skin prick testing is the preferable method for allergy testing because of its sensitivity and cost-effectiveness, and because results are known within 15 to 20 min. Skin prick testing detects the presence of allergen-specific IgE on cells. The allergen is introduced into the skin on the forearm or upper back during testing through a prick/puncture method, which is the safest way to perform a skin test. The skin is pricked to allow the allergen entry into the body. If there is IgE present for the injected allergen, mast cells are activated, leading to degranulation and release of inflammatory mediators. A "wheal and flare" will develop (an area of superficial skin edema surrounded by erythema), along with itching. A reaction measuring larger than 3 mm is considered a positive finding. This method of testing is contraindicated for persons with poorly controlled asthma and reduced lung function, those who have severe reactions to minute amounts of allergen, those who are taking medications that might interfere with the treatment of anaphylaxis or who cannot discontinue antihistamine medications, and those who have certain skin conditions that could result in a false-positive test (Nolte & DuBuske, 2020).

In vitro testing is a blood test that detects antigen-antibody complexes. In vitro does have some advantages. There is no risk for an allergic or anaphylactic reaction. The test is not affected by medications the person may be taking, so they do not need to discontinue taking their medications before testing, as they do for skin prick testing. Results are not affected by skin conditions (Kowal & DuBuske, 2021).

Indoor triggers

More than 80% of school-age children with asthma are sensitized to at least one indoor allergen. Aeroallergen sensitization at younger ages was associated with an increased risk of asthma in later childhood. This allergic sensitization is a strong predictor of disease persistence in later life (Bjerg et al., 2016; Rubner et al., 2017; Sheehan & Phipatanakul, 2016). Among the most common indoor allergens are house dust mites, pet dander, cockroaches, rodents, and molds (AAFA, 2019a). Research has shown that levels of indoor allergens are directly associated with asthma severity. In homes where indoor allergen exposure was reduced, children experienced fewer days of asthma symptoms and fewer school days missed. A reduction was also noted for acute healthcare visits related to asthma and hospitalizations per year related to asthma (US Department of Housing and Urban Development [HUD], 2018).

Dust mites

Dust mites are microscopic, insect-like pests that generate allergens that can trigger asthma. Hundreds of thousands of dust mites can live in the bedding, mattresses, upholstered furniture, carpets, or curtains in the home. These mites feed on the dead human skin cells found in dust. Dust mites are not parasites. Roughly 4 out of 5 homes in the United States have detectable levels of dust mite allergen in at least one bed (ALA, 2020d).

The primary allergen in dust mites is an intestinal enzyme on fecal particles. Because of its relatively large size, the allergen settles quickly on furniture and does not stay airborne. These organisms require moisture to survive, so they pose less of a health risk in dry climates. Dust mites thrive in temperatures of 77 F to 86°F (25°C to 30°C) and 70% humidity. They feed on skin cells that humans shed; an average adult sheds enough skin each day to feed 1 million mites. Contrary to what many people think, dust mites are found not only in the home but also in many public places, including schools. Identifying dust mites as one's asthma trigger is problematic. Because the mites are microscopic, it is less likely for individuals with asthma to associate their symptoms with the presence of these offending agents (Acevedo et al., 2019; Matsui et al., 2016).

There is a noted relationship between the amount of exposure to dust mites and allergen sensitization. The risk for developing asthma is increased in infants with early exposure to high levels of dust mites. Asymptomatic toddlers with early house dust mite sensitization have higher risks of developing asthma by age 7 years (Su et al., 2019). Studies examining the prevalence of asthma related to dust mite exposure indicated a range of more than 50% to between 65% and 90% of cases among children and young adults (Gruber et al., 2016; Litonjua & Weiss, 2020).

Avoiding exposure to dust mites is challenging. The Expert Panel Working Group of the NHLBI and colleagues (2020) recommend the use of multicomponent allergen mitigation intervention to reduce dust mite levels in the home and improve asthma outcomes. Dust mites are more prevalent in bedrooms, so it is recommended to cover mattresses and pillows in zippered, allergen-impermeable covers. Bed linens, rugs, and any materials implicated in dust mite allergy need to be washed in hot water. Any fabrics that cannot be washed should be avoided – carpets, curtains, upholstered furniture, down-filled covers, and pillows. Window blinds should be avoided because dust easily collects on the slats. Stuffed toys should be avoided as well. Use of a vacuum with a high-efficiency particulate air (HEPA) filter is recommended, although it is difficult to eliminate dust mites because they burrow deep in furniture and mattresses. Home humidity levels must be kept below 50%. If someone with a dust mite allergy needs to dust or vacuum, a filtering mask should be worn. Although it is recommended that air be filtered, research shows that because of the relatively large size of the allergen, it falls quickly on furniture and does not stay airborne (Matsui et al., 2016; US Environmental Protection Agency [EPA], 2018).

Evidence-based practice! Use of an in-home test kit, which quantifies dust mite allergen levels, was evaluated to see if it resulted in behavioral changes in implementation and maintenance of mite reduction strategies. Investigators also assessed if use of the in-home test also reduced allergen levels in homes of children sensitive to dust mites. Sixty households of children ages 5 to 15 years with parent-reported dust mite allergy participated in a randomized controlled trial. Intervention homes received educational material about reducing dust mites as well as test kits at 1, 2, 5, and 8 months. Control homes received only educational material. Results revealed that allergen concentrations in the child's bedroom and living room floors were significantly reduced in the intervention homes that received test kits and education, compared with the control homes that only received education about dust mites. Therefore use of in-home test kits along with education may beneficially influence behaviors and attitudes toward dust mite reduction strategies and help reduce residential dust mite allergen levels. The immediate knowledge of dust mite levels might motivate parents to more thoroughly perform dust mite avoidance strategies (Winn et al., 2016).

Mold

Americans spend up to 90% of their time indoors (EPA, 2020a). This places persons with asthma at great risk for mold exposure

and worsening asthma. Visible indoor fungi are called mold or mildew. Fungi reproduce by producing spores, which are regularly found in indoor air and on surfaces. Airborne spores are inhaled and act as allergens. Indoor mold usually originates from the outside and gains access to the inside through open windows or being transferred on pets or people's clothing. With the right conditions of humidity and temperature and adequate food sources, mold spores can proliferate inside the home (EPA, 2020d; Kaneshiro, 2020a).

Mold allergy poses a significant health concern. The prevalence of mold sensitization in children with persistent asthma is approximately 50% (Matsui et al., 2016). The National Survey of Lead and Allergens in Housing found that 56% of homes had levels of some molds above thresholds observed to be associated with asthma symptoms, increasing the risk for exacerbation. Remediation of mold has been shown to reduce symptoms and medication use. Persons with persistent asthma should be tested for mold allergy. Reports of home dampness or moisture leaks confirm the probability of mold allergy and should be followed up with remediation efforts (Matsui et al., 2016).

Multiple studies have looked at the effect of mold on the health outcomes for persons with asthma. Byeon and colleagues (2017) found an association between mold sensitization and asthma severity. Sensitization to mold was associated with lower lung function and increased airway hyperresponsiveness in children with asthma. Caillaud and colleagues (2018) found that children exposed to visible mold and mold odor were more likely to develop asthma and experience exacerbations. Exposure to mold in the workplace was associated with the incidence and exacerbation of occupational asthma.

Mold control is essential. The key is controlling moisture in the home. Water-damaged areas and items need to be dried within 24 to 48 hr to prevent mold from growing. Leaky plumbing and other sources of water need to be repaired. Hard surfaces with mold present need to be washed with detergent and water, then dried thoroughly. Any absorbent materials, such as carpets and ceiling tiles, need to be replaced. Dehumidifiers or air conditioners should be used to maintain relative humidity at less than 50% and to keep temperatures cool. Improving air flow through whole-house ventilation or installing vents in the kitchen, bathroom, and clothes dryer is essential. Mold inhibitors should be added to paints before application. Bathrooms should be cleaned with mold-killing products (CDC, 2020b; EPA, 2020d; Hamilton, 2019; HUD, 2018).

Animal Allergens

Allergies to dogs and cats affect 10% to 20% of the population worldwide and is a growing public health concern as these rates increase. Given the prevalence of detectable dog and cat allergens, even in households without pets, there is a critical need to accurately diagnose and treat patients to reduce morbidity and mortality from exposure (Chan & Leung, 2018). All warm-blooded animals with fur (or feathers) can be problematic. The primary allergens that can trigger asthma are not the hair or fur but proteins found in saliva, skin flakes (dander), urine, and feces. Any breed of dog and cat is capable of being allergenic. In cats, the protein that causes most people's allergies is found in the cat's saliva, skin glands, and urinary/reproductive tract. Therefore, short-haired cats are not less allergenic than long-haired animals, and hairless cats have allergens that are similar to cats with hair. Other warm-blooded animals such as rodents, birds, and ferrets can also trigger asthma in an allergic individual. Pets without feathers or fur, such as reptiles, turtles, and fish, rarely cause allergy (Miller, 2020).

Additionally, fur can carry dust mites, pollen, mold, and other allergens. Fecal droppings from any caged animal, furry or feathered, also can attract dust mites and mold. These allergens become airborne and are spread through heating and ventilation systems (Dinetz, 2017; Gautier & Charpin, 2017). Although high levels of these allergens are found in homes with cats and dogs, buildings without any animals also have these triggers because these allergens are carried on clothing or spread in the air (Miller, 2020). Because of this, limiting an animal to a certain area in the house is not an effective strategy to minimize exposure and risk.

The best way to avoid exposure to this allergen is to remove all pets from the home. That said, people are very devoted to their pets, so this may not be a viable option. Reducing exposure is the next best option. Animals should not be allowed in bedrooms or play areas, and vacuuming with a HEPA filter and dusting should be done routinely. Rugs and carpeting should be avoided. HEPA air cleaners are recommended. Family members should practice handwashing after touching pets to prevent transferring the allergens to the person with asthma. People with asthma should not clean litter boxes or cages. Schools should maintain pet-free classrooms. Even after removal of pets from the environment, it may take up to 6 months to reduce allergen levels. Allergy shots are recommended for individuals with proven pet sensitivity (Dinetz, 2017; Miller, 2020).

Cockroaches

The major cockroach allergen is found in their secretions, fecal particles, and fragments of their body parts. These particles can become airborne and disseminate throughout the home. Infestations are associated with living in densely populated areas, urban environments, multifamily homes, and having low SES. Because of the airborne nature of the particles, homes without evidence of cockroaches can still be affected. One in five homes with no history of cockroach infestation was found to have significant levels of the allergen in dust and fabrics in the home (ALA, 2020b; Do et al., 2016).

Studies have shown a consistent association between sensitized individuals' exposure to cockroach allergens and asthma exacerbation or severity. Rhee and colleagues (2018) found that those with cockroach allergies were more likely to report ED visits, specialist visits, and asthma exacerbations compared with those without cockroach allergies.

For individuals in known areas of cockroach infestations, efforts must be consistent to reduce exposure. Removal of food sources and household food wastes from open areas needs to be implemented. All foods should be stored in sealed containers, and dishes should be washed promptly. Frequent disposal of garbage assists in decreasing cockroach presence. Because cockroaches have an affinity for water, reducing access to water by fixing leaking faucets and preventing water condensation on pipes can help reduce infestations. Sealing cracks and holes can help prevent entry into the home. Setting roach traps is an effective measure to reduce cockroach populations in the home. Pesticides in gel form are preferred to ones that are aerosolized. Gel form allows for greater control of the pesticide and prevents inhalation of the material, which might trigger an asthma exacerbation (Gautier & Charpin, 2017; Matsui et al., 2016; Miller, 2020).

The 2020 Focused Updates (Expert Panel Working Group of the NHLBI et al., 2020) recommend using integrated pest management to improve asthma outcomes. Integrated pest management can be used alone or with other interventions to reduce exposure to pest-related allergens in the home. The Expert Panel recommends tailored allergen intervention strategies only for individuals with asthma who are exposed to cockroaches and who have either asthma symptoms or have tested positive for a cockroach allergy through allergy testing.

Smoking

About 17% of adults with asthma in the United States smoke, compared with 13.7% without asthma, even though cigarette smoke is known to trigger asthma attacks (ALA, 2020c). Tobacco smoke contains more than 7,000 harmful chemicals (CDC, 2018). Approximately 5.7 trillion cigarettes were smoked worldwide in 2016, implying that secondhand smoke (SHS) exposure is almost unavoidable for children and for adults who do not smoke. Nicotine and other tobacco compounds accumulate on surfaces such as clothes, furniture, walls, and vehicles and can stay there several months after smoking has stopped, even after the

surfaces have been washed (Drope et al., 2018). All of these facts contribute to the risk for the most vulnerable to develop asthma or have worsened asthma outcomes.

Those exposed to the smoke from people who use tobacco are at increased risk for poor health outcomes. Secondhand smoke is the involuntary exposure of nonsmokers to tobacco smoke from the smoking of others. Secondhand smoke is a mixture of sidestream smoke, given off by the smoldering tobacco product, and the mainstream smoke that is exhaled back into the air by active smokers. Sidestream smoke, generated under lower temperatures, has higher concentrations of the toxic chemicals found in mainstream smoke and is quickly dispersed to contaminate the immediate environment. This smoke has more toxins than the smoke inhaled by the smoker. Thirdhand smoke refers to exposure to smoke components deposited on surfaces, as mentioned previously. These toxins may be absorbed through the skin, by ingestion, or through inhalation of resuspended dust; however, the potential health effects are not yet well studied (AAFA, 2017; Samet & Sockrider, 2020). Exposure to SHS is usually underreported and therefore underestimated. Myers and colleagues (2018) found a strong correlation between parental perceptions of children's exposure and perceptions of risk to the child's health. Exposure perceptions were lower among smokers compared with nonsmokers – smokers perceived children as being less exposed to smoke in various situations, whereas nonsmokers rated as higher the extent to which smoke reaches children when there is a smoker in the vicinity.

Hollenbach and colleagues (2017) investigated the association between secondhand smoke exposure and asthma severity in children with physician-diagnosed asthma. They found that among the 30,163 children with asthma evaluated, exposure to secondhand smoke was associated with greater asthma severity for those with mild and moderate persistent asthma. Litonjua and Weiss (2020) discuss the effects of maternal smoking, prenatally and postnatally, on asthma development. Prenatal exposure to maternal smoking has been associated with reduced pulmonary function in the infant and greater likelihood of childhood asthma. Compounding this is the greater risk for premature delivery in mothers who smoke during pregnancy, which is another risk factor for asthma. In children ages 7 to 9 years old with asthma, an association was found between current asthma/wheeze and maternal smoking during pregnancy and the number of household smokers.

The only avoidance measure for tobacco smoke is to stop smoking and to avoid being around cigarette smoke. However, this is a difficult task. Nearly 70% of adults who smoke say they want to quit, and over 50% of adults who smoke try to quit each year. Unfortunately, more than 40% of adults who smoke do not receive advice to quit from a healthcare professional. Therefore, the role of the nurse in encouraging individuals to stop smoking and counseling them about smoking cessation options can be invaluable. Fewer than 1 in 3 adults who smoke use cessation counseling or FDA-approved medications when trying to quit. The bad news is that fewer than 1 in 10 US adults successfully quit smoking each year (CDC, 2020d). The American Nurses Association (ANA, n.d.) offers resources to assist nurses with tobacco and use cessation. Their website includes a link to their position statement, *Prevention and Cessation of Tobacco and Other Nicotine Products* (ANA, 2020), which promotes nurse engagement in tobacco use prevention and cessation. Included are expanded efforts to reduce secondhand smoke exposure and to educate nurses and the public about the harmful effects of smoke and smokeless tobacco products. The focus is to eliminate tobacco-related disparities and to prevent tobacco use in youth (ANA, 2020). Links for evidence-based information from the CDC, FDA, Agency for Healthcare Quality and Research, National Institutes of Health, National Cancer Institute, and US Preventive Services Task Force are also located on this website.

Air-cleaning devices are generally not effective in ameliorating secondhand smoke exposure and should not be recommended. In homes where there are smokers, people should be instructed to smoke only outside. However, this will not eliminate the potential risks of thirdhand smoke where the chemicals are deposited on the smoker's clothing, risking exposure of anyone who comes in close contact with the smoker. Additionally, no smoking should be permitted in cars or closed spaces (Ben-Joseph, 2019; Samet & Sockrider, 2020).

Indoor Pollutants

Indoor pollution sources that release gases or particles into the air are the primary cause of problems with indoor air quality in homes, worsened by inadequate ventilation. High temperatures and humidity levels can also increase concentrations of pollutants. Sources of these pollutants include fuel products (e.g., gas, kerosene, coal, wood), tobacco products, asbestos, pressed-wood products, and outdoor sources that migrate into the home (e.g., radon, pesticides). Strategies to reduce levels of indoor pollutants include eliminating or controlling the sources of pollution, venting furnaces and gas appliances to the outside, avoiding wood smoke, adequately ventilating the home, avoiding household sprays, and installing air-cleaning devices. When purchasing materials for the home, solid wood products are preferable to particleboard. If carpeting is installed over concrete, there should be an effective moisture barrier (EPA, 2020c). It is important to keep in mind that those who rent housing might not be able to change the living environment. As healthcare professionals, it is imperative to discuss these issues with people and refer them as necessary for assistance with any modifications that might need to be done to prevent asthma from worsening. Installation of nonpolluting heat sources, including heat pumps, wood pellet burners, and flued gas, significantly reduces asthma symptoms, missed school days, healthcare utilization, and pharmacist visits (GINA, 2020).

Outdoor triggers

Plant Pollens

Pollen is a fine, yellowish powder that is transported from plant to plant by the wind, birds, insects, or other animals. Wind-pollinated plants, such as grasses, weeds, and trees, often are the cause of allergies. Pollen levels are increased on hot, windy days. On cool, rainy days, much of the pollen is washed to the ground, minimizing the effect on the person with asthma. Pollens vary by season. Spring pollens usually come from trees. Late spring and summer pollen is from grasses. Ragweed and other late-blooming plants produce pollen during late summer and early fall. Pollen avoidance is only relevant during the time that the offending pollen is airborne (Gautier & Charpin, 2017; Kaneshiro, 2020b). Strategies to reduce pollen exposure include checking local pollen counts and limiting time outside from 10:00 a.m. to 2:00 p.m. when pollen is the highest. Keep windows closed to prevent the pollen from entering the home. If available, air filters and air-conditioning should be used. Bedding should be washed weekly in hot, soapy water. Sunglasses and a hat should be worn when outside to avoid pollen exposure to eyes and hair. Clothes should not be hung outside to dry. Lawns should be kept short. Clothes should be changed and washed after outdoor activities. Long pants should be worn to avoid exposure to grass. Shower and shampoo every night to keep pollen out of the bed. Pets should be wiped off or brushed before coming inside to remove any pollen from their fur. Remove shoes and vacuum frequently (AAFA, 2021; AAFA Community Services, 2019).

Each year, the AAFA produces a report on allergy impact for 100 major cities in the United States. The AAFA bases their ranking on spring and fall pollen scores, over-the-counter medicine use, and availability of board-certified allergists. This greatly impacts those with asthma, as a large proportion of

individuals with asthma have allergies, as previously discussed. This information allows communities to plan interventions to decrease the impact on its citizens and provides much-needed information for the residents of these cities. The 10 worst cities are Scranton, Pennsylvania; Richmond, Virginia; Wichita, Kansas; McAllen, Texas; Pittsburgh, Pennsylvania; Hartford, Connecticut; Springfield, Massachusetts; New Haven, Connecticut; Oklahoma City, Oklahoma; and Bridgeport, Connecticut. The cities with the lowest pollen counts include Denver, Colorado; Fresno, California; Portland, Oregon; Milwaukee, Wisconsin; Stockton, California; San Jose, California; Salt Lake City, Utah; Provo, Utah; Seattle, Washington; and Durham, North Carolina (AAFA, 2021). It should be noted that for 2020, fewer people experienced problems with pollen. This has been attributed to COVID, as many people spent more times indoors in their homes, thereby having less exposure to these allergens. However, climate change continues to cause longer and more severe allergy seasons, intensifying pollen production, and worsening allergies (AAFA, 2021).

Air Pollution

Air pollution refers to the release of pollutants into the air that are detrimental to human health and the planet as a whole (Mackenzie, 2016). There are multiple sources of outdoor air pollution. Burning fossil fuels releases gases and chemicals into the air. Air pollution not only contributes to climate change but is also exacerbated by it. Air pollution, specifically carbon dioxide and methane, raises the earth's temperature, which increases the level of smog. Smog occurs when emissions from combusting fossil fuels react with sunlight. Particulate matter is tiny particles of chemicals, soil, smoke, dust, or allergens, in the form of gas or solids, carried in the air. Sources of smog and soot come from cars and trucks, factories, power plants, incinerators, and engines. The airborne particles in soot are especially dangerous because they can penetrate the lungs. Climate change also increases the production of allergenic air pollutants. Mold is increased related to the wet conditions caused by increased flooding. Pollen is increased from a longer pollen season and more pollen production (Mackenzie, 2016). Atmospheric conditions including thunderstorms may trigger exacerbations by increasing the level of respiratory allergens (GINA, 2020).

Living in areas with poor air quality has been implicated in asthma development in young children, with traffic-related pollutants a major source of offending pollutants. During the first year of life, nitrogen dioxide and ozone exposure from traffic-related air pollution increased asthma risk (To et al., 2020). Khreis and colleagues (2019) found 7% to 12% of annual childhood asthma cases were attributable to traffic-related air pollution, specifically particulate matter (PM) <2.5 μm in diameter (PM2.5), PM <10 μm in diameter (PM10), and black carbon. Khreis and colleagues (2018) found overall air pollution (nitrogen oxides and nitrogen dioxide) accounted for 38% of all annual childhood asthma cases. Exposure to these pollutants damages lung cells, decreases lung function, and increases respiratory symptoms (EPA, 2020b). Unfortunately, there is no realistic way to avoid exposure to air pollution. Wearing a dust mask has not been proven to be an effective measure (Gautier & Charpin, 2017). Reduction of air pollution usually requires policy changes at the national or local level (GINA, 2020).

Air Quality. The Air Quality Index (AQI) is a system for reporting daily air quality, indicating how polluted the air is that day and the potential health effects. The EPA calculates the AQI for five major air pollutants regulated by the Clean Air Act: ground-level ozone, particle pollution (particulate matter), carbon monoxide, sulfur dioxide, and nitrogen dioxide. National air quality standards have been established for each of these pollutants in order to protect public health. Of the five major air pollutants, ground-level ozone and particle pollution pose the greatest threat to health. The AQI ranges from 0 to 500; the higher the number, the worse the effect on health. Any value higher than 100 is considered unhealthy (EPA, n.d.).

Mold

The effects of outdoor mold are the same as the effects discussed earlier for indoor mold. To reduce exposure to outdoor molds, outdoor activities should be minimized when mold counts are high. Any water that collects outside of the home structure should be eliminated. Areas where mold is more likely to be present should be avoided: barns, hay, and woodpiles. The person with asthma should not rake leaves or mow grass and should avoid wooded areas. If these tasks are undertaken, a dust mask should be worn. Outdoor activities should be avoided on windy and rainy days because mold spore counts increase in warm, humid weather and immediately after summer rainstorms (Harvard Medical School, 2019; Kaneshiro, 2020a).

Other Potential Triggers

Food Allergy. Food allergy associated with asthma is primarily seen in children. If a person with asthma has a food allergy that triggers asthma symptoms, quick action needs to be taken to abate any risk of anaphylaxis. Persons with asthma should read food labels and avoid eating foods that trigger asthma symptoms. Sulfites, used as preservatives and antioxidants, can induce allergy-like symptoms, such as wheezing, chest tightness, and cough in people with underlying asthma. Persons with food allergies may exhibit asthma symptoms as part of food-induced anaphylaxis. Anaphylaxis should be suspected if an individual (especially a child or young adult) develops severe asthma symptoms soon after eating a food allergen. Sometimes food allergens can be aerosolized from the steam or vapors associated with cooking these foods or from powdered food that enters the air (Gautier & Charpin, 2017; GINA, 2020; Miller, 2020). Patients who have a confirmed food allergy that puts them at risk for anaphylaxis must have an epinephrine auto-injector available at all times and be trained how to use it (GINA, 2020).

Viruses. Viruses, including influenza, respiratory syncytial virus, rhinovirus, and pneumonia, cause airway inflammation and increased mucous production. Viral respiratory tract infections in infancy may be predictive of the development of asthma in later childhood to young adulthood. Asthma exacerbations occurring with respiratory infections are frequently more severe than those occurring at other times. Persons with asthma need to practice excellent hand hygiene and should avoid people with infections. As stated previously, the influenza and pneumonia vaccines should be administered (Litonjua & Weiss, 2020; Miller, 2020).

Drugs such as aspirin, nonsteroidal antiinflammatory agents, and beta blockers can act as asthma triggers. Angiotensin-converting enzyme (ACE) inhibitors appear to be safe for people who have asthma. However, some people develop a cough when taking ACE inhibitors, which needs to be differentiated from asthma. If the cough is caused by the ACE inhibitor, it will usually go away a week or so after stopping the medicine (Familydoctor.org, 2020).

Geographic information systems mapping

To minimize exposure to asthma triggers, it is essential to know where these triggers are found and how prevalent they are. Geographic information systems (GIS) mapping has the ability to provide this information, allowing for research to be conducted on the burden of these triggers and the potential effect of remediation of these offending agents on asthma. GIS mapping is a computer-based tool that enables integration and visualization of assessment data that assist in understanding the complex interrelationships of environmental factors and populations. Data include anything that can be associated with a location on the globe. GIS mapping helps answer questions about how location affects disease (CDC, 2019b). Using asthma data in combination with GIS allows for visualization of vulnerable populations and triggers that can lead to targeted interventions to decrease asthma complications.

Evidence-based practice! A study was conducted to explore if environmental factors co-occur in areas with high asthma rates in a convenience sample of 56 children enrolled in Head Start (HS), ages 3 to 5 years. The GIS program ArcGIS 10.4 was used to geocode and map aggregated address data at the census tract level through vector map analysis. Location, race, economic status, pollution remediation sites, age of housing, and blood lead levels were assessed for areas with high asthma concentration. Results indicated that children with asthma resided in one census tract, which was 1% of the total service area. Fifty-six percent of housing was built before 1960 and only 10% after 1990, which suggests deteriorating conditions. Pollution remediation sites were found in the vicinity of asthma cases. Elevated lead levels were found in 22% of all HS children; specific values for the children with asthma were not available. The need for proactive interventions to decrease asthma risk and poor asthma outcomes in HS children is evident. GIS locates children with high susceptibility to asthma. Knowing where to focus asthma efforts allows for more effective and efficient interventions to reduce the burden of asthma and its associated adverse outcomes (Quaranta et al., 2020).

EDUCATION ON ASTHMA TRIGGER MANAGEMENT

Many people with asthma have difficulty identifying their triggers. Healthcare professionals should ask individuals what happens when they come in contact with a potential trigger. Persons with asthma should be taught that asthma symptoms cannot be adequately controlled by medication alone. A focus on education and behavior change alone might be too limited to reduce exposure to asthma triggers.

Individuals must understand the importance of trigger avoidance. Gruber and colleagues (2016) looked at the effects of home environmental assessment and intervention for families of children with asthma. The educational part of the intervention consisted of information about the potential asthma triggers identified in the assessment process and how to mitigate these triggers. Each family received a cleaning kit – consisting of a microfiber mop, bucket, spray bottles, microfiber cloths, distilled white vinegar, baking soda, peroxide, Simple Green All-Purpose Cleaner, and Murphy's Oil Soap – and instructions on how to mix the products. Issues for repair, replacement, or installation were prioritized based on assessment and potential impact on the child with asthma, with mold, moisture, and pest infestations given highest priority; then heating, air-conditioning, and ventilation (HVAC); and then replacement or removal of carpeting. Families whose households did not require repairs were given HEPA vacuum cleaners, allergen-barrier pillow and mattress covers, HVAC filters, and window-mounted air-conditioning units where appropriate. Positive effects of the intervention were a decrease in the use of asthma medication, fewer health visits, and a subsequent 50% decrease in hospital bills for childhood asthma treatment (Gruber et al., 2016).

Strategies

Strategies need to be appropriate to the person's unique trigger profile. The family should be assisted in identifying and eliminating triggers. Suggested trigger assessment questions focus on indoor and outdoor allergens and irritants. It is important to assess the duration and timing of symptoms. Are they seasonal or year-round? Pet ownership needs to be explored. If there are pets, do they live indoors? It is important to assess for moisture and dampness in the home, and to observe any visible mold. Ask about any cockroach infestations. Have cockroaches been seen in the house in the last month? It is important to ask about tobacco exposure in the home, at work, or at school or day care. Heat sources need to be evaluated (NHLBI, 2007). Once this information is obtained, individualized trigger avoidance education can be provided for the person with asthma.

The option of a "do-it-yourself" environmental home assessment has proven valuable to many. The home assessment is conducted by systematically walking through the grounds and each room of the house. The AAFA offers a program called Wee Breathers that provides asthma education for families. This program is a free download. Trigger assessment and remediation are available at https://www.aafa.org/programs/programs-for-health-care-professionals/education-programs-for-teaching-patients.aspx. This is an excellent resource for all healthcare personnel providing asthma education.

The EPA also provides an Asthma Home Environment Checklist (EPA, 2018), which can be found at https://www.epa.gov/asthma/asthma-home-environment-checklist. This allows a home visitor the opportunity to identify environmental asthma triggers most commonly found in homes, as well as suggestions for remediation of these triggers.

Integrated pest management

For individuals with asthma who have sensitization or symptoms related to exposure to pests (e.g., cockroaches and rodents), the 2020 Focused Update of the EPR-3 (Expert Panel Working Group of the NHLBI et al., 2020) conditionally recommends the use of integrated pest management, alone or as part of a multicomponent allergen-specific mitigation intervention. Integrated pest management (IPM) is a preferable intervention to the use of pesticides. IPM is an approach that integrates ecological practices for economic control of pests, reducing risks while maximizing benefits. Traditional pest control involves the routine application of pesticides. Conversely, IPM focuses on pest prevention and uses pesticides only as needed, and integrates multiple pest control methods. Correct pest identification and areas vulnerable to those pests is essential to assure the best preventive measures and to reduce unnecessary use of pesticides. This approach also prevents the elimination of beneficial organisms. IPM programs routinely monitor the efficacy of prevention and control methods, and should be updated based on monitoring results. Preventive actions include reducing clutter, sealing areas where pests enter the building (weatherization), removing trash and overgrown vegetation, maintaining clean dining and food storage areas, installing pest barriers, removing standing water, and educating building occupants on IPM (EPA, 2017).

It is also recommended that schools use an IPM approach. This creates a safer and healthier learning environment by managing pests and reducing children's exposure to pests and pesticides. With an emphasis on prevention, this allows for substantial economic savings for schools. In the United States, more than 53 million children and 6 million adults spend a significant portion of their days in school. IPM provides an opportunity to create a safer learning environment by reducing children's exposure to pesticides as well as eliminating pests (EPA, 2017).

Other issues

Finally, it is important to be aware of difficulties encountered by individuals and families when attempting to implement trigger control strategies. If the place of residence is a rental home, permission might be needed before any structural changes can be made home. Emotional attachments to pets may make it difficult to remove the pet from the home (EPA, 2018). Lack of economic resources to address, identify, and remediate environmental triggers in homes is a major concern.

Households living in substandard housing with unaddressed conditions create multiple exposures to environmental triggers, including mold, moisture, and pests. Additionally, a lack of culturally sensitive asthma management and education resources may interfere with adherence because of lack of trust in the healthcare provider. Low level of health literacy also contributes to adequate trigger control strategies (HUD, 2018).

Evidence-based practice! Health literacy is a key factor influencing asthma management outcomes. A systematic review was conducted to look at the relationship between a child's health literacy and asthma outcomes. An electronic database search reviewed studies published between January 2005 and August 2016. The review identified 13 studies that mostly focused on the relationship between parental health literacy and children's asthma outcomes. Results indicated that having parents with low health literacy was associated with poor asthma control and increased healthcare utilization. In addition, it was found that there are not adequate tools to measure a child's health literacy. Few studies have been conducted on the direct assessment of children's health literacy. Additional studies are needed (Tzeng et al., 2018).

Case study 1

Your patient is a 52-year-old woman with a history of moderate persistent asthma. She is seeing you today with complaints of increased chest tightness and wheezing since temporarily moving into her mother's home (a farmhouse built 70 years ago) to care for her. Your patient tells you that her mother's home is a "dust pit" and has not been cleaned in months because of her mom's declining health and inability to do so. Your patient also states that she has recently seen a few cockroaches crawling in the kitchen. She recalls that her primary triggers for asthma are dust mites, dogs, cats, and cockroaches, but she has not had to think about them for years because her asthma has been well controlled until now. Your patient's mother does not have any pets. You discuss environmental control and avoidance measures.

Questions

1. What type of advice would you offer your patient about dust mite avoidance? How should she approach cleaning her mother's home?
2. How would you advise your patient to minimize cockroach exposure?
3. Your patient asks if she will feel this poorly the entire time she is staying at her mother's home. How would you answer her?

Discussion

1. Your patient is in a challenging position because she needs to take care of her mother; however, doing so significantly increases her exposure to her asthma triggers. The first task at hand is for your patient to wear a dust mask (one that covers her mouth and nose) and clean her mother's home or seek assistance with the cleaning while her mother is away from the house. Dusting with a damp cloth is the preferable method for cleaning. Once clean, measures to reduce her exposure to dust mites include using allergen-impermeable mattress and pillow covers, vacuuming with a HEPA filter, and reducing the humidity level in the home to below 50%. It is important to continue damp dusting on a weekly basis, if not more frequently. You should also assess any community resources that might be available to assist with allergen reduction. The patient's health insurance provider should also be contacted to see if any reimbursement is available for asthma management resources.
2. Cockroach exposure can be minimized by chemical extermination with insecticides, although that is sometimes an irritant to individuals with asthma. Gel pesticides are recommended over aerosolized ones to prevent the chemical from dispersing in the air and being inhaled. This might exacerbate asthma and have other harmful effects. Additionally, making sure that there is no exposed food source or food waste on the countertops or tables is important. Cockroaches like water, so it is necessary to ensure that there are no leaky pipes or faucets in the home. Your patient needs to understand that there is no method available to kill cockroach eggs; therefore, she must remain vigilant.
   Another option is a referral for integrated pest management. Integrated pest management is an approach that integrates ecological practices for economic control of pests – reducing risks while maximizing benefits. You should help the patient find resources in the community that might assist her with doing this service.
3. You can encourage your patient by informing her that as she implements a multicomponent approach, including environmental controls and avoidance measures, she can expect that, over time, her asthma symptoms will return to being controlled. If she is diligent about the environmental control and avoidance measures, she can be optimistic that she will regain control of her asthma while living at her mother's home. A follow-up visit should be scheduled to assess if she was able to implement the recommendation and reassess her status. Education should be provided for acute symptoms that may require emergency intervention. She should follow up with her primary care provider, as she may require an adjustment of her medication from exposure to her asthma triggers.

Case study 2

Your patient is a 10-year-old boy with mild persistent asthma. His triggers are cold weather, smoke, upper respiratory tract infections, and dust mites. After the weather suddenly became cold and wet, your patient experienced an acute asthma exacerbation that resulted in an ED visit. Findings from a home visit revealed smoke damage to half of the house from a recent fire. The family lives in the home, owned by a family member, as they do not have enough money to pay rent. Other findings included cigarette smoking by the mother (limited to her own bedroom), clutter in your patient's bedroom, and a resolving upper respiratory tract infection for your patient. The mother was stressed financially and emotionally and refused to discuss smoking cessation. When your patient experiences difficulty breathing, she lets him sleep in her room.

Questions

1. Do you think that the ED visit could have been prevented?
2. Considering the mother's stress and limited resources, describe a trigger-control plan that the child could reasonably follow.
3. What is the significance of the burned house?

Discussion

1. Most ED visits because of asthma are preventable. Recognition of early warning signs of asthma and awareness of asthma triggers and the need for their avoidance can potentially prevent the need for emergency care. This can be assisted with a home assessment and an educational plan individualized for this family that includes mitigating triggers and medication use for symptom exacerbations, detailed in a written asthma action plan.

2. Healthcare professionals should stress trigger-control measures that your patient can manage. He can control the bedroom clutter, recognize early warning signs, and notify an adult (including the school nurse) when he experiences warning signs. He should avoid sleeping in his mother's room because it contains cigarette smoke. Ideally, the mother should stop smoking or at least smoke outside the house, although she may not be willing to do this. It does need to be emphasized, however, that secondhand smoke is detrimental as well. The mother must understand that despite the use of highly effective asthma medications, it may be very difficult to get her child's asthma under control and keep it under control as long as she continues to smoke inside the home. If your patient continues to experience severe exacerbations of asthma (i.e., warranting an ED visit), exposure to environmental tobacco smoke may at some point be considered a case of medical neglect (although, in this case, the recent house fire also is a likely trigger).
3. Indoor air pollutants may be emitted from the burned part of the house. Certainly, the home is substandard and not a healthy environment for the family, especially for a person with asthma. As an advocate, you should assist the family in identifying resources to help locate alternative housing.

Conclusion

Asthma is increasing in prevalence and poses great risk to one's physical, social, and economic health. Asthma is a chronic inflammatory disease of the airway that produces bronchoconstriction, edema, and mucus formation. The inflammatory response is complex and self-perpetuating. Inflammatory events lead to airway obstruction and, over time, irreversible changes because of airway remodeling. Inflammation is persistent and widespread throughout the airway and produces characteristic asthma symptoms. Treatment must include antiinflammatory therapy that is continuous and delivered throughout all parts of the airway. However, despite optimal treatment, a person's airflow limitation may be only partially reversible. Permanent structural changes in the individual's airway can occur and are associated with a progressive loss of lung function. However, these changes can be minimized with early diagnosis and appropriate management. It is imperative to understand the triggers that increase risk for developing asthma and increasing asthma severity. Individualized and sensitive interventions and education need to be instituted to allow for the best possible outcomes.

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Self-Assessment Answers and Rationales

1. The correct answer is A.
Rationale: Asthma prevalence is increasing in industrialized countries. Puerto Rican children have the highest asthma prevalence rates. Males have higher prevalence in childhood, whereas females have higher prevalence in adulthood. Overall asthma prevalence for children has not increased in recent years.

2. The correct answer is C.
Rationale: In the breakdown of costs, asthma prescriptions is the highest cost. Asthma costs are usually underestimated and do not include related costs such as transportation for care. Mortality costs for asthma are included in the calculation for overall cost.

3. The correct answer is B.
Rationale: Healthy People 2030 reduced the number of objectives from Healthy People 2020. Healthy People 2030 focuses on reducing asthma deaths, hospitalizations, and ED visits. Instruction on inhalers is a Healthy People 2020 objective. Referral to a specialist and administration of the influenza vaccine are not specifically addressed.

4. The correct answer is B.
Rationale: Exposure to tobacco smoke is a known risk factor for asthma development. Obese children, not thin children, are at greater risk for asthma. According to the hygiene hypothesis, lack of exposure to microbes increases the risk of asthma. Taking controller medications would lessen asthma risk.

5. The correct answer is D.
Rationale: Both guidelines emphasize that asthma is controllable and does not need to be necessarily severe. Although asthma can be seasonal, it is not considered autoimmune. Asthma is not considered a temporary or acute disease but rather a chronic disease.

6. The correct answer is B.
Rationale: It is believed that the different phenotypes are differentiated by their levels of Th2. Each phenotype has its own pathophysiology, which is why asthma is considered a heterogenous disease. Phenotypes can be classified as allergic and nonallergic, although the research is still clarifying much of this information. Individuals with T2 high asthma respond better to inhaled corticosteroids compared with those with non-T2-high asthma.

7. The correct answer is A.
Rationale: This is an irreversible occurrence. Subbasement membrane thickening in adults with severe asthma and in children with early diagnosed asthma causes accelerated lung function loss from this remodeling. Damage or loss of the normal structure of airway epithelium, an increase in mucus-producing goblet cells, fibrotic thickening of the subepithelial reticular basement membrane, increased vascularity, and increased airway smooth muscle mass caused by long-term inflammation contribute to this permanent structural change.

8. The correct answer is D.
Rationale: Common means for suicide that need to be assessed for are firearms, pills or other ingestible poisons, sharp objects such as knives/scissors/razors, proximity to high places such as rooftops/bridges, and the opportunity for hanging or asphyxiation.

9. The correct answer is B.
Rationale: The ZS model recommends provision of increased contact during periods of suicidal crises.

10. The correct answer is C.
Rationale: During the assessment, Eddy identified sources of support as his mother, roommate, uncle, and cousin.

Basic Psychiatric Concepts

6 Contact Hours

Release Date: June 1, 2022 **Expiration Date:** June 1, 2025

Faculty

Robyn B. Caldwell, DNP, FNP-BC, earned a Doctor of Nursing Practice (DNP) from Samford University in nursing administration with an emphasis in nursing education in 2013; a post-master's certificate as a family nurse practitioner from Delta State University in 2003; a master's degree in Nursing Administration (MSN) in 1996; and Bachelor of Science in nursing (BSN) degree in 1990 from the University of Tennessee. Dr. Caldwell has worked in a variety of healthcare settings throughout her 32-year career including adult and pediatric emergency nursing, nursing administration, and nursing education (LPN to DNP) in both the community college and university settings. She has published and presented on topics relevant to nursing education and patient outcomes in local, state, and national venues. Currently, Dr. Caldwell is employed in an urgent care setting and is working on a post masters as a psychiatric mental health nurse practitioner (PMHNP).

Robyn B. Caldwell has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Reviewer: Kimberleigh Cox, DNP, PMHNP-BC, ANP-BC, PHNc., is an Associate Professor at the University of San Francisco's School of Nursing and Health Professions and is nationally board certified as both an adult nurse practitioner (ANP) and psychiatric mental health nurse practitioner (PMHNP). She is also a certified Public Health Nurse (PHNc). Dr. Cox received her bachelor's degree in Psychology from Brown University. She then worked for Harvard, Brown and Stanford Universities' Departments of Psychiatry and Mood Disorders Clinics from 1990-1995 doing clinical research, primarily in depressive and anxiety disorders. Dr. Cox received her master's degree in Nursing (MSN) from University of California San Francisco in 1998, completing a dual adult and psychiatric nurse practitioner program. She has practiced clinically as a Nurse Practitioner since 1998 working with diverse populations of individuals with psychiatric, behavioral health, and addictive problems in a variety of specialty mood disorders, psychiatric and residential care settings in California. She completed her Doctor of Nursing Practice (DNP) from USF in 2010 and was the Dean's Medal recipient for professionalism. Her doctoral work focused on chronic depression and the application of an evidence-based psychotherapeutic treatment. Dr. Cox has been teaching undergraduate and graduate nursing students in community/public health and psychiatric/mental health since 2003. She has presented nationally on managing patients with difficult behaviors, has authored publications, including "Bipolar and Related Disorders: Signs, Symptoms and Treatment Strategies" (2018), and has peer reviewed "Depression: A Major Public Health Concern" (2nd & 3rd editions - 2019, 2022).

Kimberleigh Cox has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Course overview

The goal of this course is to provide an introductory overview of mental health concepts. This course examines the history, epidemiology, legal/ethical aspects, mental health assessment, and other basic therapeutic skills used in mental health nursing. In-text links, case studies, and self-assessment questions and NCLEX-style testing are utilized.

This course is designed for registered nurses, licensed practical/vocational nurses, and newly licensed registered nurses who desire a greater understanding of basic mental health concepts. A fundamental understanding of medical terminology, abbreviations, and nursing care is assumed.

Learning objectives

Upon completion of the course, the learner will be able to:

- Explore historical aspects associated with mental healthcare.
- Identify legal and ethical principles of mental health nursing.
- Explore cultural aspects of mental health.
- Describe components of the psychiatric assessment, including the mental status exam.
- Describe neurobiological components essential to mental health.
- Identify therapeutic modalities used in mental healthcare.

How to receive credit

- Read the entire course online or in print which requires a 6-hour commitment of time.
- Complete the self-assessment quiz questions which are at the end of the course or integrated throughout the course. These questions are NOT GRADED. The correct answer is shown after you answer the question. If the incorrect answer is selected, the rationale for the correct answer is provided. These questions help to affirm what you have learned from the course.
- Depending on your state requirements you will be asked to complete either:
  - An affirmation that you have completed the educational activity.
  - A mandatory test (a passing score of 70 percent is required). Test questions link content to learning objectives as a method to enhance individualized learning and material retention.
- If requested, provide required personal information and payment information.
- Complete the MANDATORY Course Evaluation.
- Print your Certificate of Completion.

CE Broker reporting

Colibri Healthcare, LLC, provider # 50-4007, reports course completion results within 1 business day to CE Broker. If you are licensed in Arkansas, District of Columbia, Florida, Georgia, Kentucky, Michigan, Mississippi, New Mexico, North Dakota, South Carolina, or West Virginia, your successful completion results will be automatically reported for you.

Accreditations and approvals

Colibri Healthcare, LLC is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation.

Individual state nursing approvals

Colibri Healthcare, LLC is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation. In addition to states that accept courses offered by ANCC accredited Providers, Colibri Healthcare, LLC is an approved Provider of continuing education in nursing by: Alabama Board of Nursing, Provider #ABNP1418 (valid through February 5, 2025); Arkansas State Board of Nursing, Provider #50-4007; California Board of Registered Nursing, Provider #CEP17480 (valid through January 31, 2024); California Board of Vocational Nursing and Psychiatric Technicians (LVN Provider #V15058, PT Provider #V15020; valid through December 31, 2023); District of Columbia Board of Nursing, Provider #50-4007; Florida Board of Nursing, Provider #50-4007; Georgia Board of Nursing, Provider #50-4007; Kentucky Board of Nursing, Provider #7-0076 (valid through December 31, 2023; CE Broker Provider #50-4007); Michigan Board of Nursing, Provider #50-4007; Mississippi Board of Nursing, Provider #50-4007; New Mexico Board of Nursing, Provider #50-4007; North Dakota Board of Nursing, Provider #50-4007; South Carolina Board of Nursing, Provider #50-4007; and West Virginia Board of Registered Nurses, Provider #50-4007. This CE program satisfies the Massachusetts States Board's regulatory requirements as defined in 244 CMR5.00: Continuing Education.

Activity director

Deborah Martin, DNP, MBA, RN, NE-BC, FACHE, Director of Learning Innovation Colibri Healthcare, LLC

Disclosures

Resolution of conflict of interest
In accordance with the ANCC Standards for Commercial Support for continuing education, Colibri Healthcare, LLC implemented mechanisms prior to the planning and implementation of the continuing education activity, to identify and resolve conflicts of interest for all individuals in a position to control content of the course activity.

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The information provided in this activity is for continuing education purposes only and is not meant to substitute for the independent medical judgment of a healthcare provider relative to diagnostic and treatment options of a specific patient's medical condition.

Course verification

All individuals involved have disclosed that they have no significant financial or other conflicts of interest pertaining to this course. Likewise, and in compliance with California Assembly Bill No. 241, every reasonable effort has been made to ensure that the content in this course is balanced and unbiased.

INTRODUCTION

In 1973, the American Nurses Association (ANA) developed standards as a framework for psychiatric-mental health nursing practice, which evolved into the "Psychiatric-Mental Health Nursing: Scope and Standards of Practice" (2nd edition, 2014). These practice guidelines provide a foundation for standardization of the professional role, scope, and standards of practice for psychiatric-mental health nurses. During the 1980s and 1990s, respectively, the American Nurses Credentialing Center (ANCC) and American Association of Nurse Practitioners (AANP) implemented specialty certifications relevant to the level of education and experience of the applicants. Increasing numbers of psychiatric mental health nurse practitioners (PMHNPs) have obtained certification to provide advanced care to individuals in both acute and community health settings.

HISTORY OF MENTAL HEALTHCARE

Before the late 1800s, unusual behaviors were commonly thought to be caused by demonic forces. Those who displayed strange behaviors were often banished or confined. People with these odd behaviors were treated poorly and the treatments were aggressive and torturous. In the late 1700s, Philippe Pinel became the superintendent of a mental institution in France (Keltner, 2015). He noted the substandard conditions of the institution and the brutal treatment of the patients. He was the first to begin what became known as *moral therapy*, which consisted of better treatment, including unchaining patients and allowing them time outside. Soon after, William Tuke founded a similar facility in England (Boyd, 2018; Kibria & Metcalfe, 2016). This facility was based on the religious teachings of the Quakers and ensured moral treatment. Tuke saw this institution as a refuge for those with mental illness.

In the United States, Dorothea Dix, a Boston school teacher, was instrumental in opening a state hospital that endorsed a warm and caring environment, providing food and protection for Massachusetts residents (Boyd, 2018; Forrester, 2016). This facilitated a movement toward a more humanistic view of those with mental illness.

In the late 1800s and early 1900s, Sigmund Freud developed his landmark work regarding how childhood experiences and faulty parenting shape the mind (Boyd, 2018; Fromm, 2013). This began the movement toward scientific reasoning and understanding behaviors. Freud influenced researchers such as Carl Jung and Alfred Adler as well as other researchers who contributed to the fields of behaviorism, somatic treatments, and biology (Wedding & Corsini, 2020). With these new

developments, patients with psychiatric disorders began to receive needed psychiatric treatment and rehabilitation.

In 1946, the United States passed the National Mental Health Act, which resulted in the establishment of the National Institute of Mental Health or NIMH. In the second half of the 20th century, equality became a central tenet in mental health treatment. Many mental healthcare consumers became advocates and began to promote the rights of those with mental illness, working to demolish stigma, discrimination, and forced treatments.

In 1979, the National Alliance on Mental Illness, an advocacy group, was formed. Through the work of the alliance and other advocacy efforts, mental health patients were granted autonomy and began participating in their own care.

The 1990s were known as the *decade of the brain*, with focus placed on neuroscience and brain research.

It stimulated a worldwide growth of scientific research and advances, including the following:

- Research on genetic basis for mental illnesses.
- Mapping of the genes involved in Parkinson, Alzheimer's, and epilepsy.
- Discovery of the actions and effects of neurotransmitters and cytokines.
- Advancements in neuroimaging techniques that have increased our understanding of normal brain function and pathologic states (Halter, 2018).

In 1990, the Human Genome Project began to map the human genome. This 13-year project strengthened the theory that there are biological and genetic explanations for psychiatric conditions (https://www.genome.gov/human-genome-project). Although researchers have begun to identify genetic links to mental illness, research has yet to reveal the exact nature and mechanisms of the genes involved. It has been established, however, that psychiatric disorders can result from multiple mutated or defective genes.

EPIDEMIOLOGY

Epidemiology is the scientific study of the distribution (frequency, pattern) and determinants (causes, risk factors) of health-related states and events (not just diseases) in specified populations including neighborhoods, schools, cities, states, countries, and globally (https://www.cdc.gov/). Concepts related to epidemiology include *incidence* and *prevalence*. Applied to mental health, incidence is the number of new cases of a mental disorder in each period. Prevalence is the total number of cases in each population for a specific period. According to 2019 data from the National Institutes of Mental Health (NIMH), an estimated 51.5 million adults aged 18 or older (20.6%) in the United States have been diagnosed with mental illness. Lifetime prevalence estimates 49.5% of adolescents have been diagnosed with a mental disorder and 22.2% have had severe impairment (NIMH).

POLICY AND PARITY

The first Surgeon General's report on mental health was published in 1999. This landmark report, which was based on scientific literature and included a focus on mental health providers and consumers, concluded that mental health is fundamental to holistic health and that effective treatments for mental disorders are available.

In 2003, the President's New Freedom Commission on Mental Health recommended that the healthcare system needed to streamline care for those suffering from mental illness. This commission advocated for early diagnosis, prevention, and treatment and set forth new expectations for recovery and assistance for those experiencing mental illness to find housing and work.

In 2006, the Institute of Medicine (now the Health and Medicine Division of the National Academies) Committee on Crossing the Quality Chasm published Improving the Quality of Health Care for Mental and Substance Use Conditions. The *Quality Chasm* series highlights effective treatments and addresses large gaps in care, focusing on voluntary treatment. Additionally, this promotes a system that treats mental health issues separately from physical problems. A strong recommendation was made for equality in financial reimbursement and quality treatment. *The Mental Health Parity and Addiction Equity Act of 2008* (Office of the Federal Register, 2013) sought to improve the quality of treatments for those with mental illness by advocating mental health coverage at the same annual and lifetime benefit as any medical-surgical coverage (Centers for Medicare & Medicaid Services, n.d.). This Act required any business with more than 50 employees to have mental health coverage at the same level as medical-surgical coverage (Centers for Medicare & Medicaid Services, n.d.). This includes deductibles, copayments, coinsurance, out-of-pocket expenses, and treatment limitations. The requirements under the Act are applied indirectly to small group health plans in tandem with the Affordable Care Act's essential health benefit requirements (Centers for Medicare & Medicaid Services, n.d.).

PSYCHIATRIC AND MENTAL HEALTH NURSING

The psychiatric nurse *promotes mental health through the assessment, diagnosis, and treatment of human responses to mental health problems and psychiatric disorders* (American Nurses Association, 2014, p. 129). Psychiatric nursing integrates the use of self, neurobiological theories, and evidence-based practice in planning treatments. Nurses work in a variety of inpatient and outpatient settings with individuals and families across the lifespan who exhibit mental health needs. Specific activities of the psychiatric nurse are defined by the Psychiatric-Mental Health Nursing: Scope and Standards of Practice, published jointly by the American Nurses Association, the American Psychiatric Nurses Association, and the International Society of Psychiatric Mental Health Nurses (American Nurses Association, 2014).

Nurses encounter patients in crisis in many clinical settings. The crisis may be physical, emotional, mental, or spiritual. Regardless of the origin, these patients express a variety of feelings including hopelessness, helplessness, anxiety or anger, low self-esteem, and confusion. Many individuals act withdrawn, suspicious, depressed, hostile, or suicidal. Additionally, the individual may be intoxicated or withdrawing from alcohol or other substances. Knowledge of basic psychiatric concepts increases nursing competency in any clinical setting.

DSM-5 NOMENCLATURE FOR DIAGNOSES AND CLASSIFICATIONS

Blood tests, though useful for diagnosing many physical disorders, cannot diagnose all psychiatric disorders. Instead, healthcare practitioners base their diagnoses primarily on symptoms. Emil Kraepelin was the first healthcare provider to recognize and categorize patients' symptoms into mental disorders around the turn of the 20th century (Boyd, 2018).

Today, healthcare providers often use other forms of tests, such as genetic testing, computerized tomography, magnetic resonance imaging, and positron emission tomography, to detect changes in the brain and brain activity.

By 1880, researchers had developed seven classifications of mental illness: mania, melancholia, monomania, paresis, dementia, dipsomania, and epilepsy (APA, n.d.). By 1918, the need for uniformity in diagnoses drove the Committee on Statistics of the American Medico-Psychological Association, which later became the American Psychiatric Association (APA, 2013), to develop the first *Statistical Manual for the Use of Institutions for the Insane*. The purpose of this document was to gather statistical information from institutions regarding 22 known disorders. Following World War II, US Army psychiatrists expanded the diagnostic categories to better incorporate the types of problems veterans experienced as a result of combat (APA, n.d.).

In 1952, the APA published the first edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM).* Since then, the APA has published new editions of the DSM every 5 to 10 years. In 2013, the APA released the fifth edition of the DSM, the most recent version (APA, 2013). The DSM-5 is the result of a 12-year revision process involving hundreds of professionals, field trials to demonstrate the reliability of the data, and public and professional review and comment (APA, 2013).

The purpose of the DSM-5 is to facilitate healthcare providers' diagnosis of mental disorders and development of individualized treatment plans (APA, 2013). The DSM-5 bases disorders on a continuum from mental health to mental illness. A mental disorder is defined in the DSM-5 as *a syndrome characterized by clinically significant disturbance in the individual's cognition, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological, or developmental processes underlying mental functioning* (APA, 2013, p. 20). The definition also reflects the high level of disability or distress in occupational or other life activities that results from the mental disorder.

Some healthcare providers feel that the DSM-5's categorical classifications limit its use because individuals may not fit neatly into one specific category. Regardless, the DSM-5 serves as a guideline to assist practitioners in making sound clinical decisions. Diagnosis does not always imply etiology; therefore, using the DSM-5 to predict behavior or response to treatment is inappropriate (APA, 2013).

THEORIES RELATED TO PSYCHIATRIC AND MENTAL HEALTH NURSING

Mental health professionals base their work on assessments, behaviors, and theories. These are often described as explanations or hypotheses and tested for relevance and soundness. In mental health, theories are often borrowed from other disciplines and inspire treatments for the practice of psychiatric nursing.

Freud's psychoanalytic theory

Sigmund Freud, referred to as *the father of psychoanalysis*, revolutionized thinking about mental disorders (Townsend, 2019). His theories of personality structure, level of awareness, anxiety, the role of defense mechanisms, and stages of psychosexual development revolutionized the psychiatric world (Townsend, 2019). Although Freud started as a biological scientist, he changed his approach to conversational therapy. He concluded that talking about difficult issues involving intense emotions had the potential to heal problems that could cause mental illnesses. This led Freud to develop his psychoanalytic theory (https://pmhealthnp.com/pmhnp-topics/sigmund-freud-psychoanalytic-theory/).

Erikson's theory on the stages of human development

Erik Erikson, a developmental psychologist, emphasized the role of the psychosocial environment and expanded on Freud's psychoanalytic theory. The Eight Stages of Man, is organized by age and developmental conflicts:

1. Basic trust versus mistrust.
2. Autonomy versus shame and doubt.
3. Initiative versus guilt.
4. Industry versus inferiority.
5. Identity versus role confusion.
6. Intimacy versus isolation.
7. Generativity versus stagnation.
8. Ego integrity versus despair.

Analysis of behavior using Erikson's framework helps nurses to identify long term successful resolution of psychosocial development across the lifespan.

Harry Stack Sullivan's interpersonal theory

Interpersonal theories are the cornerstone of mental health nursing. Harry Stack Sullivan, an American-born psychiatrist, identified personality as an observable behavior within interpersonal relationships, which led to the development of his interpersonal theory. Sullivan believed that anxiety or painful feelings arise from insecurities or the inability to meet biological needs. All behaviors are designed to help individuals through interpersonal interactions by decreasing anxiety. Individuals are unaware that they act out behaviors to decrease anxiety and therapy can help the patient gain personal insight into these insecurities. He was the first to use the term *participant observer*, which refers to the idea that therapists must be part of the therapeutic session. Sullivan insisted that healthcare professionals should interact with patients as authentic human beings through mutual respect, unconditional acceptance, and empathy. Sullivan developed the concept of psychotherapeutic environments characterized by accepting the patient and the situation, which has become an invaluable treatment tool. Even today, many group psychotherapies, family therapies, and training programs use Sullivan's design of an accepting atmosphere (Halter, 2018).

Hildegard Peplau's theory of interpersonal relations

Hildegard Peplau, sometimes referred to as the *mother of psychiatric nursing*, published the theory of interpersonal relations in 1952, which became a foundation for modern psychiatric and mental health nursing (Townsend, 2019). The goal of interpersonal therapy is to reduce or eliminate psychiatric symptoms by improving interpersonal functioning (Sadock, & Ruiz, 2015). Sullivan's work greatly influenced Peplau. She developed the first systematic framework for psychiatric nursing, focusing on the nurse-patient relationship. Peplau established the foundation of professional practice for psychiatric nurses and continued working on psychiatric nursing theory and advancement of nursing practice throughout her career. She was the first nurse to identify mental health nursing as a specialty area with specific ideologies and principles, and the first to describe the nurse-patient relationship as the foundation for nursing practice (Boyd, 2018).

Peplau created a major shift from a care model focused on medical treatment to one based on the interpersonal relationship between nurses and patients. She further proposed that nurses are both participants and observers in the therapeutic treatment of patients. Her theory recognizes the *ability to feel in oneself the feelings experienced by another*; she identified this as *empathetic linkage* (Boyd, 2018). Another key concept, according to Peplau, is anxiety, which is an energy that arises when present expectations are not met (Boyd, 2018). Throughout her career, Peplau's goal was for nurses to care for the person and the illness.

B.F. Skinner's behavioral theory

Behavioral theories supply techniques that patients can use to modify or replace behaviors. This is an important concept in psychiatric nursing management and is the basis of several approaches that research has shown to be successful in altering specific behaviors. B. F. Skinner, a prominent behaviorist, researched *operant conditioning*, the process through which consequences and reinforcements shape behaviors. Behavioral therapy is grounded in the assumption that maladaptive behaviors can be changed, and positive and negative reinforcements can be used to help modify behavior.

Behavioral therapy is often used in treating people with phobias, alcoholism, and anxiety. Another type of behavioral therapy is modeling, in which the therapist or nurse role-plays specific behaviors so that the patient can learn through imitation. Role-playing allows the patient to practice modeled behaviors in a safe environment. Another form of behavioral therapy is systematic desensitization, which targets a patient's specific fears and proceeds in a step-by-step manner to alleviate those fears with the help of relaxation techniques (Keltner, 2018).

Aaron Beck's cognitive behavioral therapy

Whereas behaviorists focus on the belief that behaviors can be changed, other researchers focus on cognition or thoughts involved in behaviors. Aaron Beck developed cognitive behavioral therapy after working with depressed patients. Cognitive behavioral therapy is based on cognitive psychology and behavioral therapy. Beck believed that depression was the result of distorted thinking processes and negative self-concept (https://www.ncbi.nlm.nih.gov/books/NBK470241/). Using this approach, the nurse can help the patient identify negative thought patterns and then help the patient recondition these cognitive distortions into more appropriate beliefs that are based on facts (https://www.ncbi.nlm.nih.gov/books/NBK470241/).

Humanistic Theories

Humanistic theories focus on the potential and the free will of patients. These theories emphasize self-actualization, the highest potential and productivity that an individual can achieve in life. For example, Abraham Maslow believed that motivation is driven by a hierarchy of needs that leads to becoming the best person possible. This model allows the nurse to work with the patient to create an individualized care plan based on the current hierarchical needs of the patient https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4130906/.

THE STRESS-DIATHESIS MODEL

The Stress-Diathesis Model was originally developed to explain schizophrenia during the 1960s, but later adapted to study depression during the 1980s (Colodro-Conde, et.al, 2018). According to this model, stress activates certain vulnerabilities (diathesis), which predisposes the individual to psychopathology. This model has been criticized for its vagueness, yet these principles are used to understand other psychiatric disorders.

BIOLOGICAL MODEL

Mental health nurses also attend to the physical needs of psychiatric patients. The nurse may administer prescribed medication, nutrition, and hydration to ensure optimal physiological functioning of the patient. The biological model of mental illness focuses on the chemical, biological, and genetic makeup of mental illness. This model seeks to understand how the body and brain interact to create experiences and emotions, and how social, environmental, cultural, spiritual, and educational factors influence individuals (Halter, 2018). All the theories discussed in this section play a vital role in how the nurse cares for the patient with a mental health disorder.

Self-Assessment Quiz Question #1

Which best describes Aaron Beck's Contribution to the mental health profession?

a. Hierarchy of needs.
b. Cognitive behavioral therapy.
c. Empathetic linkages.
d. Operant conditioning.

ETHICAL, LEGAL, AND CULTURAL CONSIDERATIONS

The term *ethics* refers to an individual's beliefs about right and wrong and societal standards regarding right and wrong. Bioethics refers to ethical questions related specifically to healthcare (Halter, 2018).

Ethics are linked to cultural values. Societal standards and values can be determined only within a specific group. However, fundamental principles of ethics exist in all cultures and are inherent in all human beings. Understanding how cultures view mental illness and the accompanying patient symptoms can influence how decisions, particularly ethical decisions, are made. Nurses can be an instrumental part of effective decision making when cultural values and societal standards differ.

A thorough understanding of general ethical principles is necessary to make reasonable, fair, and sound judgments in providing care. Nurses who choose to work in the specialty of mental healthcare will encounter ethical questions on almost a daily basis. Issues such as autonomy, confidentiality, patient protection, therapeutic relationships, mental health competency, and mental health admissions are particularly complicated. To better guide the nurse in making ethical choices, an understanding of the American Nurses Association Code of Ethics and the five basic principles of bioethics is useful.

American Nurses Association Code of Ethics

The American Nurses Association (ANA) established an ethical standard for the nursing profession that guides ethical analysis and decision making (ANA, 2015). Ethics is a branch of philosophy where one reflects on morality, which is the person's character, values, and conduct in a particular situation (ANA, 2015).

The Code of Ethics is the foundation for nursing theory and practice where values and obligations shape the nursing profession (ANA, 2015). This living document changes based on nursing's social context, with a revision occurring at minimum every 10 years (ANA, 2015). The ANA Code divides ethical issues into nine provisions, based on general ethical principles:

- Provision 1
  - The nurse practices with compassion and respect for the inherent dignity, worth, and unique attributes of every person, including self-determination (ANA, 2015).
- Provision 2
  - The nurse's primary commitment is to the patient, whether an individual, family, group, community or population (ANA, 2015).

- Provision 3
  - The nurse promotes, advocates for, and protects the rights, health, and safety of the patient (ANA, 2015).
- Provision 4
  - The nurse has authority, accountability, and responsibility for nursing practice, makes decisions, and takes action consistent with the obligation to promote health and to provide optimal care (ANA, 2015).
- Provision 5
  - The nurse owes the same duties to self as to others, including the responsibility to promote health and safety, persevere wholeness of character and integrity, maintain competence and continue personal and professional growth (ANA, 2015).
- Provision 6
  - The nurse, through individual and collective effort, establishes, maintains, and improves the ethical environment of the work setting and conditions and employment are conducive to safe, quality care (ANA, 2015).
- Provision 7
  - The nurse, in all roles and settings, advances the profession through research and scholarly inquiry, professional standards development, and the generation of both nursing and health policy (ANA, 2015).
- Provision 8
  - The nurse collaborates with other health professionals and the public to protect human rights, promote health diplomacy, and reduce health disparities (ANA, 2015).
- Provision 9
  - The profession of nursing, collectively through its professional organizations, must articulate nursing values, maintain the integrity of the profession and integrate principles of social justice into nursing and health policy (ANA, 2015).

The ANA Code may be viewed at no charge on the ANA website (https://www.nursingworld.org/coe-view-only).

Bioethical principles

Bioethics is a branch of ethics that studies the implications of biological and biomedical advances and can be considered a set of guiding principles for the nursing profession that go beyond right and wrong. Bioethical principles fall into five categories (Boyd, 2018; Halter, 2018). These principles are meant to be guidelines to help all clinicians in decision making.

- *Beneficence*: Clinicians have a duty to assist the patient to achieve a higher level of well-being. This concept encompasses kindness and generosity toward the patient in providing care. An example of this is changing healthcare policy or making sure a patient brought to the emergency department in severe pain gets medication as soon as possible.
- *Fidelity*: Healthcare providers have a duty to be honest and trustworthy. This concept includes loyalty, advocacy, and a commitment to the patient. An example of this is staying abreast of best practices in nursing or advocating for the patient to receive high-quality services. Another example is being faithful in your promises to check on a patient within a specific timeframe.
- *Autonomy*: The healthcare provider acknowledges the patient's right to make their own decision, even if the nurse disagrees with the decision. An example of this is a patient with cancer who refuses treatments that may prolong their life.
- *Justice*: Healthcare providers must recognize that all persons are entitled to equal treatment and quality of care. For example, it can be particularly difficult to provide emotional support and counseling equally to both the family harmed by an intoxicated driver and to the driver. Healthcare providers should strive to be nonjudgmental and fair to all patients, regardless of age, gender, race, sexual orientation, diagnosis, or any other differentiating characteristic.
- *Veracity*: The healthcare provider should always be truthful with the patient. This allows the patient to make informed decisions about their treatment. For example, talking to the patient about the side effects of medications is showing respect to the patient by being truthful.

Self-Assessment Quiz Question #2

Patients admitted to inpatient psychiatric units are scheduled for group therapy two times daily. Attendance is strongly encouraged, but not mandatory. Which ethical principle is demonstrated by this unit policy?

a. Autonomy.
b. Justice.
c. Beneficence.
d. Veracity.

IMPORTANT LEGISLATION IN MENTAL HEALTH

Section 1 of the 14th Amendment to the US Constitution adopted on July 9, 1868, states:

> *All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the state wherein they reside. No state shall … deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws* (U.S. Constitution). The issue of liberty has been tested repeatedly in the courts in cases in settings where U.S. citizens have been held against their will, including in psychiatric institutions.

Keltner and Steele (2018) provide an overview of landmark legal decisions related to patients with psychiatric disorders. Historically, these nine rulings have had a major impact on the legal rights of patients with psychiatric disorders. A summary of each of these legal decisions is as follows:

> 1843 – The *M'Naghten rule* first identified a legal defense of not guilty by reason of insanity by stating that persons who do not understand the nature of their actions cannot be held legally responsible for those actions (https://www.law.cornell.edu/wex/m%27naughten_rule).
>
> 1965 – In *Griswold v. Connecticut*, The Supreme Court first recognized that a person has the right of marital privacy under the Constitution of the United States (https://www.law.cornell.edu/wex/griswold_v_connecticut_(1965)).
>
> 1966 – In *Rouse v. Cameron*, the courts found that a patient committed to an institution must be actively receiving treatment and not merely warehoused (https://casetext.com/case/rouse-v-cameron)
>
> 1968 – In *Meier v. Ross General Hospital*, a physician was found liable for the death of a hospitalized patient who committed suicide while under his care. The patient had a previous suicide attempt before the hospital stay. The physician was liable for failing in his *duty to warn* of the threat of suicide in this patient (https://caselaw.findlaw.com/ca-supreme-court/1822578.html)
>
> 1972 – In *Wyatt v. Stickney*, the entire mental healthcare system of Alabama was sued for an inadequate treatment program. The court ruled that each institution within the mental healthcare system must (1) stop using patients for hospital labor needs, (2) ensure a humane environment, (3) maintain minimum staffing levels, (4) establish human rights committees, and (5) provide the least restrictive environment possible for the patients (https://mentalillnesspolicy.org/legal/wyatt-stickney-right-treatment.html).

1976 – In the well-known case of *Tarasoff v. The Regents Of the University of California*, the parents of Tatiana Tarasoff sued the university following the 1969 death of their daughter at the hands of Prosenjit Poddar. Poddar had told his therapist that he planned to kill Tarasoff when she returned from summer break. Although the therapist had contacted the police, law enforcement released Poddar because he appeared rational. The court found that the therapist had a *duty to warn of threats of harm to others* and was negligent in not notifying Tarasoff of the threats that had been made against her (https://law.justia.com/cases/california/supreme-court/3d/17/425.html).

1979 – Patients at Boston State Hospital sought the right to refuse treatment in *Rogers v. Okin*. Based on the 1965 decision regarding the right of personal privacy, the court found that the hospital could not force nonviolent patients to take medication against their will. This ruling also included the directive that patients or their guardians must give informed consent before medications could be given (https://pubmed.ncbi.nlm.nih.gov/6134270/ and https://muse.jhu.edu/article/404046).

1983 – In *Rennie v. Klein*, a patient claimed a hospital violated his rights when he was forced to take psychotropic medications. The ruling again addressed the right to refuse treatment and the right to privacy, and it furthered the necessity of obtaining informed consent (https://pubmed.ncbi.nlm.nih.gov/11648483/).

1992 – *Foucha v. Louisiana* demonstrated that the nature of an ongoing psychiatric commitment must *bear some reasonable relation to the purpose for which the patient is committed* (Foucha v. Louisiana, 1992). When Foucha was first hospitalized, the indication was a patient who was considered mentally ill and dangerous. The ruling recognized that patients who are no longer mentally ill do not require hospitalization and that patients are not required to prove themselves to be no longer dangerous (https://www.law.cornell.edu/supct/html/90-5844.ZO.html).

Mental health laws have been created to protect patients with psychiatric disorders and regulate their care. These laws often vary by state. Check the Nurse Practice Act within the respective state of practice to determine state-level regulation.

MENTAL HEALTH AND DEINSTITUTIONALIZATION

The changes in mental healthcare over the years show a shift in care from institutionalization to community settings, also known as deinstitutionalization (Boyd, 2018). Deinstitutionalization was also significant because this shaped our current community and mental health treatment for many vulnerable individuals including the homeless and those with substance use disorders. During the era of state hospitals, mentally ill individuals were less likely to be chronically homeless. While deinstitutionalization was a noble concept, it was not well implemented. The lack of existing public health infrastructure left communities unprepared to manage those with chronic mental illness. Additionally, the arrival of inexpensive and accessible illicit drugs like crack cocaine, changed the face of communities and left those with mental illness even more vulnerable. The lack of affordable treatment for mental health disorders contributes to both individual and public health risk.

Two of the most important concepts in civil rights law are the writ of habeas corpus and the least restrictive alternative doctrine (Halter, 2018). The writ of habeas corpus pertains to holding people against their will. Psychiatric patients are included in this protection and they have the right not to be detained unless individual welfare is involved. Additionally, the least restrictive alternative doctrine states that a patient's autonomy must be upheld whenever possible (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2733575/pdf/behavan00025-0105.pdf). In practice it means that nurses need to try to manage patients' symptoms and behaviors with psychotherapeutic interventions (milieu management, communication, and behavioral approaches) first. If symptoms are not fully or adequately managed, nurses should document what was attempted and ineffective in order to move to more restrictive measures or levels of care (i.e. move up the treatment hierarchy to more restrictive approaches such as medications/chemical restraints, seclusion, and/or physical restraints). Each time a more restrictive measure is applied, documentation needs to support which lesser restrictive strategies were attempted and describe their lack of efficacy.

An understanding of civil rights and state regulations is important to patient care procedures. Admission of psychiatric patients can be voluntary or involuntary, but neither voluntary nor involuntary admission indicates the ability of the patient to make decisions (Halter, 2018). Admission procedures are in place to protect the patient and the public. Involuntary admission is used when patients are a danger to self or others or cannot take care of themselves. However, all patients are to be treated with respect and have the right to informed consent, the right to refuse medications, and the right to the least restrictive treatments (Boyd, 2018). Furthermore, the patient must be seen by a specified number of providers who confirm that the patient meets the criteria for involuntary admission.

THE CONSUMER BILL OF RIGHTS AND CONFIDENTIALITY

In 1997, President Clinton appointed the Advisory Commission on Consumer Protection and Quality in the HealthCare Industry. The Commission, co-chaired by Donna Shalala, secretary of the Department of Health and Human Services at the time, issued its final report, which included a Consumer Bill of Rights & Responsibilities. Of interest to psychiatric nurses is the section on confidentiality of health information. Patients with psychiatric disorders are expressly protected in the confidentiality of their records; practitioners may not share information with any third party without the express written consent of the patient or their legal guardian. The patient can withdraw consent to release information at any time.

CONSUMER BILL OF RIGHTS AND RESPONSIBILITIES

The Commission's consumer bill of rights consists of the following rights and responsibilities:

1. Access to Accurate, Easily Understood Information about health plans, facilities, and professionals to assist consumers in making informed health care decisions;
2. Choice of Health Care Providers that is sufficient to ensure access to appropriate high quality care. This right includes providing consumers with complex or serious medical conditions access to specialists, giving women access to qualified providers to cover routine women's health services, and ensuring continuity of care for consumers who are undergoing a course of treatment for a chronic or disabling condition;
3. Access to Emergency Services when and where the need arises. This provision requires health plans to cover these services in situations where a prudent layperson could reasonably expect that the absence of care could place their health in serious jeopardy;
4. Participation in Treatment Decisions including requiring providers to disclose any incentives -- financial or otherwise -- that might influence their decisions, and prohibiting gag clauses that restrict health care providers' ability to communicate with and advise patients about medically necessary options;
5. Assurance that Patients are Respected and Not Discriminated Against, including prohibiting discrimination in the delivery of health care services based on race, gender, ethnicity, mental or physical disability, and sexual orientation;
6. Confidentiality provisions that ensure that individually identifiable medical information is not disseminated and that provide consumers the right to review, copy, and request amendments to their medical records;
7. Grievance and Appeals Processes for consumers to resolve their differences with their health plans and health care providers -- including an internal and external appeals process; and
8. Consumer Responsibilities provisions that ask consumers to take responsibility by maximizing healthy habits, becoming involved in health care decisions, carrying out agreed-upon treatment plans, and reporting fraud.

Note. Adapted from the President's Advisory Commission. (1997). Consumer bill of rights and responsibilities. Retrieved from https://govinfo.library.unt.edu/hcquality/press/cborimp.html

In addition to the Consumer Bill of Rights, the Health Insurance Portability and Accountability Act (HIPAA) was enacted in 1996 and went into effect in 2003 (U.S. Department of Health and Human Services, 1996). This act was designed to protect patient health information more securely and has been a major force behind the use of electronic health records.

There are a few circumstances where confidentiality may be waived in mental health (U.S. Department of Health and Human Services, 2000). If the patient has made a direct threat against another person, the healthcare provider has a clear duty to warn the endangered individual (U.S. Department of Health and Human Services, 2000). If the patient has reported actual or suspected abuse (including molestation) or neglect of a minor child, the healthcare provider has an obligation to report this to the appropriate Child Protective Services division of the state's Office of Family and Children. A judge may also order documents (clinical records) to be turned over to the court for examination. A subpoena to appear in court does not constitute a judge's order to release information; it merely mandates the appearance of the subpoenaed individual. Violation of the confidentiality of a patient with a psychiatric illness in situations other than those outlined by law may subject the nurse to legal action and revocation of licensure. Most agencies have an acceptable form that identifies to whom information can be released, the date that the release is valid, and types of information that can be shared.

NURSING LIABILITY IN MENTAL HEALTH

The state nurse practice act (NPA) is the single most important piece of legislation for the nurse because it affects ALL facets of nursing practice. Each state has its own NPA for which the courts have jurisdiction. NPA's generally grant specific provisions on how nurses practice in a state and define 3 levels of nurses: LPNs, RNs, and APRNs with defined scopes of practice. The nurse practice act also established a state board of nursing. Its main purpose is to ensure enforcement of the act and protect the public.

Individuals who present themselves as nurses must be licensed. The National Council of State Boards of Nursing serves as a clearinghouse, further ensuring that nursing licenses are recorded and enforced in all states. Individual state boards of nursing develop and implement rules and regulations regarding the discipline of nursing. Most changes deal with modifications with rules and regulations rather than the act itself. Nurses must be advised of the provisions of the state's nurse practice act. Thus, what is acceptable in one state is not necessarily acceptable in another state.

The nurse has legal liability in the psychiatric setting when caring for patients (Boyd, 2018). *Torts* are wrongful acts that result in injury, loss, or damage and can be intentional or unintentional (Boyd, 2018). *Intentional torts* are voluntary acts that result in harm to the patient and include the following:

- *Assault* involves any action that causes an individual to fear being touched in any way without consent. Examples of this include making threats to restrain a patient or making threats to administer an injection for failure to cooperate.
- *Battery* involves harmful or unwarranted contact with a patient; actual injury may or may not occur. Examples of this include touching a patient without consent or unnecessarily restraining a patient.
- *False imprisonment* involves the unjustifiable detention of a patient. Examples of this include inappropriate use of a restraint or inappropriate use of seclusion

Unintentional torts are involuntary acts that result in harm to the patient and include the following:

- *Negligence* involves causing harm by failing to do what a reasonable and prudent person would do in a similar circumstance (anyone can be negligent). Examples of this include failing to erect a fence around a pool and a small child drowns or leaving a shovel on the icy ground and someone falls down on it and cuts their head.
- *Malpractice* is a type of negligence that refers specifically to healthcare professionals. An example of this includes a nurse who does not check the treatment orders and subsequently gives a medication that kills the patient.

CULTURAL CONSIDERATIONS IN MENTAL HEALTHCARE

Culture influences various aspects of mental health, including the recognition and expression of psychiatric symptoms, coping styles, community support, and the willingness to seek treatment. Cultural concepts of distress are recurrent, locality-specific patterns of aberrant behavior that are not linked to a specific diagnostic category in the *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition (American Psychiatric Association, 2013). More impoverished communities have environmental risks such as a lack of access to healthy nutritious foods, clean soil, and clean air in urban areas. This may impact mental health via physiological/neurological impact and deficits, especially in vulnerable populations.

As of 2021, the percentage of the US population that self-identified as African American had grown to 13.4% (U.S. Census Bureau QuickFacts: United States). Although anyone can develop a mental health problem, African Americans may experience barriers to appropriate mental healthcare(National Alliance on Mental Illness, n.d.a). For example, the poverty rate among African Americans in 2020 was 19.4%, with 11.4 million people of all races living in poverty (Income and Poverty in the United States: 2020 [census.gov]). Poverty directly relates to mental healthcare access. The poverty rates in the African American community combined with provider bias and patient distrust of the health system can result in subpar mental health care for African Americans (NAMI: National Alliance on Mental Illness. In addition, the African American community has experienced increasing diversity because of immigration from Africa, the Caribbean, and Latin America. Mental healthcare providers need to understand this diversity and develop cultural competence (Boyd, 2018). Contributing to this cultural consideration is the estimation that over half of the prison population has a mental illness and that African Americans are five times more likely to be incarcerated than Whites (Mental Health America, n.d.; Sakala, 2014).

The Latin/Hispanic American population is rapidly growing, currently comprising 18.6% of the nation's total population (U.S. Census Bureau QuickFacts: United States). In 2020, 17.0% of Latin/Hispanic Americans were living in poverty. Rates of mental health disorders in this population are similar to those of non-Hispanic Caucasians, with some exceptions:

- Older Hispanic adults and Hispanic youths are more vulnerable to the stress associated with immigration and acculturation' and experience more anxiety, depression, and drug use than non-Hispanic youths.
- Depression in older Hispanic adults is closely correlated with physical illness; and suicide rates were about 50% that of non-Hispanic Whites, although suicide ideation and unsuccessful attempts were higher (State of Mental Health in America - 2020_0.pdf (mhanational.org).
- There is a higher incidence of post-traumatic stress disorder (PTSD) in Hispanic men, some of which may be attributable to social disorder experienced before immigration. As of 2020, there were 1.2 million Hispanic or Latinos who are US military veterans (U.S. Census Bureau QuickFacts: United States).
- The rates of substance use disorders are slightly lower in Hispanic women and slightly higher in Hispanic men. Hispanics are approximately twice as likely as Whites to die from liver disease, which could be associated with substance use (Hispanic Health | VitalSigns | CDC).

There are few Hispanic children in the child welfare system, but Hispanics are twice as likely as Whites to be incarcerated at some point in their lifetime (Sakala, 2014). The lack of Spanish-speaking mental healthcare providers has been a problem, likely causing fewer than 1 in 11 Hispanic individuals with a psychiatric disorder to seek treatment (Mental and Behavioral Health - Hispanics - The Office of Minority Health (hhs.gov)). Misdiagnosis is common and is often related to language barriers. Among Hispanics living in the United States, one in three do not speak English well (Hispanic Health | VitalSigns | CDC). Hispanic Americans are more likely to use folk remedies solely or as a complement to traditional care, and some may consult church leaders or healers for more traditional care (Hispanic/Latinx | NAMI: National Alliance on Mental Illness).

Asian Americans and Pacific Islanders comprise just over 20 million of the US population and are considered one of the fastest growing racial/ethnic groups within the United States (U.S. Census Bureau, 2020; Wyatt, Ung, Park, Kwon, & Trinh-Shevrin, 2015). By 2060, it is projected that 1 in 10 children in the United States will be Asian (Wyatt et al., 2015). There are numerous ethnic subgroups included in the Asian American/Pacific Islander demographic, with over 100 languages and dialects (Asian American/Pacific Islander Communities and Mental Health | Mental Health America (mhanational.org)). Thirty-two percent of Asian Americans have difficulty accessing mental healthcare services because they do not speak fluent English (Asian American/Pacific Islander Communities and Mental Health | Mental Health America (mhanational.org)). For example, older Asian Americans may not understand questions or the intent of a medical interview, and they may give affirmative answers to avoid confrontation. Asian Americans and Pacific Islanders are the least likely of any group to seek help with mental health issues (Hernandez, Nesman, Mowery, Acevedo-Polakovich, & Callejas, 2015). Although fewer mental health concerns are reported in this group, few epidemiological studies have included this population (Asian American/Pacific Islander Communities and Mental Health | Mental Health America (mhanational.org)). Asian Americans tend to exhibit somatic (physical) symptoms of depression more frequently than emotional symptoms (Boyd, 2018; Kalibatseva & Leong, 2011). The focus on physical symptoms and misdiagnosis serves as a barrier to mental healthcare for this population. Suicide rates within this population should be monitored closely by examining risk factors such as acculturation, family discrimination, social acculturalization, and discrimination (Boyd, 2018; Wyatt et al., 2015).

NURSING CARE IN MENTAL HEALTH

Standards of practice

The American Nurses Association's scope and standards of practice of psychiatric-mental health nursing *(Psychiatric-Mental Health Nursing Scope and Standards of Practice)* provides the foundation for the application of the nursing process to patients with psychiatric disorders (American Nurses Association, 2014). The *PMHNP Scope and Standards of Practice* also serves as a reference document for the National Council Nursing Licensure Examination (NCLEX) and many state nurse practice acts. The *PMHNP Scope and Standards of Practice* includes each step of the nursing process: assessment, diagnosis, planning, implementation, and evaluation.

When using the *PMHNP Scope and Standards of Practice*, the nurse should consider the individual's age, language, and culture. The nurse should also address each patient's developmental level. Note that the age and the developmental level may be incongruent in certain mental illnesses. Use age-appropriate communication techniques to establish a therapeutic alliance with both the patient and the family. Additionally, observations of behaviors and reactions are just as important as the conversation. Parents are often present during a child assessment. However, if abuse or neglect is suspected, it may be prudent to talk to the child or adolescent alone. In cases involving child sexual abuse or other uncomfortable issues, the nurse may need the assistance of a healthcare provider with advanced training to interview the child.

When working with adolescents, the therapeutic alliance may be hindered by concerns of confidentiality. Reassure the adolescent that conversations are confidential, and information is only

shared with team members, except in certain circumstances. In cases of suicidal or homicidal thoughts, sexual abuse, or other high-risk behaviors, the nurse must share the assessment information with other healthcare professionals and the parents. In fact, identifying risk factors in this age group is an important aspect of the assessment.

THE NURSING PROCESS IN MENTAL HEALTH

The physiological health exam and work-up is an initial step for thoroughly and accurately diagnosing and managing mental health conditions, including common screening labs and physical exams to rule out common medical issues that could be causing, mimicking, or contributing to mental health symptoms. Some physiological conditions present with psychiatric symptoms. Ensuring that the patient has a baseline physical assessment assist in the accurate diagnosis and appropriate treatment of all conditions, thus demonstrating the mind-body connection. Because of this link, the history and presenting symptoms of the patient are of utmost importance.

The nursing process is a systematic way of developing an individualized plan of care for those experiencing a disruption in mental health status. The traditional nursing process consists of performing a comprehensive assessment, formulating nursing diagnoses, developing a care plan, implementing selected nursing interventions, and evaluating the outcome or effectiveness of those interventions (Boyd, 2018). Most facilities have their own documentation that follows accepted guidelines for mental health assessment.

Assessment

Creating a therapeutic alliance is an important step in the holistic care of the patient. This connection provides an optimal setting for obtaining the psychosocial and psychiatric history. The first step is to obtain a thorough history of the patient, incorporating elements of current and past health problems, social issues affecting health, and cultural or spiritual beliefs that may support or interfere with prescribed healthcare treatments (Halter, 2018). The nurse should obtain the history in an environment conducive to effective communication between the nurse and the patient. Family members and significant others may or may not be present, or they may be present for a portion of the time and then be asked to step out to maintain the patient's confidentiality. Interviews should be conducted in a private conference room or patient's room (if inpatient or residential) rather than in a public area where others may overhear. If personal safety is a concern, the nurse may request another staff member to be present. The nurse should remove distracting elements such as a television or radio. If the nurse determines that the patient is too ill to be able to provide accurate information or that the interview process itself will be detrimental to the patient's health, then the nurse should obtain information from other reliable sources, such as family members, social workers, therapists, and primary healthcare providers (Boyd, 2018). Documentation of the source of information is important, particularly when the patient is unable to provide an accurate history. Although the psychiatric nurse may gather information from other sources, it is important that the nurse not disclose any information regarding the patient's status without the patient's written consent to avoid a breach in confidentiality.

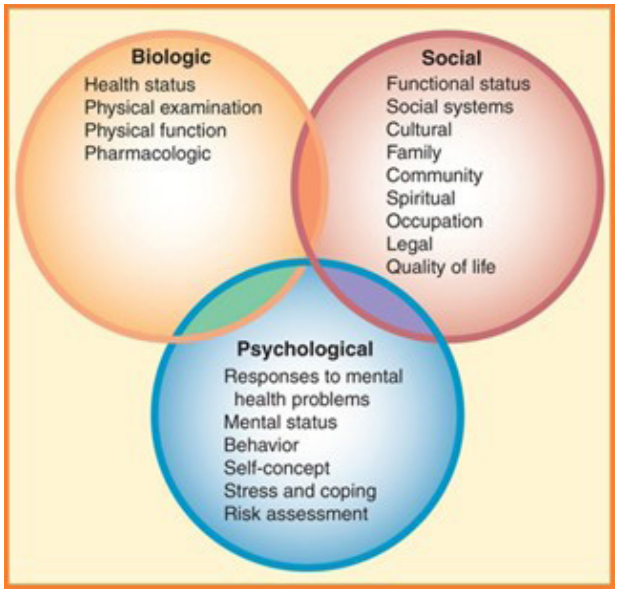
Nursing diagnosis and planning

Most healthcare facilities have an existing form to guide the nurse in data collection. The data collection process assists the nurse in developing a nursing diagnosis list. After identifying real and potential problems, the nurse develops written nursing diagnoses to address each problem. Nursing diagnoses are important in structuring appropriate, efficient nursing care while serving as a common language nursing team members. Prioritization is also based on Maslow's Hierarchy of needs so that physiological and safety needs that are outlined in nursing diagnoses will be addressed first. The nursing diagnosis drives the planning process in the care of patients with psychiatric-mental health disorders. Implementation of interventions is driven by goals established during the planning process. Short- and long-term goals must be observable, measurable (i.e., goals or outcomes that can be evaluated) and realistically attainable in the given time frame and setting. Identifying contributing factors and behavioral symptoms can directly lead to the development of short- and long-term goals that help evaluate progress. Interventions for this population will always include therapeutic communication and the mental status examination (Boyd, 2018).

The biopsychosocial framework

The biopsychosocial framework is a well-accepted, holistic model for organizing healthcare issues (Boyd, 2018). Three interdependent domains have separate treatment focus but interact to provide a framework for implementing nursing care through a systematic process.

The *biologic domain* is related to functional health patterns in mental health such as sleep, exercise, and nutrition. Pharmacologic principles in medication administration are related to neurobiological theories. The *psychological domain* contains the interpersonal dynamics that influence emotions, cognition, and behavior. This generates theories and research critical in understanding symptoms and responses in mental disorders. Therapeutic communication techniques exist in this domain, as there are many cognitive and behavioral approaches in patient care. The *social domain* accounts for the family and community influences in mental disorders. While these influences do not cause mental illness, manifestations and disorders are significantly affected by these factors.



Boyd, 2018

A comprehensive nursing assessment enables the nurse to make sound clinical judgments and plan appropriate interventions. Assessment skills in psychiatric nursing are essential in-patient care. Although data collection and assessment vary among clinical agencies, the psychiatric examination consists of two parts: the psychiatric history and the mental status exam. Patients are often reluctant to discuss mental illness because of the associated stigma. Clinical reasoning in nursing practice depends on critical thinking skills such as problem solving and decision making, where nurses must analyze, interpret, and evaluate biopsychosocial data in the context of the nursing process.

THE MENTAL STATUS EXAMINATION

The mental status examination is a structured means of evaluating the psychological, physical, and emotional state of a patient with a psychiatric disorder to facilitate appropriate healthcare treatments. The nurse may also identify significant problem areas to be addressed in the treatment plan. Mental status exams are an essential tool for evaluating the safety of the patient and caregivers. Although each healthcare facility may vary slightly in its approach, all mental status exams include the same basic elements. These include an assessment of the patient's appearance, behaviors, thoughts, and moods. These are called the ABC's of MSE: (1) A-appearance, (2) B- Behavior and (3) C- Cognition which includes mood, affect and speech. Speech is a reflection of cognition (https://psychscenehub.com/psychinsights/ten-point-guide-to-mental-state-examination-mse-in-psychiatry; Boyd, 2018).

Appearance

Appearance includes primarily objective data based on observations of the patient's general appearance. The nurse assesses the patient's overall hygiene and grooming, considering gender, apparent age, height/weight, dress, odors, and tattoos/piercings. Height and weight should be documented along with nutritional status. The nurse evaluates if the patient looks the stated age since chronological age may not be a reflection of the client's physical/mental status. For example, a patient appears in their 50s, but the actual age is 35, suggesting poor self-care or illnesses (Boyd, 2018).

Behavior

The patient's behavior should be noted during the interview. Consider any mannerisms, notable movements such as agitation, physical slowing (retarded movements), tics, or other abnormal movements. It is important for the nurse to be developmentally and culturally aware during the mental status examination. For example, American culture considers eye contact to be a sign of respect and attention, but other cultures deem eye contact as offensive, challenging, or arrogant (Boyd, 2018).

Mood and affect

Mood is subjective (whatever the patient states) so this must be asked directly (e.g., How is your mood?) and is typically documented in quotations (Mood is "happy"). Affect is objective data (the nurse's observations) based on clinical descriptors that take into account the tone, range, and quality, together with facial expressions and body language that reveal the emotional state or feelings of the person. Mood and affect do not necessarily have to be consistent or similar. For example, a patient may state that their mood is "fine" but through their presentation they are expressing significant difficulty in their emotions with anger, sadness, or depression. Affect is the facial expression, body language, voice, or tone that reveals the emotional state or feelings of a person (Boyd, 2018).

A *dysphoric mood* indicates that the patient is persistently depressed, lethargic, apathetic, or "down" and is usually accompanied by a depressed affect. However, the affect may also be described as anxious or flat, meaning that there is no facial expression of feelings. A *euphoric mood* is an elevated emotional state that may be associated with an affect that is giddy, cheerful, or excessively bright. A *labile affect* is one that is rapidly changing and unpredictable – the patient may be cheerful, then suddenly become enraged with little provocation or may burst into tears unexpectedly. A labile affect can accompany various psychiatric disease states such as depression or psychosis. Substance use can also affect the patient's mood in many ways, depending on the degree of intoxication, the substance used, and any withdrawal symptoms. Some medications can interfere with the physical expression of an emotion, resulting in a flat or blunted affect (Boyd, 2018).

Thought processes

Thought processes refer to the way thoughts are organized and structured. One can think of thought process as HOW one is thinking and thought content as WHAT they are thinking. Speech assessment reveals both. Normally, thoughts are logical, sequential, and easily understood by others (in the absence of a known speech or communication disorder). Patients with disorganized thoughts may respond to questions with nonsensical speech because speech often reflects the thought process. There may be difficulty in performing simple activities such as bathing or eating without assistance, even in the absence of a physical impairment. Patients may mix up or confuse medications when a structured system (such as a weekly pill dispenser) is not available. Thoughts can be rapid, racing, or slowed. Poverty of speech can occur where questions are answered with one or two words and patients may be unable to expand on responses or use their imagination. Thoughts can be either abstract or concrete (Boyd, 2018).

A patient's thought processes may also show flight of ideas, as in the following example: "I came here in an ambulance. I wish I had more money! Did you see that TV show about Pekingese dogs the other night?" When a patient is experiencing a flight of ideas, speech is often accelerated and thoughts are random, abruptly changing with little association between thoughts (Boyd, 2018). When assessing a patient's thought processes, the nurse might also note the phenomenon of word salad. In a word salad, the patient's statements have no logical connections, and the thoughts are jumbled – for example: "I don't. Here, he said. My house. Mouse. Spouse." The previous statement also serves as an example of clang association, which is a pattern of using words because they have similar sounds and not because of the actual meanings of the words. A patient may use neologisms or words that don't exist in the English language. Words such as "frugelzip" or "rappeliciosity" will have a meaning that is clear only to the patient.

Thought content

Thought content refers to what the patient is thinking about. Initially, it is helpful to assess preoccupations or obsessions about real-life events, such as finances, employment, or relationships (Boyd, 2018). Sometimes a patient can experience intrusive or ruminating thoughts. An intrusive thought is an unwelcome idea that occurs without conscious effort, and ruminative thoughts

are thoughts that seem *stuck* in the patient's mind. An obsessive patient may have ruminative thoughts that may be unusual, such as a desire to check the door repeatedly to ensure it is locked or the belief that germs may be everywhere. Obsessive thoughts will often lead to compulsive behaviors – such as ritualized handwashing – in part as an attempt to relieve intrusive thoughts and their accompanying anxiety. The nurse's role is to help the patient understand that these thought processes are irrational.

Thought content problems are of essential importance. *Hallucinations* are false sensory perceptions (Boyd, 2018). Auditory, visual, olfactory, gustatory, or tactile symptoms may be present. Auditory hallucinations, such as hearing voices, are the most common in psychiatric disorders (Boyd, 2018). Visual hallucinations are false visual perceptions, such as seeing people who are not present. Patients can also experience a tactile hallucination, known as a false perception of touch (Boyd, 2018). Tactile hallucinations can present as "hands touching me" or "bugs crawling on me" and can exist with psychological or medical conditions such as withdrawal. When caring for a patient experiencing hallucinations, it is important to remember that the brain perceives the reported sensation, meaning that to the patient, it is very real. It is important for the nurse to address hallucinations with the patient; however, nursing judgment on how to therapeutically address them is critical. Initially, pointing out that the hallucination does not exist may jeopardize the development of a secure nurse-patient relationship; however, rationalizing with and helping the patient reason are important elements in the progression of treatment.

Delusions are fixed false beliefs (Boyd, 2018). The patient experiencing a delusion is certain that something is true, even when there is no substantiating evidence to prove the belief. Paranoid patients may be frightened as they often believe they are being watched, monitored, or spied upon by others. These individuals may report cars following them or mysterious phone calls late at night. Occasionally, a patient with paranoia may fear being poisoned and refuse medications or food. Religious delusions can also occur where the patient may feel persecuted by demons or may be very excited about a special relationship with God or with angels. Careful assessment by the healthcare provider is important to determine a patient's baseline religious beliefs so as not to label a thought as delusional when it is a well-accepted belief for the patient. Somatic delusions are uncomfortable beliefs that there is something wrong with one's body (Boyd, 2018). For example, some patients may believe that their bowels are necrotic or dead or may believe that their brain is missing.

Other delusions may exist such as a belief that aliens are broadcasting signals, or a belief that loved ones have been replaced by clones. It is always essential to determine what feelings are elicited in the patient because of the delusional thoughts. Paranoid thoughts will drive fear and fight-or-flight responses. The patient may set up protective traps around the home to prevent others from entering. Religious delusions may be pleasant and make the patient feel special, or they may be so persecutory that the patient becomes depressed and suicidal. Somatic delusions can lead to excess visits to healthcare providers and may result in the label of "hypochondriac" for the patient.

Ideas of reference can also occur in which the patient may believe that all events in the environment are related to or about them (Boyd, 2018). Patients experiencing ideas of reference may believe that, when in a group setting, others are talking about or ridiculing them (Boyd, 2018). Sometimes, ideas of reference are associated with grandiosity, or the belief that one is especially important or powerful (Boyd, 2018). An elderly homemaker who suddenly believes herself to be the next Marilyn Monroe may be experiencing grandiosity. Grandiose patients attempt to convince others of their importance and may present with perceived rude or arrogant behavior patterns.

Cognition and memory

Cognitive abilities are the elements of thinking that determine attention, concentration, perception, reasoning, intellect, and memory (Boyd, 2018). Attention span is particularly important in evaluating the mental status because a decreased attention span often limits comprehension. Decreased concentration levels and distractibility may occur in patients with disorders that affect attention, as well as for those with depression and other mental health concerns.

The nurse can assess the patient's perception by asking open-ended questions that encourage description, such as "What makes you feel anxious?" (Boyd, 2018). Intellect is assessed through clinical assessment as well as intelligence testing (American Psychiatric Association, 2020). Intelligence quotients (IQs), as well as cognitive, social, and psychomotor capabilities, are assessed to determine intellectual function. Intellectual disabilities are categorized as mild, moderate, severe, or profound. Although IQ scores can serve as a parameter for these categories, the level of severity is determined by adaptive functioning (American Psychiatric Association, 2020).

An assessment of memory consists of three basic parts: immediate recall, recent memory, and remote memory (Boyd, 2018). A simple test of recall is to give the patient three items to remember and then 5 minutes later ask the patient to state those items. *Immediate recall* can be quickly determined by asking what a patient consumed for breakfast. *Recent memory* is recall of one to several days. Questions regarding family members' names or place of residence help assess recent memory. *Remote memory* is recalled from several days to a lifetime. Asking patients where they grew up, what their parents' names were, or where they went to school readily provides this information.

Memory assessments help in differentiating a thought disorder from a dementia disorder. Patients with a primary psychiatric disturbance may be delusional in their beliefs but extremely accurate in memory and recital of facts and dates. A patient with early dementia may lose some short-term memory first, progressing to the loss of immediate recall, then finally to long-term memory loss (Boyd, 2018). *Orientation* means that patients are aware of who they are (person), where they are now (place), the approximate time and date (time), and awareness of the circumstances (situation). A disoriented person may be suffering from a cognitive disorder, drug or alcohol use or withdrawal, or several physical or psychological health problems.

Insight and motivation

Insight refers to patients that demonstrate understanding of their illness and the steps necessary to treat or manage the illness. The determination of a patient's level of insight is often associated with treatment adherence. The goal is that understanding leads to adherence. Occasionally, nurses encounter patients who demonstrate good insight and knowledge, but continue to display nonadherence to recommended treatments. Nurses should ask these patients about barriers to treatment, such as financial constraints or concerns regarding health insurance. The stigma of having a psychiatric diagnosis may lead the patient to feel ashamed or angry. Anger may be causing the patient to intentionally deny and refuse adequate treatment. Hidden motivations, such as the defense mechanisms may also have a significant impact on the patient.

Judgment

Healthcare choices can reflect *judgment*. This can be a positive or negative reflection on an ability to reach a logical decision about a situation (Boyd, 2018). For example, the patient with diabetes who continues to consume a diet high in sugar is demonstrating poor judgment. Actions and behaviors are often signs of judgment capabilities. A manic patient may spend their life savings on a trip or a lottery ticket. However, once in the normal or melancholic state, the patient may have no memory of the incident. Proper evaluation of the mood state when the actions were carried out is an important part of the assessment. Conversely, the patient who recognizes that an increase in paranoia is a sign of decompensation and seeks out emergency treatment is demonstrating good judgment. A patient's insight, or awareness of their own feelings, relates to the ability to display logical judgment (Boyd, 2018). Assessing and understanding a patient's ability to make positive or negative choices is an important piece of planning effective mental healthcare.

Safety

Finally, an evaluation of safety is important in any mental status assessment. The essential areas to examine include safety of self and safety of others. The nurse should determine if the patient has thoughts or urges of intentional harm. When suicidal thoughts are noted, inpatient treatment must be considered. Assessing suicide risk consists of asking the patient about a suicide plan, suicidal intent, and the available means to harm oneself. A well-developed suicide plan with means at hand may necessitate forcing an involuntary hospital stay, whereas an impulsive episode of self-mutilating may be best treated by an intensive outpatient program with family supervision. For example, a hunter who thinks about shooting himself is at much higher risk than the office worker who doesn't own or have access to a gun. Determining the lethality of the means available is also essential.

Patients experiencing extreme emotional pain may also self-mutilate by cutting or burning their arms, legs, or other areas. Although this is not considered suicidal behavior, it is high-risk behavior that indicates significant emotional distress.

The nurse should also determine the degree of risk of harm to others. There are two distinct areas in which patients with a psychiatric disorder may lose their rights to confidentiality: a threat to harm or kill another person and the report of child or elder abuse (Halter, 2018; U.S Department of Health and Human Services, 2019). *Duty to warn is an obligation to warn third parties when they may be in danger from a patient* (Halter, 2018, p. 99; Duty to Warn). The nurse must use all means necessary to reasonably contact the individual at risk, including notifying the police. In most healthcare settings, there are policies to ensure the report is made accurately and documented appropriately. Across the United States, nurses are considered mandatory reporting agents when a patient offers knowledge of abuse, molestation, or neglect of vulnerable patients. The nurse is obligated to report this to the local Child Protective Services agency (Duty to Warn). However, there is a conflict between state and federal law when child abuse is revealed during drug and/or alcohol treatment, and a court order is required for disclosure (Halter, 2018). State laws vary and healthcare providers should be very clear on their respective state laws and facility policy in terms of confidentiality.

THE THERAPEUTIC RELATIONSHIP

Hildegard Peplau applied Sullivan's teaching to her own theory, which nurses still use today in practice. Peplau viewed the nurse-patient relationship as representative of the patient's relationship with other important people in their life (husband, wife, mother, father, etc.). By analyzing the dynamic between the self and the patient, the nurse draws inferences about how the patient interacts with others and helps the patient to develop insight into these behaviors to promote change. Furthermore, Peplau applied Sullivan's views on anxiety as a driving force behind behaviors and related these views to nursing practice and a patient's ability to perceive and learn. For example, mild anxiety promotes learning, whereas severe or panic levels of anxiety prevent learning and distort perceptions (Keltner, 2014, p. 87).

From her own research, Peplau developed the therapeutic model of the nurse-patient relationship and introduced this in 1952 in her book entitled *Interpersonal Relations in Nursing: A Conceptual Frame of Reference for Psychodynamic Nursing*. Today, this framework is relevant as a basis of nurse-patient relationships. The nurse performs several roles while engaged in the relationship, including advocate, teacher, role model, and healer. Peplau saw these roles as significant in each phase of the nurse-patient relationship, all of which overlap and work together to facilitate interventions. There are traditionally three phases in the therapeutic relationship: the initiation (orientation) phase, the working phase, and the termination phase (Edberg, Nordmark, & Hallberg, 1995). Peplau (1952) identified five phases: orientation, identification, exploitation, resolution, and termination.

In the orientation phase, the nurse establishes rapport and begins to discuss the parameters of the relationship. The nurse also collaborates with the patient to identify the problem and extent of intervention needed, and how the patient and the nurse will work together to find solutions (Jones & Bartlett Learning, n.d.). Here the nurse can discuss confidentiality while developing the plan of care. The nurse will also address termination of the relationship. This involves informing the patient that the interactions will take place over a specific period. This helps the patient plan for the termination phase so that complications are less likely to arise when the nurse-patient relationship ends. An example of an orientation-phase introduction is:

> *Good morning, Mr. Jamison. I am Chris and I will be your nurse while you are a patient. I would like to arrange a time to meet this morning to discuss how we will work together to develop the plan of care for the next week. Together we will develop strategies to manage your depression and we will continue to meet daily to evaluate what you have accomplished before you are discharged.*

In the working phase, identification, exploitation, and resolution take place. During identification, the patient begins to identify with the nurse independently, dependently, or interdependently (Jones & Bartlett Learning, n.d.). It is during identification that the nurse reinforces the understanding of the meaning of the patient's situation (Jones & Bartlett Learning, n.d.). During exploitation, the patient utilizes the nurse's services based on personal needs, and once needs are resolved during resolution, mature goals emerge (Jones & Bartlett Learning, n.d.). During this working phase, the patient can practice new techniques or behaviors to manage thoughts, feelings, and behaviors that have contributed to their symptoms and created problems in relationships, occupational functioning, or interpersonal well-being. These skills and strategies can be practiced within the safety of the inpatient, partial hospital, or outpatient environment. The nurse helps to promote problem-solving skills, self-esteem, and behavioral changes. Unconscious thoughts and behaviors may arise in the working phase. It is important to address lingering or past issues to aid in the resolution of present symptoms. The patient learns about *self*, develops coping mechanisms, and tests new behaviors. During this phase, transference and countertransference often occur. Transference takes place when the patient unconsciously displaces feelings for another onto the nurse (Boyd, 2018). Likewise,

countertransference can occur when the nurse's emotions may also be displaced onto the patient (Boyd, 2018). The nurse's self-awareness and ability to maintain healthy boundaries and remain patient focused are important elements of the nurse-patient relationship.

The termination phase is the final phase of the relationship. In this phase, the nurse and the patient discuss the goals and outcomes achieved, review coping skills, and determine how to incorporate new behaviors into life outside of the facility. Closure of the relationship occurs so that the patient and the nurse can move forward. However, this phase can elicit strong emotions of loss or abandonment. For the nurse, feelings of guilt can arise if the patient has not met all goals. It is not appropriate for the nurse to meet with the patient once discharged. The nurse can plan for discharge by recalling successes achieved with the patient and taking pride in helping the patient gain positive outcomes to date. The patient may experience feelings of abandonment which may be revealed in behavior or emotions. For example, the patient may avoid signing necessary papers or have sudden outbursts. The nurse may need to discuss the importance of the termination phase with the patient, help redirect the patient to reflect on successes achieved while working together, and refer the patient to the next level of care, if appropriate (https://psychscenehub.com/psychinsights/ten-point-guide-to-mental-state-examination-mse-in-psychiatry/).

THERAPEUTIC COMMUNICATION

Therapeutic communication and the therapeutic relationship are a significant part of mental health nursing. Hildegard Peplau reiterated this sentiment in her work many times, stating that understanding was central to the nurse-patient relationship (Ramesh, 2013). Therapeutic communication differs from social communication in that patient goals are the central focus of the interaction. The goal may be to solve a problem, examine self-defeating behaviors, or promote self-care. Additionally, therapeutic communication involves active listening and responding in a way that creates rapport and moves the patient toward the end goal.

Therapeutic communication involves trust, boundaries, empathy, genuineness, and respect for the patient, regardless of the patient's condition (Halter, 2018; Morgan & Townsend, 2019). Sometimes, recognizing an individual's behaviors and making statements can add to the assessment data and provide insight into the patient's current state. An example is "I notice you are pacing more today." Allow the patient to respond. Remember that no response from an individual provides further insight into the individual's state of mind.

One important aspect of therapeutic communication is the therapeutic use of self. This is when the nurse uses self-disclosure in a goal-oriented manner to promote trust and teach the patient how to view the feelings or actions of others (Riley, 2015). Use of self, however, should not reveal personal details. Effective use of self involves self-reflection, self-awareness, and self-knowledge. As in any nurse-patient interaction, it is important to remain objective and nonjudgmental while considering the patient's needs. Nonverbal communication can tell the nurse a lot about the patient. Awareness of how the patient gestures or moves while conversing is vital in determining verbal/nonverbal congruence. Sitting across from the patient with an open stance demonstrates openness and a willingness to listen. An angled position or sitting side by side can promote comfort. Additionally, the doorway should never be blocked; this promotes safety as well as prevents the patient from feeling trapped or confined (Boyd, 2018).

A general opening, such as asking how the patient slept, can help facilitate the conversation. Gradually start asking open-ended questions to encourage the patient to engage, such as "Tell me a little about what has been going on." If anxiety or nervousness is observed, the nurse may need to step back and alter the questions or provide encouraging statements such as *go on* or *tell me more about that*. Those types of statements confirm that the nurse is listening and is open to knowing more about the topic. *Why* questions can be perceived as challenging and judgmental (e.g., "Why would you do that?"). Reword the question so that the patient can answer without feeling belittled or betrayed. It is important to get as much of the patient's history as possible. However, this may be difficult if the patient has severe symptoms that may limit their ability to carry on a conversation. In that case, observation will take precedence in the interview.

Samples of therapeutic and nontherapeutic communication techniques are provided in Table 1. *Therapeutic and nontherapeutic communication techniques.* Each of these techniques will elicit responses that give the nurse insight into the patient's thoughts and emotions (Boyd, 2018). Use open-ended questions so that the patient can respond with more than a yes or no answer. Give the patient enough time to answer the question as well. Avoid using jargon or medical terminology (https://publichealth.tulane.edu/blog/communication-in-healthcare/).

Table 1. Therapeutic And Nontherapeutic Communication Techniques

Therapeutic	**Example**
Open-ended question	"How are you feeling?"
Offering self	"I'll sit here with you for a while."
Giving general leads	"Go on … you were saying."
Silence	Sitting quietly.
Active listening	Leaning forward, making eye contact, and being attentive.
Restating	"So, what you're saying is …"
Clarification	"I don't quite understand. Could you explain …"
Making observations	"I notice that you shake when you say that."
Reflecting feelings	"You seem sad."
Encouraging comparisons	"How did you handle this situation before?"
Interpreting	"It sounds like what you mean is …"
Nontherapeutic	**Example**
Closed-ended question	"Did you do this?"
Challenging	"Just what do you mean by that, huh?"
Arguing	"No. That's not true."
Not listening	Body turned away, poor eye contact.
Changing the subject	(Patient states he is sad.) "Where do you work?"
Being superficial	"I'm sure things will turn out just fine!"
Being sarcastic	"Well, that's not important or anything. Not!"
Using clichés	"All's well that ends well."
Being flippant	"I wouldn't worry about it."
Showing disapproval	"That was a bad thing to do."
Ignoring the patient	"Did anyone see the news today?"
Making false promises	"I'll make the doctor listen to you!"

(Boyd, 2018)

During the evaluative process, the nurse will assess the use of defense mechanisms that may indicate the need for ongoing revision of the plan of care. Consistent evaluation of goals and progress is integral for successful nursing care of the patient with a psychiatric-mental health disorder. Sigmund Freud, the grandfather of psychotherapy, believed that most psychiatric disturbances arise out of childhood experiences and the way human beings respond to their environment, and are based on unconscious drives or motivations (Halter, 2018). Freudian therapy, developed in 1936 and referred to as psychoanalysis, attempts to bring the unconscious into consciousness to allow individuals to work through past issues and develop insight into present behaviors. Although classic psychoanalysis as developed by Freud is rarely used today, Freud's understanding of anxiety as well as the unconscious mind are significant drivers in understanding the human response with defense mechanisms (Halter, 2018).

Any behavior or psychological strategies employed (often unconsciously) to protect a person (the real self or 'ego') from discomfort, uncomfortable emotions, anxiety, or tension that may result from unacceptable thoughts or feelings is considered a defense mechanism. Most individuals use defense mechanisms from time to time, but problems may occur when they are used exclusively or in place of healthier coping mechanisms. Therefore, recognition and nursing interventions focused on adaptive coping strategies should be implemented before working to replace the person's usual defense mechanisms. Defense mechanisms are behaviors that an individual uses to deal with stressors. Defense mechanisms can be beneficial and protective for the patient, or they can be counterproductive and maladaptive. Table 2. Defense mechanisms provides an overview of commonly utilized defense mechanisms; a brief discussion of some of these defense mechanisms follows (https://www.ncbi.nlm.nih.gov/books/NBK559106/)

Table 2. Defense Mechanisms

Defense Mechanism	Definition	Example
Repression	Involuntarily forgetting painful events.	A woman who was sexually abused as a child cannot remember that it occurred.
Suppression	Voluntarily refusing to remember events.	An emergency room nurse refuses to think about the child who is dying from injuries sustained in an auto accident.
Denial	Refusing to admit certain things to oneself.	An alcoholic man refuses to believe that he has a problem, in spite of evidence otherwise.
Rationalization	Trying to prove one's actions are justifiable.	A student insists that poor academic advice is the reason he cannot graduate on time.
Intellectualization	Using logic without feelings.	A father analyzes why his son is depressed without expressing any emotions of concern.
Identification	Attempting to model one's self after an admired other.	An adolescent tries to look and dress like his favorite musician to feel stronger and more in control.
Displacement	Discharging pent-up feelings (usually anger) on another.	A child who is yelled at by her parents goes outside and kicks the dog.
Projection	Blaming someone else for one's thoughts or feelings.	A jealous man states that his wife is at fault for his abuse of her.
Dissociation	Unconsciously separating painful feelings and thoughts from awareness.	A rape victim "goes numb" and feels like she is floating outside of her body.
Regression	Returning to an earlier developmental level.	A 7-year-old child starts talking like a baby after the birth of a sibling.
Compensation	Covering up for a weakness by overemphasizing another trait.	A skinny, nonathletic child becomes a chess champion.
Reaction formation	Acting exactly opposite to an unconscious desire or drive.	A man acts homophobic when he secretly believes he is gay.
Introjection	Taking on values, qualities, and traits of others.	A 12-year-old girl acts like her teacher when the teacher is out of the room.
Sublimation	Channeling unacceptable drives into acceptable outlets.	An angry woman joins a martial arts club and takes lessons.
Conversion	Converting psychiatric conflict into physical symptoms.	A lonely, elderly woman develops vague aches and pains all over.
Undoing	Trying to counteract or make up for something.	A man who yells at his boss sends her flowers the next day to "make up."

(Boyd, 2018)

Denial

Denial indicates an inability to believe or act on some type of news or information. This may be attributed to unconscious forces that override a person's rational thoughts or the premise that changing a behavior is more difficult and anxiety provoking than continuing the behavior. For example, a man with lung cancer may continue to smoke because quitting smoking may mean acknowledging a life-threatening illness, or a woman with alcoholism may continue to drink to avoid facing a dysfunctional marriage. Denial provides protection by allowing the psyche to slowly grasp traumatic events (e.g., death of a loved one), but it becomes maladaptive when the person can't move on. Understanding denial as a psychological process is important, especially when it may seem that a patient is not adhering to a plan of care (https://www.ncbi.nlm.nih.gov/books/NBK559106/).

Repression and suppression

Repression and suppression are defense mechanisms that are commonly confused with each other. In repression, a person cannot voluntarily recall a traumatic event such as a rape or terrorist attack (Halter, 2018). Only through therapy and sometimes hypnosis can the memories start to painfully resurface; when they do, the event will be as acutely distressful as if it had just happened. In suppression, a person chooses to ignore or forget painful events; however, when queried, they can instantly recall them (Halter, 2018). This can be very productive for the nurse in an emergency, when they are able to temporarily push aside personal feelings and reactions to deal with the crisis at hand (https://www.ncbi.nlm.nih.gov/books/NBK559106/).

Displacement

Displacement occurs in our everyday lives. For example, when a person has a bad day at work and goes home and takes it out on their spouse or children, displacement has occurred as the person has shifted their feelings away from the intended object (job, boss, etc.) and onto an innocent and unsuspecting other. Displacement can be the defense mechanism behind anger outbursts such as road rage (https://www.ncbi.nlm.nih.gov/books/NBK559106/).

Rationalizing

Rationalizing is the attempt to explain away situations while not taking responsibility for one's own actions. A senator who is arrested for taking gifts or money from lobbyists may try to rationalize this behavior by saying, *everyone does it, or that's the way you get business done* (https://www.ncbi.nlm.nih.gov/books/NBK559106/).

Identification

An adolescent who tries to emulate a respected authority figure is using identification. Identifying with others and trying to be like them is adaptive and useful when the role model is a positive influence (e.g., father, mother, minister), but it can be very maladaptive when the role model is a negative influence (e.g., gang leader, rock star with drug problems). The psychiatric nurse who understands the various defense mechanisms patients in emotional distress use will be able to develop a treatment plan that addresses the use of defense mechanisms and presents alternatives that are more conducive to mental health and improved quality of life (https://www.ncbi.nlm.nih.gov/books/NBK559106/).

Self-Assessment Quiz Question #3

Which best describes the meaning of defense mechanisms?

a. Behaviors used to deal with stressors.
b. False sensory perceptions.
c. Beliefs that lack substantiation.
d. Overall emotional state.

THERAPEUTIC APPROACHES IN MENTAL HEALTH

Milieu therapy

The word milieu means surroundings or environment; milieu therapy is also referred to as therapeutic community. Milieu therapy is a structuring of the environment in order to affect behavioral changes and improve the psychological health and functioning of the individual. The goal of milieu therapy is to manipulate the environment so that all aspects of a patient's hospital environment are considered therapeutic (Townsend, 2019). Within this setting, the patient is expected to learn adaptive coping, interaction, and relationship skills that can be generalized to other aspects of the patient's life. Although milieu therapy was originally developed for patients in the inpatient setting, these principles have been adapted for a variety of outpatient settings (https://easpublisher.com/media/articles/EASJNM_22_129-135.pdf)

Care of patients in the therapeutic milieu is directed by an interdisciplinary treatment team, but overall management is the responsibility of the nurse. The initial assessment is made by the nurse or psychiatrist and the comprehensive treatment is developed by the treatment team. Basic assumptions of milieu therapy include the opportunity for therapeutic intervention, the powerful use of peer pressure within the environment, and inappropriate behavior can be addressed as it occurs (Boyd, 2018).

There are certain conditions that promote a therapeutic community.

1. The patient is protected from injury from self or others.
2. The patient's physical needs are met.
3. Programming is structured, and routines are encouraged.
4. Staff members remain relatively consistent.
5. Emphasis is placed on social interaction among patients and staff.
6. Decision-making authority is clearly defined.
7. The patient is respected as an individual and is encouraged to express emotion
8. The patient is afforded opportunities for freedom of choice.
9. The environment provides opportunities for testing new behaviors.

(Townsend, 2019;
https://currentnursing.com/pn/milieu_therapy.html)

It is understood that basic physiologic needs are fulfilled, and safety is paramount. Within this environment, a democratic self-government exists through community group participation. This promotes member interaction and communication. The therapeutic milieu provides structure and consistent limit setting at a time when individuals need it the most. These elements provide an assessment of the patient's progress toward treatment goals. The nurse assumes responsibility for the overall management of the therapeutic milieu including assessment, safety and limit setting, medication administration, and education.

Effects of the environment can easily be understood by thinking about common events in one's own life. Going to a party may evoke a sense of festivity, joy, and excitement; going to a funeral can cause somber feelings of sadness; when walking into a quiet library, a person may feel the need to whisper and walk softly; and a starkly painted, tiled hospital room may lead us to feel fearful, anonymous, or disengaged. Even schools reflect environmental or milieu manipulation and effects (consider a Montessori-style school compared with a stricter military school). Inpatient psychiatric settings and residential settings are the most common places in which milieu therapy occurs. A patient who is disorganized, paranoid, or agitated responds better to an environment that is calm, well structured, and predictable, with staff persons who are pleasant in nature but consistent, directive, and firm.

Self-Assessment Quiz Question #4

The nurse is explaining milieu therapy to a group of students. What is the primary role of the nurse in milieu therapy?

a. Conducts individual, group and family therapy
b. Directs drama that portrays real life situations
c. Assumes responsibility for management of milieu
d. Focuses on rehabilitation and vocational training

Group therapy

Irvin Yalom, MD, has been highly influential in the development of group therapy. Dr. Yalom's first book, *The Theory and Practice of Group Psychotherapy* (1970), became a foundational text for many psychotherapists and advanced practice nurses interested in group therapy. Dr. Yalom postulated that when individuals are grouped together, certain characteristics of the individuals will emerge that are reflective of family-of-origin and childhood issues (1970). In therapy sessions with groups of people, these negative or destructive childhood events can be reworked and reframed, leading to healthier adult coping responses while the group members develop identities and go through phases.

In a counseling group setting, members can discuss stressors in a safe environment. The group often provides a sense of community and the feeling that the individual is not alone in dealing with their problems (Corey, Corey, & Corey, 2013). Dr. Yalom termed this concept universality (Yalom & Leszcz, 2014). Thus, universality, or the camaraderie sense of *we are all in this together*, serves to encourage trust and move the group into productivity. Individual group members grow and develop self-awareness through the relationships developed and feedback gathered from those around them (Corey et al., 2013).

Yalom's stages include orientation, conflict development, cohesion, and working (Yalom & Leszcz, 2014). There are many other theories regarding groups; although they may differ in certain ways, they all show how the group forms interpersonal relationships cohesively. The group leader recognizes what phase the group is in and helps facilitate progression toward the group's goals.

The best size for a therapy group is usually 6 to 12 members (Boyd, 2018). In larger groups, some members may be ignored or can more easily avoid participation. In smaller groups, the gatherings can turn into a series of individual therapy sessions with the group leader while everyone else watches. Training in facilitation of therapy groups is standard in graduate programs for advanced practice nurses, psychiatric and psychological master's programs, and clinical doctoral programs.

Psychoeducational groups

Psychiatric nurses are often responsible for facilitating psychoeducational groups in mental health settings, where there is a defined group leader and specific content or topics to be discussed. Topics are frequently based on developing skills important to daily living and maximizing the quality of life. Some topic examples include strategic management of symptoms, medication education, coping with stress, and relapse prevention. Psychoeducational groups emphasize group member interaction and participation, but they also emphasize learning new behaviors. The facilitator may organize hands-on activities and sometimes give homework assignments. Other non-nursing personnel may conduct psychoeducational groups; however, psychiatric nurses are in a unique position based on their education, training, and holistic approaches, to help bridge the gap between patients' physical and mental health. Psychoeducational groups may be larger than strictly therapeutic groups, although larger groups can be difficult to manage depending upon the personality mix of those attending (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7001357/).

Cognitive-behavioral therapy (Individual therapy)

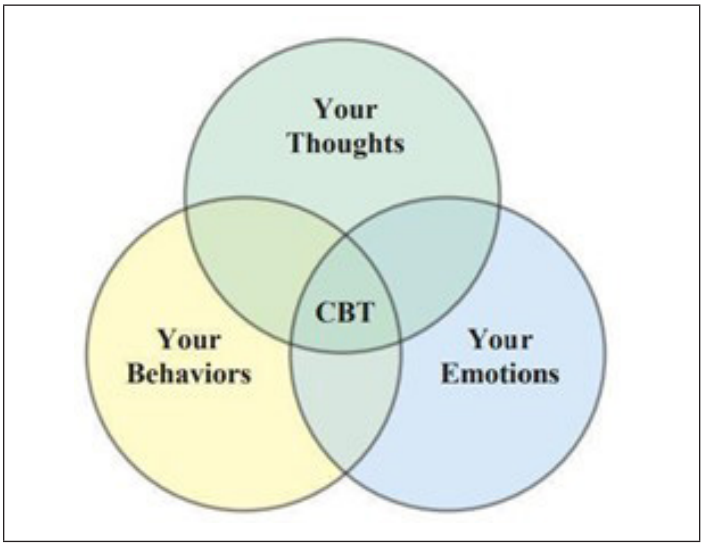
Cognitive-behavioral therapy (CBT), pioneered by Aaron Beck (1967) and Albert Ellis (1973), focused on the relationship between a patient's perceptions about events and the resultant feelings and behaviors. This cycle of thoughts that influence feelings and behaviors is demonstrated in this example:

> *Imagine you are driving down the interstate at 75 miles per hour. You check your rear-view mirror and see the flashing lights of a state trooper. Knowing that you are driving over the speed limit, you are certain you will be pulled over and given a traffic ticket. You think of the two glasses of wine you just consumed with dinner. "What if my blood alcohol level is too high? I can't be arrested! I would lose my job! They'll take away my nursing license!" Your palms get sweaty and your heart starts to race. Barely able to contain your panic, you swerve quickly into the right-hand lane without signaling and cut off a car coming up behind you. The car honks, you pull onto the shoulder, and finally stop. In dread, you look out the window for the trooper, who drives past you down the highway.*

In this example, the driver's thoughts of breaking the law by speeding and getting arrested for drunk driving cause the driver to feel anxious and panic, which results in erratic behavior and nearly causes an accident. Now consider this example:

> *Imagine yourself driving down the interstate. You check your mirror and see the flashing lights of a state trooper. You know you're driving over the speed limit, but so are many drivers around you. You think of the two glasses of wine you had with dinner, but you did eat a large portion and you don't feel drowsy – besides, that was several hours ago. You determine that the state trooper must be on the way to the scene of a crime or accident, so you signal a right turn, check your mirrors, and carefully pull over onto the shoulder of the road. The state trooper drives past you and you continue your journey.*

CBT is based on the supposition that behaviors are a result of distorted thinking about situations (Yalom & Leszcz, 2014). These distortions can take the shape of catastrophizing, which involves thinking that the worst that can possibly happen will happen or has happened; perceiving threats where none exist; thinking only of negative outcomes; or making over-generalizations. In anxiety disorders, fear is the driving force for distorted thoughts. These distorted thoughts impact feelings and lead to behaviors such as situational avoidance where objects or places may become a self-reinforcing behavior as the person has no additional life experience to combat the distorted thinking. Cognitive restructuring is used to help the patient examine their beliefs in more detail and to break down the resultant feelings and behaviors into A (antecedent), B (behavior), and C (consequence).



Exposure is a CBT technique that provokes the patient's anxiety over a feared idea or object in a controlled, supportive environment (Boyd, 2018). A person afraid of heights might be asked to work toward standing on a footstool for a minute or two in the clinician's office. Gradual exposure to the situation allows the patient to systematically desensitize to the stressor with tools to manage thoughts and feelings that arise when confronted with the feared stimulus. Flooding exposes the patient to the stressful object or idea all at once; although this technique can be used, trained clinicians should judiciously use it as it may produce panic symptoms. Skills training may also be employed in CBT. This specifically trains the individual based on their needs. Cognitive-behavioral techniques are useful with most psychiatric conditions and mental health states to improve mental flexibility and resilience, moving the person towards health on the health-illness continuum. Helping the patient to identify beliefs (true or false) about situations enables the patient to challenge the beliefs that are detrimental to recovery (McKay et al., 2015). Psychiatric nurses of all levels can utilize the basic skills of CBT in teaching their patients how to reframe distorted thoughts that lead to emotional turmoil and erratic behaviors.

Family therapy (Social theory)

Individuals with psychiatric, mental health, or behavioral problems often live in a family environment. Children and adolescents are still part of the family unit although the nature of "family" may differ in situations concerning foster care or residential treatment centers. Adults may live alone or with others, be married or single, and live with or without children of their own. Even adults who live alone often have significant family relationships with parents, children, or others. The concept of "family" is identified by the patient but usually involves other persons with whom the patient interacts on a frequent basis and in whom the patient has significant emotional investment.

Family therapy is based within the understanding that, although there is an identified patient, problems may arise out of dysfunctions within the system because the family is a unit and problems are relational to each other (Friedman, Bowden, & Jones, 2003; Sexton & Alexander, 2015). Family therapies focus on strengths of the individual patient and the family as a basis for treatment. Understanding how the family functions and relates to one another helps contribute information that is helpful in the development of a plan of care. Family therapy is complex, and master's or doctorate-level clinicians should be utilized for this type of intense treatment. The Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE) offers specialized accreditation to marriage and family therapy programs; this encourages programs to continue monitoring and maintaining their rigor and development and demonstrates that programs are meeting industry standards and their own objectives (COAMFTE, n.d.)

Treating the family via emotional or cognitive methods allows problems to be addressed within the family dynamic; treating the patient apart from his or her family alone will not correct these systemic problems, and relapse is likely (Sexton & Alexander, 2015). Cognitive awareness (as in CBT) helps individuals and families recognize the cyclic nature of thoughts creating feelings, which create behaviors, which reinforce thoughts, and which continue circularly. Addressing this from a systems nature allows all members of the family unit to explore their role within this continuum and work toward healthier interactions simultaneously.

Community support groups (Social theory)

Many community support groups exist to help individuals who are experiencing specific mental health problems. Groups exist for gambling addiction, rape and sexual abuse support, bipolar disorder, depression, grief and bereavement, suicide, attention deficit disorder, PTSD, substance abuse, and many more. Support groups differ from therapy groups in several important ways. Support groups are a network of members with similar traits or characteristics; support groups are leaderless – they may have a nominated leader, but that person is also a victim or patient and a group member; support groups are not managed by a healthcare professional; support groups are free or have minimal cost; support groups may meet less frequently than therapy groups but for a longer period of time (years to indefinitely); and support groups are usually self-sustaining. If members lose interest, the group can't find a place to meet, or membership wanes, then the group may end (https://www.frontiersin.org/articles/10.3389/fpsyt.2021.714181/full).

The National Alliance on Mental Illness (NAMI) is the nation's largest grassroots support organization for families and persons affected by mental illness. Established in 1979, NAMI is a powerful lobbying force in Washington, DC, with affiliates in every state and more than 1,100 communities across the country. NAMI focuses on fighting against the stigma associated with mental illness and provides support for families and patients with psychiatric illnesses.

Self-Assessment Quiz Question #5

Which of the following is considered a support group?

a. Cognitive behavioral therapy.
b. Alcoholics Anonymous.
c. Family therapy.
d. Medication education.

BRAIN ANATOMY AND PHYSIOLOGY

Within the brain, several areas influence behaviors and are related to psychiatric-mental health disorders, such as the areas involved in mood, anger, and thoughts. Therefore, it is important for nurses to understand how the brain regulates mood and behaviors. The cortex, the outer surface of the brain, is associated with rational thinking (Halter, 2018). The orbitofrontal cortex, which is in the forehead, regulates sympathetic and parasympathetic signals and houses the executive functions (Norris, 2019). Examples of executive functions include decision making, organizing, and determining right from wrong. Additionally, the cortex is adjacent to other areas of the brain, connecting rational thought to mood.

Several other areas of the brain also have a role in psychiatric-mental health disorders. The frontal lobe, for example, is heavily involved in decision making. The parietal lobe integrates sensory and motor information. The occipital cortex is the vision center. The cerebellum works to create muscle tone, posture, and coordination. The temporal lobe is involved with memory, smells, sounds, and language. The hypothalamus regulates body temperature and metabolism, and research suggests that it plays a role in emotions. The pituitary gland regulates hormones, and the brainstem controls basic vital functions such as respiratory rate, heart rate, reflexes, and movement (Norris, 2019).

The limbic system, which is involved in emotions, has a central role in psychiatric-mental health disorders. The limbic system contains the amygdala, which regulates mood and emotions such as anger; the hippocampus, which regulates memory; and the anterior cingulate, which regulates sensations (Norris, 2019; Stahl, 2020). These areas all work together to compose emotions and the body's responses to emotions. There are millions of connections among these areas. These connections, or pathways of electrical impulses, allow parts of the brain to communicate with one another and respond to stimuli.

NEUROTRANSMITTERS

The presynaptic area located at one end of each neuron holds neurotransmitters. A neurotransmitter is a chemical that carries a message to another neuron. An electrical charge, usually powered by a sodium-potassium channel, causes a reaction from one end of the neuron to the other, releasing the neurotransmitter into the synapse like a gun firing (Norris, 2019; Stahl, 2020). The neurotransmitter then crosses the space or synapse between the neurons and attaches to a specific receptor on the postsynaptic cell. Once the neurotransmitter has delivered the message to the postsynaptic cell, it is released back into the synapse (Stahl, 2020). Once released, the neurotransmitter can be destroyed by specific enzymes or be taken back into the presynaptic area by a process called *reuptake* (Stahl, 2020).

Psychiatric-mental health treatment is based on enabling neurotransmitters with messages to attach to the postsynaptic neurons (Stahl, 2020). Each neurotransmitter attaches to a receptor like a key fitting into a lock. This causes a reaction in the neuron referred to as a *second messenger system*. These exchanges must happen several times before the goal of change in the neurons and brain occurs. Sometimes a message gets lost or is incorrectly transmitted. This can lead to emotional dysregulation and psychiatric symptoms (Stahl, 2020).

Dopamine, serotonin, and norepinephrine are the most important neurotransmitters in mental health. In addition, two amino acids, gamma-aminobutyric acid and glutamate, have a role in psychiatric-mental health, with each having its own effect on mood and behavior.

Dopamine

Dopamine is a neurotransmitter associated with psychosis and influences several areas of the brain. Dopamine regulates movement and coordination, emotions, and decision making. Decreased levels of dopamine can cause Parkinson's disease. Conversely, increased levels can lead to schizophrenia or mania (Stahl, 2020). Dopamine also stimulates the hypothalamus to release sex, thyroid, and adrenal hormones (Stahl, 2020). Antipsychotic medications aim to decrease symptoms of psychosis by enhancing the impact of dopamine on the postsynaptic cells.

Serotonin

Serotonin is a neurotransmitter found in the limbic system, the brain cortex, and the stomach. Research suggests that low levels of serotonin are implicated in depression, whereas excess levels have a role in anxiety, mania, aggression, and possibly schizophrenia. Serotonin is also associated with appetite, mood, aggression, libido, sleep, and arousal, as well as perception of pain (Stahl, 2020). Medications that support serotonin are the first line of action against depression and are components of some antipsychotic medications.

Norepinephrine

Norepinephrine is a neurotransmitter found in various parts of the brain and the brainstem. Norepinephrine regulates mood, cognition, perception, sleep, arousal, and cardiovascular status (Stahl, 2020). Excess levels can trigger a fight-or-flight response and long-term elevations are associated with mania and anxiety. When norepinephrine is depleted, depression can occur. Research suggests that norepinephrine plays a role in the chronic pain that can accompany depression. Medications that increase the messages or actions of receptors that involve norepinephrine are usually antidepressants.

Gamma-Aminobutyric Acid

Gamma-aminobutyric acid (GABA), an amino acid, is an inhibitory protein. It is concentrated in the frontal and temporal lobes of the brain, where it slows down activity. GABA works like a light switch, turning on and off other excitatory molecules (Stahl, 2020). When there is not enough GABA in the brain, anxiety can occur. Medications such as benzodiazepines aim to increase levels of GABA to slow down the brain activity involved in, for example, panic attacks and anxiety.

Glutamate

Glutamate is an excitatory amino acid that functions to open the calcium channel so that neurons fire faster (Stahl, 2020). This causes excitement in the brain. Researchers are currently investigating the role of glutamate in ADHD, anxiety disorders, depression, mania, and mood disorders (Stahl, 2020).

Self-Assessment Quiz Question #6

Dopamine is responsible for which of these symptoms?

a. Sleep.
b. Psychosis.
c. Arousal.
d. Catatonia.

PSYCHOPHARMACOLOGY AND THE BRAIN

Typically, medications that treat psychiatric-mental health disorders work by either increasing or decreasing the activity of neurotransmitter receptor systems in several ways (Stahl, 2020). For example, benzodiazepines aim to slow down brain activity, thus reducing anxiety, by increasing levels of GABA. It is important to remember that the change in the neurotransmitter system either facilitates or inhibits different functions in the brain. Medications can have a single specific target, such as serotonin reuptake inhibitors, or they can target multiple transporters, such as serotonin and norepinephrine reuptake inhibitors.

Simply stated, psychiatric medications block receptors or increase the number of neurotransmitters available for use, thus changing the message at the postsynaptic site. For example, consider a patient with depression who takes a selective serotonin reuptake inhibitor (SSRI). The medication increases the serotonin in the synapse, making more serotonin available for the receptors (Stahl, 2020). The message is sent via the postsynaptic cell and a second messenger to change the cell. The result is a decrease in depressed mood. Note that it might take several weeks of changes to this system for the desired health outcome to occur (Stahl, 2020).

Because neurons and the messages they carry are interrelated, even medications that target only one neurotransmitter can affect other neurotransmitters and messages. These alterations can cause changes in basic drives, sleep patterns, body movements, and autonomic functions (Stahl, 2020). These are side effects of medications affecting neurotransmission. For example, several psychotropic medications have the side effect of drowsiness. This occurs because the medication affects more than one neurotransmitter and message. Side effects are often the result of unintended changes in the neurotransmitter systems.

Classifications in psychopharmacology

Medications play a role in the treatment of nearly every psychiatric condition. For the purposes of this course, psychotropic medications are classified into seven broad categories: antidepressants, anti-anxiety agents (also called anxiolytics), antipsychotics and their "partners" anticholinergics (used to reverse some side effects), mood stabilizers, sedative-hypnotics, psychostimulants, and miscellaneous medications designed to reduce or prevent alcohol or drug dependence, including nicotine dependence (Stahl, 2021)

Complementary and alternative therapies in mental health

Herbals and dietary supplements have gained interest in Western cultures as people search for natural remedies. Many people feel that natural herbal remedies are healthier and safer overall than pharmaceutical drugs. The Food and Drug Administration (FDA) considers herbal supplements, vitamins, and other dietary supplements to be food sources and, as such, only monitors information on the product's label and does not regulate their manufacturing or usage. This can result in wide variances in the amount of active ingredient that may be available in a certain product; some products have even been found to contain no active ingredients after undergoing laboratory evaluation. Some herbal supplements have been used in the treatment of mental health conditions, as these products are available over the counter in many stores. Patients may seek information available on the Internet and then choose supplements based upon their understanding. The nurse should always assess the use of herbal and other supplements and educate patients about known mechanisms of action, side effects, and possible interactions with pharmaceutical drugs. It is important to review available research regarding supplements and use this evidence when providing patient education. The role of certain natural herbs in the treatment of psychiatric disorders is discussed below.

St. John's wort (*Hypericum perforatum*) is derived from the St. John's wort plant. It is primarily used to address depression. St. John's wort is thought to affect serotonin and monoamine oxidase inhibitors in the brain, similar to antidepressants. There are numerous studies that demonstrate reports of drug-to-drug interactions in patients who used St. John's wort while taking other medications (including prescribed antidepressants), so it is important that the nurse teaches patients not to combine this supplement with other medication, as it may increase the risk for serotonin syndrome.

Valerian root (*Valeriana officinalis*) is powdered and taken in a capsule form. It is believed to work on the gamma-aminobutyric acid (GABA) system to alleviate anxiety and treat insomnia. Valerian should not be taken with other central nervous system depressants (especially anesthetics, barbiturates, and benzodiazepines) because it can potentiate their effects. Side effects include headaches, uneasiness, dizziness, and, sometimes, excitability.

Kava kava (*Piper methysticum*) is a South Pacific oceanic herb with sedative, analgesic, and mild euphoria-inducing properties. Kava kava may act on GABA in a manner similar to benzodiazepines, and it does have drug-to-drug interaction effects with those products. Side effects of kava kava can include stomach disturbances, dizziness, and a temporary yellowing of the skin. A person with liver impairment or one who is a heavy alcohol user should never use kava kava because it has been linked with hepatotoxicity (Rivers, Xing, & Narayanapillai, 2016). Banned in some European countries, kava kava is still widely available for over the counter or Internet purchase in the United States, Australia, and New Zealand (Rivers et al., 2016).

Ginseng (*Panax ginseng*) is a stimulating herb that can produce energy similar to caffeine, meant to result in improved endurance and reduced fatigue. Jitteriness and nervousness can be side effects of this supplement, as can insomnia, hypertension, restlessness, and, possibly, mania.

Ginkgo biloba (*Ginkgo biloba*) has gained popularity for its theoretical ability to improve blood flow to the brain to promote alertness, mental sharpness, and memory; to treat fatigue and stress; and to improve endurance. Ginkgo biloba has antioxidant properties, reducing free radicals in the body that cause cellular death (Tulsulkar & Shah, 2013). Ginkgo biloba can interfere with blood clotting and reduce platelet action, leading to increases in bleeding times. It may interfere with anticoagulant therapy and should not be taken by patients with circulatory problems who are taking such medications such as Coumadin, Plavix, or aspirin. Side effects of ginkgo biloba include headaches, nausea, vomiting, stomach upset, and, occasionally, skin allergies (Izzo, Hoon-Kim, Radhakrishnan, & Williamson, 2016).

Chamomile preparations are often used in Europe to facilitate digestion, ease gas, and decrease cramping (Mahady, Wicks, & Bauer, 2017). It has been shown to be safe for children and is a first line of therapy in Germany for treating sensitive skin infants and young children (Mahady et al., 2017).

To address vitamin and mineral needs, a one-a-day multivitamin supplement for adults and a chewable daily supplement for children can be helpful. Iron deficiency is associated with fatigue and oral conditions such as stomatitis. Omega-3 fatty acids (fish oil, flaxseed oil) have shown positive benefits in treating behavioral problems (Bondi et al, 2014; Raine, Portnoy, Liu, Mahoomed, & Hibbeln, 2015). The fat-soluble vitamins A, D, and K can be dangerous in high doses. B-complex vitamins are associated with energy. Given with calcium, vitamin B6 has been shown to reduce premenstrual symptoms (Masoumi, Ataollahi, & Oshvandi, 2016). L-methylfolate (Deplin), a prescription medical food, is a derivative of folic acid (a B vitamin). It is a dietary supplement that has demonstrated effectiveness in enhancing the treatment of depression and is monitored by the FDA (Shelton, Manning, Barrentine, & Tipa, 2013).

Massage is the manipulation of the body's soft tissues to promote circulation and relaxation. There are numerous types of massage techniques, varying from light touch to deep muscle work and from specific to generalized body parts. Swedish massage is meant to provide relaxation and increase circulation; Shiatsu massage, influenced by Chinese medicine, is used by a specialized practitioner who applies pressure to acupoints on the body with the intention of increasing the life flow (or Japanese ki; Halter, 2018).

Reflexology, also called *zone therapy*, is the application of massage or pressure to the hands and feet to alleviate distress in different parts of the body. The theory of reflexology is that all of the body is represented in areas in the hands and feet, and thus stimulating these trigger points can eliminate distress in the related body system(s) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4624523/).

According to traditional Chinese medical theory, acupuncture points are situated along meridians (channels) in the body that align with a vital energy flow, the *Qi* (Halter, 2018). Illness or distress interrupts the Qi. Acupuncturists insert tiny filiform needles along the meridians to stimulate and readjust the energy flow. Practitioners diagnose which systems in the body are affected based on inspection, auscultation, olfactory senses, palpation, and taking a limited history of symptoms. Side effects to the treatment are generally mild and may include slight headaches, nausea, or pain in certain areas. In the Western hemisphere, a common use of acupuncture is for the treatment of pain (Halter, 2018 (https://www.sciencedirect.com/science/article/pii/S2213422021000883?via%3Dihub).

Hypnosis is a technique that induces a deep relaxation and calm, trance-like state of mind. The patient's focus of awareness becomes so restricted that external noise and distractions are no

longer present in the conscious mind. Hypnotherapy is practiced by highly trained clinicians, often psychologists, to achieve certain therapeutic goals with the patient, such as recovering memories lost through the defense mechanism of repression, learning to be less anxious when faced with anxiety-provoking situations, or reducing or eliminating undesirable behavior such as smoking. The patient undergoing hypnotherapy must be relaxed and receptive to the procedure (https://positivepsychology.com/hypnotherapy/).

Psychiatric nurses should familiarize themselves with the various modalities of psychotherapy, the medications used in the treatment of psychiatric illness, as well as the complementary and alternative therapies and the various somatic therapies used in the treatment of psychiatric disorders. Psychiatric nurses provide psychoeducational services to patients and their families and should have a thorough understanding of the treatment modalities commonly used in psychiatric practice.

Self-Assessment Quiz Question #7

Which complementary alternative medicine interferes with anticoagulants?

a. Chamomile.
b. Ginseng.
c. Ginkgo biloba.
d. St. John's wort.

Self-Assessment Quiz Question #8

Which complementary alternative medicine should be avoided in patients who report heavy alcohol use?

a. St. John's Wort.
b. Ginseng.
c. Valerian root.
d. Kava kava.

OTHER THERAPIES IN MENTAL HEALTH

Electroconvulsive therapy

Mental health professionals once used ECT, introduced in the 1930s, to treat a broad range of psychiatric disturbances (George et al., 2020). With strong advances and refinements in the field, professionals may still use ECT to treat certain conditions such as severe depression (major depression), mania, or psychosis (George, et. al, 2020). To perform ECT, the patient is given a short-acting sedative, followed by a muscle relaxant. The muscle relaxant prevents tonic-clonic jerking of the body caused by seizure activity that, historically, was the cause of physical injuries to the patient. After the patient is anesthetized, electrodes are placed on the sides of their head and an electrical stimulus that is sufficient to trigger a seizure is given. Ideally, the seizure activity lasts about 15 seconds (Townsend, 2014). Breathing is supported during the procedure by nurse anesthetists or anesthesiologists. The ECT session is repeated two to three times a week for 3 to 4 weeks and is often done on an outpatient basis (Townsend, 2019).

Providers usually use medications and therapy before deciding to use ECT. ECT has an effectiveness rate of approximately 60% to 70% in the treatment of depression (George, et. al, 2020). There are few contraindications to ECT; however, caution should be used in pregnancy, patients with cardiac conditions, or patients with intracranial pressure because of disease (Townsend, 2019). Side effects of ECT include memory loss and some confusion in recalling events right before and after the procedure. Some people complain of long-term memory and cognitive problems. Also, complications related to the use of anesthetics (allergic reaction, respiratory suppression) can occur.

Transcranial magnetic stimulation

Transcranial magnetic stimulation (TMS) is a noninvasive treatment for depression. The patient is exposed to electrical energy that is passed through a coil of wires to produce a powerful magnetic field (George, et. al, 2020). Magnetic waves pass through the brain and skull painlessly, while the patient remains awake for the procedure. It is most effective when administered for 40 minutes daily for 4 to 6 weeks. It is thought to work by stimulating nerve cells to produce the neurotransmitters that relieve depression. Side effects of TMS are few, with patients reporting only mild headaches. TMS cannot be used if the patient has implanted or permanent metal in the skull or brain (George, et. al, 2020).

Vagus nerve stimulation

Vagus nerve stimulation (VNS) is an adjunctive, long-term, invasive therapy for adult patients with serious and persistent depression (George, et. al, 2020). Most of these individuals have shown no improvement in condition after trials of four or more antidepressants before attempting VNS therapy. A VNS implant is a small, battery-powered device, similar to a cardiac pacemaker, that is surgically implanted subcutaneously under the skin of the upper left or right chest. Internally, a wire runs from the device to the vagus nerve, which then carries electrical impulses to the brain. These impulses are emitted every few minutes. The device is thought to work by electrically stimulating the production of neurotransmitters that are associated with depression treatment. The side effects of VNS include a tickle in the throat (may trigger a cough reflex), mild hoarseness or other voice changes, and, rarely, difficulty swallowing, shortness of breath, neck pain, and a prickling sensation in the skin.

Case study 1

Mrs. Jones was admitted as an involuntary patient to the psychiatric unit. She was brought to the emergency department by her daughter, who reported her mother was showing "new and bizarre" behaviors. She has a history of schizophrenia, which has been well controlled until this episode.

The psychiatric nurse begins the mental status exam of Mrs. Jones. The nurse notes that she is wearing a short dress that is on backwards. She appears disheveled and unkempt; she has not eaten any of her breakfast. Further, the nurse observes that Mrs. Jones has taken the blankets off the bed and laid them out on the floor. She has also taken the toilet paper and unrolled it into a pile on the floor.

When the nurse introduces herself, Mrs. Jones is at the window talking in nonsensical words. She is wringing her hands and appears to be fixated on something outside. She does not acknowledge the nurse.

Later, she turns around and exclaims, "Sally, I am so glad you are here. Tea is almost ready. Flubrubaroo?" She moves to the pile of blankets and stands in the middle of them, smiling at the nurse.

The nurse smiles and begins to talk to Mrs. Jones. The nurse explains again that she is a psychiatric nurse and is there to care for her. She states, "Oh no, dear, have you tokenitnd?"

The nurse notes that Mrs. Jones' affect is flat as she stares out at the window but animated when speaking in nonsensical words. The nurse asks her name. Suddenly, the patient turns to the nurse and starts talking very quickly, saying, "I know it is late. What was the dog's name again? I must go to the store. More milk."

Questions

1. Which components of the mental status examination can the nurse document from this interaction with Mrs. Jones?
2. How might you describe Mrs. Jones' affect?
3. How would you summarize the nurse's observation and evaluation of Mrs. Jones' thought processes?
4. What other health status information is helpful for the nurse to assess?

Responses

1. The psychiatric nurse can document Mrs. J's appearance, her behavior, and her affect, but not her mood. Documentation can also include thought processes and thought content. The psychiatric nurse is unable to assess Mrs. J's memory, cognition, insight, motivation, and judgment as well as her safety.
2. In addition to being flat and animated, Mrs. J's affect may also be described as anxious. Because her affect seems to be fluctuating, there may be an incongruence between her affect and behavior.
3. Word salad is a common finding and learners should be familiar with the term. Mrs. J's nonsensical and disorganized speech gives some indication of her thought processes. Her thought process appears to be confused. She exhibits word salad and her thought processes are disjointed and incoherent. Mrs. J's thought content is not clear as she does not respond coherently to the questions being asked.
4. It would be helpful for the psychiatric nurse to obtain information from the patient's daughter. What has Mrs. J been exhibiting at home? What is Mrs. J's baseline level of functioning? Were there any past episodes of self-harm or dangerous behavior? Over what period has this change in behavior occurred? Were there any triggers?

Case study 2

Donald is a 45-year-old male patient employed as a financial manager by a large bank. Because of economic downturns, there have not been as many opportunities to gain new business, which has led to fierce competition between financial managers.

Donald presents to his primary care provider's office reporting recent episodes of shortness of breath, sweating, anxiety, and the strong feeling that he is about to die. These symptoms started 3 months ago, occurring once or twice a week. Within the past few weeks, Donald reports he has experienced symptoms daily and he has begun to fear leaving his home because he is afraid that he will have another attack. His attendance at work has suffered and he reports that his supervisor told him that he might lose his job as a result. This has caused problems between him and his wife and she has started talking about leaving him to move back in with her parents.

An electrocardiogram, stress test, and laboratory testing are performed, all of which show normal results. Donald is prescribed alprazolam (Xanax) by his primary care provider and referred to the local mental health center for treatment. Once there, he meets with a therapist for a comprehensive assessment. Donald is diagnosed with panic disorder and agoraphobia. He is referred to the psychiatric nurse practitioner for a medication evaluation and treatment. The nurse practitioner recommends that Donald start taking sertraline (Zoloft), 50 mg daily, and that he uses the Xanax only as needed to avoid tolerance and dependency.

Questions

1. What are other therapies that are most likely to be beneficial for Donald?
2. Are there any ancillary services that could also be helpful to Donald?
3. Which recommendations regarding his relationship status with his wife could the nurse practitioner discuss with Donald?

Responses

1. Panic attacks and panic disorder are treatable and respond well to medications and therapy. Cognitive-behavioral therapy is indicated to help this patient learn to identify anxiety-provoking triggers and reframe how he thinks about these events. Relaxation training, such as guided imagery and mindfulness, could be helpful in teaching Donald a means of reducing the anxiety once it occurs.
2. Another recommendation for Donald would be to include regular daily exercise in his routine (aerobic or weightlifting) because exercise can have a significantly positive effect on panic disorder treatment.
3. Donald may wish to consider the need for marital therapy sessions to work on improving communication with his wife. If she is willing to participate in Donald's treatment plan, they may also want to join a National Alliance on Mental Illness (NAMI) support group to learn more about psychiatric disorders and the rights of individuals who have such disorders. Finally, mental and behavioral health problems are considered medical problems and are protected under the federal Family and Medical Leave Act of 1993. If Donald's symptoms increase and become more debilitating, the psychiatric nurse practitioner treating Donald can provide him with a work statement and absence excuse that should help to protect his employment status and prevent him from losing his job while he is receiving treatment.

Case study 3

Mr. Fisher is a young adult male patient who has been newly diagnosed with panic attacks. The psychiatric mental-health nurse working in the outpatient clinic meets with Mr. Fisher, who was recently prescribed benzodiazepine by the psychiatrist for his panic attacks. Mr. Fisher asks the nurse what it means to have "a chemical imbalance" in the brain. He also asks how the new medication will "fix" his panic attacks.

Questions

1. How should the nurse explain "a chemical imbalance" in the brain to Mr. Fisher?
2. How should the nurse describe how benzodiazepine medications work?

Responses

1. The psychiatric-mental health nurse should explain to Mr. Fisher that neurotransmitters are chemicals in the brain that form messenger systems between neurons to help the brain and body regulate functions (e.g., thinking, feeling) and react or behave. The nurse also explains that there are excitatory and inhibitory amino acids that assist in regulating these brain functions. The nurse describes that a person's emotions and behaviors are the result of the functioning of these chemicals carrying messages between the neurons and amino acids. When there is an imbalance among neurotransmitters, the messenger system receives too many or too few messages, impairing regulation.
2. The nurse should explain that, in a person with panic disorder, the function of GABA may be altered. Normally, GABA slows down other chemicals that are more excitatory. If GABA is not working correctly or at the correct level, there is no way to slow down the other chemicals. The result may be panic attacks. There are anti-anxiety medications, such as benzodiazepines, that aim to increase levels of GABA to help slow down brain activity; they decrease anxiety by changing how the chemicals in the brain communicate and work.

Healthcare Considerations

1. Therapeutic use of self is one of the foundations of mental health nursing.
2. An understanding of the mental health exam is fundamental to the diagnosis and treatment of mental illness.

Conclusion

The brain is an amazing organ that not only monitors changes in the external world but also regulates internal body functions. The brain initiates basic drives and controls contractions of muscles, internal organs, sleep cycles, moods, and emotions. Knowledge of how the brain works with regard to neurotransmission is an important aspect of understanding psychiatric-mental health disorders and the medications used to alleviate patient symptoms. Neurotransmitters carry specific messages from neuron to neuron to produce emotions and behaviors. Psychiatric-mental health medications work by altering these messenger systems. The neurotransmitters involved in mood and behavior include serotonin, norepinephrine, and dopamine. Through epidemiological research, healthcare providers can learn more about the prevalence of psychiatric and mental health disorders, as well as ways to identify persons who are at risk. This information becomes an important part of the nurse's assessment and identification of patients with psychiatric disorders. Recognizing an individual's behaviors and making statements can add to the assessment data and provide insight into the patient's current mental health state.

Assessing the patient, performing mental status assessments, identifying priority problems, developing goals and objectives, and developing evidence-based plans of care comprise the core steps of the systematic approach to caring for patients with psychiatric disorders. After these processes have taken place, the provision of relevant and appropriate nursing interventions follows. The therapeutic relationship is established during initial patient encounters, during the assessment and implementation of interventions during the nursing care planning process.

Psychiatric nurses who use therapeutic communication will be able to conduct effective, comprehensive mental status examinations that provide the information necessary to develop a comprehensive mental healthcare plan, regardless of practice setting.

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BASIC PSYCHIATRIC CONCEPTS

Self-Assessment Answers and Rationales

1. The correct answer is B.
Rationale: Aaron Beck developed cognitive behavioral therapy after working with depressed patients. Cognitive behavioral therapy is based on cognitive psychology and behavioral therapy.

2. The correct answer is A.
Rationale: The unit policy regarding voluntary patient participation in group therapy preserves the ethical principle of autonomy. The principle of autonomy presumes that individuals are capable of making independent decisions for themselves and that healthcare workers must respect these decisions. Beneficence refers to one's duty to benefit or promote the good of others. Justice reflects the nurse's duty to treat all patients equally. Veracity refers to the duty to be truthful (Boyd, 2018).

3. The correct answer is A.
Rationale: Defense mechanisms are behaviors that an individual uses to deal with stressors. Defense mechanisms can be beneficial and protective for the patient or they can be counterproductive and maladaptive.

4. The correct answer is C.
Rationale: The nurse assumes responsibility for the milieu. The nurse is responsible for the overall environment as well as assessment and medication administration. The therapist is primarily responsible for group and individual therapy in a traditional care model. Psychodrama uses role-play to express feelings. The occupational therapy assists the patient to develop independence in life skills. (Boyd, 2018)

5. The correct answer is B.
Rationale: Many community support groups exist to help individuals who are experiencing specific mental health problems. Groups exist for gambling addiction, rape and sexual abuse support, bipolar disorder, depression, grief and bereavement, suicide, attention deficit disorder, Tourette's disorder, substance use disorders, and many more.

6. The correct answer is B.
Rationale: Dopamine is a neurotransmitter associated with psychosis and influences several areas of the brain.

7. The correct answer is C.
Rationale: Ginkgo biloba can interfere with blood clotting and reduce platelet action, leading to increases in bleeding times. It may interfere with anticoagulant therapy and should not be taken by patients with circulatory problems who are taking such medications such as Coumadin, Plavix, or aspirin.

8. The correct answer is D.
Rationale: :A person with liver impairment or one who is a heavy alcohol user should never use kava kava because it has been linked with hepatotoxicity (Rivers, Xing, & Narayanapillai, 2016)

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4 Contact Hours

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Authors:

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Mary C. Ross has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

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Activity director

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Disclosures

Resolution of conflict of interest
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Course verification

All individuals involved have disclosed that they have no significant financial or other conflicts of interest pertaining to this course. Likewise, and in compliance with California Assembly Bill No. 241, every reasonable effort has been made to ensure that the content in this course is balanced and unbiased.

Learning objectives

After completing this course, the learner will be able to do the following:

- Examine the historical and theoretical basis of communication concepts.
- Demonstrate understanding of the fundamentals of human communication and their application to communication in healthcare.
- Describe barriers to healthcare professional-patient communication that impede therapeutic communication and positive patient outcomes. Compare ways to improve the effectiveness of communication with patients.

INTRODUCTION

Few things bind us as humans as tightly as communication. We all do it – communicate, that is – in a variety of forms and with varying degrees of efficacy. On its most fundamental level, communication among humans amounts to the transfer of information or ideas from one person to another. This point-A-to-point-B transmission process seems a simple enough concept, and it is so universally understood and accepted that it tends to be taken for granted. Yet communication between people is not necessarily a straightforward endeavor, nor even an easy one. Rather, communication represents a complex, dynamic social activity that pervades every aspect of our interaction with others. It is the "on" switch that powers all of human connection. It is the means by which we form and manage relationships, however simple or complicated those relationships may be.

In healthcare settings, few things promote the development of successful patient-provider relationships – and the positive impact of those relationships on patient outcomes and satisfaction – as indispensably as effective communication. Put simply, good relationships, built with good communication skills, make for good outcomes. Evidence supports this formula: The quality of patient-provider relationships has been shown to improve patient satisfaction and health outcomes (2016; Haverfield et al., 2020; Kornhaber et al.). The effective communication between healthcare clinicians and their patients demonstrates such wide-ranging benefits as improved adherence to treatment regimens, better utilization of healthcare resources, and lower costs (Drossman & Ruddy, 2020; Okunrintemi et al., 2017). On the other hand, lack of effective communication among healthcare providers can jeopardize patient safety. Miscommunication among clinicians, particularly during patient handoffs, has been found to be a leading cause of preventable adverse clinical events (Mardis et al., 2017; Muller et al., 2018). Inadequate or ineffective communication also can impact clinicians' job satisfaction, a key marker of patient safety and quality care. For example, nurses who perceive communication positively in their work settings are less likely to experience burnout or leave the profession (Sullivan Havens et al., 2018; Vermeir et al., 2017).

Healthcare professional consideration: Successful communication in clinical practice requires skill, sensitivity, and intuition. To optimize health outcomes, the practitioner-patient relationship relies as much on the development of trust and respect; the understanding of, and sensitivity to, patients' values, perspectives, perceptions, and culture; and the display of empathy as it does on clinical observation and assessment.

Despite advances in communication theory and methods, historical barriers to effective communication in healthcare – constraints on time and staffing, environmental distractions, and shifting patient perceptions among them – steadfastly remain. Clinician education has traditionally favored clinical skills relative to a focus on so-called soft skills, such as communication, leaving many healthcare professionals feeling ill- equipped to successfully address the wide array of patient and collegial interactions they encounter, often for the first time, on the job. In addition, research is exploring the ways that rapid evolution of the healthcare industry and emerging technologies affect healthcare professionals' current and future ability to respond to their patients' and colleagues' communication needs, particularly among professionals who lag behind adoption of new technologies (De Leeuw et al., 2020). In the short term, as healthcare organizations endeavor to fulfill The Joint Commission (TJC, 2010) standards regarding patient-centered care, healthcare professionals are called upon to successfully incorporate patient-oriented communication techniques into practice.

Commonality lies at the root of communication. The very term derives from the Latin noun *communis*, which means "common," and is related to the Latin verb communicare, meaning "to make common" or "to share." Humans have participated in that sharing since long before ancient Rome attached a word to it, however. The phenomenon of communication has been fundamental to human life – and human survival – since the beginning of humanness itself.

Along the continuum of human existence, from prehistoric people's use of pictographs to the 21st century's manipulations of complicated computer code, we humans gained an evolutionary edge through our capacity to attach common meaning, both proximate and conceptualized, to our reality in ways that other species cannot. Researchers have long theorized that, from the start, our ability to mutually understand and exchange information – not only about our immediate surroundings but also, importantly, about abstractions beyond our direct experience – set us apart (Dance & Larson, 1976). Our values, beliefs, and emotions, alongside our perception of such wide-ranging concepts as freedom, fairness, art, or healthcare, rely on our human aptitude for ascribing common meaning to both the tangible and the abstract. Our cognitive powers, along with our collective capacity to think symbolically and to share that thinking with others of our species, are a uniquely human characteristic (Miyagawa et al., 2018). Evidence suggests that it is enabled by a distinctive area of our brains, namely, the human ventrolateral frontal cortex, associated with language and other cognitive processes (Snow, 2016).

In other words, communication is part of our nature; it is a significant portion of what makes us human.

Definition of communication

As central as communication is to human nature, it was not until the 20th century that scholars began to industriously theorize about the nature of communication. In little more than the past 100 years, communication science, as a distinct academic discipline, has explored the characteristics of language and other facets of communication, as well as developed models explaining the process by which it occurs. Yet definitions of communication remain as diverse as the theories that describe it, and theorists wrangle over factors, such as culture and intent, that may influence the meaning of the term (Trenholm, 2017).

Even as the science evolves, long-standing research has identified observable characteristics of communication (Dance, 1970). Communication, for example, is an inevitable behavior among people. Influential work in communication theory asserts that "no matter how one may try, one cannot not communicate" (Watzlawick et al., 1967, p. 30). We communicate even when we do not realize we are doing so.

Language, of course, often comes to mind when one considers the what of communication, but language is not unique to humans. Animals and certain plant species have their own means of communication. Human language distinguishes itself by its use of symbols. Our capacity to conceptualize, to think beyond our temporal being, allows us to assign meaning, not only to objects but also to actions and emotions, about all of which we conventionally share understanding (Onjefu & Olalekan, 2016). Across geography and culture, we use language to signify our collective knowledge of physical things (form) – book, chair, or stethoscope, for instance. We also use symbolic language to commonly recognize the manner in which we interact with those things (such as read, sit, or listen) and how we feel about them (for example, bored, comfortable, or grateful). No matter how you feel about it (emotion), you are able to read and understand (action) this course (object) because you share with your fellow humans a long-established, mutual understanding of the symbols – in this case, the words – it contains.

Language, then, conveys meaning, but words, spoken or written do not make up the whole of human language. Images and nonverbal actions carry meaning as well. Facial expressions; posture; affect; eye contact (or lack of it); tone, inflection, and pitch of voice; touch; physical gestures; social distance; and personal appearance, all have import. They each transmit a symbol or set of symbols – in other words, a message – that "says" something without need of speech. By way of example, a smile or grimace, a nod of the head, a direct or muted gaze of the eyes, and a subdued or high-pitched tone of voice all send a message from one person for interpretation by another, as do the manner that one sits and the way in which one dresses. Even silence can transmit meaning (Bonvillain, 2020).

Language does not always connect us. We may speak different dialects, for example, or our perceptions of body language can differ by culture. Human communication universally allows us to form and sustain relationships. Communication prompts interaction between people or groups of people by transmitting meaning in context, including dialect and culture. The words language and communication are often used interchangeably, but the terms differ in the same way the concepts of what and how diverge. Language is the means behind the meaning; in other words, verbal and nonverbal language are modes of capturing meaning (the what). Communication is the process by which that meaning is shared among people (the how).

Moreover, the communication process is neither stagnant nor one-way. For transmission of meaning to occur between humans, whether that meaning is expressed dynamically as information, thoughts, ideas, or feelings, it takes (at least) two – that is, two or more people. Human communication exists when messages are sent and subsequently received by people.

Of course, communication is not always an effective transmission of meaning. It may be misinterpreted or misunderstood, and its quality varies as much as the volume of messages sent and received in the course of human life. Multiple factors influence communication, from the channel or medium used to transmit information or other messages to the context – environmental, social, and cultural, to name a few – in which communication occurs. Scholars have extensively explored the impact of channel and context on communication, including within the dynamics of the healthcare climate and settings, but for purposes of this writing, a working definition of communication harnesses its principal characteristics.

On the basis of its component parts, human communication, as summarized in Table 1, is a dynamic, bidirectional process in which people form relationships by interacting through symbols to create, interpret, and exchange the meaning of thoughts, ideas, information, and emotions (Sillars & Vangelisti, 2018; Wood, 2018).

Table 1: Characteristics of Communication	
Communication is …	**Meaning that …**
Ongoing	Communication is an enduring human behavior with no fixed beginning or end.
Two-way	Communication occurs when messages are sent and received.
Social	Communication allows people to create and sustain relationships.
Symbolic	Communication relies on the uniquely human capacity to generate meaning from symbols, including verbal and nonverbal language.

Note. Adapted from "Communication in Our Lives" by J. T. Wood, 2018, 6th ed., Wadsworth. Reprinted with permission. "Communication: Basic Properties and Their Relevance to Relationship Research" by A. L. Sillars and A. L. Vangelisti, 2018, *The Cambridge handbook of personal relationships*, p. 243-255. Cambridge University Press. Reprinted with permission.

Forms of communication

Communication, as a process, takes several forms. Here, too, scholars differ in the specificity of communication's forms, but a general discussion of the five principal types of communication clarifies the ways that people participate in the process.

Intrapersonal communication

Intrapersonal communication is self-talk. It is the two-way process of sending and receiving thoughts, ideas, information, and emotions within one person – a persistent personal dialogue that occurs primarily within our minds. In a social context, its influence on our self-identity and communication behaviors has been characterized for decades as communication in its most important form (Farley, 1992). Research indicates that self-talk serves important behavioral and self-regulating functions that either contribute to (positive self-talk) or detract from (negative self- talk) life satisfaction, which is regarded as a measurement of mental health (Kyeong et al., 2020).

We participate in internal conversation when we react to internal stimuli and external phenomena. When we are tired, for example, we communicate to ourselves that we should rest or sleep. When we observe an event that is external to us – anything from the pinging of our alarm clock to the blare of an emergency code, for instance – we respond with inner, instantaneous discourse about how we feel about it and what we will do in response.

We converse with ourselves about the things we experience as well as the people with whom we come in contact. We assess experiences or people and express feelings about them through an inner monologue. Who among us has not "silently" thought that an experience was, for example, worthwhile or worthless, or that another person was, say, delightful or unpleasant?

Much of self-talk occurs at low levels of consciousness (Riccillo, 1994, as cited in Wrench et al., 2020). You communicate to yourself the need to turn off the alarm clock, typically with little awareness of doing so. On the other hand, you are likely to be more cognizant of your feelings – happiness or frustration, for instance – about having to wake. Internal vocalization allows us to process thoughts and sentiments that rise to high levels of awareness, not only in response to immediate stimuli but also to think through and plan future actions or reflect on past interactions. It helps us rehearse, for example, what we will say to others and the manner in which we will say it.

As with any other form of communication, intrapersonal communication can be expressed verbally or nonverbally. We might talk to ourselves "out loud" with vocal expressions of happiness or frustration. We might use a gesture, such as a thumbs-up motion, to reinforce our satisfaction with ourselves, or we might admonish ourselves with a slap on the forehead. We might also distill what is on our minds in writing by way of keeping a journal or diary.

At its core, our intrapersonal communication enables us to define our idea of ourselves. Our self-concept, and consequently our self-esteem, draws on our ability to tell ourselves we are good or bad, satisfied or dissatisfied, competent or inept. Oles and colleagues (2020) suggest that intrapersonal communication in the form of self-talk regulates self-control and direction ("You didn't do that well. Try again."), but it also offers opportunities to engage in inner monologues ("Why didn't I do that well the first time?") as well as inner dialogues that may involve another person ("If my supervisor saw that I didn't do that well the first time, she'd say I was lazy.").

Healthcare professional consideration: Internal dialogue involves contemplation, or reflective thought. Reflective thinking is an intentional thought process widely lauded in education and practice as a standard for improving, not only self-awareness, but also critical-thinking skills (Barbagallo, 2021; Mikes-Lui et al., 2016). Reflecting on an interaction allows the person to improve their communications by evaluating how the interaction may have been more effective and what role they played in the outcome.

Interpersonal communication

Interpersonal communication is the exchange of thoughts, ideas, information, and feelings between two or more people. It is the behavior we use to create, maintain, and end relationships. It is how we connect with one another, and the more we interact with another person or people, the more interconnected and interpersonal our relationships become.

We communicate interpersonally using all modes of verbal and nonverbal interaction. A spoken conversation between two people is interpersonal communication, but so is writing an email or a birthday card. A smile, wink, or scowl; a pat on the back; and a squeeze of another's hand count as interpersonal communication, too. Researchers have devoted copious amounts of study to the complexity of interpersonal communication – and with good reason: Interpersonal communication makes up the majority of human interaction (Trenholm, 2017). Noted theorist Julie T. Wood (2016), for example, describes several fundamental, widely accepted characteristics of the phenomena:

- *Omnipresent.* Interpersonal communication is ever present. Where relationships exist, communication also exists. Consciously or subconsciously, verbally or nonverbally, we cannot escape the sending and receiving of messages when we interact with other people. Anyone we personally encounter – a family member, friend, colleague, employer, or the person at the grocery store checkout counter – receives messages we transmit, whether in a conversation, an email, a smile, or myriad other ways.
- *Ongoing.* Interpersonal communication also is ever changing. As a process, it transforms over time. Our interpersonal communication with others has no clear beginning or end point; it is connected to the past, the present, and the future. One communication event precedes another, which precedes yet another, and so on. Similarly, a single communication event can lead to other events in the near and long term. Consider, for example, a colleague who approaches you for advice. Suppose you have worked with this colleague for months or even years. Your communication, and consequently your relationship, with this colleague did

not begin with the advice they have just sought. Rather, your previous interactions led to this communication moment, likely because earlier communication established trust or authority between the two of you. It is possible in this scenario that the whole of your communication (and again, your relationship) could end once you have offered your colleague guidance (they may leave your place of employment, for instance). Yet it is equally possible you will interact with them again – within a few moments, the next day, or at some other future point. Your communication with your colleague might change over time and be influenced by a variety of environmental, social, or other factors, but its start and finish cannot be definitively determined.

- *Selective*. Of course, not all of interpersonal communication is as familiar as, say, your interaction with a colleague, or, more to the point, a close friend or family member. Interpersonal communication is selective in that it spans a continuum from impersonal to intimate contact. Sometimes we encounter strangers, as in the case of a grocery store clerk, with whom we have little communication, let alone communication of a personal or private nature. Other times when we engage in small talk with others, our relationships are casual, involving equally casual, but not personal, communication. Most interpersonal communication involves these two modes. We acknowledge people impersonally as though they were objects (such as a homeless person), or we communicate superficially with them, acknowledging them within the context of social roles (as with a classmate, co-worker, or patient) but refraining from engagement on a personal level. We select the relatively few people whom we consider unique individuals and with whom we choose to communicate in deep and complex ways.
- *Transactional*. People participating in interpersonal communication each gain meaning from the interaction. Interpersonal communication is by nature transactional and reciprocal. Each person in an interaction simultaneously and recurrently sends and receives messages. Recall that those messages can be transmitted verbally or nonverbally. When you instruct a patient and the patient nods to signify their understanding, each of you has given and taken in messages in a circular manner: You present information, your patient acknowledges receiving the information, and the exchange comes back to you as you take in the meaning of your patient's understanding. A variety of environmental, psychosocial, cultural, or other factors might influence that loop, however, which makes interpersonal communication fertile ground for misunderstanding. Some patients may nod acceptance of information when in actuality they do not understand what is being said, and some patients are frequently anxious or in pain and therefore distracted from an effective information exchange. Internal or external distractions, for example, can interfere with interpretation of the content of communication. The patient's comprehension of instructions might be sidelined by their self-talk revolving around health-related worries, or the arrival of another healthcare professional might interrupt, even momentarily, the patient's ability to focus on the information being provided. Culture likewise can contribute to misunderstanding. The up-and-down motion of a nod of the head might suggest affirmation in one culture but signify the opposite in another culture or be a signal to simply proceed in still another. Yet the duality of interpersonal communication, according to Wood (2016), extends beyond the fact of two-person exchange to the sharing of responsibility by people within exchanges. In interpersonal communication, each party shares meaning with the other, but each party also shares responsibility for whether communication is successful. Nurses bear the responsibility to ensure the patient's or caregiver's understanding of critical instructions or consent.
- *Irreversible and unrepeatable*. After you have said or written something, or perhaps used a form of body language to communicate (rolling your eyes, for example), have you ever thought to yourself that you wished you could take it back? Interpersonal communication does not work that way. Inherently, all communication has an impact, and those effects cannot be erased. As much as one cannot not communicate, as previously noted, one also cannot "unhear" or "unsee" messages and, consequently, cannot undo them. Explanations, apologies, or denials are consequential in their own right, but they do not purge the existence of what was communicated in the first place. Also, interpersonal communication cannot be repeated. Moment by moment, we exert influence through interpersonal communication and become influenced by it. The act of communicating changes us in some way or another. We can no more capture at any moment in time the precise effect on our thoughts and emotions of something we have communicated than we can time travel. Each act of communication in which we participate is unique.

Evidence-based practice! Empathy and authenticity are key components of effective communication. The content of communication needs to acknowledge individual experiences, but also the plethora of experiences that signify why effective communication counts, including good clinical outcomes, improved patient satisfaction, better clinical well-being, decreased litigation, and time savings (Lim & Dunn, 2017).

Group communication

Group communication involves interaction among three or more individuals, but not just any people. The five individuals with whom you stand in a cafeteria line, for example, indeed represent a group, but in this case, the group is little more than a collection of people standing in a cafeteria line. You and the other members of such a group share some common characteristics and goals: We might infer each of you is hungry or thirsty, for instance. You all stand in line for the purpose of paying for your food or beverage. While waiting, you might send messages on an interpersonal level, knowingly or otherwise, to others in the group – by tapping your foot, perhaps, or in some other nonverbal way demonstrating impatience, or by engaging in inconsequential small talk with the person immediately alongside you. If someone with whom you are well acquainted waits in line with you, such as a colleague, friend, or family member, your level of interpersonal communication with that person during your wait will be more intimate than that with a stranger in the group. However, in this scenario, you would not participate in group communication because (absent concerted effort by the group to work as one to, say, hurry the process) you have not communicated as a group.

Rather, group communication occurs when three or more people exchange thoughts, ideas, information, or emotions with the express purpose of achieving an identified objective or outcome. As a goal-oriented exercise, members who participate in group communication exchange ideas and information about a common problem or interdependent aim. Group communication differs from intra- and interpersonal communication in that it tends to be more formal and task-focused, and it is not necessarily voluntary; often one is assigned to participation and/or roles within group settings.

In addition to its emphasis on the achievement of goals, scholars have long defined group communication in light of the manner in which participants' interactions affect group members (Jensen & Chilberg, 1991; Wilson & Hanna, 1990, as cited in Lumen Learning, n.d.). Group communication exists when assembled participants exert mutual influence over one another. In other words, group communication is a collaborative affair. People who communicate within groups do not do so independently; instead, they contribute to a communal exchange of information and ideas that affects each member of the group. Whether by motivation, inspiration, compromise, or manipulation, group members both influence others and are influenced by others in this information exchange (Lumen Learning, n.d.). Communication among interdisciplinary team members in clinical case conference discussions illustrates the concept of mutual influence in group communication.

Research demonstrates the coexistence of competitiveness and collaboration in such discussions when, for example, physicians display a (historical) tendency toward dominating group exchanges at the same time nurses and allied health professionals alter the dynamic by questioning medical decision making (Liu et al., 2016).

Evidence-based practice! Use of Balint groups – involving facilitated groups of clinicians who regularly meet to present clinical cases to improve their understanding of clinician-patient relationships (American Balint Society, n.d.) – has been found to enhance both clinician-patient communication and clinicians' confidence in their ability to understand their patients, particularly among triage practitioners during the SARS- CoV-2 pandemic (Yang et al., 2021). Participation in Balient group activities has been shown to improve clinicians' self-efficacy and reduce burnout (Otten, 2017).

A third component of group communication involves group size. The number of participants in a group can affect the cohesiveness and quality of communication within the group. Too few members might result in gaps in perspectives or expertise, for example. Too many members, on the other hand, might disrupt the equal participation of group members. A group's size also determines how many social ties – links, relationships, connections, edges – are needed to join members to each other and to the group (Forsyth, 2018). The mode of communication among group members – face-to-face or through assisted means, such as telephone or two-dimensional video conferencing – likewise can shape the effectiveness of exchange between participants. Communication via conference call, for example, lacks access by participants to body language and other nonverbal cues that might color the discussion, whereas participants' acceptance of video conferencing technology may influence their satisfaction with the modality (Dobosh et al., 2019). The precise number of group members that constitutes an optimal collection of people for effective communication remains a matter of debate. Research focus groups, for instance, are typically limited to 8 to 10 members, whereas group meetings may still allow for each person to participate if the group size is 12 to 15 members. Techniques such as "round robin" or weighted voting can be used to elicit interaction.

However, a consensus view among communication scientists uses size to categorize group communication as either small-group or organizationally based. Small-group communication is typically associated with interpersonal communication behaviors; members of small groups tend to interact with one another as unique individuals. Organizational communication, on the other hand, relies more on the structure, hierarchy, and culture of an enterprise, which govern relationships and the exchange of information within groups (Krcmar et al., 2016). That is not to say that organizations are devoid of interpersonal communication. To the contrary, organizations are made up of individuals who, for the most part, participate in groups of varying sizes, and those individuals influence group dynamics, positively or negatively, through interpersonal communication. In an institutional context, small-group communication operates as a subset of organizational communication (Krcmar et al., 2016).

Regardless of group size, function, or aspiration, communication within groups shares common characteristics, as outlined in Appendix A.

Public and mass communication

The terms *public communication* and *mass communication* are often used interchangeably. The concepts do share similarities, but their differences are sufficiently significant to warrant unique definitions. Public communication is identified as sender-focused, meaning that the bulk of the messages involved in this form of communication originate with one person or group. Receivers consume these messages, but their side of the sender-receiver equation remains somewhat restrained. Public speaking, a familiar form of public communication, illustrates these limits to two-way interaction. By and large, a public speaker (sender) conveys thoughts, ideas, information, and emotion to a collection of people in an audience (receivers) on topics in which an interest is shared. The speaker is typically physically distanced from the audience. Because the receivers tend to be a heterogeneous group, the speaker may be equally detached from the onlookers in background, culture, expertise, or viewpoint. Even so, speakers endeavor to connect with their audiences. They characteristically evaluate the demographic makeup of participants (i.e., age, gender, ethnicity, etc.) as well as the audience's attitudes, values, and beliefs beforehand. They work to make their material understandable and relatable to a diverse group and attempt to bond with participants by establishing their credibility and gaining the audience's trust. For their part, audiences interact with speakers principally through nonverbal feedback, such as applause and attention or inattention reflected in body language.

In some instances, audience feedback takes the form of question-and-answer sessions or written commentary, but unlike interpersonal and group communication in which senders and receivers participate in feedback loops, the focus of the ideas and information imparted in public speaking remains on the speaker. Much of public speaking includes face-to-face contact, which allows speakers to "read" their audiences for clues to the manner in which their messages are received. Other forms of public communication stay faceless. Virtually any message freely conveyed in public spaces, from published opinions to government positions and safety announcements, counts as public communication. Such messages are shared with, and become part of, the community at large. As such, public communication fulfills an indispensable role in civil societies. It promotes discourse and debate on issues of general interest or import to citizens within the so-called public sphere, connecting the public at large to civil and other societal institutions (Fuchs, 2020). It can also inform the public about health, safety, or emergency issues.

Where public communication takes the form of one-to-many exchange, mass communication relies on many-to-many (versus one-to-one or one- to-many) properties. Mass communication also is sender-focused, but it lacks the measure of personal connection that public communication (or interpersonal or group communication, for that matter) affords. Mass communication differs from other forms of communication not only in the width of its reach, with audiences potentially numbering millions of people around the globe, but also in its reliance on print, audio, or digital technology to distribute messages. Radio; broadcast, cable, and streaming television; books, newspapers, and magazines; and websites, email, webinars, podcasts, blogs, and social media all fall under the category of mass communication. Each serves as a media channel, or as the means of information transmission; each would not exist without technology-driven distribution. (Incidentally, public communication transforms into mass communication when it is transmitted via media channels.)

A goal of any one of these channels might be to personalize an audience's experience with it – a television advertisement intended to "speak" to one's values or beliefs, for example, or a bulk email individualized with one's name – but such tactics amount to artifice. Mass communication has historically excluded a means for personal interaction among the people who use it. One might react to mass communication by calling a television station or book publisher to express a viewpoint, writing a letter or email to a newspaper, or posting a comment on a website, but direct, immediate, person-to-person contact has not been part of the mass communication matrix.

Digital, or online, modes of communication, notably social media channels, are changing communication dynamics, however. Interaction-oriented social media channels, such as Facebook, Twitter, Snapchat, TikTok, and others, allow more immediate exchange of information and ideas, and technologies such as video conferencing encourage face-to-face interaction. The extent to which these and other Internet-enabled technologies affect interpersonal relations, public discourse, and mass

dissemination of messages has warranted and will continue to warrant further exploration (Cappella, 2017; Rauchfleisch & Kovic, 2016).

Mass communication can help or hinder public awareness, education, and acceptance of best-practice healthcare information. Although the public generally trusts healthcare providers, patients receive health-related information from a variety of sources beyond the patient-provider relationship. Mass communication channels, in particular social media, serve as fertile sources of healthcare inaccuracies and misinformation that may carry crucial health consequences for patients (Love et al., 2020). Rumors, myth, and false information that emerged during the SARS- CoV-2 pandemic offer an example of the power of social media and other mass communication channels to disseminate information that impedes positive patient outcomes (Ali, 2020). Potentially less dire but nevertheless low-quality or harmful misinformation, such as false claims about the efficacy of "natural" or other remedies, that lack the accuracy and reliability of peer-reviewed, evidence-based treatments, are also readily found across the Internet.

Healthcare professional consideration: A growing body of research will continue to explore the impact of healthcare misinformation. In the meantime, healthcare professionals will be increasingly called upon to gain understanding of the impact of healthcare misinformation on their patients' lives, raise their awareness of digital and other mass communication environments where misinformation foments, and steer patients toward credible sources (Southwell et al., 2020).

Self-Assessment Quiz Question #1

Communication is best defined as:

a. A one-way method of transmitting information from one person to another.
b. An encounter between people that has a distinct beginning and end.
c. An ongoing process that allows people to form and sustain relationships.
d. A process unique to humans.

Self-Assessment Quiz Question #2

The majority of interaction between and among people occurs through:

a. Interpersonal communication.
b. Intrapersonal communication.
c. Group communication.
d. Mass communication.

Communication models

Different forms of communication affect our lives in different ways. Communication scientists developed models that organize our varied experiences with the phenomenon and explain how the communication process essentially works, helping us better understand and control – and perhaps improve – our communication behaviors (Trenholm, 2017). A fundamental understanding of the complex process of human communication begins with a look at three main communication models: linear, interactive, and transactional. Each of these models employs the following key terms:

- *Sender* – The sender, also referred to as the encoder, is the person who conceptualizes a message and initiates delivery of the message. Channel – A channel is the medium used to transmit a message from a sender to a receiver. Channels can be physical in nature, including speech and nonverbal communication, or mechanical, such as print and electronic media.
- *Receiver* – Also known as the decoder, the receiver is the person who extracts meaning from a transmitted message.
- *Encoding and decoding* – Encoding is the process by which the symbols that form the basis of verbal and nonverbal communication are produced. Decoding is the process by which those symbols are translated into meaning.
- *Feedback* – In two-way communication, feedback is the response or reaction to a message. It occurs in a loop between senders and receivers.
- *Context* – Context in communication means the environment, atmosphere, or circumstances surrounding the communication. It includes elements such as time and place but also such factors as the values, attitudes, beliefs, and cultures of both senders and receivers.
- *Noise* – Anything that interferes with the delivery, receipt, or interpretation of a message or feedback relating to the message is considered noise. The source of noise can be internal (as in the case of intrapersonal communication) or external. External noise includes physical barriers that interrupt the sending and receiving of messages, such as the blare of an alarm or the clamor of a crowded room; physiological obstacles, such as deafness or blindness; and semantic barriers, as in words that mean different things to different people.

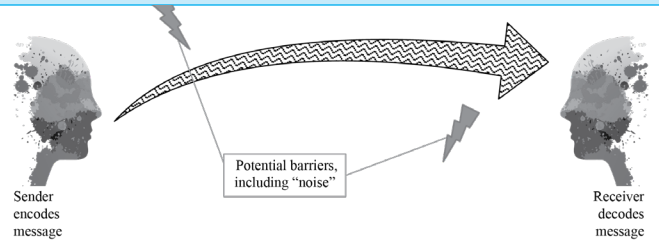
Linear model

The ancient philosopher Aristotle is credited with perhaps the earliest communication model, which conceived communication as messages that travel along a straight line between a speaker and a hearer, but mathematics heralded the modern linear model of communication (Hilbert, 2021). This model is often called the Shannon-Weaver or transmission model. The linear model was developed in 1949 for Bell Telephone Laboratories as a means to map the communication process through telephone and radio channels. The linear model describes a direct, one-way, intentional transmission of a message from a sender to a receiver.

The linear model, depicted in Figure 1, demonstrates the point-A-to-point-B transmission process that we tend to think of when we casually consider communication encounters in our everyday lives. It factors in potential interruptions to the process by way of so-called noise. As we have seen, however, communication is a complex process that takes varied forms. Critics of the linear model point to its assumption that communication encounters have a beginning and an end; in other words, in this model, no two messages can be sent or received simultaneously. As a sender-focused representation of communication, it neither allows for feedback nor addresses how receivers extrapolate meaning from messages.

Although the linear model does not suitably explain the back and forth associated with face-to-face communication in interpersonal and group forms of communication, it does describe mechanical communication, such as computers that "talk" to one another. It likewise illustrates the mechanisms of mass communication in the human realm, in which one-way, sender-driven messaging does not expect to elicit direct response by receivers or, for that matter, the means to immediately know how sent messages are interpreted by audiences. Technology-enabled communication among people, however, can exhibit properties of the linear model, such as voicemails, texts, emails, or social media posts that senders cannot be certain are received or understood.

Figure 1: Linear Model of Communication



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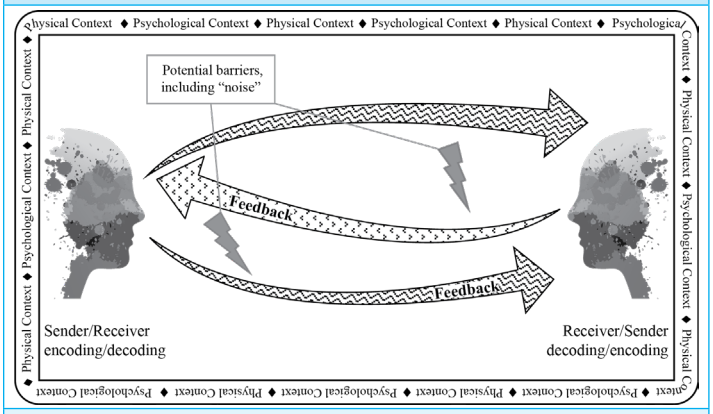
Interactive model

Figure 2 illustrates the interactive model of communication, which takes into account a two-way process of creating messages and generating feedback between senders and receivers. Developed in 1955, the interactive model recognizes that people actively participate in the exchange of messages; that is, receivers respond to the messages of senders and senders, in turn, react to those responses. In other words, communication involves senders and receivers by way of feedback, and this feedback, both verbal and nonverbal, need not be intentional (Wood, 2018).

Figure 2: Interactive Model of Communication



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As with the linear model, the interactive model of communication recognizes the concepts of channels through which messages are transmitted and noise as a potential barrier to communication, but it also incorporates the notion of context in communication encounters. People generate, or encode, messages and decipher, or decode, them within the context of their personal experiences. Those experiences include the physical environment in which communication occurs (e.g., a quiet room versus a raucous one) that could enhance or interfere with the encoding and/or decoding process, as well as psychological factors (e.g., self-esteem, stress, happiness, fear, or anxiety), which similarly influence the quality of encoded and decoded messages (Wood, 2018).

The interactive model expands the linear model by emphasizing not just how messages are received but rather how, through context and feedback, they are understood. The cause-and-effect nature of the interactive model, however – receivers respond to senders, who respond to receivers, and so on – does not account for simultaneous feedback, nor does it acknowledge that communication in relationships changes over time. It does not reflect the concept of feedback that is based on what is decoded by the receiver. For example, the receiver is responding to the message as they perceived or decoded it, and this may not have been the intended message.

In the interactive model, communication between people alternates from one to the other. Consider, for example, an encounter in which you ask a colleague for instructions on completing a task. You, as the sender in this unique encounter, ask for information. Your desire for information is decoded by your colleague, who then becomes a sender, encoding a response and passing the instructions back to you. You might offer feedback by way of thanks or a follow-up question, but you must wait for the instructions before you can react. Technology-aided communication provides another illustration of this alternating pattern of sending and receiving information and ideas. When you send an email or text message, for instance, you necessarily wait for a response before you are able to react.

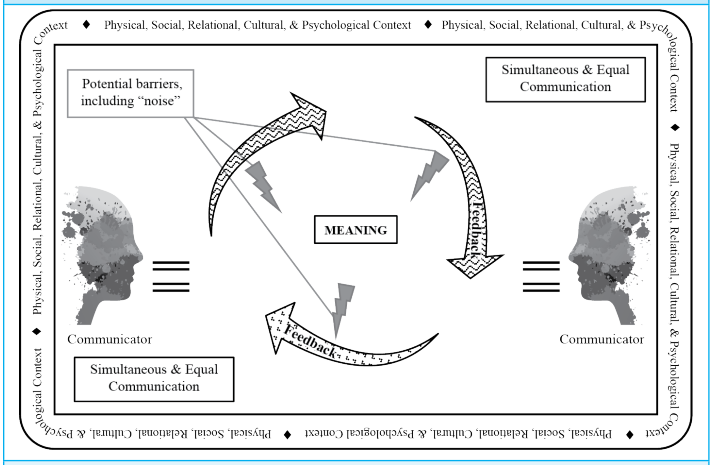
As described by the interactive model, the communication between you and your colleague also does not contemplate forms of communication other than questions and answers, such as nonverbal communication, that could be present at the same time. Your colleague might smile in response to your request, indicating their pleasure in helping you, or they might imply annoyance by rolling their eyes at your request. Then, too, the model fails to weigh the impact of your previous encounters with your colleague. Through your previously established relationship, you might have come to understand your colleague's eye roll as an expression of playfulness rather than exasperation.

Transactional model

The transactional model views communication as an ever-changing process in which senders and receivers assume multiple roles that vary over time (Wood, 2018). The model demonstrates equality in communication, meaning that people participate equally and instantaneously, in verbal and nonverbal exchanges. People act as both senders and receivers of messages at any point in a communication encounter, and they can accomplish each action at the same time (e.g., you can furrow your brow to indicate confusion at the same time you voice the feeling). Consequently, the model replaces the notion of senders and receivers with the all-encompassing label communicators, as shown in Figure 3.

Healthcare professional consideration: According to the transactional model, we do not communicate solely to exchange information. Rather, we use communication to shape how we perceive ourselves and the ways in which we relate to others. The model describes the mechanism by which we form and nurture relationships through interpersonal communication. Nurses also use interactions with patients to assess neurological status, orientation, anxiety, and to simply casually invite the patient to express concerns or questions.

Figure 3: Transactional Model of Communication



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As with other models of communication, noise is an ever-present factor in the transactional paradigm. Context, too, is taken into account in this model, although to a more detailed degree. In addition to the physical and psychological fields of experience or context supported by the interactive model, the transactional model involves factors that naturally occur beyond a unique communication encounter. Specifically, three contextual dynamics influence communication:

- Social context – Social norms shape communication. People learn common rules that guide their exchanges with others – saying thank you, for example, or refraining from interrupting when another person is talking – through observation and trial-and-error experience. Social conventions facilitate shared meaning and understanding in communication. Intentionally or unintentionally avoiding them leads to misunderstanding and, often, feelings of awkwardness.
- Relational context – The type of relationships we have with others and the length of time in which we have participated in those relationships also influence how we communicate. People are more apt to forgo social norms when they have developed tight bonds with other people, as in, say, a family relationship, as opposed to the manner in which they conduct themselves with strangers or in casual meetings with others.
- Cultural context – Miscommunication can occur as a result of, or be compounded by, cultural differences. Nationality and ethnicity, for example, contribute to our identity; mold our values, attitudes, and beliefs; and affect how we interchange and understand messages. Norms governing communication vary by and within cultures. Individuals encode and decode the meaning of messages according to their personal backgrounds, values, beliefs, and self-perception.

Self-Assessment Quiz Question #3

The three primary models of communication are:

a. Sender, channel, and receiver.
b. Message, medium, and feedback.
c. Intrapersonal, interpersonal, and group.
d. Linear, interactive, and transactional.

Self-Assessment Quiz Question #4

In communication science, anything that interferes with the delivery, receipt, or interpretation of a message is referred to as:

a. Feedback.
b. Transmission error.
c. Noise.
d. Decoding error.

Implications for practice

All manner of communication is present in clinical practice. As a healthcare professional, you participate in intrapersonal communication when you reflect on the manner in which you responded to a patient or colleague and in group communication when you join a learning activity, engage a patient's family in discussion, or serve on a clinical standards committee. Lectures you attend involve public communication and mass communication offers you information about the latest clinical study in your specialty. Your text to a colleague instructing him to perform a task followed the linear model of communication; it became interactive when he responded he had already done so and you, in turn, expressed your thanks. Had you worked with your colleague for some time, the interaction was likely informed by the relationship you had established. The smile his response elicited in you would have fallen under the transactional model of communication.

The bulk of communication in healthcare settings, however, is interpersonal in form. Among the family of communication classifications, distinct types, such as intrapersonal and group communication, frequently include, or progress to, their interpersonal cousin. Communication science has long understood that self-talk informs and influences interpersonal behavior (Farley, 1992), and evidence supports a link between intrapersonal adaptability and interpersonal relationship outcomes (Wilde & Dozois, 2019). Interpersonal communication occurs within group interaction, and internal dialogue that takes place within the backdrop of small-group communication affects interpersonal connection or the lack thereof. For example, Moreland and colleagues (2015, as cited in Maginnis, 2018) found that clinicians' sense of self is predictive of their interpersonal relationships within nurse groups (such as unit or professional role), accounting for feelings of either powerlessness or the willingness to address conflict with their peers.

Healthcare professional consideration: By definition, exchanges between healthcare professionals and patients are interpersonal. Conceptualized in the transactional communication model, provider-patient interactions are active, immediate, and characterized by shifting roles within communication encounters. Practitioners, for instance, assume a symmetric, or equal, role when they exchange information and ideas with patients about achieving mutually agreed-upon health goals, such as strategies for overcoming obesity or lowering hypertension. Those same practitioners take on an authoritative role when their clinical expertise is sought (Arnold & Underman Boggs, 2016).

Communication scholars have recognized the complexity of interpersonal communication within healthcare settings, where provider-patient exchanges form lasting impressions that influence patients' health-related behaviors and quality outcomes. Challenges to engaging in effective interpersonal communication exist in all human relationships, but those challenges take on vital importance when communication between healthcare professionals and patients can affect patient outcomes or have life-or-death consequences (Chan et al., 2018; Ruben, 2016). The nursing profession, for example, has recognized the intricacy of message sending and receiving in nursing practice with its adoption of therapeutic communication, a subset of interpersonal communication specific to the promotion of patients' health and well-being, and the associated patient-centered care paradigm. Other clinicians likewise apply principles of therapeutic communication. Nurses are often seen in a paternalistic role by patients when, for example, nurses dictate care, such as when a patient will bathe, sleep, and participate in care regimens. In response, patients often comply and accept information provided by the nurse without completely understanding the message.

Tenets of therapeutic communication

Therapeutic interactions between healthcare professionals and patients are purpose driven (Nokuthula Sibiya, 2018). Arnold and Underman Boggs (2016) define therapeutic communication as an ongoing, purposeful, cooperative process undertaken by healthcare professionals and patients to identify and achieve patients' health-related objectives. Translated into daily practice, therapeutic communication involves not only the exchange of information about health-related goals between practitioner and patient, but also the practitioner's purposeful effort to encourage the patient's expression of thoughts, ideas, and emotions as a means to advance the patient's well-being. Components of therapeutic communication are summarized in Appendix B.

Healthcare professional consideration: Therapeutic communication forms the basis of practitioner-patient interpersonal relationships (Kornhaber et al., 2016) and is rooted in time-honored frameworks for interpersonal relations in clinical practice. Maslow's (1943) basic needs model helps practitioners prioritize interventions, but it is fundamentally an interpersonal communication theory. Put simply, people need to communicate their various levels of needs. Healthcare professionals often turn to Erikson's psychosocial development theory to aid in recognizing, fashioning, and communicating developmentally and age-appropriate interventions (Arnold & Underman Boggs, 2016; Orenstein & Lewis, 2020).

The literature most often cites Peplau's theory of interpersonal relations (1997) in the context of therapeutic communication in nursing. Peplau's seminal work, considered a precursor to contemporary patient-centered care models (Ortiz, 2018), saw the clinician-patient relationship as the product of a professional, planned interpersonal process in which practitioners and patients share common goals and equal responsibility for self-awareness. Effective interventions, she maintained, culminate from the practitioner's recognition of their own behaviors and the behavior of patients throughout evolving phases of the clinician-patient relationship. Accordingly, practitioners assume a variety of roles in patient encounters, from stranger to resource person, teacher, leader, surrogate, and counselor, each of which serves to not only create relationships with patients, but to build, strengthen, and enrich them. Through these progressive therapeutic exchanges, practitioners identify, understand, and meet patients' needs so that, ultimately, their assistance with patients' health concerns is no longer required (Adams, 2017).

As with any form of interpersonal communication, therapeutic communication occurs in verbal and nonverbal forms and within intrapersonal, psychosocial, cultural, and environmental contexts. Nursing licensure requires proficiency in therapeutic communication (National Council of State Boards of Nursing [NCSBN], 2019), including the need for healthcare professionals to recognize nonverbal cues in assessing patients' health status, in addition to the manner in which practitioners' own voiceless behaviors – for example, eye contact, mirroring patients' facial expressions to reflect understanding and empathy, and touch – influence patients' comprehension and acceptance of their health-related needs. Likewise, healthcare professionals participating in effective therapeutic communication take into account factors that influence or interfere with the communication process and the accomplishment of patients' health goals. Noise is prevalent in encounters with patients who, for example, may be distracted by pain or worry or who feel apprehension or loss of privacy in healthcare settings (Arnold & Underman Boggs, 2016). Healthcare professionals also face a range of distractions, from the diversion of their own intrapersonal communication (a preoccupation with a personal concern, for instance) to alarms emitted by medical equipment or interruptions by cell phones, other patients, and colleagues.

Nursing consideration: Therapeutic communication requires self-reflection among healthcare professionals. Awareness of such factors as one's values, beliefs, biases, and cultural differences helps clinicians avoid inadvertent speech or behaviors that negatively influence patients' perception of the therapeutic relationship. Professional mindfulness promotes the empathy and objectivity that encourages healthcare professionals to value patients as individuals with unique needs and preferences, a hallmark of patient-centered care (Arnold & Underman Boggs, 2016; Nokuthula Sibiya, 2018).

Therapeutic communication in small groups is most often associated with inpatient and outpatient counseling in psychotherapy, although group communication is used for therapeutic purposes in other healthcare environments, such as long-term care settings (Arnold & Underman Boggs, 2016).

Communication as core competency

Effective communication is a requisite skill in clinical practice, particularly in a contemporary healthcare climate that has made patient-centered care the new paradigm for improvements in the healthcare system as a whole. The New England Journal of Medicine (2017) describes patient- centered care as a healthcare delivery model in which patients are treated as partners with their healthcare providers and those providers interact with patients in ways that take into account not just the patients' clinical perspective, but their emotional, mental, spiritual, social, and other unique viewpoints as well. Because communication forms the basis of interpersonal relationships, this partnership exists only when healthcare professionals and patients mutually engage in therapeutic interaction. Patient-centered care encourages the active participation of patients in their own healthcare and it relies on the creation of understood meaning between providers and patients to optimally achieve patients' unique health goals.

Research has identified an inextricable link between care quality and communication aptitude that substantiates communication as a critical competency for healthcare professionals. Associating poor communication with 70% of errors in healthcare settings, the NAM (2000; formerly the IOM), a driving force behind widespread changes to healthcare delivery in the United States, declared effective exchanges between clinicians and patients to be a prerequisite for patient-centered care. In a subsequent report (NAM, 2001), the organization included among its recommendations for redesigning a patient-centric healthcare system such rules as basing patient care on continuous healing relationships, customizing care to patients' needs and values, recognizing patients as the source of control in therapeutic relationships, and freely and openly sharing knowledge and information. Additional analysis by the organization (NAM, 2003) specified requirements for communication competency in health professions education.

TJC (2017), the accrediting body for healthcare organizations, likewise has implicated poor communication or miscommunication in sentinel healthcare events, particularly during handoff communication. Accordingly, it mandates effective patient- and family-centered communication practices in hospitals, including the provision of quality and safety information, respect for patients' personal and cultural values and preferences, identification of patients' verbal and written information needs, and adherence to guidelines for managing patient-provider communication (TJC, 2010).

Patient-focused exchanges between practitioners and patients are so relevant to the work of clinicians that for some practitioners, such as nurses, professional organizations have firmly embedded communication in their education and performance standards. Again, the NCSBN (2019) requires mastery of therapeutic communication concepts as a condition for registered nurse licensure, and the American Association of Colleges of Nursing (2008, 2011) emphasizes proficiency in interpersonal and interprofessional communication as essential elements of nursing curricula. In expanding the NAM's recommendations to better prepare nurses to participate in system-wide improvements to healthcare quality and patient safety, the Quality and Safety Education for Nurses (QSEN) Institute guides nursing education by establishing core competencies in patient-centered care and interprofessional collaboration (QSEN, n.d.), both of which rely on the development of effective communication skills. Time pressures, heavy workloads, and extensive technology demands have created work stress that can constrain effective communication with patients, particularly during pandemic crises. Exceptional effort is often needed to effectively communicate with patients.

Ineffective communication: correlations and consequences

Research grounds the premise that providing optimal care to patients requires healthcare professionals to sharpen their communication competency. The consequences of

miscommunication and other failures in message transmission within interpersonal exchanges involving clinicians are well documented. Pervasive across healthcare settings, inadequate communication can lead to substandard care or missed opportunities and, ultimately, negative clinical outcomes. For example:

- *Patient recall and adherence* – In any given clinical encounter, patients decode an assortment of messages transmitted by their healthcare providers. Sometimes the messages they receive contain an extensive, even overwhelming, amount of information; sometimes those messages bear unwelcome news. A variety of issues can influence the manner in which patients process information during and after exchanges with healthcare professionals. Patients' language, education level, literacy, age, and degree of anxiety offer examples of factors that can interfere with patients' understanding and recall of their health status and treatment options.

Evidence-based practice! Research demonstrates that patients recall as little as one-fifth of the medical information they have discussed with a clinician; those with chronic disease, for example, forget as much as 40% to 80% of the content of their discussions in healthcare encounters (Richard et al., 2016).

Furthermore, patients' impression of the competence of their healthcare providers forms the basis of their trust in the provider-patient relationship and, consequently, their confidence in the health information they receive (Howe et al., 2019). Patients bring expectations for both information and empathy to clinical encounters (Howick et al., 2017). As much as any reassurance healthcare practitioners express verbally, their displays of empathy, signaled by such nonverbal communication as eye contact, leaning forward to address patients directly, or therapeutic touch, can impact patients' trust, recall, and adherence to treatment plans. Healthcare professionals' lack of eye contact with patients or reassuring smiles, for example, can adversely affect patients' recall of the information discussed in care settings (Hillen et al., 2016).

- *Patient satisfaction* – A growing body of evidence ties patient experience to positive clinical outcomes (Agency for Healthcare Research and Quality [AHRQ], 2020a). Patient experience is generally gauged by patient satisfaction, commonly known as patients' impressions of the care they experience. Driven by quality improvement standards and reimbursement requirements, healthcare organizations have employed patient satisfaction surveys, such as the Hospital Consumer Assessment of Healthcare Providers and Systems Survey (Centers for Medicare and Medicaid Services [CMS], 2020) and the Consumer Assessment of Healthcare Providers and Systems (AHRQ, 2020a), as leading measures of service quality. Likewise, many healthcare organizations rely on patient-experience data collected by independent consulting firms through targeted surveys that provide performance benchmarks and real-time feedback.

Although such tools have proven successful in quantifying patient satisfaction, they do not entirely capture the complexity of patients' experience in healthcare settings (Street & Mazor, 2017). Patient satisfaction is indivisibly linked to the interpersonal relationships created and maintained between patients and their healthcare practitioners. Influenced as these relationships are by environmental, demographic, socioeconomic, cultural, and other factors, the degree of satisfaction expressed by patients significantly varies (Berkowitz, 2016; Pelletier et al., 2019). Even so, patients' impressions of their relationships with their healthcare providers have been shown to be strong predictors of patient satisfaction (Bible et al., 2018). Patient-centered communication likewise correlates with patient satisfaction (Bossou et al., 2021). Evaluation of patient satisfaction levels should include a time-related analysis of workload and staffing issues.

Evidence-based practice! Quality of care is often regarded as a high-ranking predictor of patients' assessment of a healthcare organization's overall quality (Karaca, 2019) because a clinician's skill in explaining, listening to, and empathizing with patients directly affects patients' experiences in the healthcare environment (Burgener, 2017).

- *Patient safety* – In the years since the NAM's (formerly IOM) landmark report revealed the extent of the connection between inadequate communication and medical errors, healthcare organizations have sought to minimize communication failures. Particular attention has been paid to gaps in practitioners' knowledge of communication breakdowns and the implementation of structured training programs and standardized tools. Yet ineffective communication continues to impact patient safety across healthcare settings. TJC has identified poor communication or miscommunication as a leading cause of sentinel events (Burgener, 2017); in particular, the organization has pointed to inadequate communication during patient care handoff between clinicians as a contributing factor to adverse events (TJC, 2017). Other research suggests medical errors are underreported, owing in part to nonreporting of near misses (Scott & Henneman, 2017).

Self-Assessment Quiz Question #5

Healthcare professionals and patients engage in therapeutic communication to:

a. Identify and achieve patients' health-related objectives.
b. Conclude clinician-patient interaction.
c. Allow the clinician to make all healthcare decisions.
d. Allow clinicians to exceed professional boundaries.

Self-Assessment Quiz Question #6

Patients' impressions of their relationships with healthcare providers have been shown to be a strong predictor of:

a. Miscommunication.
b. Patient satisfaction.
c. Professional standards.
d. Contextual dynamics.

Self-Assessment Quiz Question #7

Patients' feelings of lack of privacy and control in healthcare settings are examples of which type of communication barrier?

a. Environmental.
b. Socioeconomic.
c. Global.
d. Administrative.

PRACTITIONER-PATIENT COMMUNICATION

Unquestionably, the dynamics of patient-clinician communication influence patient satisfaction, safety, and outcomes. That influence can be positive or negative, overt or subtle. Effective communication holds the power to secure patients' health and well-being.

Communication is a complex process: however, effective communication is even more so. The two-way makeup of communication dictates that a definition of quality exchanges between patients and healthcare professionals cannot rest with those professionals alone. Rather, deciphering the meaning of effective communication relies equally on practitioners' and patients' interpretation of what it is and is not. To arrive at a consensus meaning of effective communication, it is helpful for healthcare professionals to recognize and understand instances in which it does not exist – in other words, to explore occurrences that impede quality communication from both practitioners' and patients' perspectives.

Impediments to effective practitioner-patient communication

Barriers to quality communication in clinical practice come in a variety of forms – some are obvious, whereas others are more enigmatic. Either way, obstacles to effective communication exist at all levels of healthcare and in its varied settings, and they influence how information, ideas, and emotions are perceived by both parties in communication encounters. Communication scientists call the sum of all factors that affect the perception of meaning between people metacommunication. A full assessment of obstacles to quality practitioner-patient communication takes metacommunication into account, including nonverbal cues that supplement or contradict verbal messages.

Environmental distractions

Noise, in its literal sense, can interfere with patients' abilities to successfully decode the messages they receive in clinical encounters. The din common to certain healthcare settings, such as the emergency department and intensive care units, and the sounds emitted from customary medical machinery – electrocardiograph (ECG) bleeps, chirping alarms, or the swish of suctioning equipment, for example – can divert patients' attention or inhibit their ability to hear. Sounds emitted by other people can likewise interfere with patients' ability to receive and comprehend information. A patient may be distracted by sounds of pain or distress in fellow patients or by exchanges in close proximity between practitioners and patients or family members, practitioners and practitioners, or patients and their family members. Machine- and human-generated noise also can elicit fear and anxiety in patients. For instance, a patient may be less likely to acknowledge or accept the reassurances of a healthcare professional about their health status while preoccupied with the flat-line tone of another patient's ECG. Although healthcare personnel are accustomed to tuning out sounds of floor cleaners, overhead pages, and food and supply carts, patients are more aware of these distractions. Patients have often had interrupted sleep and may be irritated by environmental noise.

Physical noise is less of an obstacle to communication from the viewpoint of clinicians, who are well acclimated to the frequency and intensity of sounds in healthcare settings. In the context of communication theory, however, the concept of noise moves beyond tangible sounds to encompass any internal or external barrier that impedes the encoding and decoding of messages and feedback. Fear and anxiety in patients, for example, can be present in clinical encounters in the absence of physical noise. Patients' worry over their health status and concern about being embarrassed or judged by healthcare professionals fall under the category of intrapersonal noise that can hinder their ability to receive and comprehend the intended messages of their healthcare providers. Feelings of powerlessness similarly stem from intrapersonal communication and extend to interpersonal exchanges. Patients' receptiveness to messages can be influenced by their feelings of lack of privacy and control in healthcare settings, as when they cannot command who is or is not present in their clinical encounters or control when a clinician disrupts communication to respond to a page or cell-phone alert or attend to another patient with pressing needs. Moreover, patients may perceive an imbalance in power in their relationships with clinicians when they lack understanding of their condition and feel practitioners speak in ways or of topics that are beyond their comprehension (Ringdal et al., 2017). Patients may be embarrassed to question the meaning of medical terms used by healthcare professionals.

Patients increasingly desire to fully participate in their care and the support of healthcare professionals contributes to the development of meaningful patient-provider partnerships. However, communication barriers persist when patients – particularly among those who possess low health literacy or who are members of vulnerable populations – are uncertain or uncomfortable with their role in encounters with providers. Patients' self-efficacy affects the quality of their relationships with providers; but adopting an active role in the relationship by, for example, asking questions, is challenging for some patients. Other factors, ranging from patients' feeling overloaded by information or having insufficient time to process information during a clinical encounter, to the disruption of conversation caused by clinician use of electronic health record systems, to a hectic healthcare environment that causes some patients to refrain from open and timely communication out of concern that their needs will interrupt busy healthcare professionals, can likewise present obstacles to effective communication and the formation of the partnership touted by patient-centered care models (Gordon et al., 2020).

Healthcare professional consideration: For their part, some nurses cite organization-related factors – for example, the complexity and fragmentation of healthcare systems – as impediments to effective communication with patients (Arnold & Underman Boggs, 2016). Nurses report that environmental factors peculiar to healthcare settings, including heavy workloads that reduce time spent with patients, cause fatigue and contribute to stress and impede nurse-patient communication (Arnold & Underman Boggs, 2016; Norouzinia et al., 2016). The scheduling of 12-hour shifts and overtime demands contribute to the work stress that can create limited communication time with patients.

The SARS-CoV-2 pandemic highlighted another environmental barrier to healthcare communication: the use of personal protective equipment (PPE) and its impact on patient-provider interaction. Masks, respirators, face shields, goggles, and protective clothing — mandated for all healthcare workers to prevent the spread of the highly contagious virus — were found to adversely affect some, though not all, clinicians in their efforts to communicate with patients and colleagues. Such communication breaks carried the potential to jeopardize the effectiveness of interventions and patient safety (Hines et al., 2020; Marler & Ditton, 2020). At the time of this writing, researchers speculated that mask wearing by providers and patients during the pandemic impeded not only verbal communication by reducing the volume or changing the tone of voice in a mask-wearer, but also nonverbal communication cues by compromising the ability to view mouth and lip movement and facial expressions (White et al., 2021). Marler and Ditton (2020) theorized that patients with cognitive, hearing, and other communication impairments, including elderly patients, may have been particularly susceptible to physiologic and psychological stress resulting from their inability to rely on auditory stimuli or inferences from facial expressions in mask- or respirator-wearing clinicians. Additionally, PPE use during the pandemic made clinicians indistinguishable from one another from the patient perspective, negating patients' perception of consistency in their healthcare providers and disrupting the development of patient-provider rapport central to therapeutic communication (Marler and Ditton, 2020). Patients who have impaired hearing are often reluctant to admit that they did not hear all of the conversation or believe that they heard something other than what was said.

Worldwide, healthcare professionals used a variety of means to overcome PPE-induced barriers to communication with patients, including simple measures such as employing white boards/blackboards and sticky notes (Bagnasco et al., 2020). Patients hospitalized for treatment of SARS- CoV-2, as well as those confined in long-term care facilities or to their homes following isolation measures or community lock down, were at risk for complicated feelings of fragility, loneliness, and disempowerment that was exacerbated by lack of family contact. In the acute care setting, safety protocols deprived patients who were ill or dying of the support of family members at their bedsides (White et al., 2021). Clinicians embraced communication technologies, such as smart phones and touch-screen tablets, to virtually connect patients with their families and friends and to keep families and friends informed of their loved ones' conditions (Schwerdtle et

al., 2020). Healthcare professionals likewise widely employed telehealth video conferencing technologies to communicate with patients for a variety of interventions ranging from outpatient care during stay-at-home orders and isolation or quarantine (Elkbuli, et al., 2020; Wosik et al., 2020) to screening to limit exposure to the virus in emergency departments (Chou et al., 2020).

Health literacy and medical jargon

Health literacy is an important driver of clinical outcomes. Research recognizes low levels of health literacy as a contributing factor in suboptimal or even poor outcomes. On the other hand, a higher level of health literacy, and the patient engagement it spurs, is thought to be indispensable to patients' successful navigation of an increasingly complex healthcare environment (McKenna et al., 2017). Asking patients if they would like a further explanation of instructions or checking for comprehension may offer patients an opportunity to clarify unknown terms.

In a fundamental sense, health literacy is a by-product of the communication process. Patients acquire and process the information they need to make healthcare decisions based on their ability to encode and decode information that is often complicated and scattered. Of course, health literacy involves speaking, reading, and writing about health-related topics, as in discussing one's health with a practitioner, reading care instructions or locating information on healthcare services, and completing forms. At its most basic level, however, it also requires numerical aptitude (to correctly measure medication, for example, or follow nutrition labels) and the grasp of such calculation-related concepts as probability and risk. The sheer volume and complexity of healthcare information can overwhelm even the most adept-appearing patient.

Wide-ranging factors, from socioeconomic status and culture to individual feelings of stigma or confidence, influence patients' health literacy and their communication with healthcare practitioners. Health literacy can act as a facilitator to effective patient-provider communication when patients feel empowered to contribute to their own healthcare; it serves as a barrier when patients feel they are not able to adequately describe their health status or feel insufficiently respected or listened to by clinicians. Patients who feel armed with information that they comprehend and can place in the context of their life circumstances gain the confidence to proactively engage in healthcare decision making and action, potentially impeding or preventing negative health outcomes (McKenna et al., 2017). Patients whose health literacy levels fail to inspire such feelings of control can succumb to wariness of healthcare settings and professionals to the extent that their uncertainty impedes the development of effective patient-partnership relationships. Underlying mistrust of practitioners has been found to be more pronounced in patients with lower levels of health literacy (White et al., 2016).

Healthcare professional consideration: To improve health literacy, best practices recommend healthcare professionals use plain language. Transmitted in both verbal and written form, plain language is considered a message(s) that is readily decoded by receivers. In other words, information conveyed in plain language is understood by people at the moment they hear or read it (U.S. Department of Health and Human Services [HHS], n.d.).

The benefits of the use of plain language are straightforward: In exchanges between patients and their practitioners, both parties immediately and simultaneously share common meaning of the terms used. On the other hand, use of medical terminology or jargon interferes with patients' comprehension of facets of their care. Barring any physiological impediments, patients generally understand an instruction spoken or written as "take this medication every morning," as opposed to "take this medication q.a.m.," the latter of which contains a term beyond the knowledge of the typical layperson. While healthcare professionals can unwittingly lapse into medical jargon for a variety of reasons, not the least of which is the fast pace and pressure associated with their jobs, the use of jargon has been shown to reduce patient participation in their care (DeCelie, 2020).

To improve patients' understanding of discharge instructions, many hospitals have created discharge lounges. In this setting, patients are brought from their rooms to a lounge area where family and patients sit in a relaxed environment and discuss discharge information on medications, home care, and follow-up plans. This system has been shown to minimize environmental noise and distractions to improve effective communication as well as free up patient rooms while follow-up appointments are made and the family prepares to pick up the patient.

Linguistics, social identity, and culture

Communication is impaired when practitioners and patients do not speak the same language, literally and figuratively. Multiple factors influence the manner in which messages are given and received in healthcare settings, not the least among them being the dialect, age, gender, race, sexual orientation, religious affiliation, and socioeconomic status of patients and their practitioners, and the cultural norms to which they both adhere.

The literature is rife with evidence of the need for healthcare professionals to develop therapeutic relationships with patients of diverse backgrounds. Safe, quality care relies on practitioners' respect for patients' values, experiences, and customs. For instance, the ethical standards of nursing (ANA, 2015b) demand that nurses recognize and value the individuality of each patient in every professional interaction, regardless of the patient's health issues, personal characteristics, beliefs, or social or economic status and unobstructed by the nurse's own characteristics, status, or bias. An encyclopedic accounting of the diversity of patients' traits and the influence of those traits on practitioner- patient communication cannot be accomplished here, but the following themes describe factors that commonly impinge on the effectiveness of practitioner-patient communication:

- *Linguistics* – Healthcare professionals assume unacceptable risk to patient safety when they try to communicate with patients whose first language is not shared with their own, in other words, when English (in the United States) is not a patient's (or the practitioner's, for that matter) first language. All practitioner-patient communication can be vulnerable to miscommunication, but exchanges between clinicians and patients using different dialects are far more susceptible to misinterpretation and error; and use of family members, children, or other ad hoc interpreters can lead to miscommunication and heightened risk of adverse events (Showstack, 2019). In any country or setting, research has identified language barriers as significant obstacles to the provision of adequate, appropriate, effective, and timely care to patients with limited proficiency in the language of their healthcare providers (Ali & Watson, 2017). In the United States, patients with limited proficiency in English tend to have longer lengths of hospital stays and higher readmission rates than their English-speaking counterparts, regardless of their socioeconomic status (Squires, 2018).

US law, such as the Civil Rights Act of 1964 and the Americans With Disabilities Act, and federal regulations and executive orders compel healthcare organizations and professionals to overcome language barriers for non-English-speaking and physiologically challenged individuals by providing language services, such as qualified interpreters (Schwei et al., 2016; Squires, 2018). TJC (2020) standards also require the identification of patients' preferred language and the provision of language services for patients with different dialects and sensory impairment.

Nursing consideration: Practitioners report that their challenges with low health literacy in patients are primarily because of language differences and they recognize that patients who have limited proficiency in English may not receive the same quality of care as English- speaking patients. While use of translators can be beneficial to ensuring quality care among patient populations with language barriers, further research is required to develop best practices for working with translators to assess patients' health literacy (Wittenberg et al., 2018).

Social identity – Adults encode and decode messages differently than children do. Men and women interact with others in discrete ways; men and women of diverse racial, ethnic, religious, or socioeconomic backgrounds communicate differently still. Gaps between generations can contribute to gaps in shared understanding of messages. Any one of a multitude of characteristics with which people socially identify can become a barrier to quality communication, even when senders and receivers share some of those characteristics.

Recall that most patient-provider interactions follow the transactional model of communication, by which we shape our perceptions of ourselves and the ways in which we relate to other people – all in the context of our personal experiences. We form attachments to people based on our respective fields of experience, including the social norms to which we have been exposed and the type and length of our relationships. Social norms and the level of familiarity in relationships can be powerful drivers of intrapersonal and interpersonal communication. Generally speaking, for example, we understand that conversing with a middle-aged adult as if they were a toddler would defy a social convention or that an exaggeratedly friendly exchange with a person whom we just met would be a social faux pas.

In addition to our deference to convention, communication accommodation theory (CAT) suggests people consciously or unconsciously adjust their mode of communication – the tone or pitch of their voice, the speed of their speech, the words they choose, or the gestures they use, for instance – to either promote understanding and build rapport with others or to highlight differences (Arnold & Underman Boggs, 2016). CAT explains our tendency to address children differently than adults, adopt the rhythm of another person's speech, or, to the contrary, verbally or nonverbally turn away from exchanges with others. Although additional research is warranted, convergence, a subset of CAT that explains the ways in which people adapt their communication to reduce social and other differences, may demonstrate efficacy in patient-provider encounters, particularly with communication with patients of advanced age (Momand & Dubrowski, 2020).

- *Culture* – As a body of knowledge, beliefs, values, and behaviors, culture shapes our identity and the ways in which we communicate intrapersonally, interpersonally, in groups, and through media. Ubiquitous in clinical encounters, culture guides both patients' and practitioners' attitudes toward every aspect of health and care, from concepts of wellness to viewpoints on death. An increasingly diverse population in the United States means healthcare professionals are progressively more likely to engage in intercultural exchanges with patients. Complicated and at times confounding, intercultural exchanges can be further muddled by multiple cultural identities. A patient or practitioner, for example, can be simultaneously guided by the norms of American culture; an ethnic culture; a generational culture; and lesbian, gay, bisexual, and transgender culture. The use of titles (Ms., Miss, Reverend, Dr., or rank) is generally culture-based and the use of first names is also a patient's preference in some cultures. Transgender patients should be asked how they would prefer to be addressed to promote sensitive communication.

The healthcare environment has its own culture. Clinicians are comfortable within this culture; they know how the healthcare system functions, the protocols it follows, and the tasks accomplished by its members. To lay patients, however, healthcare settings are foreign environments. Navigating the strange land of healthcare settings adds to the apprehension or stress patients so often feel as they try to unravel the mysteries of medical jargon, diagnoses, medications, treatments, and procedures – and all while illness renders them at their most vulnerable (Ruben, 2016). Lack of congruence between the culturally steered viewpoints of patients and their practitioners, let alone differences in language, interferes with the encoding and decoding of messages in patient-provider encounters, which can hamper the development of therapeutic relationships and provider decision making. Lack of cultural competence and unconscious bias among healthcare providers have been implicated in disparities found in patient care activities across healthcare settings (Perez-Stable & El-Toukhy, 2018). TJC recognizes that bias in clinical decision leads to patient safety concerns (TJC, 2016). Table 2 provides further examples of culturally based factors that influence patient care.

Healthcare professional consideration: Culture acts as a barrier to effective communication and quality outcomes when practitioners fail to recognize, accept, appreciate, and examine differences in patients' values, beliefs, and preferences. The cultural competence required of healthcare professionals by such organizations as TJC (2010) and HHS (n.d.) arises from the recognition that cultural differences strongly influence patient-provider communication and decision making, which in turn affect patient satisfaction and clinical outcomes.

Clinician-family communication

Communication among family members, patients, and practitioners profoundly influences health-related decision making. Families can facilitate positive outcomes for their loved ones by acting as patients' counselors, advocates, and caretakers, but their involvement in healthcare events might also impede patients' understanding of their health concerns and ability to make informed decisions about their care. Sometimes families cause aggravation for patients and clinicians alike (Arnold & Underman Boggs, 2016).

Families add a layer of complexity to healthcare communication. All of the barriers to effective communication that pertain to patients apply to families as well. Communication between families and clinicians can be constrained by the influence of the healthcare environment and the diversity of members' health literacy, language, social identity, and culture. The diversity of families is likewise demonstrated by their varied composition. Families are made up of childless dyads, single-parent households, stepfamily or blended households, extended family members, and same-sex partners and their children, among others. Moreover, families are composed of individuals, each with their own values and preferences about health and healthcare. Reactions among family members to the patient experience, particularly during emergent situations or other crises, can widely vary (Arnold & Underman Boggs, 2016).

The same assorted values and viewpoints that clinicians bring to interactions with patients also occur – positively or negatively – in their exchanges with families. For example, critical care nurses report that their attitudes toward the involvement of family in patient care decisions and activities are formed by such factors as their own values and beliefs concerning family participation, their concerns about patient safety and trust in family members' capabilities as caregivers, their interpretation of family dynamics in the context of a patient's care, and the culture of their workplace or unit (Hetland et al., 2018). Physical space allowed for performing patient care may restrict the presence of family or the care may require privacy that will limit family presence. Restriction should be explained to the patient and family and the most liberal visitation policies should be adopted to promote patient satisfaction and safety.

Table 2: Examples of Cultural Influences on Patient-Provider Interaction	
Influence	**Description**
Health beliefs	In some cultures, people believe that talking about a possible poor health outcome will cause that outcome to occur.
Health customs	In some cultures, family members play a large role in healthcare decision making.
Ethnic customs	Differing roles of women and men in society may determine who makes decisions about accepting and following through with medical treatments.
Religious beliefs	Religious faith and spiritual beliefs may affect healthcare-seeking behavior and people's willingness to accept specific treatments or behavior changes.
Dietary customs	Disease-related dietary advice will be difficult to follow if it does not conform to the foods or cooking methods used by the patient.
Interpersonal customs	Eye contact or physical touch will be expected in some cultures and inappropriate or offensive in others. The presence of unaccompanied male nurses in female's rooms may be prohibited in some cultures/religions.
Note. From Agency for Healthcare Research and Quality, 2020b, "*Health Literacy Universal Precautions Toolkit 2nd Edition*" (https://www.ahrq.gov/health-literacy/improve/precautions/tool10.html). Reprinted with permission	

Improving the effectiveness of practitioner-patient communication

The healthcare industry's shift toward patient-centered care as a pathway to improved care quality has renewed interest in communication theory and its particular application in healthcare settings. Linear transmission of information between practitioners and patients, in which patients receive information without opportunity for feedback and clinicians assume a dominant role in patient-practitioner interaction, has given way to participatory, transactional modes of building and sustaining therapeutic relationships. Contemporary and emerging care models seek not only to better provide and explain healthcare information, but also to understand and incorporate how patients make sense of and apply that information to healthcare decisions in the context of their unique personal experiences (Ruben, 2016).

Shared decision making

Shared decision making is an outgrowth of the construct of patient-focused care. Its premise centers on transactional communication that develops a partnership between clinicians, patients, and families. In shared decision making, practitioners form collaborative relationships with patients in which healthcare decisions meld practitioner expertise and evidence-based care with patient values, preferences, and life context. It emphasizes conscious effort on the part of clinicians to understand and appreciate the breadth of patients' circumstances and involve patients in choosing care options based on their unique needs and perspectives of the importance of those options in their lives (Kunneman et al., 2016).

Research has demonstrated a positive relationship between shared decision making and patients' reports of satisfaction with healthcare encounters, but the state of the science lacks empirical evidence of a direct link between jointly achieved patient-provider decisions and clinical outcomes (Muller et al., 2018; Truglio-Londrigan & Slyer, 2018). Additionally, uncertainty exists among clinicians about the defining characteristics of shared decision making and its appropriate use (Kon et al., 2016). Despite this lack of clarity, the ethics of promoting patient autonomy and self-determination has justified interest in and adoption of shared decision-making principles (Muller et al., 2018), and professional organizations have outlined approaches that both adhere to ethical standards and promote effective communication skills. An example of a basic conceptual framework for shared decision making involving a treatment decision and suggested ways to participate in the shared decision- making process are provided in Appendices C and D, respectively.

Communication and the building of relationships with patients form the foundation of shared decision making. Healthcare professionals promote shared decision making by actively seeking trusting and respectful partnerships with patients that engender collaboration and power-sharing. Patients who feel the trust and respect of clinicians are more apt to approach their relationships with clinicians openly and freely share information. Shared decision making can improve patient compliance that is critical to recovery.

Healthcare professional consideration: At times in shared decision-making relationships, healthcare professionals can be challenged to strike a balance between their patients' needs, desires, and preferences and evidence-based practice. When patients' values or beliefs conflict with clinical guidelines, practitioners should consider principles of ethical practice, which involve the concepts of patient autonomy and beneficence. In such situations, however, healthcare professionals should also look to their communication skills to encourage deliberation, negotiation, and consensus with patients on healthcare decisions (Truglio-Londrigan & Slyer, 2018).

Communication tools and techniques

Targeted communication tools have demonstrated efficacy in overcoming barriers to effective patient-practitioner communication, promoting patient satisfaction, and improving clinical outcomes.

Professional healthcare organizations recommend the use of health literacy universal precaution in clinical encounters and in the development of printed patient education materials. The precautions, described by the AHRQ (2020c), are intended to treat all patients, regardless of their education or level of proficiency in health-related matters, as if they are at risk of not understanding information about their health. Health literacy skills can vary not only between individuals but within individuals, and they can change over time (McKenna et al., 2017) or be influenced by illness, fatigue, and fear (Liang & Brach, 2017).

Guidelines for the precautions emphasize clear, concise, jargon-free communication (see Appendix E) and employ the use of the teach-back method of ensuring comprehension.

The teach-back method was developed for use chiefly in primary care, but its implementation is also supported in other clinical specialties (Almkuist, 2017). The method involves an iterative, sender-receiver feedback loop in which practitioners convey information in plain language and test patients' comprehension by asking them to repeat the information in their own words. If patients do not adequately transmit their understanding back to practitioners, the looped feedback process continues until the practitioner is assured the information is understood. AHRQ (2020b). The Institute for Healthcare Improvement recommends use of teach-back activity to meet the standards of health literacy universal precautions (Yen & Leasure, 2019). Despite low levels of health literacy in the American population and the efficacy of the teach-back method, however, more than two-thirds of surveyed adults reported they had not received teach-back instruction in healthcare encounters in a one-year period, a gap that potentially risks patient dissatisfaction and adverse outcomes (Liang & Brach, 2017).

Motivational interviewing is a technique that originated in primary care drug and alcohol addiction counseling as a means to guide behavior change. Its use has migrated to other healthcare specialties with positive results (Gesinde & Harry, 2018; Rehman et al., 2017). The counseling- style approach of motivational interviewing acknowledges that patient-centered care does not follow a one-size-fits-all pattern. The technique has been successfully applied to a range of instances, from improving medication adherence to reducing vaccine hesitancy, that call for facilitating changes in patient behavior in ways that lead to improved outcomes (Oh & Lee, 2016; Gagneur, 2020; Gisebde & Harry, 2018). It aims to support patients' decision making by fostering a culture of partnership between healthcare professionals and patients, encouraging engagement in the relationship, and reinforcing patients' motivation for change (Gagneur, 2020). The approach likewise seeks to adapt to patient preferences and culture (Gisebde & Harry, 2018; Oh & Lee, 2016). For example, determining care options that suit patients' preferences and boost patient adherence can involve tradeoffs between clinicians' preferred course of action and other clinically sound choices that yield or nearly yield the same result. A clinician might prefer that their patient, a single, working parent of young children who is overweight, reach a mutually established goal for body mass index (BMI) within 6 months. However, in consideration of limits on the patient's available time to prepare calorie-conscious meals, the clinician and patient may determine 9 months to be a realistic and acceptable goal – one that raises the prospect the patient will adhere to a structured weight-loss plan.

Motivational interviewing has been found beneficial in instances in which patients express ambivalence about a necessary behavior change (Oh & Lee, 2016) and it is frequently used in combination with shared decision-making tactics. The four overlapping stages of motivational interviewing are summarized in Table 3.

As healthcare organizations increasingly underscore the importance of effective patient-provider communication, researchers are exploring the effect of communication interventions in a variety of patient populations and their potential application across healthcare specialties. The BATHE (a mnemonic for Background, Affect, Trouble, Handling, and Empathy) technique in primary care settings, for example, facilitates rapport between patients and clinicians using a brief five-step question-and-answer tool, summarized in Appendix F (Cayley, 2018). Typically employed as a mental health screening tool, the BATHE technique has shown some efficacy in engendering feelings of empowerment in patients with chronic conditions, such as diabetes (Akturan et al., 2017), and has shown positive effects on patient satisfaction with inpatient experiences (Pace et al., 2017).

The CRASH Course in Cultural Competency Skills training program helps clinicians adjust their interpersonal communication skills to accommodate the values, preferences, and behaviors of an ever-more-diverse patient population. (The CRASH mnemonic stands for the following: consider Culture, show Respect, Assess/Affirm differences, demonstrate Sensitivity/Self-awareness, and show Humility.) CRASH seeks to build practitioners' confidence in providing holistic care by competently addressing the health concerns of racially and ethnically diverse patients. It integrates patients' culture into clinical decision making (McGregor et al., 2019). Principal elements of the protocol are outlined in Appendix G.

Communication interventions on a narrow scale also have demonstrated improvements in patient-clinician therapeutic exchanges. When employing nursing's Commit to Sit initiative, for example, nurses take time to briefly sit, rather than stand, at the bedside while exchanging information about care plans with patients. As a demonstration of nurses' empathy and skill in interpersonal relations, the Commit to Sit protocol has shown markedly improved patient satisfaction scores (George et al., 2018; Lidgett, 2016).

Table 3: Stages of Motivational Interviewing

Stage	Description
Engaging	Building and maintaining a trusting clinician-patient partnership.
Focusing	Supporting the patient in establishing a direction for change.
Evoking	Exploring and reinforcing the patient's motivation(s) for change
Planning	Designing a realistic and specific plan of action.

Note. Adapted from "P*ractical Guidance on the Use of Motivational Interviewing to Support Behavior Change*" by L. Johnston, C. Hilton, and F. Dempsey, 2021, in S. Belo Ravara, E. Dagli, P. Katsaounou, K. E. Lewis, & Pisinger, Eds., "*Supporting Tobacco Cessation* [ERS Monograph]," European Respiratory Society, pp. 56-75 (https:/doi.org/10.1183/2312508X.10002320). Reprinted with permission.

Therapeutic communication skills

No matter the communication strategy you use in interchanges with patients, your ability to fulfill your professional responsibilities relies as much on your mastery of therapeutic communication skills as it does your clinical expertise. Competency in therapeutic communication skills underlies the achievement of a patient's health-related goals (Arnold & Underman Boggs, 2016).

Therapeutic communication skills can be taken for granted or blurred by environmental factors and other barriers. The hectic pace of your workplace, for example, might trigger lapses in your demonstration of empathy or prompt you to exhibit nonverbal cues (a heavy sigh, a deeply inhaled breath, or tightly crossed arms, for instance) that patients interpret as disapproval. Self-talk might overpower your objectivity and confidence to, for example, present bad news to a patient, impelling you to provide false reassurances instead. You may think a brisk demeanor shows your professional efficiency; your patient might interpret the meaning of your behavior as unsociable. Diligence in patient sensitivity and effective communication techniques will help to ensure the best patient outcomes.

Skilled therapeutic communication, however, is distinct from social communication (Arnold & Underman Boggs, 2016). Although practitioners might engage in social banter with patients as a means to alleviate anxiety, perhaps, or to diffuse conflict, therapeutic communication techniques are purposely directed toward advancing patients' health outcomes. Appendix H provides a refresher on patient-focused therapeutic communication skills.

Self-Assessment Quiz Question #8

Healthcare professionals assume unacceptable risk to patient safety when they:

a. Accommodate all patients' preferences in decision making.
b. Communicate with patients when there is a language barrier.
c. Ask open-ended questions in clinical encounters.
d. Reduce internal and external distractions.

Self-Assessment Quiz Question #9

Which type of barrier to effective communication potentially occurs when practitioners lack awareness of differences between their values and preferences and those of their patients?

a. Linguistic.
b. Relational.
c. Environmental.
d. Cultural.

Self-Assessment Quiz Question #10

Which tool is used in health literacy universal precautions to ensure patients' understanding of health-related information?

a. Language services.
b. BATHE interviewing.
c. Shared decision making.
d. Teach-back method.

Technology-assisted communication

Existing and emerging information and communication technologies (ICT) intend to facilitate communication between healthcare professionals and patients, as well as between other practitioners. ICT is used to simplify and expedite communication for purposes ranging from patient diagnoses and care management to patient education, counseling, and support. It takes various forms, from email and mobile texts to automated decision support, e-health portals, personal digital assistants, and telehealth systems. Next generation ICT applications aim to improve healthcare services and delivery through 5G network upgrades that reliably connect anyone, anywhere, at any time through any device or service; the so-called Internet of Things that seamlessly integrates smart devices; and artificial intelligence and machine learning, among others (Maria et al., 2020; Tuli et al., 2020).

ICT, including the use of electronic health systems for documentation, has dramatically transformed the work of healthcare professionals. In daily practice, the ability of health information technologies to improve communication and, ultimately, patient outcomes, is dependent on healthcare professionals' adoption of new technologies and development of technical competence. Healthcare professionals' attitudes toward technology can be influenced by such factors as age, education level, years of service, and prior use of computers or other digitally based technology (Maria et al., 2020). Practitioners who lag behind in the adoption of and demonstrated competence in ICT may not only be hindered in their ability to adhere to professional practice standards, but they may also experience feelings of stress, frustration, and incompetence that further impede or delay their acceptance of technological innovations (De Leeuw et al., 2020). Extensive technology can also result in nurses focusing more on the screens and monitors than the patient. Research continues to explore the effects of ICT on clinical practice and the efficacy of technology- assisted practitioner-patient interpersonal communication.

Case study

Mr. Miller is a physically active 67-year-old who, before his retirement 2 years ago, had achieved a master's degree and worked in an executive capacity in his profession. He arrived at his primary care practice with reports of mild chest discomfort, slight dyspnea, and fatigue. He has a previous history of smoking for more than 20 years, a current history of hyperlipidemia controlled by atorvastatin 10 mg daily for 10 years, and mild hypertension managed by diet and exercise. His BMI falls within the normal range.

A physical examination, chest x-ray, and baseline ECG were unremarkable, but his blood pressure was 148/90 mmHG. His physician ordered laboratory tests. During the blood draw, the nurse noted Mr. Miller seemed quiet and distracted. He directed his gaze toward the floor and did not ask questions other than when he could expect the results of the laboratory findings.

Four days later, in the midst of overbooked cases and as Mr. Miller is attending his grandson's soccer game, the nurse calls his cell phone. Reading from Mr. Miller's health record, she relays that his physician noted an elevated hs-CRP (high-sensitivity C-reactive protein) value necessitating an exercise stress test. The nurse also instructs Mr. Miller to increase his atorvastatin to 20 mg daily. Responding to Mr. Miller's question about the meaning of the laboratory results, the nurse perfunctorily states, "It is a possible signal of heart disease, so the doctor wants you to have a stress test. We will put in the order and you will receive a call with the date and time of the test and other instructions." Mr. Miller responds with a simple, "Okay." To the nurse, Mr. Miller sounds subdued, even downcast. At the conclusion of the call, she thinks about ways in which she could better approach conversation with Mr. Miller during his follow-up visit in a week's time. For his part, Mr. Miller becomes preoccupied with worry about his heart health and self-restricts his usual physical activity.

Questions

1. Which elements of metacommunication should the nurse consider in future interactions with Mr. Miller?
2. Which techniques should the nurse apply to improve the effectiveness of communication with Mr. Miller?

Responses

1. Upon reflection, the nurse senses Mr. Miller may have felt intimidated or in some way defeated by the prospect of a cardiovascular issue. In reviewing her interaction with Mr. Miller, she recognizes that several barriers may have influenced his feelings about his laboratory results and upcoming test, his ability to express his concerns, and her own behavior. For example, she challenges her assumption that, based on his education, work experience, and demeanor, Mr. Miller has a high level of health literacy. She contemplates environmental obstacles – a busy workday that left her feeling pressed for time and the distracting noise of the outdoor event Mr. Miller was attending at the time of their telephone call – that potentially interfered with both the encoding of her message to Mr. Miller and his decoding of the information he received. She further considers whether Mr. Miller's social identity could be linked to his perception of success and control in his life, a viewpoint he may now feel is threatened by the possibility of poor heart health.
2. The nurse resolves to prepare for her conversation with Mr. Miller during his follow-up visit. She makes a mental note to relax and take time to review his medical record and the results of his stress test before their meeting. Additionally, to lessen any potential anxiety for Mr. Miller, she will ensure the practice's portable ECG is absent from the examination room to which he is assigned. She plans to be consciously present during the exchange and explore the degree to which Mr. Miller understands cardiovascular disease and his feelings about his current health. She will probe whether anything in his field of experience – the premature death of a family member, perhaps – might account for the fatalistic feelings she suspects he possesses. She also reminds herself to avoid the use of medical terminology and answer his questions in plain language, adjusting the length and tenor of her answers to match his during the course of their conversation.

   Drawing on her knowledge of therapeutic communication principles, the nurse warmly greets Mr. Miller at the scheduled appointment time with a smile, eye contact, and an upbeat attitude. She sits across from him, tilting away the computer screen displaying his health record. She initiates a series of questions, waiting until Mr. Miller has completed his answers, issuing verbal and nonverbal prompts, when necessary, to elicit further information, restating his responses to ensure mutual understanding, and displaying

empathy for his concerns. For example, the nurse may use the following questions to probe his thoughts:

- *"I sense you have been concerned about the stress test and the results. Can you tell me about that?" "It sounds like this has caused you a great deal of worry. How have you been handling that?"*
- *"Let me see if I understand. Your concerns come from the fact that heart disease contributed to your father's death, your brother died prematurely, and you are worried about your wife becoming a widow? Those are all valid concerns and I can understand why this situation makes you feel nervous, but let's take a minute to talk about family risk factors and ways to reduce your anxiety."*
- *"What do you understand about heart disease, the risk factors involved with it, and the available treatments for it?"*

Following the physician consult, the nurse returns to explain the next test Mr. Miller will undergo, a coronary angiogram. She sits alongside Mr. Miller and together they review a patient education pamphlet about the procedure, including how he should prepare for the test and what he can expect during and after the procedure. The nurse prompts Mr. Miller to demonstrate his understanding, asking, "I want to be sure we both have this right. Can you repeat what you should do before the angiogram?"

At the close of the session, the nurse inquires how Mr. Miller feels about the procedure and the information he has been given. She reiterates strategies Mr. Miller can use to reduce his anxiety, reinforcing the degree of control he holds over his own health. Mr. Miller responds that he feels much more confident and optimistic about his overall health and treatment plan.

Conclusion

Communication forms the bedrock of healthcare practice. It underlies the patient-centered, therapeutic relationships healthcare professionals use to promote and support patients' health and well-being. When interpersonal communication between healthcare professionals and patients is effective, improved patient satisfaction, adherence, safety, and clinical outcomes result.

Demonstrated competency in communication is not a nice-to-have skill for healthcare professionals; it is must-have know-how in clinical practice. Practitioners must be proficient in interpersonal communication to meet standards established by healthcare organizations, but also, crucially, to ensure every patient receives the quality care to which they are entitled in every clinical encounter.

As much as communication is ever present in clinical encounters, it is ever changing, which presents particular challenges in a healthcare environment in flux as well. It also is often fraught with obstacles to the shared meaning between practitioners and patients that is so integral to the provision of safe, quality care.

Evidence-based techniques help to guide healthcare professionals toward effective communication with patients. No one communication strategy will suit all practitioners or perform equally well with all patients, however, nor will mastery of interpersonal skills overcome all barriers to effective communication all of the time. Rapport can be established and broken, and even the most highly skilled communicators will not communicate well in every situation. Even so, knowledge of communication theory, models, and techniques, along with their application in healthcare practice, provides practitioners the foundation needed to meet the central challenge of effective communication, that is, to build better relationships with patients and, ultimately, improve the quality of their care.

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Appendix A

Characteristics of Group Communication	
Group communication is …	**Meaning that …**
Interdependent	People who communicate in groups depend on others within the group to preserve the group's existence. Without reliance on others, group communication does not occur.
Cooperative	Group members recognize their need for others to accomplish things they cannot achieve on their own.
Purposeful	Interaction between group members serves a common objective. Although individual members might have unique goals, communication within the group centers on a collective purpose.
Shared	Shared expectations guide accepted behavior in group communication. Established norms (e.g., agreeing to meeting times, due dates, or the silencing of cell phones during meetings) steer a group's interaction.
Cohesive	Members of groups experience a sense of solidarity or feeling part of something larger than themselves.

Note. Adapted from "Introduction to communication," n.d., Lumen Learning (https://courses.lumenlearning.com/introductiontocommunication/chapter/227/). Reprinted with permission.

Appendix B

Features of Therapeutic Communication	
Element	**Description**
Purpose	• An intentional objective centered on patients' health and well-being. • Therapeutic communication differs from general social exchanges because it is purpose driven. Its focus remains on recognizing p health needs and improving health outcomes.
Mutuality	• Shared responsibility for health-focused dialogue. • Practitioners and patients participate equally and simultaneously, through verbal and nonverbal means, throughout every communication encounter.
Empathy	• The ability to form an emotional link with another person within that person's frame of reference or personal experience. • Empathy allows nurses to envision themselves in their patients' situations or "walk in their shoes," and knowingly accept and value their patients' realities.
Authenticity	• A genuine interest in a person and their circumstances. • When practitioners are sincere in their approach to patients, they communicate their appreciation for patients' individuality, thus making patients feel valued and important.
Presence	• Fixed, conscious attention on the practitioner-patient communication process. • Being present in therapeutic communication involves consciously reducing or eliminating internal or external distractions to maintain patients' needs and preferences.
Neutrality	• Intentional omission of one's values, beliefs, biases, and prejudices in communication encounters. • Nurses participating in therapeutic communication have an ethical and professional responsibility to nonjudgmentally respect the patient's beliefs and behaviors even when the patient's values, culture, or conduct conflict with the nurse's personal feelings.
Consistency	• Dependable, accurate information exchanged in the communication process. • Practitioners build trust with patients when they meet patients' expectations of predictability, truth, accuracy, and competence throughout communication encounters.
Validation	• Mutual understanding between communication participants. • Supportive messaging by practitioners validates patients' concerns and ensures both parties develop the same understanding of those concerns.

Appendix C

Stages of Shared Decision Making	
Stage	**Description**
Information exchange	The practitioner and the patient/family share information needed to make a treatment decision. The practitioner furnishes information about treatment options and the risks and benefits of each alternative. The patient/family discloses their goals, values, and preferences relating to the choice(s) to be made.
Deliberation	The practitioner and the patient/family jointly consider which of the available treatment options best suits the patient, given the patient's needs and preferences. Both the patient/family and the practitioner participate in asking questions, voicing opinions, offering perspective on preferences, and correcting misperceptions or erroneous information.
Treatment decision	The practitioner and patient mutually agree on the choice of treatment options and begin the implementation of the selected course of action.

Note. Adapted from "Shared Decision Making in Intensive Care Units: An American College of Critical Care Medicine and American Thoracic Society Policy Statement," by A. A. Kon, J. E. Davidson, W. Morrison, M. Daand D. B. White, 2016, *Critical Care Medicine*, 44 (1), 188-201. Reprinted with permission..

Appendix D

Examples of Effective Practitioner Communication in Clinical Encounters Involving Shared Decision Making

- Seek to gain trust by expressing commitment to the patient/family.
- Involve interprofessional colleagues to support the patient/family.
- Show empathy for the patient's/family's emotions and explore their concerns or fears.
- Use two-way conversation to draw out the patient's/family's goals, values, and preferences and the patient's level of comfort in making healthcare decisions.
- Explain the importance of family involvement in treatment decisions and assess the patient's/family's preferences on the role each plays in the decision-making process.
- Emphasize that choices exist and use plain language to explain the patient's illness and treatment choices, as well as the risks and benefits of each treatment option.
- Ask open-ended questions to determine the patient's/family's understanding of the patient's health status and the available treatment options.
- Explain the rationale underlying treatment recommendations.

Appendix E

Health Literacy Universal Precautions – Communication Strategies for Patient Visits	
Action	**Description**
Greet patients warmly	Receive everyone with a welcoming smile and maintain a friendly attitude throughout the visit.
Make eye contact	Make appropriate eye contact throughout the interaction (after considering patients' culture, customs, and beliefs).
Listen carefully	Try not to interrupt patients when they are talking. Pay attention and be responsive to the issues they raise and questions they ask.
Use plain, nonmedical language	Do not use medical words. Use common words that you would use to explain medical information to your friends or family, such as *stomach* or *belly* instead of *abdomen*.
Use the patient's words	Take note of the words the patient uses to describe their illness and use them in your conversation.
Slow down	Speak clearly and at a moderate pace.
Limit and repeat content	Prioritize what needs to be discussed; limit information to three to five key points and repeat them.
Be specific and concrete	Do not use vague and subjective terms that can be interpreted in different ways.
Show graphics	Draw pictures, use illustrations, or demonstrate with 3-D models. All pictures and models should be simple and designed to demonstrate only the important concepts without detailed anatomy.
Demonstrate how it is done	Whether doing exercises or taking medicine, a demonstration of how to do something may be clearer than a verbal explanation.
Invite patient participation	Encourage patients to ask questions, be involved in the conversation during visits, and be proactive in their health care.
Encourage questions	Create an inviting, shame-free atmosphere that encourages patients to ask questions. Use open-ended questions, such as "Do you have any questions?" several times during the visit. Sit at the same level as the patient and look at them, as opposed to a chart or computer screen, when talking and listening.
Apply teach-back	Confirm patients understand what they need to know and do by asking them to teach back important information, such as directions.

Note. From Brega, A. G., Barnard, J., Mabachi, N. M., Weiss, B. D., DeWalt, D. A., Brach, C., … West, D. R. (2015, January). *AHRQ health literacy universal precautions toolkit* (2nd ed.) (AHRQ Publication No. 15-0023-EF, prepared by Colorado Health Outcomes Program, University of Colorado Anschutz Medical Campus under Contract No. HHSA290200710008, TO#10). Rockville, MD: Agency for Healthcare Research and Quality.

Appendix F

The BATHE Interviewing Technique		
B	Background	Elicit a brief description of the patient's circumstances. *Ask: What's going on?*
A	Affect	Probe how the patient feels about the circumstances. *Ask: Do you feel angry, frustrated, or frightened?*
T	Trouble	Determine what troubles the patient most about the circumstances. *Ask: What concerns you about this?*
H	Handling	Inquire how the patient is handling the circumstances and make suggestions. *Ask: How are you dealing with that? I can offer you some options.*
E	Empathy	Express your understanding of the situation and offer your support. *Say: Sounds like this is difficult for you. Let's get you the help you need.*

Note. Adapted from "Effects of a brief psychosocial intervention on inpatient satisfaction: An RCT," by E. J. Pace, N. J. Somerville, C. Enyioha, J. P. Allen, L. C. Lemon, and C. W. Allen, 2017, *Family Medicine*, 49(9), 675-678. "Four evidenced-based communication strategies to enhance patient care," by W. E. Cayley, Jr., (2018), *Family Practice Management*, 25(5), 13-17. Reprinted with permission.

Appendix G

Primary Components of the CRASH Course in Cultural Competency Skills		
C	Culture	The importance of shared values, perceptions, and connections in the experience of health, healthcare, and the interaction between patient and professional.
R	Respect	Understanding that demonstrations of respect are more important than gestures of affection or shallow intimacy, and finding ways to learn how to demonstrate respect in various cultural contexts.
A	Assess	Understanding that there are tremendous "within-group differences," ask about cultural identity, health preferences, beliefs, and understanding of health conditions. Assess language competency, acculturation level, and health literacy to meet the individual's needs.
A	Affirm	Recognizing each individual as the world's expert on their own experience, being ready to listen and to affirm that experience. Reframing cultural differences by identifying the positive values behind behaviors we perceive as "different."
S	Sensitivity	Developing an awareness of specific issues within each culture that might cause offense or lead to a breakdown in trust and communication between patient and professional.

S	Self-awareness	Becoming aware of our own cultural norms, values, and "hot-button" issues that lead us to misjudge or miscommunicate with others.
H	Humility	Recognizing that none of us ever fully attains "cultural competence," but instead making a commitment to a lifetime of learning, of peeling back layers of the onion of our own perceptions and biases, being quick to apologize and accept responsibility for cultural missteps, and embracing the adventure of learning from other's firsthand accounts of their own experience.

Note. From "A CRASH Course in Cultural Competence," by G. Rust, K. Kondwani, R. Martinez, R. Dansie, W. Wong, Y. Fry-Johnson, M. Woody Ridel, E. J. Daniles, J. Herbert-Carter, L. Aponte, & H. Strothers, 2006, *Ethnicity & Disease*, 16(2), S3-29-S3-36. Published by ISHIB. Reprinted with permission. All rights reserved.

Appendix H

Therapeutic Communication Skills (Page 1 of 2)	
Skills	**Description**
Rapport:	Approach every patient as an individual and with genuine interest. Displaying authenticity fosters patients' feelings of importance and value.
Probing:	Ask open-ended questions that encourage patients to use their own words to describe their health needs and concerns. Use focused questions to gather brief, specific information on such factors as symptoms, health history, pain level, and patients' efforts to resolve their health problems.
Observation:	Look and listen for themes, communication patterns, and nonverbal communication cues. Scrutinize what patients say, the manner in which they say it, and what they do not say. Validate your interpretation of their verbal and nonverbal messages with targeted follow-up questions.
Active (empathetic) listening:	Be attentive and conscious of the nonverbal messages you send to patients. Sit (if possible) facing patients and make eye contact (if culturally appropriate) as you mutually explore the meaning of the messages they send. Consider patients' values, beliefs, preferences, and priorities as you demonstrate interest and elicit information using active listening response techniques, including the following:
○ Minimal cues	Apply short verbal and nonverbal prompts to encourage patients to share their experiences in their own way. Use phrases such as, "Yes, please go on"; smile, lean forward, and nod your head to prompt continued conversation.
○ Clarification	When uncertain of a patient's meaning, use a neutral tone of voice to ask for elaboration. For instance, say, "I want to be sure I understand. Can you give me an example?"
○ Restatement	Focus patients' communication and ensure mutual understanding by reiterating the words they have used. Repeat patients' statements in the form of a question, such as, "To make sure I've got this right, you said …"
○ Paraphrasing	Translate into your own words the substance of patients' statements to ensure your interpretation of the content of messages is thorough and accurate.
○ Reflection	Recognize the emotional implications of patients' messages with statements intended to connect their feelings with the content of their messages, previous experiences, and future outcomes. Say, for example, "I sense you're feeling angry about your diagnosis," and "It sounds like this experience reminds you of a bad experience in the past." Ask, "Can you share with me what you hoped for or expected?"
○ Summarization	Link patients' knowledge to their feelings and ensure understanding with a few statements that sum up the entirety or portions of exchanges. Use summarization to move on from one topic to another.
○ Silence	Intentionally use pauses to give yourself and patients time to think and process emotions. Short breaks in conversation can also illuminate important points for reflection.
Therapeutic Communication Skills (Page 2 of 2)	
Responses:	To meet patients' needs for knowledge, empathy, and support, use verbal and nonverbal responses to their messages, such as the following:
○ Matching responses	Align the manner of the messages you send with those of patients. A quick, light comment by a patient, for example, should elicit a similar reaction versus a lengthy or intense response.
○ Concrete language	Use simple, unambiguous words that take into account patients' language skill, culture, and level of health literacy. Do not use medical jargon.
○ Feedback	Offer and accept feedback to facilitate patient education. Provide feedback immediately after observing a behavior, be specific in the content of your feedback, and convey empathy and support of patients' learning and comprehension.
○ Touch	Use touch – the holding of a hand, for example, or gentle massage – to convey caring, nurturing, and comfort. Always consider cultural implications that contraindicate the use of touch.
○ Humor	Use humor and laughter as a healing tool. Humor should be strategic (used only when assessed to be appropriate to the situation) and focused on patients' circumstances rather than their characteristics. It can be particularly effective in lessening the discomfort of conversations about health topics that are taboo or otherwise beyond social or cultural norms.

Note. Adapted from "Interpersonal relationships: Professional communication skills for nurses," by E. C. Arnold, and K. Underman Boggs, 2016, 7th ed., Elsevier. Reprinted with permission..

Resources

- Academy of Communication in Healthcare https://www.achonline.org/
- Agency for Healthcare Research and Quality – Health Literacy Universal Precautions Toolkit https://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/index.html
- Agency for Healthcare Research and Quality – Informed Consent/Informed Choice https://www.ahrq.gov/professionals/systems/hospital/informedchoice/index.html
- Agency for Healthcare Research and Quality – Patient and Family Engagement https://www.ahrq.gov/professionals/quality-patient-safety/patient-family-engagement/index.html
- Agency for Healthcare Research and Quality – SHARE Approach (for shared decision making) https://www.ahrq.gov/evidencenow/tools/share-approach.html
- Agency for Healthcare Research and Quality – TeamSTEPPS (for effective teamwork) https://www.ahrq.gov/teamstepps/index.html
- Centers for Disease Control and Prevention – Health Literacy https://www.cdc.gov/healthliteracy/index.html
- Ethnomed https://ethnomed.org/
- Health Information Translations https://www.healthinfotranslations.org/
- Health Resources and Services Administration - Culture, Language and Health Literacy https://www.hrsa.gov/about/organization/bureaus/ohe/health-literacy/culture-language-and-health-literacy
- Institute for Healthcare Communication http://healthcarecomm.org/
- International Association for Communication in Healthcare https://each.international/
- International Research Centre for Communication in Healthcare https://charterforcompassion.org/healthcare-partners/international-research-centre-for-communication-in-healthcare
- The Joint Commission – Effective Communication and Cultural Competence: LGBT Community https://www.jointcommission.org/lgbt/
- The Joint Commission – Patient-Centered Communication https://www.jointcommission.org/standards/r3-report/r3-report-issue-1---patient-centered-communication/
- The Joint Commission – Roadmap for Hospitals https://www.jointcommission.org/assets/1/6/ARoadmapforHospitalsfinalversion727.pdf
- National Center for Cultural Competence https://nccc.georgetown.edu/
- National Institute of Minority Health and Health Disparities https://www.nimhd.nih.gov/programs/edu-training/language-access/health-information/
- National Institutes of Health – Clear Communication https://www.nih.gov/institutes-nih/nih-office-director/office-communications-public-liaison/clear-communication
- National Network of Libraries of Medicine – Health Literacy https://nnlm.gov/initiatives/topics/health-literacy
- National Patient Safety Foundation https://npsf.digitellinc.com/npsf/
- U.S. Department of Health and Human Services – National Action Plan to Improve Health Literacy https://health.gov/communication/hlactionplan/pdf/Health_Literacy_Action_Plan.pdf
- U.S. Department of Health and Human Services – Office of Minority Health https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=1&lvlid=6

COMMUNICATION IN HEALTH CARE, 2ND EDITION

Self-Assessment Answers and Rationales

1. The correct answer is C.
Rationale: On the basis of its component parts, communication is a dynamic, bidirectional process in which people form relationships by interacting through symbols to create, interpret, and exchange the meaning of thoughts, ideas, information, and emotions.

2. The correct answer is A.
Rationale: Interpersonal communication is the exchange of thoughts, ideas, information, and feelings between two or more people. It is the behavior we use to create, maintain, and end relationships. Interpersonal communication makes up the majority of human interaction.

3. The correct answer is D.
Rationale: Communication scientists developed models that organize our varied experiences with different forms of communication and explain how the communication process works. The complex process of human communication is categorized into three main communication models: linear, interactive, and transactional.

4. The correct answer is C.
Rationale: In communication theory, anything that interferes with the delivery, receipt, or interpretation of a message or feedback relating to the message is considered noise. The source of noise can be internal (as in the case of intrapersonal communication) or external. External noise includes physical barriers that interrupt the sending and receiving of messages, such as the blare of an alarm or the clamor of a crowded room; physiological obstacles, such as deafness or blindness; and semantic barriers, as in words that mean different things to different people.

5. The correct answer is A.
Rationale: The bulk of communication in healthcare settings is interpersonal in form. Therapeutic communication is a subset of interpersonal communication specific to the promotion of patients' health and well-being. It is defined as an ongoing, purposeful, cooperative process undertaken by healthcare professionals and patients to identify and achieve patients' health-related objectives.

6. The correct answer is B.
Rationale: Patient satisfaction is indivisibly linked to the interpersonal relationships created and maintained between patients and their healthcare practitioners. Although the degree of satisfaction expressed by patients significantly varies, patients' impressions of their relationships with their healthcare providers have been shown to be strong predictors of patient satisfaction.

7. The correct answer is A.
Rationale: Environmental noise can interfere with patients' abilities to successfully decode the messages they receive in clinical encounters. In communication theory, the concept of noise moves beyond tangible sounds to encompass any internal or external barrier that impedes the encoding and decoding of messages and feedback. Patients' receptiveness to messages can be influenced by their feelings of lack of privacy and control in healthcare settings, such as when they cannot command who is or is not present in their clinical encounters or control when a practitioner disrupts communication to attend to another patient with pressing needs.

8. The correct answer is B.
Rationale: APractitioners assume unacceptable risk to patient safety when they try to communicate with patients whose first language is not shared with their own. All practitioner-patient communication can be vulnerable to miscommunication, but exchanges between healthcare professionals and patients using different dialects are far more susceptible to misinterpretation and error.

9. The correct answer is D.
Rationale: Culture serves as a barrier to effective communication and quality outcomes when practitioners fail to recognize, accept, appreciate, and examine differences in patients' values, beliefs, and preferences. Cultural differences strongly influence patient-provider communication and decision making, which in turn affect patient satisfaction and clinical outcomes.

10. The correct answer is D.
Rationale: The teach-back communication tool involves an iterative, sender-receiver feedback loop in which practitioners convey information in plain language and test patients' comprehension by asking them to repeat the information in their own words. If patients do not adequately transmit their understanding back to practitioners, the looped feedback process continues until the practitioner is assured the information is understood. The Agency for Healthcare Research and Quality and the Institute for Healthcare Improvement recommend use of teach-back activity to meet the standards of health literacy universal precautions.

Course Code: ANCCIA04CH

Crisis Resource Management for Healthcare Professionals

3 Contact Hours

Release Date: January 31, 2022 **Expiration Date:** January 31, 2025

Faculty

Pamela Corey MSN, EdD, RN, CHSE, has been a registered nurse since 1984 with a clinical background in pediatrics, pediatric critical care, and neonatal critical care. She has a master's in nursing education and a Doctorate in Education. Her specialty area includes simulation-based education, and she is certified as a Healthcare Simulation Educator. Her dissertation was on adult and pediatric team training and crisis resource management. Pamela developed and implemented code team training at a major teaching hospital utilizing CRM techniques to prepare staff for safe and efficient responses to emergent situations within the hospital setting.

Pamela Corey has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Peer reviewer:
Scott Tilton MSN, AGACNP-BC, CCRN, is a board-certified adult-gerontology acute care nurse practitioner with a clinical background in emergency medical services, trauma critical care, neurocritical care, and rotor-wing transport. He works as an advanced practice provider in a cardiovascular intensive care unit that specializes in the resuscitation of patients recovering from cardiac surgery and those requiring mechanical support or extracorporeal membrane oxygenation (ECMO). As he pursues his Doctorate in Nursing, his clinical interests are point of care ultrasound training and standardizing the response to ECMO clinical emergencies within the intensive care unit.

Scott Tilton has disclosed that he has no significant financial or other conflicts of interest pertaining to this course.

Peer reviewer:
Brad Gillespie, PharmD, is trained as a clinical pharmacist, Dr. Brad Gillespie has practiced in an industrial setting for the past 25+ years. His initial role was as a Clinical Pharmacology and Biopharmaceutics reviewer at FDA, followed by 20 years of leading Early Development programs in the pharma/biotech/nutritional industries. In addition to his industrial focus, he remains a registered pharmacist and enjoys mentoring drug development scientists and health professionals, leading workshops, and developing continuing education programs for pharmacy, nursing, and other medical professionals.

Brad Gillespie has disclosed that he has no significant financial or other conflicts of interest pertaining to this course.

Course overview

Understanding Crisis Resource Management (CRM) and utilization of the concepts within team emergent responses can improve patient outcomes. The course will outline CRM concepts and demonstrate the application within emergent situations in healthcare. CRM concepts discussed will include leadership and followership, role identity and clarity; effective communication strategies; situational awareness; resource allocation; and dynamic decision making. Physicians, advanced practice providers, nurses, respiratory therapists, pharmacists, and other health team members should understand CRM to improve their performance in emergent team responses and ultimately improve patient outcomes. CRM framework is also applicable in medical and environmental emergent situations where teams work together to ensure patient safety.

Learning objectives

After completing this course, the learner will be able to:

- Examine the history of crisis resource management (CRM) and its application in healthcare.
- Examine the major realms of the CRM framework and how they are incorporated in team responses.
- Compare the communication techniques used in CRM.
- Examine resource allocation during an emergent event.
- Apply the process of dynamic decision making in an emergent situation.
- Demonstrate the importance of role clarity in team management through case study analysis.

How to receive credit

- Read the entire course online or in print which requires a 3-hour commitment of time.
- Complete the self-assessment quiz questions which are at the end of the course or integrated throughout the course. These questions are NOT GRADED. The correct answer is shown after you answer the question. If the incorrect answer is selected, the rationale for the correct answer is provided. These questions help to affirm what you have learned from the course.
- Depending on your state requirements you will be asked to complete either:
  - An affirmation that you have completed the educational activity.
  - A mandatory test (a passing score of 70 percent is required). Test questions link content to learning objectives as a method to enhance individualized learning and material retention.
- If requested, provide required personal information and payment information.
- Complete the MANDATORY Course Evaluation.
- Print your Certificate of Completion.

CE Broker reporting

Colibri Healthcare, LLC, provider # 50-4007, reports course completion results within 1 business day to CE Broker. If you are licensed in Arkansas, District of Columbia, Florida, Georgia, Kentucky, Michigan, Mississippi, New Mexico, North Dakota, South Carolina, or West Virginia, your successful completion results will be automatically reported for you.

Accreditations and approvals

Colibri Healthcare, LLC is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation.

Individual state nursing approvals

Colibri Healthcare, LLC is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation. In addition to states that accept courses offered by ANCC accredited Providers, Colibri Healthcare, LLC is an approved Provider of continuing education in nursing by: Alabama Board of Nursing, Provider #ABNP1418 (valid through February 5, 2025); Arkansas State Board of Nursing, Provider #50-4007; California Board of Registered Nursing, Provider #CEP17480 (valid through January 31, 2024); California Board of Vocational Nursing and Psychiatric Technicians (LVN Provider #V15058, PT Provider #V15020; valid through December 31, 2023); District of Columbia Board of Nursing, Provider #50-4007; Florida Board of Nursing, Provider #50-4007; Georgia Board of Nursing, Provider #50-4007; Kentucky Board of Nursing, Provider #7-0076 (valid through December 31, 2023; CE Broker Provider #50-4007); Michigan Board of Nursing, Provider #50-4007; Mississippi Board of Nursing, Provider #50-4007; New Mexico Board of Nursing, Provider #50-4007; North Dakota Board of Nursing, Provider #50-4007; South Carolina Board of Nursing, Provider #50-4007; and West Virginia Board of Registered Nurses, Provider #50-4007. This CE program satisfies the Massachusetts States Board's regulatory requirements as defined in 244 CMR5.00: Continuing Education.

Activity director

June D. Thompson, DrPH, MSN, RN, FAEN, Lead Nurse Planner

Disclosures

Resolution of conflict of interest
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Disclaimer

The information provided in this activity is for continuing education purposes only and is not meant to substitute for the independent medical judgment of a healthcare provider relative to diagnostic and treatment options of a specific patient's medical condition.

Course verification

All individuals involved have disclosed that they have no significant financial or other conflicts of interest pertaining to this course. Likewise, and in compliance with California Assembly Bill No. 241, every reasonable effort has been made to ensure that the content in this course is balanced and unbiased.

INTRODUCTION

The ability to respond to an emergency in a timely and efficient manner is essential for all healthcare professionals regardless of their practice setting. However, many may lack formal training and education in best practices for dealing with various emergencies that can occur in professional settings. Patient outcomes improve when healthcare providers work efficiently as a team.

Crisis resource management (CRM) is a set of behaviors derived from evidence-based practice that aims to promote safety, improve teamwork behaviors, and decrease the incidence of adverse events during an emergency response (Alsabri et al., 2020; Fanning et al., 2013). Healthcare providers in all areas of practice can be responders to critical events involving medical or environmental emergencies and benefit from learning about CRM concepts and applying them to their practice.

The purpose of this course is to provide evidence-based knowledge on CRM principles and how healthcare providers can utilize these concepts within their practice setting and effectively respond to an emergent situation as part of a team. Cardiac arrest, anaphylaxis, fire, weather emergencies, and mass casualty disasters are situations where CRM knowledge can improve patient safety and outcomes. This course is designed for nurses, Licensed Independent Providers (LIP) such as medical doctors, physician assistants, and nurse practitioners, pharmacists, respiratory therapists, and support staff practicing at all levels and in all practice settings. Those who incorporate CRM principles during an emergency will understand role identification; the purpose of clear, concise communication; situational awareness; and dynamic decision-making for an effective, coordinated response.

History of crisis resource management

There are many industries where staff preparedness for an infrequent event can prevent adverse events. The aviation industry was the first to use the concept of "crew resource management" to train and prepare all airline employees for an aviation disaster. Aviation research from the '70s and '80s demonstrated that many adverse events were related to human error in communication, awareness of the situation, and delegation and workload management (Helmreich & Fousbee, 1993). This research led to specific pilot and airline staff training that incorporated simulations of rare events requiring the use of technical skills and cockpit/crew resource management behaviors. Each session was followed by a debriefing that reviewed the performance of the individual and the team and reinforced the concepts.

Healthcare is another area where a lack of knowledge in responding to rare events can cause adverse outcomes. While the aviation industry was exploring human factors, the healthcare industry, specifically anesthesiologists, also explored behaviors and performance in high-acuity, low-volume events. High acuity – low volume events are those emergent critical situations that occur infrequently, but staff need to respond to competently. Through analysis and debriefings of actual patient events, it was discovered that even experienced physicians lacked the optimal knowledge and skills necessary for effectively managing

a crisis (Gaba et al., 2001). As this topic gained more attention through continued analysis of unexpected adverse events that negatively impacted patient outcomes, it was revealed that all teams who responded in crisis situations needed to be educated and trained in the behaviors that lead to improved and effective responses. Although crisis resource management (CRM) in healthcare first started in complex areas, such as operating rooms and emergency departments, these skills apply to all healthcare team members. For example, educational programs that focus on CRM and team interactions have been used in obstetrics training for emergent delivery and maternal cardiac arrest (Bracco et al., 2018). CRM training has improved team dynamics and performance in pediatric rapid response teams (Siems et al., 2017) and improves leadership, problem-solving, situational awareness, and communication in trauma and emergency teams (Parsons et al., 2018).

CRM is defined as a set of behaviors that can reduce adverse events during emergencies when combined with skills and evidenced-based knowledge (Corey & Canelli, 2018). When teams incorporate teamwork and communication interventions in response to emergencies, this core set of behaviors results in an effective and improved response, including improved patient safety and a reduction in adverse events (Alsabri et al., 2020; Moffatt-Bruce et al., 2017). Knowledge of these behaviors can assist the healthcare provider who responds to the inevitable crises that occur in all areas of practice.

Evidence-based practice! Crisis resource management (CRM) is a set of behaviors derived from evidence-based practice that can decrease the incidence of adverse events during an emergency response (Fanning et al., 2013). Teamwork and communication training and interventions improve patient safety to improve patient outcomes by reducing adverse events, including medical errors (Alsabri et al., 2020).

Self-Assessment Quiz Question #1

Aviation research from the '70s and '80s found that many adverse events were related to:
a. Mechanical failure.
b. Weather.
c. Human Factors.
d. Terrorism.

THE CRM FRAMEWORK

High-acuity and low-volume crises are areas where healthcare providers have historically demonstrated gaps in knowledge and practice necessary to respond efficiently and effectively. The Institute of Medicine report "To Err is Human: Building A Safer Health System," published in 2000, prompted health systems to look at internal response processes, identify areas where human factors could cause patient harm, and strategize for implementing training and systems improvements to prevent further harm (Kohn et al., 2000). In the aftermath of this report, the healthcare education field started exploring ways to teach all healthcare disciplines the necessary skills and behaviors to reduce preventable adverse outcomes. CRM training became one method to increase knowledge and skill for those responders to high-acuity, low-volume clinical situations. By definition, a low volume crisis, such as a hospital evacuation, rarely occurs but involves extreme risk to the patient.

Components of the CRM framework

There are multiple components in the CRM framework that, when combined and implemented, lead to an effective team response. The behaviors are classified in multiple realms:

- Team management - Leadership and followership, role clarity, and workload distribution.
- Communication - Task-oriented and information sharing.
- Resource allocation and environmental awareness.
- Dynamic decision-making.
- Cognitive aids.

The team management realm of behaviors includes identifying the situation leader, identifying other responding team members, and clarifying roles among all who are on the responding team. Also included in this realm are workload distribution of all the tasks needed (what needs to be done and who will do it) and the ability to get help promptly. When all responding team members are aware of the importance of these behaviors, there is cohesiveness to the response. Effective, concise communication, including information sharing, are behaviors that allow for safe and effective team responses. There are multiple communication techniques used during team responses that allow members to communicate needs and address inquiries effectively.

Situational or environmental awareness requires that the healthcare provider anticipates and plans for all possible trajectories. Knowledge of the environment and the ability to effectively mobilize resources allows all members of the responding team to perform at their highest level. Utilization of these behaviors reduces delays in care, leading to the ability to improve outcomes.

Another integral concept within the CRM framework is making decisions in a dynamic and evolving situation. The behaviors specific to this concept include awareness of the situation and using that knowledge to identify and use all available information in real-time decision-making. Within this concept, a key behavior taught in CRM education is to avoid fixation. Fixation is a situation in which a specific idea is the only driving decision-making concept. When a team gets fixated on one aspect of the response, there is an increased potential for an adverse response. Teams need to be aware of all factors influencing the situation. Fixation can delay the correct treatment because of misdiagnosis or the missing of key data to drive decisions and cause adverse patient outcomes.

The final concept includes the use of cognitive aids. Some examples of cognitive aids that will be discussed later include advanced cardiac life support (ACLS) algorithms, emergency medication dose cards, and prepared evacuation plans. These tools can assist all healthcare team members in remembering specific information without relying on memory during an intensely stressful moment. Knowing what aids are available and familiarity with the content is valuable during an emergency, allowing staff to respond more effectively (Goldhaber-Fiebert & Howard, 2013). When all the concepts and behaviors are trained together, teams can respond to the best of their abilities, and patient outcomes are improved.

Self-Assessment Quiz Question #2

The team management realm of the CRM framework includes identifying the leader, identifying other team members and:
a. Clarifying roles.
b. Rotating roles.
c. Allocating resources.
d. Coordinating data.

Team management

The team management realm includes the behaviors that assist the responding team in having a coordinated, effective response that leads to an outcome. The main concepts are leadership and followership, role clarity, workload distribution, and requesting timely help.

What defines a team? A team is a group where individuals bring varied strengths, and a common goal can be attained when combined. Teams can be permanent/ dedicated or temporary. Some hospitals have dedicated code response teams where they train together and master their skills as a team. Many hospitals have temporary code response teams where the team comes

together to resolve the issue (cardiac or respiratory arrest; city wide disaster responses). These temporary teams often cannot train together. An element of both categories of teams is that all the necessary skills be present to achieve a positive outcome.

Leadership refers to the need for one distinct leader for the emergency response team. The leader directs the team throughout the emergent event toward the common goal. For cardiac arrest teams, the goal is successful resuscitation; in disaster management, it is the safe evacuation of all in the disaster's path; in a fire, it may be the safe removal of patients and extinguishing the fire. The goal will vary depending on the exact situation. In CRM, the leader is considered an oversight role, not an active participant; the leader decides, prioritizes, and delegates to the team members the tasks to be completed to achieve the desired outcome (Fanning et al., 2013). The leader coordinates team members' activities by ensuring that the team has the resources needed, communicates clearly, and acknowledges that directions are understood and changes in goal attainment are shared in real-time (Gangaram et al., 2017). Leaders are encouraged to also empower all team members to speak up with any pertinent information they have that can assist in patient care and decision making.

The leader can be determined by skill set or institutional hierarchy. In medical situations such as a cardiac arrest, the leader is usually a physician or licensed independent provider (LIP), such as a nurse practitioner authorized to implement ACLS care. In some institutions, the leader may be the most experienced provider present but could also be a provider-in-training with an experienced provider or supervisor providing close supervision and support. The most critical point of leadership is that there must be one clearly identified person in charge. The leader needs to state this when assuming the role so all those responding are aware. Team training courses teach leadership skills emphasizing how to clearly articulate that they are filling the leadership role. For example, the leader declares in a loud voice, "I am Dr. Jones, and I will be leading this code blue." This statement clarifies for all involved who is in charge.

For any team with a leader, there must be followers. What defines the role of followers in an emergency? Followers also have distinct responsibilities based on their roles. The leader will direct all team responders in the follower role, and the roles will vary depending on the type of response. In a cardiac arrest, responders perform different standardized roles to administer ACLS protocols: performing cardiopulmonary resuscitation (CPR); assessment of pulses; timing of tasks; medication administration; performing medical procedures; and documentation/scribing of the event. For a fire, the roles may include extinguishing the fire, removing patients, activating the emergency response (911, code red, etc.), or shutting off the main oxygen. During a weather emergency, the responsibilities include ensuring adequate staffing, securing replacement staff, utility, and facility management, and troubleshooting issues that may arise. All followers should be adequately trained and competent to fulfill their roles; for example, skilled in using a fire extinguisher or appropriately licensed and knowledgeable for the role. For example, pharmacists are the knowledge experts on medications; from administration to ensuring that the medications are used appropriately during a cardiac arrest.

Role clarity, which is when responders are aware of their responsibilities during the emergent situation, is necessary to organize the team and minimize chaos. Roles may be assigned by a leader, self-assigned by the team member, or designated by a specific skill set. The leader must know that all essential roles are filled by a competent team member. These roles are dynamic depending on the emergent situation and the responding staff.

The leader must clearly identify who specifically should be performing a role/task. When a leader states, "can someone please monitor the patient's pulse" there can be confusion on who should be completing the task, leading either one person, four people, or no one (if everyone assumes that someone else filled the role) to monitor the pulse. The leader must specifically identify someone by name or by some descriptor. It is common that temporary formed responding teams may not know each other by name, especially in rarer emergencies such as disasters. For example, if you state, "Can you in the red sweater please write down all the patients that we send to the evacuation unit?" The person in the red sweater must then close the communication loop by acknowledging that they received the message. These small steps will help reduce confusion in chaotic situations and prevent delays in achieving the common goal.

Occasionally the roles are defined by the task being performed. Most cardiac arrest teams include a respiratory therapist and an anesthesiologist, who position themselves at the patient's head during the response. For example, some hospitals have standardized locations for where each responder should stand during a cardiac arrest in relation to the patient. When a standard role map is used in an institution, the leader can assess visually when a role is not filled and reassign someone to that task.

Workload distribution addresses the performance of multiple critical tasks that must be completed simultaneously. The leader is responsible for ensuring that all delegated tasks occur effectively by those most competent for the role. Workload distribution includes appropriate role delegation in an ever-changing emergent situation. Role delegation is not intuitive for many healthcare providers and is one reason why CRM behaviors are taught and practiced (Fanning et al., 2013). Leaders must continuously reassess the situation and confirm that the tasks are performed by the most competent person present at the time. Leaders also must consider the need to adjust roles within the emergency. Reassigning staff when a person's skill set may be better utilized in a different role falls to the leader. If a nurse is needed during a cardiac arrest to administer medications, the leader may ask the medical student who is BLS-certified to perform cardiac compressions and move the nurse to the nursing specific role. If the leader is the only provider competent in a specific task, then the role of the leader must be filled by another competent provider during the time the leader is otherwise occupied. This may occur when the leader is the only one present to perform a procedure such as a needle decompensation of a pneumothorax. The leader should ask another physician to assume the role of leader. For example, "Dr. Jones, can you assume the role of leader, while I perform this procedure." By stating this out loud, the entire team is aware that the leadership of the situation has changed. The leader understands that the concentration needed to perform the procedure precludes him from monitoring the entire team response.

The final concept under teamwork is requesting help in a timely manner. The hesitation in calling for help has been shown to increase adverse outcomes (Leonard et al., 2004; Ozekcin et al., 2015). Barriers to calling for help include personal (I may come across as not being smart), interpersonal (the person needed may have yelled at the leader in the past), cultural (I am in charge, and it is my job; SWAPNet, 2018). Calling for help early allows for the arrival of others who can offer second opinions, extra hands to complete all the tasks, and skilled team members to fill specialty roles.

One example of improved patient outcomes is the initiation of rapid response teams (RRT) to respond to situations immediately once a clinician suspects a subtle or noticeable decline in patient status. Hospitals that utilize RRT responses demonstrate improved patient outcomes by intervening before the patients experience cardiac or respiratory arrests (Jackson, 2017). An important skill is knowing when to call for help and which level of response is needed.

Many institutions have an internal disaster and emergency response plan. In today's changing world, there is a need for emergency responses of healthcare teams, for situations such as natural disasters (earthquakes, hurricanes, tornadoes), mass casualty events (train derailments, plane crashes, mass shootings, terrorist attacks) and infectious disease epidemics (COVID, Ebola). Internal disasters include events such as a power outage, infant abduction, or a combative patient. The Joint Commission requires hospitals receiving Medicare and Medicaid reimbursements to have established disaster planning and health system readiness, for disaster management (Al Harthi et al., 2020; Lagan et al., 2017). Plans can be developed

locally at the institution level or the state, county, and city-wide level. Leadership at all levels will provide direction to individual responders in disasters that involve more than one institution. The City of Boston instituted many levels of disaster responses during the Boston Marathon bombing. Each hospital that had casualties implemented its disaster plan, and the city itself implemented a city- and statewide response to move all injured to appropriate facilities.

Self-Assessment Quiz Question #3

What must be done to ensure effective leadership if the leader is the only person competent to perform a procedure?

a. The charge nurse must verify the credentials of the leader to perform the procedure.
b. All team members are consulted to choose the new leader.
c. The leader must identify a replacement leader and announce the change in leadership to the team.
d. The leader continues in the leadership role while performing the procedure.

Staff education on their role in various scenarios is necessary to assess and respond to the situation appropriately. Often, emergency response teams are activated when current resources may not provide the bandwidth to accomplish the necessary tasks. Local staff nurses must understand when to call for assistance and the appropriate level of help needed. The level of help will vary depending on intrinsic factors, such as the situation itself, location, time of day, levels of experience of caregivers/responders, situational complexity and institutional limitations. For example, a teaching hospital may have more resources available during the day when attending MDs and more support services are present. At night, resources are scarcer, often consisting of less experienced staff, and a call for help should be initiated sooner to allow for resource mobilization. Several persons should be trained in each role to allow for absences during an emergency situation.

Some institutions have layers of responses, and all staff must be educated on the appropriate response at a given time.

When a patient is decompensating, does the situation require a response from a physician, a rapid response level team, or the full response for an impending life-threatening event? This varies depending on the institution's policies and responding teams available. For example, if a patient is having increased work of breathing and the institution's rapid response activation brings a respiratory therapist and critical care nurse, this may be the appropriate team. However, if an imminent airway collapse occurs, the need for an anesthesiologist would require the activation of the cardiac arrest team, which includes the anesthesiologist, respiratory therapist, and critical care nurses. In the event of a disaster, the call for assistance may extend to external resources given the extent of the crisis. Knowledge of the institution's policies on when to utilize internal versus external resources is important.

Evidence-based practice! Since the implementation of rapid response teams, a level of team activations called at the first sign of patient decompensation, there has been a demonstrated decrease in cardiac arrests (Jackson, 2017). Implementation of a special team to respond to patients presenting with signs of sepsis has been shown to reduce mortality rates from sepsis (Simon et al., 2021).

Healthcare Professional Consideration: Responders to an emergent event need to either verbally state their role in the response or solicit from the leader what their role should be.

Self-Assessment Quiz Question #4

Emergency response teams are often called when current resources may not provide the bandwidth to accomplish the tasks needed. Therefore, local healthcare professionals must understand when to call for assistance and:

a. The location of the nearest telephone.
b. The level of help needed.
c. The increased cost to the patient.
d. When the family typically visits.

Communication

Communication is vital in any situation where multiple responders converge to remedy a situation. Human error is a common contributing factor in communication failures during emergent situations. When an error leads to an adverse event, a root cause analysis may be performed. A root cause analysis is the process used by an institution to find the cause of an adverse event and identify potential solutions. Root cause analyses of adverse events related to emergent situations often find either a lack of or ineffective communication as the cause. Emergent situations, by nature, are often chaotic. Often, multiple conversations occur simultaneously as responders attempt to either obtain or share pertinent information. Research on the effective attributes for team leaders ranks communication as the most important aspect in the successful management of an event (Mo et al., 2018). A leader's ability to communicate needs/directions concisely with closed-loop techniques increases success (El-Shafy et al., 2018). Closed-loop communication is the technique when the person making the request clearly states all elements of the request to a specific person who confirms that the request is received and, after completing the task, states it back to the leader or person who initially gave the request. A leader shouting orders into the room without identifying the recipient can lead to unattended tasks or over-allocation of resources to one task, leaving another important role unattended. For medication requests, the best practice is to request the medication, including all pertinent elements – medication, dose, concentration, and route. The person preparing and administering the medication should restate the medication, dose, concentration, and route to prevent errors. It is also important for medication administration to verify that the medication is still needed before administration as most emergent responses are dynamic, and the patient's condition may have changed.

One example of effective closed-loop communication is the following exchange between the Licensed Independent Provider (LIP) and the nurse treating a patient who is experiencing an anaphylaxis type event:

LIP: Nurse, please prepare a dose of epinephrine 0.3mg of the 1mg in 1 mL, for IM administration.

Nurse: Preparing epinephrine 1 mg./ mL 0.3 mg for IM administration.

Nurse: Epinephrine 0.3 mg is ready to be administered IM. Do you want me to administer now?

LIP: What is the concentration?

Nurse: 1 mg in 1 mL.

Physician: Yes. Please administer now.

Nurse: Epinephrine 0.3 mg of 1 mg/1 mL has been administered IM at 3:10 p.m.

Documenter records time of administration: Epinephrine (1mg/1 mL) a dose of 0.3 mg IM administered at 3:10 p.m.

In the example above, all the elements of a safe medication administration were addressed during the exchange, preventing an error of the wrong dose, concentration, or route. Epinephrine is one medication that is prepared based on concentration and administered differently depending on the situation – anaphylaxis versus cardiac arrest and supplies on hand.

Closed-loop communication should also be used when asking for tasks to be accomplished. For example, when needing to assign a new role:

Leader: I need someone to contact the cardiac cath lab. Joe, can you contact them?

Joe (*medical student*): Yes.

Joe (*after calling cardiac cath lab*): I called the cardiac cath lab and they stated they want us to call back when patient is stable to travel.

Leader (*acknowledging receipt of message*): Thank you, Joe.

Another form of communication used in CRM is known as "state of the response." The state of the response involves the relay of information between the leader and team members on the activities and status of the response. These communications occur at frequent intervals and provide the team with the specifics on what has occurred, allowing the team members who arrive at different times to be updated on what has happened and the current status. The state of the response communication can also be used to solicit input from any team member on tasks completed or ideas on future interventions.

The following is an example of this state of the response, or state of the union, communication by the leader during a cardiac arrest:

MD Leader: "We are at 4 minutes. Patient Doe was found unresponsive and pulseless. CPR was initiated at that time; initial rhythm was identified as PEA (pulseless electrical activity). One dose of epinephrine administered at 2 minutes. We are now going to reassess the cardiac rhythm and pulse; CPR will continue if rhythm unchanged. We will explore the H's & T's to identify the cause of the PEA. Does anyone have anything to add?"

RN: I sent the morning chemistry and the lab just called. The potassium is critically low at 2.2.

MD Leader: Thank you, let's consider hypokalemia as part of the issue and initiate some treatment. Pharmacist, can you prepare for an infusion of potassium? Also, we need to check magnesium level and should anticipate replenishing that as well."

During a cardiac arrest caused by PEA, the best way to treat the PEA is to identify the cause. The causes of PEA arrest are often referred to as the H's & T's.

H's	T's
• Hypovolemia.	• Tension pneumothorax.
• Hypoxia.	• Tamponade, cardiac.
• Hydrogen ion (acidosis).	• Toxins.
• Hypoglycemia.	• Thrombosis-pulmonary.
• Hypo/Hyperkalemia.	• Thrombosis-coronary.
• Hypothermia.	• Trauma.

In this case, the nurse added that lab abnormalities potentially caused the situation. This technique allows for controlled conversations to occur among the team in a succinct way so that important information is not lost in the chaos of an emergent situation. Also, the summarization of events, and the naming of the situations like PEA for a rhythm or active shooter for an environmental response, gives all responders a shared mental model of the situation. All cardiac arrest team members usually have ACLS knowledge and know that the PEA algorithm is different from the ventricular fibrillation algorithm.

Those in an environmental response know that an active shooter response differs from a fire response. In each situation, the leader may eventually become a person from outside the institution, such as the fire chief or the police responders. Attention to their instructions can be lifesaving.

Experienced leaders may state something such as, "I am going to summarize the events so far; please keep performing your assigned tasks while I speak." This prevents the disruption of crucial tasks but gains all members' attention. This open sharing of information allows all members to actively be involved despite any preconceived hierarchy.

Some institutions have a process called "stop the line" or CUS (concerned, uncomfortable, safety issue) in their emergent response procedures to give all members of the team a chance to pause actions if they feel something unsafe may be occurring (Cammarano et al., 2016; Hunt, et al., 2007). An example of this may be ordering a medication for a situation that is not appropriate (an allergy, incorrect dose, or misidentification of the cardiac rhythm) to prevent an adverse outcome. "Stop the line"/CUS should trigger a conversation where the leader explains the rationale for a specific action or clarifies the action. Stopping the line is a critical method of communication for nurses, who often have knowledge and experience in emergent situations, but may feel restricted in speaking out in a hierarchical team setting with those they perceive to have higher authority. An example may be in a teaching institution where the relatively inexperienced MD leader orders a dose of medication that is incorrect, and the experienced pharmacist responding to the situation states that the correct dose of that medication in this situation is different.

Universal time-outs in the operating room and procedural settings were developed to equalize all team members around patient safety (Van et al., 2017). By stopping to check for the accuracy of the surgical site, correct procedure, and patient identification, serious errors may be prevented. Universal time-out procedures are an important safety process that allows for conversations that impact patient safety during critical situations when a patient may not be able to speak for themselves. This process allows all involved to speak up and raise concerns and is supported by the Joint Commission in the National Patient Safety Goals as a safety component helpful in reducing wrong patient and wrong side procedures (Gonzalez et al., 2018).

Self-Assessment Quiz Question #5

What form of communication allows any responder to an emergent situation to pause action for clarification?

a. Shared mental model.
b. Equal hierarchy.
c. Stop the line.
d. Closed-loop communication.

During a time of chaos, as in emergency responses, all responders must be aware of what they are communicating. During emergencies, a type of common communication that can occur is termed "collateral communication." Collateral communication occurs when important conversations happen among multiple team members and may or may not be necessary for the situation's outcome. An example of an important conversation may be one between the RT and anesthesiologist on the difficulty of placing the endotracheal tube.

Anesthesiologist: I have the tube in place, but I did not have clear visualization of the vocal cords, are you meeting resistance in bagging?

RT: I am meeting some resistance. I am going to check breath sounds. (RT listens to the chest and abdomen).

Anesthesiologist: Are they equal?

RT: There are diminished sounds on the left. You may be in the main stem.

Anesthesiologist: I am going to pull this ET out and retry. Prepare AMBU ventilate.

This conversation may impact the situation and should be shared with the leader:

Anesthesiologist: We had difficulty with the first attempt at intubation. We are going to try again after re-oxygenation.

Leader: Thank you for the update. Can you maintain the airway?

Anesthesiologist: Yes, bag mask ventilation is effective.

Leader: Let me know when you secure the airway.

Another example is the conversation between the nurse and the pharmacist about the calculations for a drug dosage.

RN: The leader wants us to prepare a dopamine infusion at 5mcg/kg/min.

Pharmacist: The standard concentration of this infusion is in the code cart and is 400mg in 250 mL. Will you be administering via the infusion pump?

RN: Yes, I will be using the smart infusion pump medication programming.

This conversation does not need to be shared with the leader but is necessary for the responder's role. The participants must assess collateral conversations as to their necessity and whether they need to be brought to the entire team and leader's attention.

Patient safety is the goal in emergent situations, and effective communication skills directly impact patient outcomes. Closed-loop communication combined with verbal read back of medication and procedural orders from the leader ensures that the entire team is aware of the progression of care in an often-chaotic situation. Followers are integral members of the response team, and their communication throughout the situation can add to successful outcomes and reduction of adverse events.

Evidence-based practice! Universal time-outs are an example of safe communication practices that ensure all systems are in place to prevent adverse outcomes. These protocols allow for equalization of all team members in providing for patient safety (Van et al., 2017).

Healthcare Professional Consideration: Healthcare providers must ensure that all verbal orders for interventions and medications are communicated in a closed-loop format, using a verbal read-back format to the ordering provider to verify the correct order.

Self-Assessment Quiz Question #6

The participants must assess collateral conversations regarding their necessity and:
a. Whether or not they delayed treatment.
b. If they need to be documented.
c. If the patient's family should be included.
d. Whether they should be brought to the leader's attention.

Resource allocation and environmental awareness

Knowledge of the environment is crucial for effectively managing an emergency. All team members who respond or can be involved in an emergency must know where equipment, medications, or supplies are located and how to use them. Many institutions provide the orientation to environments at the start of employment; however, periodic refresher training is essential. All staff should learn where the crash/code cart is for cardiac arrest response. Staff should be aware of the location of fire extinguishers and oxygen shut-off valves in case of a fire, as this is necessary for effective responses and part of their role. Healthcare providers in hospital and non-hospital settings should know the evacuation route, fire safety plan, and medical emergency equipment (AED, for example). All staff should also be aware of the internal and external disaster plans and their roles in the response. Knowing how to access response teams is another component of resource allocation. Knowledge includes understanding how the response team activation changes at different times (weekends, holidays, and off-shift times).

CRM behaviors include anticipation and planning for all potential outcomes of an emergent situation. An example of the variable nature of CRM is how the response to a cardiac arrest within a hospital has different steps than a similar situation in an outpatient or other setting. Outpatient cardiac arrests or medical emergencies may include the stabilization for external transport. Staff must know the steps to follow in these low-volume, high-acuity situations. For example, staff in an outpatient setting should know the procedure for contacting the ambulance service – is the policy to call them directly or activate the community 911 service? Training for this type of situational response should include earlier activation to enhance better patient outcomes in the hospital setting.

Resource allocation includes the appropriate use of trained and untrained personnel and the use of all available equipment. An example of using untrained staff may be asking the clinic's non-medically trained receptionist to go to the main entrance and show the EMS responders to the correct room. Inadequate use of available resources is a significant cause of adverse events in healthcare in CRM research (Abualenain, 2018). Team members' knowledge of how to access the resources and understanding potential barriers or reasons for personnel or equipment delays can make a difference in patient outcomes.

Self-Assessment Quiz Question #7

Knowledge of the protocols for responding to a fire is an example of:
a. Collateral communication.
b. Shared mental model.
c. Closed loop communication.
d. Resource allocation.

Dynamic decision-making in a crisis

Dynamic decision-making occurs when decisions are made related to the information presented and responses to actions performed and environmental factors. These complex decisions must occur in real-time and are influenced by the experience level of the decider (Edwards, 1962). The elements of dynamic decision-making include situational awareness, implementation of all available resources, use of cognitive aids, and avoiding fixation errors. Responding to an emergency is stressful, and the stress and urgency can impact the ability to function effectively during the situation. When the responder uses all available resources during a crisis, it improves their ability to make effective decisions during an ever-changing event (Fanning et al., 2013). This section will explore the concepts of dynamic decision-making as used in team settings.

A team, as defined by Salas (1992), is "two or more people who interact dynamically, interdependently and adaptively toward a common and valued goal/object/mission, who each have been assigned specific roles or functions to perform, and who have a limited lifespan of membership" (p. 4). Teams that respond to codes, rapid response, medical emergencies, and disasters all fit this description. The teams must function effectively to meet the shared goal. Each individual who is part of a team in healthcare brings their specialty-specific knowledge and training to the situation to achieve the desired outcome. The leader of the team uses knowledge of the individual members' skills to achieve a positive patient outcome.

Situational Awareness

An individual's situational awareness is the perception of critical information and data from the environment based on both past experiences and expectations. Each team member must be able to perform their specific tasks. The information utilized during the situational awareness process comes from the person's working memory, leading them to decide on the actions best suited to the event at hand (Salas et al., 2017). When applying situational awareness to a team, the process becomes more complex as both communication and information sharing affect all members present. As the central point person, the leader integrates all the data collected from the members and then communicates to the team their decision-making process to achieve the shared goal. The process is dynamic as there is a constant reassessment of the situation and adjustment of actions based on the data perceived. An example of this would be sharing of information related to a patient's current status during a pulse check during a cardiac arrest.

RN: Patient is still without pulse and lab just called up a potassium of 2.1.

MD: The current rhythm is still PEA.

Leader: Thank you, please continue CPR. We have given 2 rounds of Epi. Prepare for the third dose, and given the potassium, let's prepare to administer some potassium, Pharmacy do you have some suggestions?

The leader in this example gathered information, summarized, and dynamically decided an action based on the information shared. This leader also demonstrated the use of expert knowledge in formulating the plan.

Self-Assessment Quiz Question #8

The implementation of available resources, situational awareness, and use of cognitive aids are concepts utilized in what process?

a. Stop the line.
b. Dynamic decision-making.
c. State of the union.
d. Collateral communication.

Situational awareness in healthcare is enhanced when team members notice the subtle cues presented and reassess these cues to prioritize actions specific to the situation (Fanning et al., 2013). An example is when a team is responding to a medical emergency of a person found unresponsive in a lobby located in the building where the diabetic and nutrition clinic is located, and the team leader uses data to evaluate the situation. This dialogue represents the clinical team's use of situational awareness:

Security guard: I did not see anyone nearby when I walked into the lobby and called the alert. It does not appear that this man was assaulted.

RN: When I arrived, I found this person on the ground, unresponsive to touch and voice, low respirations and heart rate of 50. There is no one who knows this person.

MD: Do we know if this person is wearing any medical condition alerts? Perhaps they are a diabetic since we are in the same building as the clinic. Nurse can you support respirations and security can you call for transport to ED?

RN: No alert bracelet is on the patient.

Security: There is a prescription bottle in this pocket for oxycodone.

MD: Okay, let's reconsider what may be happening. Nurse, can you get a blood sugar, monitor respirations, and consider the possibility of an overdose of narcotics? Let's get him to the ED so we can give Narcan.

The MD leader needed to adapt to new information presented and adjust actions to the situation. In this example, the lack of a medical alert bracelet and discovering a prescription bottle steers the physician from further assessment for critical alterations in blood sugar levels to potential opioid overdose. Medical dynamic decision-making uses patient observations of patient presentation and status and incorporating new data into making the appropriate decisions. Continued adaptation is necessary as priorities and interventions will constantly change throughout the situation.

Members of the Royal College of Physicians and Surgeons in Canada (2017) have produced a comprehensive document on CRM in which they have divided the concept of situation awareness into three levels, including their corresponding definitions and potential risks (see Table 1). Level One is attention to diagnostic cues and prioritizing those cues most relevant to the situation. A practiced clinician will successfully hone in on essential cues based on experience and retain the relevant ones while disregarding less important or irrelevant ones. In this process, one must avoid fixation and overlooking other relevant cues that will aid in decision-making and potential alternative diagnoses. Level Two is synthesizing all cues, critically thinking about, and integrating, all presenting information to understand the situation completely. Novice clinicians will be less capable of pulling cues and information together to gain a comprehensive picture of the patient situation. These skills emerge and evolve with experience. Level Three of situational awareness, which builds upon the previous two, is a prediction of outcomes. This process entails pulling together relevant cues, patient history, and clinician experience to predict what happens next. Again, more experienced clinicians will draw on their prior experiences and knowledge to minimize errors in prognosis and continue to react to new information and cues as they arise.

Table 1. The Three Levels of Situation Awareness

Level	Pros	Cons
One: Recognition of Cues	• Attention is focused more quickly on important cues. • Irrelevant cues are discarded to facilitate more efficient decision-making.	• Attentional blindness or fixation errors can cause premature cognitive closure because of reliance on assumptions and/or prior knowledge.
Two: Synthesis of Cues	• Prior experience and knowledge is used to more quickly and efficiently synthesize information.	• Tendency to favor common and easily retrievable patterns may result in misdiagnosis.
Three: Prediction	• Future events can be anticipated and planned for (i.e., being proactive rather than reactive). • Additional resources can be prepared earlier in the treatment sequence.	• Errors in predication can result in under- or over-cautious responses.

Note. Adapted from Brindley, P.G., & Cardinal, P. (2017). *Optimizing crisis resource management to improve patient safety and team performance: A handbook for all acute care health professionals*. Royal College of Physicians and Surgeons of Canada.

Resources

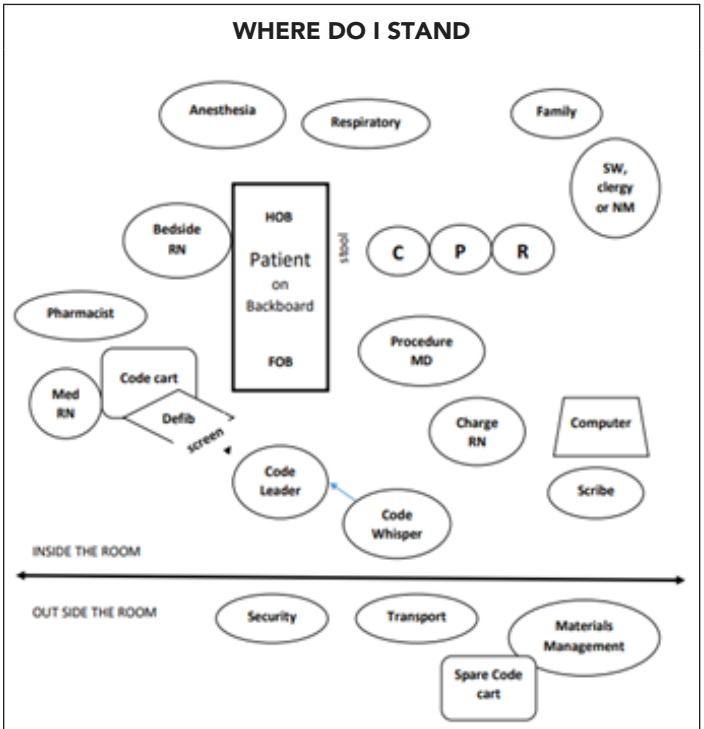
Responders to a crisis must rely on multiple facets of information, including memory, past experiences, and established standards of care, to provide the necessary interventions during the emergency. Each team member needs to be able to obtain and process the information to prioritize care. Information sources used in an emergency include medical records (hard copies and electronic for past medical history, laboratory data, current hospitalization data) and internal and external internet resources (policies and procedures, protocols, medication guidelines, and standards of care). The leader may assign a responder to research data from these resources; a skilled leader may often ask a less technically skilled staff member to perform this task. Medical students at a code may be asked to review the patient's record for lab results or pertinent history. The leader should know the non-technically skilled person's knowledge level and ensure that the person assigned this task understands the context. When assigning the task of looking for pertinent lab values, the leader may need to provide guidance- "please look for all abnormal electrolyte values and report back". Leaders of other members may need to provide more direction to the less experienced staff. The leader in the example above stipulated that they wanted a review of recent electrolytes for the potential diagnosis of cardiac arrhythmia.

Cognitive aids

Using cognitive aids is a common practice in emergent situations. Cognitive aids are tools developed to assist in decision-making during a crisis, and their purpose is to provide pertinent information necessary to formulate a plan of action related to the context of the situation. Cognitive aids ensure consistent delivery of evidence-based care based on research and practice, and teams that use them have more appropriate, efficient decision-making (Goldhaber-Fiebert et al., 2016). Cognitive aids used in emergencies have been established for life-saving protocols, including BLS, ALCS, and PALS (pediatric advanced life support), malignant hyperthermia protocols, surgical safety checklists for the ORs, and OB hemorrhage and emergent C-section pathways (Alidina et al, 2018).

Cognitive aids must be evidence-based and approved by the institution as best clinical practice or standard of care. Some cognitive aids are well-known and accepted; for example, all the American Heart Association (AHA) protocols for life support and advanced life support. They are updated based on evidence-based research every five years, with the last update occurring in 2015 (Hazinski et al., 2015; Merchant et al., 2020). Most institutions accept these algorithms for responding to cardiac arrests.

The individual institution can develop other cognitive aids. An example is a map of where responders are expected to stand when responding to a cardiac arrest. The "Where Do I Stand" figure was developed by a large academic medical center and shows the key roles of responders and their functional position centered on the patient. The figures provide a visual representation of responders and can assist other team members to notice if any members are absent, allowing someone to assume the role. The anesthesiologist and respiratory therapist deal with the airway and always stand at the head of the bed. The pharmacist and medication nurse stand at the code cart to prepare the medications. If the event is documented within the electronic medical record, the nurse or scribe who records the event will be at the computer.



Where do I stand diagram for code blue responders at Jones Medical Center. CPR represents three staff who alternate every 2 minutes. Code Whisperer supports code leader. Defibrillator is located on code cart, but is placed so code leader can view monitor screen at all times. If family present, they are supported by social worker, Clergy or nurse manager.

Notice on this figure (Corey, 2016) that there is also a role called the "code whisperer." This institution has a person assigned to support the leader. The institution is an academic facility, and often less senior and inexperienced staff may act as the leader in an emergency. The code whisperer may be a more senior or experienced staff member with a cognitive aid such as the AHA ACLS card, providing cues and protocols to the leader of the event.

Evidence-based practice! ACLS, BLS, and PALS are cognitive aids developed and updated every 5 years by the American Heart Association to assist a responder in life-threatening events such as cardiac arrest, choking, and pediatric emergencies (Merchant et al., 2020).

Healthcare Professional Consideration: Health Care providers, in their role in a response, collect data through assessment of the patient. It is imperative that pertinent data is shared with the leaders of the response so that timely decisions can be made incorporating all the data points.

Self-Assessment Quiz Question #9

"Where Do I Stand" is an example of a:
a. Cognitive aid.
b. Response algorithm.
c. Mnemonic device.
d. National response tool.

Fixation errors

Situational awareness, necessary for managing a crisis, requires the team to be cognizant of what is going on in the immediate environment. Fixation errors occur when a team member stalls on only one aspect or detail and may miss other pertinent data, and there is a failure to change the course of action without consideration of any new information (Fioratou et al., 2010). Fixation can be related to tasks or diagnosis (SWAPNet, 2018). There are three main types of fixation errors: *This and only this;* **Everything but this; and Everything is OK** (Ortega, 2018).

This and only this is the inability to see any other possible solutions to a situation except the one the person is doing. An example is when a leader may believe that the patient's symptom of desaturation is related to an airway issue (misplaced endotracheal tube) when the issue may be circulatory collapse. The interventions for these causes are very different. Time spent focused on the airway and reinserting a perfectly functioning airway while not focusing on the low perfusion and shock state could negatively affect the patient's outcome. Communication to the leader on new information is critical in preventing this type of fixation error (Ortega, 2018). This type of error can be avoided by the leader stating what they see as the cause or diagnosis during the state of the response updates and then allowing other respownders to provide input.

The **Everything but this** fixation error is when the responder pursues irrelevant data and does not choose the best course of action for the issue (Miller et al., 2014). An example is when, after inserting an endotracheal tube, the anesthesiologist meets resistance when ventilating the patient and explores the possibility of tube misplacement, rather than that of a foreign body, pneumothorax, or chest wall rigidity. The time spent reinserting the tube caused the patient to be hypoxic longer than necessary and delayed searching for the actual cause of the desaturation. This error is often seen when a provider has less experience in the presented situation. Communication among team members and asking the team for input allows the entire group to play a part in the decision-making on a course of action for this type of error.

The final type of fixation error is **Everything is OK**. This is when an abnormal finding is attributed to an artifact or the failure to recognize signs of deterioration (Fanning et al., 2013). For example, the vital sign finding of low oxygen saturation is attributed to a detached probe when the patient may be in

respiratory arrest or recycling the BP because no blood pressure was registered. Utilizing assessment data from multiple sources can prevent this error. For example, in this situation, a clinician should be assessing the respiratory rate and effort as well as using the cardiac/respiratory monitoring systems. All three of the fixation errors can cause delays in treatment and increased mortality and morbidity. Using team members for alternate solutions is one strategy in preventing or identifying fixation errors early. Another strategy is to conduct team training that includes examples of these errors in a simulated event and to have the team members practice the communication techniques of closed-loop, state of the response, and stop the line.

Evidence-based practice! Fixation errors are something that crisis responders want to avoid. A fixation error is failure to change course of action without considering any new information (Fioratou et al., 2010). There are three main types of fixation errors: The and only this; Everything but this, and Everything is OK (Ortega, 2019).

Self-Assessment Quiz Question #10

The fixation error of not being able to see any other possible solution to a situation is known as:
1. This and only this.
2. Everything but this.
3. Everything is OK.
4. Where Do I Stand?

SPECIALTY TEAM MEMBER ROLES

Nursing

There are multiple roles for nursing in a crisis. The role will depend on the situation, whether it is medical in nature or a response to an environmental issue. The roles in a medical response will be related to a nurse's professional scope of practice as designated by the Board of Registration in the state of practice. Nurses who practice at advanced levels, such as nurse practitioners, may function at the higher level as a licensed independent practitioner. Typical roles for the staff nurse in a hospital-based cardiac arrest response include the bedside nurse, medication nurse, scribe, and circulator. Nurses in outpatient facilities, school nurses, prison nurses, or nurses in extended-care facilities may be expected to carry out extended CPR and disaster management roles according to established protocols. However, limited resources in these environments do not allow nurses to function beyond their legal scope of practice.

The patient's nurse should always stay in the room with the patient. This nurse knows the patient's history, most recent baseline state before any change in status, and may also have a relationship with the patient and family and can offer the additional relevant information as a result. For example, in response to a suspected active acute stroke, the bedside nurse will likely know the last well time, what medications the patient is on, and when they last had something to eat or drink. This can also apply to the outpatient setting, where the staff member or family member who is most familiar with the person having an emergency remains at their side to detail the events leading up to the situation.

Medication administration is one major nursing role during a crisis. Medication administration is within the scope of practice for nurses under LIP orders. Nurses in this role must practice closed-loop communication and verbally read back to verify the order given and understand the typical medications they are administering. Nurses in outpatient settings will need to know common situations that may occur in their setting and what the institution has on hand to assist the patient. For example, in an outpatient day surgery setting, the nurses would be trained for anesthesia-related emergencies or post-operative recovery situations. They would be familiar with narcotic reversal medications and medicines used for airway situations under the direction of the anesthesiologist. All nurses who work in inpatient or outpatient areas where medications are administered should also be aware of the treatment for severe allergic reactions, common medications used for them, dosing, and administration methods.

As administrators of medication, nurses should be aware of the resources available for them in this role. Pharmacists are also resources for medication storage, preparation, dosing, and administration. Medication guidelines may be stored with the emergency equipment/go-bag or available links for online resources. Some institutions have internal medication guidelines for their code teams on the crash/code cart. Others rely on commercial resources like the Broselow tape, which lists by color and weight the medication doses and equipment sizes for pediatric patients (DeBoer et al., 2005) or the AHA's ACLS, PALS, NRP (Neonatal Resuscitation Program) algorithm cards.

The scribe documents all the care and data during an emergent situation, including the time of treatments, medications, actions, and other important information, such as vital signs and patient assessments. There is often a scribe during situations such as fire and environmental disasters where patients are evacuated. To accurately account for the safety of all patients, there must be a record of all patients leaving the impacted unit and arriving safely to the planned evacuation unit. The scribe in this situation will also document the departure and arrival of all personnel and visitors.

In hospital settings, the nursing leadership will fulfill the role of bed manager. For medical emergencies, they will ensure that the patient is in the unit to provide the correct level of care. For environmental emergencies, they may oversee the relocation of affected patients with respect to the patient's acuity and staff resources. Decisions for the transfer of patients that are necessary for internal or external disasters are made by nursing management. Immediate rescue of patients may be made by the nurse first responding.

Pharmacists and respiratory therapists

Another resource that may be available in the hospital setting for code responses is a pharmacist. When a pharmacist is a code team responder, there has been a reduction in medication errors during resuscitation (Bolt et al., 2015; Ferguson et al., 2019). Pharmacists should be comfortable using the emergent drug systems on the code/crash cart and have a familiarity with the preparation of emergency medications.

When a pharmacist is part of the stroke response team, their knowledge of the preparation and administration of tPa is useful to the quick response of treatment for the patient. Respiratory Therapists have a specialized role of assisting in maintaining a patent airway partnering with the anesthesiologist. They provide bag-mask ventilation, assist with endotracheal intubation and support.

Pharmacists and Respiratory therapists will need to know the standards and regulations of both the institution and state where practicing related to their specific role in responding to an emergency.

Case study #1

Sarah is a nurse working in a subacute care facility. She has been working there for slightly over one year. Today she has a typical patient assignment and has also assumed the charge nurse role of her 25-bed unit. She is working with two other nurses: Jane, an LPN studying for her RN license and Ken, a per diem RN employee; and three nursing assistants: Dotty, a long-term employee in the nursing assistant role; Jeanne, a new nursing assistant who started less than a month ago; and Helen, a nursing student who works per diem as a nursing assistant. It is the 11 p.m. to 7 a.m. shift on a weekend night. The patients are

all stable, and the shift has been uneventful so far. At around 3 a.m., there is a burning odor coming from the kitchen area on the unit. Helen yells out that the coffee maker is on fire and that the flames are all over the table in the middle of the room. She runs into the hall and leaves the kitchen door open.

As the charge nurse, Sarah knows that she has a lead role in this emergency and has responsibilities related to fires. She cannot remember the specifics of her responsibilities but recollects that there is a manual on the unit at the nurse's station that has the disaster plans. As she runs to the desk, the R.A.C.E mnemonic immediately comes to mind. The following dialogue starts among the team:

Sarah calls out to Helen: Is the fire small enough to use a fire extinguisher on?

Helen: No, it is all over the room.

Sarah: Helen, please shut the door.

Sarah: Can someone call 911? Let's all shut the patient doors.

Jane and Ken start running down the hall shutting doors. Dotty and Jeanne also start closing all the other doors. Sarah runs for the extinguisher. It is another minute before Sarah realizes that the call to activate 911 did not occur. At the same moment, Ken realizes that no one activated the fire alarm and pulls the alarm. Smoke is starting to fill the hallway near the kitchen.

Jane: Do you think we need to move the residents in the two rooms near the kitchen?

Sarah: I think we might need to. Where do we move them to?

Jeanne: In orientation, they told me that there is an evacuation route for each unit, and it should be located at the nursing station.

Dotty hears this and runs to get the evacuation plan.

The night supervisor arrives after hearing the fire alarm and, realizing that there is a fire, asks what the situation is. Sarah immediately tells the night supervisor that they smelled smoke and Helen noticed the fire in the kitchen. The fire was too big to extinguish, so they closed the doors to all the rooms and pulled the fire alarm. She explains that they were just deciding if they need to move the residents in the rooms near the kitchen and where to move them.

Question:
What actions in the above scenario would be classified as components of CRM?

Discussion:
The scenario in the case study included the following components of CRM:

- **Leadership**: Sarah realized that she was the charge nurse and had a role as leader in situations such as a fire on the unit per the institution protocol.
- **Role assignment**: Sarah was aware as the charge nurse/ leader that she needed to make sure that certain roles were filled to complete the necessary tasks. She assigned Helen to close the door to the kitchen, and asked that other tasks be attended too, such as calling 911 and shutting patient doors.
- **Communication**:
  - ***Closed loop***: Sarah initiated closed loop communication with Helen, asking her specifically if the fire was too large for the extinguisher, and, based on her response, assigning her the additional task of closing the kitchen door.
  - ***State of the union***: Sarah demonstrated a state of the union communication when she filled the nursing supervisor in on what actions had occurred up to that point in a succinct manner.
- **Resource allocation**:
  - ***Cognitive aids***: Sarah remembered that there were resources available for her to use during this type of emergency. She remembered that there was a manual for fires, the R.A.C.E. mnemonic, and Jeanne mentioned there was an evacuation plan for the unit.
  - ***Human resources***: Sarah delegated tasks and assessments to all the members of her team that were present during the emergency.
- **Situational awareness**: Sarah was aware that there was a situation and she needed to be a leader, assigning tasks and anticipatory planning for further escalation (need for evacuation of certain residents). She used data given to her from the team members — the inability to contain the fire and the potential risk to some of the patients located close to the fire – to further her decision-making.

Question:
What could have been done differently in the above scenario to improve the response to the emergency?

Discussion:
Areas for improvement based on the different components of CRM:

- **Leadership**: Sarah realized she was the leader, but she did not explicitly state this to her coworkers, who had varying levels of experience and may not have been aware that the charge nurse assumed leadership during an on-unit crisis.
- **Role assignment**: Sarah assigned Helen a specific role, and herself the role of getting the fire extinguisher. She should have delegated this to a team member. She did not explicitly state who should call 911 or shut all the patient doors, and her staff responded by all moving to close doors and no one called 911. She also did not assign anyone to pull the fire alarm, which may have alerted internal responders sooner. Without naming a specific person to carry out an important task, the task may not be completed at all or in a timely manner.
- **Communication**:
  - ***Closed-loop***: Sarah should have used closed-loop technique to ensure her role assignment was conveyed. By making eye contact or asking the person if they understood her ask, the loop would be closed. Any person completing a task must close the loop by stating that the task is completed. Sarah also should have verified, verbally, that someone called 911 if she did not get confirmation from the person assigned.
  - ***State of the union***: If Sarah had done a brief state of the union with her staff earlier, she likely would have realized more quickly there was an evacuation plan for the unit. She should have asked at the end of the state of the union, "Does anyone have anything to add?" Jeanne would have then mentioned the evacuation plan.
- **Resource allocation**:
  - ***Cognitive aids***: The institution where this fire occurred had a mnemonic tool (cognitive aid) to follow in case of a fire.
  - ***R.A.C.E.***: The R stands for Remove or Rescue. There was no one in the room of the fire to remove or rescue. However, nearby patients and those with respiratory compromise may need evacuation. A is for activation. Sarah did ask for activation – calling 911 – but did not assign someone which resulted in a delay, and she did not assign anyone to pull the fire alarm. C is for contain. Sarah did have Helen contain the fire to the kitchen by closing the door. E is for extinguish/evacuation. The decision that the fire was too large to extinguish was explored and made early. Sarah was in the process of deciding on evacuation when the supervisor arrived, discussing the need to move some at-risk residents with Jeanne and Dotty and remembering and obtaining the evacuation plan (cognitive aid).
  - ***Equipment***: In this scenario, specific equipment that team members would need to know how to use include timely use of the fire extinguisher, knowledge of the different types and when to deploy and use the correct one. The fire was considered too large for a fire extinguisher, but Sarah ran for the extinguisher later in

her response. Also, how to activate help for a fire, by locating and pulling the fire alarm.
    - ***Human resources***: Sarah did not immediately call for the internal human resource available to her – the nursing supervisor who has expertise to help her make decisions.
- ***Situational awareness***: As the leader, Sarah needed to be aware of a lot of information. She needed to free herself from task completion which distracted her from noticing changes in the situation and adapting as needed to ensure safety on the unit. An actual fire in a health care institution is a low volume high acuity event. All staff should participate in drills and review their role in such an event.

Case study #2

Theresa is a nurse on a medical surgical unit in a community hospital. She has been a nurse for over three years and only recently started working at this hospital. She has been trained in BLS and ACLS. She is working with three other nurses and two nursing assistants. On this weekend day shift, the hospitalist just arrived on the unit to see a patient that Theresa's coworker, Liz, is worried about.

Liz's patient is an elderly woman with pneumonia and heart disease. She has had increased work of breathing and her oxygen saturation has dropped to 90% on 2 liters by nasal cannula. Before the physician gets to the room, Liz calls out that her patient is unresponsive.

Theresa tells the unit coordinator to call a code blue and grabs the crash cart on her way to the room. She tells John, the nursing assistant, to remain on the floor and direct the response team to the patient's room when they arrive, and then to answer any call lights from other patients.

When she gets to the room, Liz is performing cardiac compressions and telling the physician that the patient desaturated as low as 68% and was gasping right before she became unresponsive and pulseless. The physician has his ACLS card open in his hand to refer to.

He verbally states that he will be in charge, and then asks Theresa to prepare epinephrine and the defibrillator. Theresa tells the other nurse, Jo, to put the backboard under the patient and then place the defibrillator pads on the patient.

Some of the responding code team members enter the room (ICU MD, pharmacist, and medical students). The physician leader begins directing code team members. He points to the medical ICU MD and says, "Can you assess the pulse and monitor the heart rhythm as soon as the defibrillation pads are attached?" The ICU MD nods assent. He then points to the first medical student and says, "Can you relieve the RN and continue compressions, changing at least every 2 minutes?" The medical student states he will. The physician then addresses Liz. "Liz, can you document please?" Lastly, he speaks to the second medical student. "Can you relieve the other med student as needed in administering compressions?"

The respiratory therapist (RT) and anesthesiologist arrive in the room.

***MD leader**: "Can you, Respiratory and Anesthesia, secure the airway and manage ventilation?"*

RT confirms task assignment heard with a nod at the leader.

Anesthesiologist: "What is the patient history and situation?"

***MD leader**: "The patient is 80 years old with worsening respiratory distress and became unresponsive and pulseless. Compressions were started. We are approaching 2 minutes. We will assess rhythm and defibrillate if necessary and administer epinephrine. Does anyone have anything to add?"*

No one adds anything. Jo places pads on the patient and turns on the defibrillator.

***MD leader**: "Two minutes. Let's pause compressions and switch compressors."*

***MD leader** (speaking to the ICU MD monitoring the patient's pulse): "Is there is a pulse?"*

***ICU MD**: "There is still no pulse."*

***MD leader** (looking at the defibrillator screen): "The rhythm indicates VF. Please prepare to defibrillate. Resume compressions."*

Jo turns the defibrillator to manual mode and asks the MD leader: "How much do you want me to set the defibrillator for?"

***MD leader**: "200 joules. Pharmacy and Theresa can you prepare 1 mg of epinephrine (1 mg/10mL) for IV push?" I also want to prepare a dose of Amiodarone.*

***Jo**: "Defibrillator is ready to deliver. Do you want me to proceed?"*

***MD leader**: "Yes, clear the patient and deliver the shock."*

***Jo** (delivers shock): "Clear please, shock was delivered."*

Liz documents the time of shock.

***MD leader** (to med student): "Please continue compressions."*

The nursing supervisor arrives and states that she will work on obtaining an ICU bed. The anesthesiologist and respiratory therapist are having a whispered discussion at the head of the bed. The anesthesiologist is having trouble seeing the vocal cords and placing the endotracheal tube. He is getting ready to make a third attempt. The RT ventilates the patient between attempts. The MD leader notices that there is a conversation between the two and asks the RT if there is a problem. The anesthesiologist then states that he is having difficulty securing an airway.

The MD leader asks RT to continue bag mask ventilations after clarifying that bag mask ventilations are effective. The leader then asks the ICU MD if he would be able to attempt to intubate the patient if needed, should resuscitation continue. The ICU MD responds that he can attempt if needed.

The pharmacist and Theresa are also having a conversation at the code cart on the dose of epinephrine. They refer to the guidelines of ACLS medications located on the crash cart for dosing. The pharmacist then prepares the epinephrine bristojet for administration. The pharmacist hands the prepared epinephrine to Theresa stating that it is 1mg in 10 ml for IV push. Theresa then states that she has 1 mg of 1mg/10mL epinephrine ready to administer. MD states to administer the epinephrine dose. Theresa administers, and states "epinephrine 1 mg administered." Liz documents the time administered. One and half more minutes pass. The MD leader asks the compressor to pause and assesses the cardiac rhythm. "There is return of spontaneous circulation evidenced by a pulse," states the MD on pulse. Rhythm is stated to be bradycardia at a rate of 50. The MD leader then says, "Let's stabilize and see if we can get this patient into the ICU."

Question

What examples of communication were demonstrated in this case study?

Discussion

Communication techniques demonstrated:

- **Closed-loop communication**: This was effectively demonstrated throughout the case study. The MD leader, Pharmacist and Theresa demonstrated this during the entire process of epinephrine preparation and administration. It was also demonstrated in the defibrillation sequence when the MD leader was in communication with Jo.
- **State of the union**: The MD leader used this technique to summarize the situation after members of the response team arrived and the anesthesiologist inquired about what was occurring. In addition, the MD leader included an ask from the team for additional input. Later in the case study, the MD leader again summarized a brief statement of current situation and what the plans were going forward.

- **Collateral communication**: There was an example of collateral communication between the RT and the anesthesiologist. Their conversation about the inability to secure the airway was important to the overall care of the patient. This needed to be shared with the MD leader. The MD leader demonstrated situational awareness in that he was aware that the anesthesiologist had not confirmed a secure airway and there was a discussion occurring at the head of the patient's bed. Theresa and the pharmacist also had a conversation, but the MD leader did not need to be involved as they were utilizing cognitive aids to solve their dilemma of dosing of the Epinephrine. If the medication had been needed, they would need to ask in closed loop format the dose required from the MD and then dose prepared before administration for verification by the leader.

Question
What other team roles were demonstrated in this case study?

Discussion
Other Team roles demonstrated in the case study:

- **Anesthesiologist**: Secured the airway through endotracheal tube placement in collaboration with the Respiratory Therapist.
- **Respiratory Therapist**: maintained the airway providing ventilation.
- **Bedside nurse**: Liz, the nurse caring for the patient, filled this role and appropriately remained in the room, and performed cardiac compressions.
- **Medication nurse**: Theresa filled this role and prepared and administered the epinephrine.
- **Pharmacist**: Assisted in preparation of medication and as a resource for doses of medication.
- **Circulating nurse**: Jo filled this role. She placed the patient on the backboard and prepared the patient for defibrillation. She also administered the electrical shock.
- **Scribe**: This role was filled also by Liz. She documented the situation by recording times of treatments, and medications that were administered throughout the code.
- **Bed manager**: The nursing supervisor facilitated obtaining a bed for the patient in a higher level of care to which the patient would be transferred following the resuscitation.

Question
What are some other examples of CRM other than communication demonstrated in the case study?

Discussion
Other examples of CRM within the case study:

- **Identification of a leader**: The MD leader assumed the role and stated out loud that he was assuming this role; he also communicated this with all staff responding to the emergency response call.
- **Role assignment**: Some team members began assuming tasks while others were directed to tasks. Liz started with compressions but was relieved of this role when more staff responded to the situation. The MD acknowledged that as an RN, Liz's talents may be better utilized elsewhere on the team. The MD leader assigned other less skilled members (medical students) to assist with the compressions. The RT and anesthesiologist fulfilled the task of maintaining the patient's airway as appropriate to their clinical skill set. The MD leader potentially reassigned airway management to the ICU MD as needed when he was aware of complications. Theresa also assigned roles by asking Jo to place a backboard under the patient and place defibrillator pads on the patient. Theresa also assigned the unit coordinator to guide the responding team members and asked the nursing assistant to call a code and monitor patient call lights. The pharmacist assumed a role at the code cart in preparation of medications.
- **Cognitive aids**: The MD leader was using an ACLS evidence-based algorithm card as a cognitive aid to guide his management of the situation and all interventions. The pharmacist and Theresa used an emergency medication guideline for dose verification.
- **Situational awareness**: The MD leader did not perform any tasks but maintained close observation of all activities taking place including the patient's status throughout. He used clear communication and noticed when the airway team was having an issue. He anticipated that there may be a need for another form of action, by asking the ICU MD if he was able to secure the airway if needed. The MD leader or the anesthesiologist could have become fixated on the failed intubation attempt but did not. The MD leader remained focused on the next timely steps by asking Liz if she was ready to administer epinephrine and the next 2-minute pulse check.

Conclusion

Crisis resource management is a concept that all healthcare providers should understand and know when and how to employ its elements during an emergency. This concept has been adapted and refined from other industries to provide a framework for effective and efficient management of crisis situations. Healthcare providers are often responders in medical emergencies and environmental disasters, and knowledge of CRM behaviors is vital for safe practice and efficient responses. Healthcare providers can serve as responders to an event as team members and team leaders. The ability to effectively communicate data, instructions, and delegation of tasks is a priority in ensuring minimal adverse outcomes and patient safety. The healthcare provider should understand the CRM components such as delegation, resource utilization, effective communication techniques, and the use of cognitive aids. They should be aware of the protocols, policies, and procedures for emergency responses in any care setting in which they work. Training and practice drills on how to respond to an emergency using the CRM framework helps prepare all care team members to respond to emergencies and maximize patient safety and outcomes.

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CRISIS RESOURCE MANAGEMENT FOR HEALTHCARE PROFESSIONALS

Self-Assessment Answers and Rationales

1. The correct answer is C.
Rationale: Most aviation disasters were related to human error in communication, situation awareness, delegation, and managing workload.

2. The correct answer is A.
Rationale: Role clarity is necessary to organize the team and minimize chaos.

3. The correct answer is C.
Rationale: The leader's only responsibility should be leading the situation; when the leader's attention is divided, crucial details can be missed.

4. The correct answer is B.
Rationale: Many institutions have multiple levels of assistance available and calling for the most appropriate level of help at the right time leads to the best patient outcomes.

5. The correct answer is C.
Rationale: Stop the line allows all responders to have opportunities to alert the team to issues and pause actions for clarification.

6. The correct answer is D.
Rationale: Responders involved in discussions during an emergency need to assess the importance of their conversation. They should only share information that is relevant for the leader to be aware of and that can impact the situation and eventual outcome.

7. The correct answer is D.
Rationale: Resource allocation is the knowledge of resources available in an emergent event and the internal protocols, such as internal responses to a fire and how to use the equipment.

8. The correct answer is B.
Rationale: Dynamic decision-making is a process where an individual makes informed decisions based on an awareness of the situation, implementing the resources available and supported in knowledge by cognitive aids.

9. The correct answer is A.
Rationale: The "Where do I Stand" is an institutional internal cognitive aid that assists cardiac event responders in knowing where they should stand so that the leader is aware of their role and discipline.

10. The correct answer is A.
Rationale: The thought that the issue causing the situation can only be attributed to one specific cause and no other cause is explored, potentially causing delay in interventions.

Course Code: ANCCIA03CR

Ethics and Moral Distress for Healthcare Professionals

4 Contact Hours

Release Date: April 28, 2021 **Expiration Date:** May 5, 2024

Faculty

Cheryl M. Lindy, PhD, RN-BC, NEA-BC, is an independent nursing consultant. She received her bachelor's degree with a major in nursing from the College of St. Teresa, Winona, Minnesota. Her master's degree is from Texas Woman's University, Denton, Texas, with a focus in medical surgical nursing and nursing education. She received her PhD in nursing science from Texas Woman's University, Denton, Texas. She has over 45 years of experience in the acute care setting. She has worked in various roles from staff nurse to administrative director of education, research, and professional practice. She is certified in professional nursing development and as a nursing executive, advanced by the American Nurses Credentialing Center. She has been involved in staff education for over 40 years.

Cheryl M. Lindy has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Peer Reviewer: Michelle Doran, RN, DPN, NPD-BC, has 25 years of nursing experience in clinical and leadership administrative roles. She has extensive experience in writing and editing for publication and has written several continuing education courses on the topic of ethics. Ms. Doran served on the Ethics Advisory Board when she was the pediatric program director at Spaulding Rehabilitation Hospital in Boston, Massachusetts. She currently works in nursing professional development at Massachusetts General Hospital in Boston. She has a bachelor's degree in nursing from The Johns Hopkins University School of Nursing, a master's degree from Regis College, and a doctorate in nursing practice from the George Washington University School of Nursing.

Michelle Doran has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Course overview

According to Jones-Bonofiglio (2020), healthcare professionals may experience moral distress when decisions are made to address an ethical dilemma that cannot be implemented, a sense of being required to act, or are not consistent with ethical practices. Several factors contribute to an individual's experience of moral distress. Negative consequences may result if interventions are not initiated to enable the individual to overcome moral distress. Studies have identified that healthcare professionals often do not believe they are prepared to address ethical dilemmas that could lead to care needs not being meet and moral distress in the healthcare professional (Milliken, 2018). The purpose of this course is to provide the learner information about ethical principles that guide practice, present factors that contribute to moral distress, and provide strategies to manage moral distress. The course is applicable to all healthcare professionals. This course will provide the learner with an overview of ethics, ethical principles, and moral distress. Learning activities will include self-assessment questions, nursing considerations, evidence-based practice highlights, and a case study including questions and discussion to apply the information presented.

Learning objectives

After completing this course, the learner will be able to:

- Compare and contrast ethical decision-making models.
- Explore the Nursing Code of Ethics.
- Describe factors that may result in moral distress.
- Identify signs and symptoms of moral distress.
- Analyze the costs of moral distress.
- Examine actions to take to recover from moral distress.
- Select strategies to prevent or minimize moral distress.

How to receive credit

- Read the entire course online or in print which requires a 4-hour commitment of time.
- Complete the self-assessment quiz questions which are at the end of the course or integrated throughout the course. These questions are NOT GRADED. The correct answer is shown after you answer the question. If the incorrect answer is selected, the rationale for the correct answer is provided. These questions help to affirm what you have learned from the course.
- Depending on your state requirements you will be asked to complete either:
  - An affirmation that you have completed the educational activity.
  - A mandatory test (a passing score of 70 percent is required). Test questions link content to learning objectives as a method to enhance individualized learning and material retention.
- If requested, provide required personal information and payment information.
- Complete the MANDATORY Course Evaluation.
- Print your Certificate of Completion.

CE Broker reporting

Colibri Healthcare, LLC, provider # 50-4007, reports course completion results within 1 business day to CE Broker. If you are licensed in Arkansas, District of Columbia, Florida, Georgia, Kentucky, Michigan, Mississippi, New Mexico, North Dakota, South Carolina, or West Virginia, your successful completion results will be automatically reported for you.

Accreditations and approvals

Colibri Healthcare, LLC is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation.

Individual state nursing approvals

Colibri Healthcare, LLC is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation. In addition to states that accept courses offered by ANCC accredited Providers, Colibri Healthcare, LLC is an approved Provider of continuing education in nursing by: Alabama Board of Nursing, Provider #ABNP1418 (valid through February 5, 2025); Arkansas State Board of Nursing, Provider #50-4007; California Board of Registered Nursing, Provider #CEP17480 (valid through January 31, 2024); California Board of Vocational Nursing and Psychiatric Technicians (LVN Provider #V15058, PT Provider #V15020; valid through December 31, 2023); District of Columbia Board of Nursing, Provider #50-4007; Florida Board of Nursing, Provider #50-4007; Georgia Board of Nursing, Provider #50-4007; Kentucky Board of Nursing, Provider #7-0076 (valid through December 31, 2023; CE Broker Provider #50-4007); Michigan Board of Nursing, Provider #50-4007; Mississippi Board of Nursing, Provider #50-4007; New Mexico Board of Nursing, Provider #50-4007; North Dakota Board of Nursing, Provider #50-4007; South Carolina Board of Nursing, Provider #50-4007; and West Virginia Board of Registered Nurses, Provider #50-4007. This CE program satisfies the Massachusetts States Board's regulatory requirements as defined in 244 CMR5.00: Continuing Education.

Activity director

Lisa Simani, MS, APRN, ACNP, Nurse Planner

Disclosures

Resolution of conflict of interest
In accordance with the ANCC Standards for Commercial Support for continuing education, Colibri Healthcare, LLC implemented mechanisms prior to the planning and implementation of the continuing education activity, to identify and resolve conflicts of interest for all individuals in a position to control content of the course activity.

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Course verification

All individuals involved have disclosed that they have no significant financial or other conflicts of interest pertaining to this course. Likewise, and in compliance with California Assembly Bill No. 241, every reasonable effort has been made to ensure that the content in this course is balanced and unbiased.

INTRODUCTION

Ethics are the principles that guide behavior and conduct (Fowler, 2015). In 1984, Jameton first defined the concept of moral distress in a book titled Nursing Practice, the Ethical Issues as "the experience of knowing the right thing to do while being in a situation in which it is nearly impossible to do" (Jameton, 2017, p. 617). This definition was driven by nurses describing clinical situations based on ethical concerns while delivering compassionate care. Moral distress is experienced by all members of the interprofessional healthcare team – from students to those in varying levels of leadership (Jones-Bonofiglio, 2020). Since first identified, healthcare professionals continue to be challenged by ethical issues without viable actions to take. Ethical issues arise in every practice setting for variable reasons ranging from patient care to work environments to family situation. Examples include end-of-life or futile care, family decision making on behalf of patients that are not aligned with the patient's wishes and working without adequate resources (American Association of Critical Care Nurses [AACN], 2020a). Jones-Bonofiglio (2020) indicated that, in addition to clinical situations, moral distress may result from internal and external factors. Internal factors include lack of confidence, fear, and personal safety concerns. Work environment, fiscal pressures, poor communication, and lack of support are examples of external factors.

The resulting moral distress is a psychological response that negatively impacts physical health (Bressler et al., 2017). Some suggest there is a relationship between moral distress, compassion fatigue, and burnout. Each of these responses is a result of work situations. If not addressed, each response could lead to attrition and a negative impact on patient outcomes (Jones-Bonofiglio, 2020).

According to Zuzelo (2020), there are inconsistent methods to identify the reactions one experiences with moral distress. Furthermore, educational activities have not adequately prepared healthcare professionals to address ethical situations, to recognize and manage moral distress, to effectively communication and advocate for patients, and to use strategies to prevent or minimize moral distress (Rushton et al., 2021).

ETHICS

Ethics is defined as "moral principles that control or influence a person's behavior" (Oxford Learner's Dictionaries, 2021). Ethics guides behavior and is "what you do, how you do it, who you are, and who you become during and after experiences" (Jones-Bonofiglio, 2020, p. 89). Ethical awareness is needed for a healthcare professional to recognize an ethical issue (Milliken, 2018). To develop ethical awareness requires knowing the virtues and obligations of the profession. This enables healthcare professionals to act or decide what action not to take to assure safe and ethical care is provided. Ethical issues and decisions

regarding actions to take are framed by several factors, including context, relationships, and culture (Jones-Bonofiglio, 2020).

Professional organizations and employers provide education and resources on ethics and ethical decision-making using case discussions, written information, and expert individuals. The goal is to assist individuals in addressing ethical dilemmas that may confront them. An ethical dilemma is a situation requiring the individual to choose between conflicting actions or equally unacceptable actions (Morley & Ives, 2017). Several models are available to guide ethical decision making.

Ethical decision-making models

The Nursing Process

This model is familiar to nurses. It is part of daily practice. Assessment data are collected and analyzed about the ethical situation, including those individuals involved; patient's health status, values, and beliefs; and other relevant information. Based on clinical judgment, a diagnosis is made considering conflicts between obligations and values. Actions to take that are appropriate for the patient and family are planned in accordance with the agency's policies. The plan that may include other members of the healthcare team is implemented. The outcome of the plan is evaluated to determine effectiveness of the actions taken. Modifications are made as needed (Fowler, 2015).

Ethical Principlism

When making ethical decisions, ethical principlism is the model most often used. In 1976, this decision-making model was in the Belmont Report to address ethical issues found in research conducted on human subjects (Fowler, 2015). The key principles in this decision-making process are autonomy, beneficence, nonmaleficence, and justice. Autonomy is the right to choose. Regarding ethics, the patient's preferences are respected. Beneficence is duty to do good and assure the actions benefit the patient. To assure no harm occurs is nonmaleficence and considers the patient's quality of life. Justice is providing fair and equitable treatment (Pugh, 2017). These four principles provide a foundation to develop goals for patient care (Milliken, 2018).

Ethic of Care

The relationship between the care provider and the recipient of care is the framework for the ethic-of-care model. There are four phases in the model: caring about, taking care, care giving, and care receiving (Fowler, 2015). Concepts associated with this model are compassion, empathy, concern for others, and caring for others. The nurse recognizes care needed through assessment and addresses the needs. As the nurse is responsible for determining the action to take to meet the patient's needs, consideration is given to the environment in which the care is provided and the family, healthcare team, and involved organizations. The care is culturally appropriate and designed for the individual patient. The nurse provides competent care based on knowledge and skills. The patient responds to the care received and validates that the care was needed. With the framework of the care provider and care recipient relationship, some recognition of this model for decision making has been achieved in nursing (Fowler, 2015) and has been introduced in the social work literature (Reamer, 2016).

The ethical decision-making model used to address issues is decided by the agency. An ethics committee, bioethicist, or resource individuals will establish processes to provide consultative services to healthcare team members, patients, and families as needed regarding ethical issues (Porter-O'Grady & Malloch, 2016).

Code of ethics

Most professions have a code of ethics that is based on the profession's values and is used to guide the practice of members. Discipline-specific codes of ethics are available from these associations:

- American Nurses Association *(https://www.nursingworld.org/practice-policy/nursing-excellence/ethics/code-of-ethics-for-nurses/)*
- American Association of Respiratory Care *(https://www.aarc.org/wp-content/uploads/2017/03/statement-of-ethics.pdf)*
- American Medical Association *(https://www.ama-assn.org/sites/ama-assn.org/files/corp/media-browser/principles-of-medical-ethics.pdf)*
- National Association of Social Workers *(https://www.socialworkers.org/About/Ethics/Code-of-Ethics/Code-of-Ethics-English)*
- American Physical Therapy Association *(https://www.apta.org/apta-and-you/leadership-and-governance/policies/code-of-ethics-for-the-physical-therapist)*
- Occupational Therapy Code of Ethics *(https://doi.org/10.5014/ajot.2020.74S3006)*

Each of these codes describes the professional's responsibilities to the patient/client, to the interprofessional healthcare team, and to themselves for continuing education and competence. The code of ethics for nurses will be used to demonstrate how the code serves as a reference to guide nurses through ethical analysis and decision making.

The Nine Provisions of the Nursing Code of Ethics

Provision 1. "The nurse practices with compassion and respect for the inherent dignity, worth, and unique attributes of every person" (Fowler, 2015, p. 1). This provision addresses the concepts of compassion and human dignity. Nurses demonstrate compassion through caring behaviors such as active listening, being present, and working to relieve suffering. Through the code, nurses are expected to respect, protect, and preserve human dignity in all practice settings. This is not limited to patients and their families, but it includes colleagues, students, and the community (Fowler, 2015).

Provision 2. "The nurse's primary commitment is to the patient, whether an individual, family, group, community, or population" (Fowler, 2015, p. 25). This provision centers on the relationship with the patient and is linked to the ethic-of-care decision-making model. Although the nurse's primary commitment is to the patient, it must be remembered that the nurse has other commitments that may conflict with the commitment to the patient. Other commitments are to their employer, their own family, care of themselves, and the profession (Fowler, 2015). Conflicts may arise, but the focus should remain on the nurse-patient relationship, keeping in mind the needs of the patient. Collaboration with the healthcare team to meet the patient's needs is paramount. Professional boundaries are addressed in this provision with a discussion of maintaining a therapeutic nurse-patient relationship.

Provision 3. "The nurse promotes, advocates for, and protects the rights, health, and safety of the patient" (Fowler, 2015, p. 41). In this provision patient safety is stressed and includes confidentiality of patient information, protection of those participating in research, promotion of a culture of safety, and recognition of impaired nurses. Ethical principlism is the decision-making model aligned with this provision (Fowler, 2015).

Provision 4. "The nurse has authority, accountability, and responsibility for nursing practice; makes decisions; and takes action consistent with the obligation to promote health and to provide optimal care" (Fowler, 2015 p. 59). One must remember accountability and responsibility are not the same thing. Accountability is being liable for actions or inactions one has or has not taken; responsibility is having the duty to do the work (Porter-O'Grady & Malloch, 2016). A core principle of practice is the duty of care, which is based on legal, professional, and personal

obligations (Sheahan & Lamont, 2020). Actions taken are to be based on current evidence guided by clinical judgment, professional standards, and the code of ethics. Authority for nursing practice is given through laws, the employing agency, and the current state of the art and science of nursing (Fowler, 2015). This provision addresses delegation and references the American Nurses Association (ANA) and National Council of State Boards of Nursing (NCSBN) joint statement on delegation. With the complexities of patient care and the increased workload, the nurse must have the skills to assign, delegate, and supervise activities of others. The delegated activity must be within the delegatee's position description and the delegatee must have the skills and competencies to perform the activity. State nurse practice acts delineate what tasks a registered nurse may delegate (ANA & NCSBN, 2019).

Provision 5. "The nurse owes the same duties to self as to others, including the responsibility to promote health and safety, preserve wholeness of character and integrity, maintain competence, and continue personal and professional growth" (Fowler, 2015, p. 73). Nurses are responsible to themselves to act to maintain and promote their health and well-being. The value of integrity is required. Ongoing professional growth and development are expected to maintain competence and promote improvement in care provided (Fowler, 2015).

Provision 6. "The nurse, through individual and collective effort, establishes, maintains, and improves the ethical environment of the work setting and conditions of employment that are conducive to safe, quality healthcare" (Fowler, 2015, p. 95). This provision considers the environment in which the nurse practices. The environment must support the nurse's ability to meet their moral obligations within the framework of the principles of autonomy, beneficence, nonmaleficence, and justice. Environmental factors such as policies, procedures, and working conditions must be in place to achieve a culture of excellence (Fowler, 2015). The ANA Nurse's Bill of Rights delineates a work environment that protects the dignity and autonomy of the nurse.

Provision 7. "The nurse, in all roles and settings, advances the profession through research and scholarly inquiry, professional standards development, and the generation of both nursing and health policy" (Fowler, 2015, p. 113). In this provision, nurses are directed to pursue scholarly inquiry that could include reviewing current literature, working on evidence-based practice projects, or being involved in nursing research. Nurses are obligated to know the professional standards that govern their practice. Nurses should be involved in the development of organizational policies and participate in activities to improve the outcomes associated with nurse-sensitive indicators (Fowler, 2015).

Provision 8. "The nurse collaborates with other health professionals and the public to protect human rights, promote health diplomacy, and reduce health disparities" (Fowler, 2015, p. 129). Health is viewed as a universal right. Nurses are directed to work with other healthcare professionals to achieve this at the local, regional, national, or international level by addressing equitable access and reducing health disparities (Fowler, 2015).

Provision 9. "The profession of nursing, collectively through its professional organizations, must articulate nursing values, maintain the integrity of the profession, and integrate principles of social justice into nursing and health policy" (Fowler, 2015, p. 151). Nurses are called upon to join together with their professional organizations to uphold the values of nursing and maintain the integrity of the profession. Through professional organizations, members have a platform to voice concerns about social injustice and support social change (Fowler, 2015).

It should be remembered that the code of ethics articulates the values of the nursing profession. The accountabilities and responsibilities of nurses related to the patient, the family, self, other healthcare professionals, employing agency, and local and global communities are noted. With the code of ethics, the nurse is able to navigate ethical situations.

Agencies should have resources and processes to enable healthcare staff, patients, and family members to discuss ethical issues. These resources may include an ethics committee, an ethics consultation team, an ethicist, chaplains, a palliative care service, and Schwartz Rounds (Hamric & Wocial, 2016). The resources must be available to all shifts 7 days a week. The resource individuals not only need to understand ethical principles, but also possess excellent communication skills and an understanding of clinical practice. All healthcare staff should be empowered to access the ethics resources without fear of reprisal from other members of the care team (Hamric & Wocial, 2016). This can be facilitated though administrative support and ongoing education addressing ethical issues and ethical decision making.

Self-Assessment Quiz Question #1

There have been some staff changes in the department, which have resulted in one of the senior members bullying the newer staff. You are one of the senior members of the staff with comparable experience and tenure of the senior member who is bullying the newer staff. What action should you take?

a. Report the behavior to your manager and have them address the issue.
b. Ignore the behavior until it is directed toward you.
c. Meet with other senior staff members discuss the unacceptable behavior with the individual.
d. Have a private conversation with the individual expressing how the behavior is making you feel.

Self-Assessment Quiz Question #2

A young child sustained a closed head traumatic brain injury from a car accident. After performing the needed EEGs to determine brain function based on state law, the child was declared brain dead. The medical team has met with the family to discuss the removal of life support. The family disagrees with the decision, believing that God's will determines life and death. The nurse feels "in the middle" in this situation, knowing the evidence but also experiencing the suffering of the family. The mother asks, "What would you do?"

a. Share your opinion, being sensitive to the mother's response.
b. Ignore the mother's question.
c. Talk with your religious adviser regarding what to do.
d. Empathize with the mother regarding the difficult decision she is facing. Offer a consultation with resources available in the agency such as the ethics committee, the ethics consultative services, or a chaplain.

Self-Assessment Quiz Question #3

A previous patient from years ago at a different agency is interviewing for a position in your department. You know this person has had a history of substance abuse and are concerned the person may not be able to manage the workload, stress, and pace of the department. You are not involved in the hiring process. What should you do?

a. Do not interfere.
b. Approach the candidate and discuss the workload, stress, and pace of the department.
c. Tell the hiring manager what you know of the individual's past.
d. Ask one of your coworkers what to do.

Self-Assessment Quiz Question #4

Because of the COVID-19 pandemic and the surge in patients admitted to the hospital, travel nurses have been brought in to provide care to cover for staff who are out ill. As the charge nurse, what is your responsibility for patient assignments made to the travel nurses on your shift?

a. Assess the travel nurses' skills before making assignments.
b. Split the patients evenly among the staff assigned to the shift without considering skills of the nurses and the patients' needs.
c. Assign the travel nurse those patients that require less care.
d. Assign the travel nurse those patients requiring more care to give the unit staff a break.

Nursing consideration: Reflect on how your discipline-specific code of ethics applies to your everyday practice.

MORAL DISTRESS

Moral distress occurs when one perceives that the action or inaction is an undesirable compromise in one's values, responsibilities, and/or obligations (Jones-Bonofiglio, 2020) or a threat to one's integrity (Carse & Rushton, 2017). Moral distress is the manifestation of concern experienced when one senses one is not being faithful to one's commitments (Carse & Rushton, 2017). It challenges an individual's sense of moral agency, which is the responsibility, readiness, and ability to act (Jones-Bonofiglio, 2020). There is a relationship between an ethical situation and the occurrence of emotional distress that results in moral distress (Morley, 2018). Not all ethical issues result in moral distress. For moral distress to occur when confronting an ethical issue, the individual feels their moral obligations have been compromised and the individual experiences a "crisis of conscience" (Dudzinski, 2016). It may result when decisions are made to resolve an ethical dilemma that cannot be implemented or are not consistent with ethical principles. Morally challenging events may lead to moral distress, but not all individuals develop moral distress when exposed to the same ethical dilemma (Fourie, 2017). The development of moral distress is influenced by an individual's values, beliefs, education, and experiences. Moral distress is closely related to an individual's involvement in an event or situation and may be caused by system barriers to ethical practice (Epstein et al., 2020; Jones-Bonofiglio, 2020). Moral distress may result in physical, emotional, cognitive, or behavioral response because of unmet professional accountabilities and responsibilities.

Moral uncertainty may be associated with moral distress, which is not being certain how to proceed when confronted with an ethical dilemma (Jones-Bonofiglio, 2020). This could be attributed to not fully understanding the ethical dilemma and not trusting in one's own judgment. Moral uncertainty is an internal conflict with outcomes such as silence, negative emotions, indifference, and powerlessness.

Moral stress is generated when healthcare professionals are sensitive to ethical dilemmas (Jones-Bonofiglio, 2020). With the use of ethical decision-making processes, actions to take are determined, or more challenging events may require consultation with the ethics committee or an ethicist (Zuzelo, 2020). The right actions or those that cause the least harm are taken to mitigate the situation and the duty of care has been met. There is no lingering effect on the healthcare provider, which differentiates moral stress from moral distress.

Observable justifiable anger or frustration is moral outrage that occurs when one believes there has been a violation of ethical standards (Rushton & Thompson, 2020). Ungrounded moral rage is a strong impulsive emotional response such as anger without defining the ethical issue or principle that has been violated. Principled moral outrage occurs when one has defined the ethical issue and responds with empathy and compassion, which may lead one to the use of an ethical decision-making model preventing moral distress (Jones-Bonofiglio, 2020).

All professionals on the healthcare team may experience moral distress in various practice settings, including acute care and community care (Fourie, 2017; Jones-Bonofiglio, 2020). A study was conducted with 134 critical care staff and 116 staff from a step-down unit. The staff included 64 nurses, 128 nurse technicians, and 57 respiratory therapists. Thirty-three physicians provided care to patients in both the critical care and step-down unit. All groups scored a high level of moral distress with no significant differences between the two groups (Fumis et al., 2017). Some studies have found nurses have a higher incidence of moral distress than physicians have, and critical nurses experience more moral distress than noncritical care nurses do (Epstein et al., 2020).

Evidence-based practice! A study regarding moral distress experienced in critical care units involved 428 nurses, 211 other nonphysician healthcare providers (profession not noted), and 30 physicians. It was found that the nurses and the other nonphysician healthcare providers had higher levels of moral distress than the physicians had (Dodek et al., 2016).

Evidence-based practice! A systematic review of the literature investigated moral distress in the neonatal and pediatric intensive care units. Of 13 studies identified, 6 included other members of the interprofessional team in addition to nurses. It was found that moral distress was attributed to the powerlessness staff were experiencing as the result of the use of technology that was not viewed as beneficial to the patient (Prentice et al., 2016).

Measuring moral distress

Instruments have been designed to measure moral distress. They include Moral Distress Scale, the Measure of Moral Distress for Healthcare Professionals, and Moral Distress Thermometer (Epstein et al., 2020).

Moral Distress Scale and the Moral Distress Scale Revised

The Moral Distress Scale was a 32-item scale developed to study moral distress among critical care nurses in end-of life situations (Epstein et al., 2020). When the instrument was revised in 2012, it became known as the Moral Distress Scale Revised (MDS-R). The revision made the scale applicable to noncritical care nurses and other healthcare professionals. The scale included items to capture the root causes of the moral distress (Epstein et al., 2020). The instrument has 21 items designed to collect the frequency and intensity of moral distress (Hiler et al., 2018).

Measure of Moral Distress for Healthcare Professionals
When the MDS-R instrument was revised again, it was renamed the Measure of Moral Distress for Healthcare Professionals (MMD-HP). The revisions were based on root causes of moral distress identified during the review of literature. The instrument includes 27 items. The participants rank the frequency and intensity of their moral distress for each item. During analysis, the frequency and the intensity are multiplied for each item and then totaled. This provides a composite moral distress score of 0 to 432 (Latimer et al., 2021).

Moral Distress Thermometer
The Moral Distress Thermometer (MDT) was developed by Wocial and Weaver in 2013 to measure short-term episodes of moral distress. The participants are directed to reflect on their current level of moral distress as it relates to their practice. The graphic representation of a thermometer has a scale of 0 to 10 with statements noted beside each degree. None is noted at 0 and worst possible noted at 10 (Powell et al., 2018). It has been found beneficial as an instrument to measure moral distress before and after an intervention to demonstrate effectiveness of the intervention (Epstein et al., 2020).

Causes of Moral Distress
Jones-Bonofiglio (2020) described moral distress as "a lens that can reveal ethical issues present in healthcare environments and the challenges of responding to these issues" (p. 1). Moral distress can be caused by clinical situations such as futile care without considering relief of suffering, internal factors such as lack of confidence, and external factors such as the work environment and ethical climate (Jones-Bonofiglio, 2020). Moral distress has been found to increase as medical interventions became more aggressive as the patient neared death (Browning & Cruz, 2018). A clinical situation causing moral distress for some was what they referred to as "being in the middle." This was in reference to feeling between the patient's wishes and the family's wishes for care or the care decisions of the physician. Another example is what the healthcare professional deems is the best care for the patient, but agency policies and procedures or doctors' orders prevent the best action to be taken (Sabin, 2017).

Other causes of moral distress caused by the sense of not being able to meet duty-of-care obligations have been identified as follows:

- Diminished self-confidence or decreased sense of moral agency (Rushton, 2016).
- Demanding pace of the work hindering duty of care obligations (Epstein, et al., 2020).
- Increased workloads with unsafe staffing levels (Epstein et al., 2020; Howe, 2017).
- Working with colleagues not competent to meet the complex needs of the patients (Howe, 2017).
- Witnessing an informed patient consent when the patient was left without a choice (Howe, 2017).
- Ineffective interprofessional communication (Epstein et al., 2020).
- Unable to meet care needs because of lack of financial resources (Olsen & Kellman, 2020).
- Agreeing with a decision or plan of action that one really did not agree with (Dudzinski, 2016).
- Not feeling they added value or that their opinions are not valued by others on the healthcare team (Epstein et al., 2020).
- Perceived unethical practices in the environment (Morley, 2018).

Evidence-based practice! A study was designed to examine the relationship between the left ventricular assisted device (LVAD) coordinator role and moral distress. An on-line questionnaire was sent to 36 LVAD coordinators that included questions about role, responsibilities, and any formal training regarding palliative care, turning off the LVAD, and formal VAD training. The MMD-HP was included to measure moral distress that was within the average range. Moral distress was higher when the family wanted aggressive treatment to continue (Latimer et al., 2021).

Nursing consideration: An example of the lack of financial resources is seen in undocumented immigrants with end-stage renal failure who are covered by Medicare but are unable to receive dialysis until emergent criteria are met, such as dangerously high potassium, ECG dysrhythmias, or symptoms of uremia (Olsen & Kellman, 2020). What other examples of lack of financial resources have you seen in your practice that have resulted in negative patient outcomes and moral distress?

Acute Care and Moral Distress
Moral distress was first studied in the 1990s to determine the frequency and intensity of moral distress among critical care nurses. Recent studies have found that moral distress is present in all acute care settings related to technology, end-of-life care, collaboration, and high-stress environments (Jones-Bonofiglio, 2020). Findings of studies have demonstrated that moral distress frequency increases with age, experience, and direct patient care, but it decreases with empowerment, continuing education, and collaboration (Jones-Bonofiglio, 2020).

With nurses being the closest to the patient's suffering, they often see themselves between the patient's wishes and those of their family or the physician's plan. This dissimilarity in the point of view and the perception of the situation is known as the depth of field dissimilarity (Bressler et al., 2017). The conflict between the points of view and perceptions may contribute to moral distress in all those involved.

Advances in technology to prolong life have added to moral distress experienced by healthcare professionals. Families may request all interventions and measures be taken to preserve the lives of their loved ones. The ethical dilemma is: "Not can we, but should we? Is it right to prolong life at all costs?" (Jones-Bonofiglio, 2020, p. 59).

Social workers who work in acute care settings are often confronted with complex patient situations that could result in moral distress. However, little research has been conducted to determine the degree of moral distress social workers experience. It is uncertain what causes their moral distress. According to Fantus and colleagues (2017), some roles, responsibilities, and the work environment of the social worker have a potential to contribute to moral distress. This may include addressing patient/family dynamics, maintaining confidentiality and professional boundaries, managed care, discharge planning, preserving patient autonomy while being aware of specific safety issues, lack of administrative support, inadequate staffing, increased paperwork, and work that conflicts with personal values.

There have been multiple examples of studies in the acute care setting examining the causes of moral distress. Some are discussed below.

In a national study, the MDS-R was administered to 328 critical care nurses; 56% showed moderate moral distress. Higher levels of moral distress were identified when the nurses perceived that the care they were providing was futile. The highest level of moral distress was related to situations when the nurse thought continued care was not beneficial, but the patient or family wished to continue life support (Hiler et al., 2018).

Some 288 critical care nurses participated in a national survey using the MDS-R to evaluate moral distress, empowerment, ethical climate, and access to palliative care. Moral distress was found negatively correlated to empowerment and an ethical climate. Moral distress was higher in nurses who had access to a palliative care team. This was related to insufficient collaboration and integration of the palliative care team with the other members of the healthcare team providing care to patients in the unit (Altaker et al., 2018).

The MDS-R was used in a study exploring the moral distress of 93 inpatient oncology nurses. The level of moral distress was between low and moderate. Following family wishes for care although not beneficial to the patient, observing a healthcare provider giving false hope, and providing life-saving treatments that prolong life were three scenarios that were seen as causing the most moral distress (Marturano et al., 2020).

A qualitative study examined the nurses' experience in working on a unit providing care to chronic ventilator-dependent Orthodox Jewish patients. There were 27 participants. Their moral distress response to the futility of care they were providing was framed by the individual's worldview, education, and experience (Bressler et al., 2017).

Moral distress in the acute care setting is often linked to relationships with patients, families, and other healthcare professionals. The work environment –which includes staffing, technology, and the stress level in the setting – may also contribute to moral distress.

Community-Based Care and Moral Distress

Moral distress occurs in community-based care settings, which include schools, public health, academia, primary care clinics, home health, nursing and residential care homes, and correctional facilities. Limited studies have been conducted on moral distress in these areas of practice (Jones-Bonofiglio, 2020).

Two studies examined the causes of moral distress in community-based nurses.

There were 264 school nurses who responded to a survey using the Moral Distress Thermometer to measure their moral distress. The majority of the respondents were assigned to more than one school with the responsibility for more than 900 students. Some 25% recorded "greater than distressing to worst possible" on the thermometer. The scores were attributed to workload, the inability to provide care because of time constraints, and not enough time to provide care to students with chronic illnesses (Powell et al., 2018).

A qualitative study explored the nurse practitioners' moral distress in the continuing care setting, which could be the patient's home, a supportive living facility, or a long-term care facility. Six nurse practitioners participated in semistructured interviews in which they were asked to describe their experiences with moral distress. Causes of moral distress were attributed to meeting the patients' complex care needs, perceptions by others regarding the role of the nurse practitioner, tension between the nurse practitioner and physician, palliative care resources unavailable, and agency policies that were not aligned with professional responsibilities (Ritchie et al., 2018).

The identified causes of moral distress in the community-based care providers are similar to those causes experienced by acute care providers. They include patient care needs, relationships, conflicting responsibilities, and collaboration with other healthcare professionals.

Self-Assessment Quiz Question #5

Which of the following is NOT considered a possible cause of moral distress?

a. Providing futile care.
b. A new attendance policy.
c. New technology that the healthcare provider is not competent using.
d. Ineffective healthcare team communication.

Recognizing moral distress

Moral distress affects one's emotions (Dudzinski, 2016). The emotional response seen in those with moral distress may include anger, anxiety, frustration, guilt, hopelessness, irritation, isolation, depression, and powerlessness. Physical symptoms may occur during moral distress that could include gastrointestinal issues, insomnia, headaches, muscle aches, physical exhaustion, and nightmares (AACN, 2020b). There may be feelings that threaten one's moral integrity such as feeling belittled, unimportant, or unintelligent (Epstein et al., 2020). Additionally, changes in behavior may be observed such as impaired thought processes, withdrawal, and anger directed at others (Rushton, 2016). Cognitive and behavioral responses may include addressing the basic care needs and avoiding being engaged in more complicated and individual care needs of a patient (Bressler et al., 2017).

If one has any of these symptoms while being confronted with an ethical dilemma, a self-assessment needs to identify and acknowledge the emotions being experienced (Webster & Wocial, 2020). The next step is to identify the exact source of the moral distress. One should consider if the moral distress is a result of internal constraints, external constraints, or conflicting responsibilities. Possible actions to resolve the moral distress are next identified, followed by a decision on what action should be taken (Dudzinski, 2016). Dudzinki developed a moral distress map with these steps noted to guide the healthcare professional in clarifying the source of the moral distress and possible actions to take.

Consequences of moral distress

There are many negative consequences of moral distress, most notably on one's personal feelings about oneself. A devastating repercussion of moral distress is a feeling of an assault on one's integrity. A sense of powerlessness may also occur (Carse & Rushton, 2017). This can lead to anger and frustration. When an individual expresses their moral distress, others may see them as not being able to manage difficult situations. They are considered "bleeding hearts" and not part of the group. The individual develops a sense of shame for not being able to distance themselves from the situation (Howe, 2017) or are unable to decide how to solve the situation (Carse & Rushton, 2017). Disengagement, lessened responsiveness, and increased hesitancy to act may occur.

If moral concerns are ignored, one develops a sense of not being valued. This may lead to the healthcare provider not being able to voice their concerns about the moral dilemma; consequently, communication is decreased. If voicelessness continues, the sense of isolation increases (Carse & Rushton, 2017). The quality of care could be reduced with the healthcare professional not effectively using their skills and knowledge to make and implement care decisions to achieve desired outcomes.

In addition, the healthcare professional may experience a myriad of emotions and reactions. Some include withdrawal from the care (Carse & Rushton, 2017), humiliation from the feeling of being deficient in meeting obligations (Carse & Rushton, 2017), dissatisfaction with the work environment with a greater intent to leave (Hiler et al., 2018), and decreased productivity (Hiler et al., 2018). Healthcare professionals who experience moral distress may develop the feeling of helplessness, avoid speaking up for patients, become apathetic, or are overly vigilant of patient's needs in morally distressing situations (Epstein et al., 2020). The

healthcare team performance may be diminished with attrition, decreased morale, and poor teamwork (Rodney, 2017).

The cost to patient of care was identified in a study exploring the consequences of moral distress (Henrich et al., 2017). There were 56 participants who were interviewed either in a focus group or individually for this qualitative study. The participants represented community and tertiary hospitals and included 19 staff nurses, 4 clinical nurse leaders, 13 physicians, and 20 other healthcare professionals (unidentified profession). Moral distress was noted as negatively impacting patient care in 26 separate situations. It was reported that moral distressing situations required time and attention, which prevented the healthcare provider from being attentive to other assigned patients. Some reported that they avoided patients and their families in distressing situations where the needed support of the patient and family to manage the situation was not provided, leading to decreased quality of patient care. Others reported that when caring for a patient and family in a distressing situation, they felt they lost focus on what needed to be achieved. After experiencing moral distress, it was reported that some were hesitant to develop meaningful relationships with patients and families because of fear of additional moral distress.

There were 11 responses that indicated moral distress had a positive impact on patient care. It was indicated that there was an increase in vigilance and attentiveness. Errors were avoided, which increased the quality of care. Physicians indicated that moral distress was needed for them to become good doctors. The nurses reported that they became more compassionate (Henrich et al., 2017). The study was inconclusive but provided insight into how healthcare providers viewed the impact of moral distress on patient care.

Moral distress impacts the emotions of the individual, their relationship with other healthcare professionals, and patient care. Morally distressed healthcare professionals are at risk of experiencing burnout, compassion fatigue, and moral residue (Jones-Bonofiglio, 2020).

Burnout

Subsequent events of moral distress may lead to burnout, which is considered the most damaging cost of moral distress (Fumis et al., 2017). "Burnout is defined as a syndrome of emotional exhaustion, depersonalization, diminished personal achievement and disengagement, not as a problem of quality, safety, or satisfaction" (Epstein et al., 2020, p. 147). Physical and mental exhaustion may also be present (AACN, 2020b). Cynicism and decreased productivity may be seen when burnout occurs (Jones-Bonofiglio, 2020). It is thought to be a result of extended exposure to stressful work-related conditions (Christodoulou-Fella et al., 2017).

Evidence-based practice! In the study described above, conducted by Fumis and colleagues (2017) with 283 participants from critical care and a step-down unit, 23.7% of the nurses from step down and 22.1% of the critical care nurses had severe burnout in comparison to the physicians with 18.2% severe burnout.

In the context of burnout and moral distress, mattering refers to adding value to patient care. When one's input into patient care decisions are valued by the healthcare team, the clinician sense of mattering is positive and increases job satisfaction. The reverse is that the input is not valued and seen as not mattering to the team. The outcome may be an increase in moral distress and burnout. Many need confirmation and support of their value. When confirmation and support are not received from other members of the healthcare team, the outcome may result in a sense of isolation, being undervalued, a negative impact on interpersonal relationships, and burnout. The intent to leave a position has been associated with moral distress and burnout (Epstein et al., 2020). There is a shared responsibility among the individual, the healthcare team, and the agency to reduce burnout and moral distress and to increase engagement (Sabin, 2017).

Evidence-based practice! In a survey of more than 500 nurses, physicians, social workers, and therapists, burnout increased when there was a lack of mattering or feeling valued (Epstein et al., 2020).

Compassion Fatigue

The feeling of being powerless may result in moral distress and compassion fatigue (Mason et al., 2014). It is believed to be caused by the collective effect of providing empathetical care to those suffering (Jones-Bonofiglio, 2020). The definition of compassion fatigue is the result of "not being able to act in accordance with one's beliefs and the fear of reliving the stressful traumatic episode" (Mason et al., 2014, p. 217). Compassion satisfaction occurs from helping someone in need during a life-threatening event. If not resolved, the individual becomes withdrawn, less empathetic, and hopeless. For example, a study examined the correlation of moral distress and compassion fatigue in a neonatal intensive care unit (NICU) with 172 nurse participants. The causes of moral distress in the NICU were identified as communication between the parents and other members of the healthcare team, invasive procedures used on dying infants, pain and suffering induced by the procedures, and technology used. The moral distress measured with the MDS was moderate. The total compassion fatigue scores ranged from moderate to high. It was found that compassion fatigue increased as work experience increased. A correlation was found between moral distress and compassion fatigue based on the intensity of the distress experienced (Saleh et al., 2019).

Compassion fatigue is often used interchangeably with secondary trauma. Foli and Thompson (2019) differentiated between the two. Compassion fatigue is an accumulative process that may exceed the nurse's stamina and recuperative abilities. The stress reaction an individual experiences after being subjected to another person's traumatic event is secondary trauma. This is not only knowing about the trauma but also being involved in providing care to the traumatized patient. The healthcare provider experiencing secondary trauma is referred to as the second victim. In a study of 206 mental health nurses, a correlation between moral distress and secondary trauma was found. The study participants with high moral distress scores also had high secondary traumatic stress syndrome scores (Christodoulou-Fella et al., 2017).

Moral Residue

If moral distress is unresolved or continues for an extended period, it is referred to as moral residue (Karakachian & Colbert, 2017). All healthcare professionals are at risk of experiencing moral residue after involvement in a morally distressing situation if not fully resolved (Rosa et al., 2020). Moral residue is a lingering sense that one's moral integrity has been diminished because they allowed themselves to be compromised by others (Lachman, 2016). With repeated exposure to moral distress, a cumulative result of moral distress or crescendo effect may develop that becomes increasingly more intense and difficult to resolve (Jones-Bonofiglio, 2020; Rushton, 2017). There is an activation of previous responses to moral distress such as frustration and powerlessness (Carse & Rushton, 2017). Negative comments made by colleagues have caused some to relapse into unresolved moral distress (Henrich et al., 2017). No research has been conducted on moral residue and the ensuing crescendo effect to develop a better understanding of the phenomenon.

If not addressed, those experiencing moral distress, burnout, compassion fatigue, or moral residue become disengaged in their role and their work with the healthcare team. The retention of qualified healthcare professionals is impacted, leading to patients not receiving the care from skilled, knowledgeable providers to achieve desired outcomes. Moral distress cannot

be eliminated because of the complex environment in which healthcare is provided. If addressed, some benefits could be realized (Morley, 2018). Strategies to mitigate and recover from moral distress is important, not only to the quality of care provided, but also to the well-being of the healthcare provider.

Self-Assessment Quiz Question #6

Sally is caring for a 35-year-old patient who is beginning a new round of chemotherapy to treat her Stage 4 ovarian cancer. The patient confides in her that she is tired and wants to die. She does not want the chemotherapy. The last treatment took everything out of her, but her husband and her parents want her to continue on. They have told her that she is everything to them. The medical team sees this treatment as the patient's only hope for survival. This situation is causing Sally to experience moral distress. She feels like she is in middle between the patient's wishes, the family's wishes, and the medical team. What should Sally do?

a. Tell the patient she has an obligation to her family to do everything she can to fight this disease.
b. Empathize with the patient and ask what she thinks could be done to ease the effects of the chemotherapy based on her experience.
c. Discuss this situation with a colleague who has not been involved with the patient's care.
d. Seek guidance from the ethics consultation team at the agency.

Self-Assessment Quiz Question #7

The medical surgical critical care unit nurses are experiencing moral distress. An 80-year-old male patient had surgery for a bowel obstruction. After 7 days they have not been able to wean the patient from the ventilator. He has been unresponsive to commands. The patient has developed septicemia and is not responding to therapies. The family is emotionally upset. When they asked the surgeon what the prognosis was, they were told everything is fine and this is the normal course of treatment for this type of surgery considering the patient's age. This surgeon is the chief of surgery and admits many patients to the agency. An ethics consultation is requested. The ethics consultation team found nothing medically wrong with the care the patient is receiving. The surgeon is making disparaging remarks to the staff when he is making rounds because they reported him to the ethic consultation team. All of the following are appropriate next steps EXCEPT:

a. Consult risk management if there is concern the agency is at risk for legal action.
b. Discuss situation with the chief nursing officer and the chief medical officer.
c. Do nothing more. The surgeon is viewed as one of the leaders in the agency.
d. Provide empathic support to family during this difficult time.

Nursing consideration: Reflect on what are the costs of caring too much and the costs of not caring enough.

Recovery strategies

Insufficient resolution to moral distress has a lingering effect and may lead to an individual with diminished moral resilience that will increase the individual's moral distress (Carse & Rushton, 2017). Coping strategies have been cited to manage emotions, which include discussing the situation with a trusted colleague, pigeonholing the event and attempting to leave the concerns at work, distracting themselves with more work, requesting a change in assignment, increasing exercise, increasing consumption of food and alcohol, and spending more time with loved ones (Henrich et al., 2017). Oncology nurses in a study regarding moral distress reported that they relied on assistance from the palliative consultative team, pastoral care department, and the social work department to help resolve moral distress (Marturano et al., 2020).

Evidence-based practice! A study of nurses and social workers found that 10% of the participants did not access the ethics consult team because they perceived the team to be unqualified to address the ethical issue. Another 7% cited they thought the team made the situation worse (Hamric & Wocial, 2016).

The role of the leader is important in resolving moral distress. An effective leader is sensitive to the work environment and situations when staff are dealing with ethical dilemmas that may lead to moral distress (Carter & Hawkins, 2019). The dilemmas may be related to patient situations, relationships within the healthcare team, or agency policies. The leader needs to be an empathic listener to the challenges the staff are experiencing (Sabin, 2017). Emotional huddles established by the leader with a skilled facilitator leading the discussion provide healthcare providers an opportunity to verbalize and process distressful situations. Acknowledgement by the leader for actions taken by individuals during the situation contributes to recovery (Carter & Hawkins, 2019). It is advisable for the leader to be cognizant of absenteeism when ethical challenges are unfolding on the unit/department. This may be a sign of increasing moral distress. Another sign of impending moral distress is requests for different assignments (Marturano et al., 2020). The leader should advise individuals with moral distress to seek assistance from resources available in the agency. The leader may be instrumental in initiating structured activities to resolve moral distress, such as debriefing, mindfulness, and moral resilience training.

A study investigated how nurse leaders address moral distress. A critical incident questionnaire was developed to gain insight into leaders' perceptions of complex clinical situations. A total of 68 nurse leaders and clinical nurse specialists completed the online questionnaire. Supporting staff during a difficult situation was the most often response to action taken when moral distress was identified. Other actions included education, promoting self-care activities, counseling through the employee assistance program or chaplain service, and encouraging collaboration with other healthcare professionals. Lack of knowledge regarding moral distress and organization barriers were issues that prevented action by the leader. It was identified that, with support from the leader, nurses were able to practice ethically during difficult situations.

Findings from this study and other studies led to the development of the evidence-based SUPPORT model to be used by nurse leaders as an action guide to address moral distress. SUPPORT is an acronym. Each letter stands for a specific action to take, as follows (Pavlish et al., 2016):

S = See it, seek it out.

U = Understand it.

P = Pay attention: Assess workplace climate.

P = Promote receptive environment and engagement.

O = Open opportunities for dialogue.

R = Reflect, evaluate, revise.

T = Transform environment.

Nursing consideration: Reflect on the possibility that you will experience moral distress in the future. What activities or resources described above would you employ to recover from the moral distress?

Debriefing

Debriefing is a process used to gather and share information after an event occurs. The process is facilitated by a person with effective interpersonal and counseling skills who is able to identify participants who may benefit from additional counseling. At the beginning of the discussion, the facilitator identifies the group goals based on the situation. Each participant provides information regarding what happened. The facilitator helps the participants explore their feelings, thoughts, and responses to the situation. Actions to take are discussed and the best action to be implemented is chosen. The moral distress map is an effective tool to use during debriefing (Dudzinski, 2016). Each participant completes a self-assessment to identify emotions experienced, sources of the moral distress, constraints in taking action, conflicting responsibilities, and possible action to take. The facilitator guides the group through the map, with participants sharing their responses. Collectively, the group members determine the actions to take.

Using a similar process of debriefing, a group of investigators explored the feasibility of developing a tool to be used during moral case deliberations. The tool was referred to as a moral compass (Hartman et al., 2019). Moral compass is a metaphor used to depict a perception or feeling of right and wrong. Like a navigational compass, the moral compass points north guiding one to a moral decision. One's moral compass is based on values and norms attained while growing up and is influenced by experiences. The moral compass in the study was designed to enable the user to explore moral concepts of a specific situation. Not all those involved in an ethical situation responded the same based on their norms, values, and perception of the situation. The situation may not have been a moral dilemma for them. At the start of the moral case deliberation, the facilitator asked the participants to describe the ethical questions they had regarding the situation. The first question was "Sometimes, it is not self-evident what the right thing to do is. What is your dilemma?" (Hartman et al., 2019, p. 1017). Using the moral compass, participants responded to the following series of questions regarding the moral dilemma (Hartman et al., 2019):

- What makes this situation difficult for you?
- What is important to you, the patient, other members of the team, and the agency?
- Considering all those involved in the situation, what is important to everyone?
- What action should be taken?
- Are there any disadvantages to the action that will be taken? Is so, is there anything to minimize the disadvantages?

The moral compass tool was found to be easy to use and a facilitator was not needed to guide the process. Actions were not prescribed. However, the user was encouraged to review the situation from different perspectives. The tool was not designed to address organizational or policy issues that may result in moral distress (Hartman et al., 2019). The code of ethics and professional standards of practice serve as a moral compass to further assist healthcare professionals to make morally sound decisions and take appropriate actions (Jones-Bonofiglio, 2020).

Distress debriefings are employed to lessen moral distress that occurs as a result of a critical incident. The session is less than 30 minutes. The session begins with a facilitator stating the ground rules. In the next step, the facilitator asks questions to encourage the participants to share their thoughts and feelings about the situation. The session ends with the facilitator summarizing the distress debriefing and validating the difficulty of the situation discussed. The participants are reminded of additional resources available in the agency to further process the moral distress they are experiencing (Appleton et al., 2018).

Evidence-based practice! A pilot study using the distress debriefings was conducted in the pediatric critical care unit to determine if distress briefings reduced the effects of moral distress and burnout. Groups were limited to 8 participants. There were 52 participants in the distress debriefings who completed the post-course survey. Participants indicated they felt supported and empowered to act. More investigation is needed to identify the impact of distress briefings on moral distress and burnout (Appleton et al., 2018).

Reflective debriefing was a group being led through reflection and debriefing with education. The goal was to decrease moral distress (Browning & Cruz, 2018). A social worker facilitated reflective a debriefing protocol that was developed for use in a critical care unit. There were 42 participants with 23 participating in the intervention of reflective debriefing and 19 in the comparison group. The intervention of the six sessions included self-reflection and learning goals. The reflective debriefing posed 10 questions regarding a recent palliative care or end-of-life situation seen in the unit. Educational handouts were provided to the participants at each session. Topics included signs of moral distress, ethical principles, decision making, AACN 4As (Ask, Affirm, Assess, Act; this is discussed with moral resilience), nonbeneficial care, feelings of powerlessness, and team communication. The MDS-R instrument was used to measure moral distress. Lowered moral distress scores were found in those participating in reflective debriefing (Browning & Cruz, 2018).

Mindfulness

Through mindfulness, the individual intentionally pays attention to the moment and the moral dilemma confronting them without judgment. They become cognizant of the emotional, somatic, and cognitive responses they are experiencing (Rushton et al., 2021). This helps the individual to reduce the negative emotions they may be experiencing and leads to moral resilience. When practicing mindfulness, the triggers resulting in an emotional response are acknowledged (Carse & Rushton, 2017). There is some evidence that demonstrates that mindfulness contributes to patient-centered care, increases patient satisfaction, and improves attentiveness, leading to greater patient safety (Halm, 2017).

Mindfulness is based on seven concepts: nonjudging, patience, beginner's mind, trust, nonstriving, accepting, and letting go (Beer et al., 2020, p. 249). With nonjudging one is aware of thoughts and emotions without judging. Taking time to become aware of thoughts and emotions is patience. Beginner's mind is considering the situation without influence of previous experiences. Acknowledging one's thoughts and feelings without bias from accepted norms is trust. Nonstriving suggests being present. Acceptance is recognizing the experience as it happened. The final concept is letting go in which one does not concentrate on thoughts and feelings.

A 10-week program led by an experienced meditation coach resulted in decreased exhaustion, anxiety, and stress with improved self-care, joy at work, and interpersonal communication (Jones-Bonofiglio, 2020). Nursing units are developing rooms designed to promote mindfulness, process emotions, and refocus before returning to continue with patient care (Foli & Thompson, 2019). Moral distress is not only reduced through mindfulness but also may provide the healthcare provider the ability to identify other alternatives to the dilemma (Howe, 2017). There is evidence in the literature that supports the benefits of mindfulness activities.

Two systematic reviews examined mindfulness

In a systematic review of the literature, 11 studies were identified that examined the impact of mindfulness on the nurse's ability to respond to distressful situations rather than react. Of these studies, five were randomized controlled trials. The length of the Interventions varied from 1- to 2-day workshops or 30-minute to 2-hour sessions held over 4 to 8 weeks. Meditation activities

in the studies were diverse, such as being mindful of body sensations, sitting meditation paying attention to breathing, yoga breathing and stretching, and focus on thoughts of self-kindness. The sample size of each study was small, but benefits were identified with the interaction of attention focused on body awareness and emotional regulation. Some participants reported that engaging in a 10-minute mindfulness activity during the workday reduced stress (Halm, 2017).

Another systematic review focused on the impact of mindfulness-based interventions studies on social workers. The investigators identified 10 studies. The participants in five studies were practicing social workers; in the other five studies, social workers were the participants. Intervention of mindfulness varied among the studies. Although there were limitations identified with the design of some of the studies, a connection was found between mindfulness activities and stress reduction (Beer et al., 2020).

The use of mindfulness has been found to have a positive impact on well-being and reduction of stress. An outcome of mindfulness training has been an enhancement of moral resilience (Halm, 2017). Mindfulness facilitates individuals to become aware of emotions and reduce the response to those emotions. This enables the individual to address the situation and move forward, which promotes moral resilience (Rushton, 2016).

Moral Resilience

Resilience is defined as "the dynamic capacity to recover from adversity within the individual and the environment" (Rushton et al., 2017). Resilience and resiliency are used interchangeably (Oxford Learner's Dictionaries, 2021). At times resilience is referred to as hardiness (Foli & Thompson, 2019). Wocial (2020) differentiates between personal resilience and moral resilience. Personal resilience is the capacity to endure, adapt, and recover from adversity, whereas moral resilience is needed to retain or restore integrity when moral adversity occurs. Moral resilience was defined as "the ability and willingness to speak and take right and good action in the face of an adversity that is moral/ethical in nature" (Lachman, 2016, p. 122). Adversity may be experienced after events causing stress, trauma, loss, or other challenges (Carse & Rushton, 2017). In addition to clinical situations, other events include natural disasters, war, and crime. Through moral resilience one regains moral integrity and retains the essence of humanity (Jones-Bonofiglio, 2020). The focus of moral resilience is on the complexity of moral aspects of the situation related to obligations and relationships that are impacted by moral distress (Rushton, 2016).

Moral resilience includes personal competency based on values, spiritual influences, acceptance of change, controlling what can be controlled, and maintenance of interpersonal relationships. Flexibility, openness, and re-examination of one's thoughts and choices are required to develop or increase one's responsiveness to adversity and ability to control emotional responses (Carse & Rushton, 2017). Conscientiousness is the foundation for moral resilience with one knowing one's values that guide their actions in ethical situations. When one is conscientious, they are able to confront threats to their integrity. One must be cognizant of the boundaries and the extent of their power and influence. The final decisions and outcomes may not be within one's control (Rushton, 2016). In nursing practice, conscientious objection is "the refusal to participate in some aspect of patient care, for doing so would violate deeply held values" (Fowler, 2015, p. 87).

According to Rushton (2016), moral resilience is enhanced when one is:

- Reflective and self-aware of their emotional response to ethical situations.
- Capable of controlling their emotional responses.
- Knowledgeable of ethical principles and actions.
- Confident to use their voice to express their thoughts and feelings clearly.
- Able to identify meaning from the situation, which will benefit their practice.
- Collaborative with other members of the healthcare team.

Other strategies to further develop one's moral resilience are to increase clinical knowledge, skills, and competence through education or assistance from a mentor. In addition, one should know and abide by the code of ethics and know what ethical resources are available within the agency (Stutzer & Bylone, 2018).

In 2004, AACN introduced a framework titled "The 4As to Rise Above Moral Distress" to assist nurses in mitigating the effects of moral distress and enhance their moral resilience (Karakachian & Colbert, 2017). The 4As are Ask, Affirm, Assess, and Act. One is asked if they are experiencing moral distress and to identify the emotions being felt. This is achieved through self-reflection and self-awareness. The feelings and perceptions must be affirmed with others. One then accepts the responsibility to resolve the moral distress to preserve one's well-being. Next, one assesses the cause of the moral distress, individuals involved, work environment issues, and potential actions to take to resolve the moral distress. The risks and benefits of possible actions must be evaluated. Lastly, a plan to act is developed,with resources identified to support or assist with the implementation of the plan. Action is then taken. The advantage of this framework is that it can be used by an individual without the assistance of a facilitator.

Limited studies have been identified that evaluated the effectiveness of resilience training programs. The studies found were designed to address stress or burnout. The impact of resilience training on moral distress was found only in one study. Presently, research has not found a link between resilience training and one's ability to cope with moral distress (Wocial, 2020).

A study was conducted to investigate how moral distress impacts adult and pediatric critical care nurses. In addition, the study was designed to determine if a 2-hour education activity discussing moral distress, the use of ethical reasoning skills, and the application of the AACN's 4As framework reduced moral distress and improved job satisfaction and retention. Moral distress was measured with the MDS-R instrument; another instrument was used to measure the ethical climate. There were 12 adult critical care nurses and 7 pediatric critical care nurses in the study. In the preintervention measure of moral distress and ethical climate, the pediatric nurses had low moral distress scores. The adult care nurses scores showed a negative correlation between the moral distress and the ethical climate. In other words, the higher the ethical climate, the lower the moral distress score. Only 4 of the 17 nurses participated in the 3-month postintervention survey to measure moral distress and ethical climate, resulting in no statical analysis performed. During the 3-month follow-up focus group, all participants indicated they were satisfied with the educational activity and had used the information and skills in the clinical setting (Allen & Butler, 2016).

Following are other studies found to decrease stress or burnout.

The Resilience in Stressful Events (RISE) program was developed at Johns Hopkins Hospital to support second victims who were involved in an incident in which a patient was harmed. The peer support program was developed to support individuals to become resilient after the incident. There were 119 calls in the first 52 months of the program. It was noted that 56% of the calls were for groups rather than individuals. A majority of the calls were for adverse events. There were 102 staff surveys completed, with 70% of the participants reporting they had been involved in an unanticipated adverse event, with 57.9% indicating they had experienced anxiety and difficulty performing their jobs. More than 70% had found the program beneficial. The peer responders reported that 88% of their meetings were successful, with 83.3% of the callers' needs met. The evaluation of the program demonstrated that the goal was met. Further investigation is needed to quantify the effectiveness of the program on resilience (Edrees et al., 2016).

A study was designed to determine the effect of stress management training and resilience training. The 24-week training focused on moving away from reactive responses to experiences and toward positive reflection on the experiences. Learning activities included web-based modules, self-assessments, and reading materials. Four facilitated discussions were held to answer questions and problem solve concerns that had arisen during the training. Significant findings were found in decreasing stress and burnout with an increase in mindfulness and resilience (Magtibay et al., 2017).

A 90-minute workshop with a 90-minute one-on-one follow-up discussion with a facilitator was the intervention used in a study to determine the effectiveness of a resilience coaching intervention. The participants included 37 healthcare providers and 29 students. Nine workshops were held with activities that included case studies, group discussion, and stress reduction techniques. In the one-on-one discussion, the coping strategies during the workshop were discussed with the participant identifying their strengths. A resilience questionnaire was used to collect baseline data. The questionnaire was used to gather data after the workshop, after the one-on-one discussion, and 4 to 6 weeks postinterventions. The results indicated a higher level of resilience (Johnson et al., 2020).

Resilience helps one to recover from stress, burnout, and compassion fatigue. There is limited evidence that demonstrates the impact of resilience training on moral distress. Those with moral resilience have developed coping skills to be aware of the complexities of the situation. They use their knowledge of the culture of the work environment to reframe the situation and employ problem-solving techniques to address the situation. They manage what is within their level of control and depend on others to resolve the situation beyond their control (Lachman, 2016). In addition, those with moral resilience have the ability to control their emotional, physical, and behavioral responses to adversity using moral agency to effectively meet the ethical challenge (Wocial, 2020). Although the focus of mindfulness and moral resilience is introspective to examine one's response to moral distress, there is a risk to this activity. The healthcare provider may determine the moral distress is their fault and view the distress as a personal weakness (Sabin, 2017). The individual should be guided to assess resources available to assist them to resolve their moral distress.

Evidence-based practice! An interventional study to determine the impact of a program to enhance the participants' skills in mindfulness, moral resilience, confidence, and ability to address ethical dilemmas was conducted with 192 participants in the intervention group and 223 participants in the comparison group. After six workshops totaling 24 hours, mindfulness, moral resilience, and confidence were significantly increased in the intervention group (Rushton et al., 2021).

Self-Assessment Quiz Question #8

Which of the following is NOT a strategy to recover from moral distress?

a. Seek consultation from the employee assistance program.
b. Ask for education on ethics and the application of the code of ethics.
c. Participate in an interprofessional debriefing session.
d. Practice mediation and yoga.

Prevention strategies

A correlation between the practice environment and moral distress has been found. The agency has a responsibility to establish an environment that promotes an ethical climate that supports practices to prevent or minimize moral distress (Jones-Bonofiglio, 2020). After identifying common sources of moral distress, interventions need to be implemented to directly address the causes (Epstein et al., 2020) while considering the agency's culture (Jameton, 2017). The agency's culture must empower healthcare providers to voice ethical concerns without the fear of retaliation (Hamric & Wocial, 2016). The value of interprofessional collaboration must be acknowledged and promoted by the agency (Stutzer & Bylone, 2018).

Some interventions have been successful in reducing the common sources of moral distress. Workshops to decrease moral distress, a workshop to increase moral empowerment, and training of a moral consultation team were some of the educational activities developed to reduce moral distress that were identified in a systematic review of the literature (Dacar et al., 2019). To mitigate conflicts between healthcare professionals and patient families – which may lead to moral distress – policies have been developed that include responses to specific situations. The implementation of interprofessional team meetings to promote effective communication, in addition to establishing plans of care for complex patients, have been successful in diffusing moral distress (Jameton, 2017). The healthcare team having access to resources regarding the resolution of moral dilemma before moral distress occurs has prepared the team to better address the dilemma and minimize the impact. As noted previously, debriefing by a skilled facilitator after a stressful event was found to assist in minimizing moral distress (Jones-Bonofiglio, 2020). Individuals need to advocate for solutions to moral dilemmas (Jameton, 2017).

Education

To decrease the intensity of moral distress, ethics education is essential (Rushton et al., 2016). Interprofessional education improves collaboration, ethical analysis, decision making, and conflict resolution (Carse & Rushton, 2017). The healthcare team should be educated to identify and address ethical challenges in daily practice before escalation of the situation, which may lead to moral distress (Rushton et al., 2017). Unit-based ethics rounds and ethics huddles including the healthcare team are viewed as a strategy to heighten ethical awareness in addition to other venues to discuss ethical issues (Milliken, 2018).

Although most, if not all, agencies have an ethics committee or an ethics consultation team, no consistent process is used globally to prepare members for their roles on the committee or team. Members may not have received any formal education on ethics. Without education members may rely on their experiences and opinions to make ethical decisions. Time and money must be invested to assure members have the necessary education on ethical principles, the ethical decision-making model used by the agency, conflict resolution strategies, problem-solving skills, and effective communication techniques (Hamric & Wocial, 2016).

The healthcare team should receive ongoing education on ethics to increase their ability to identify and raise concerns early regarding possible ethical challenges before the situation escalates. This may require some discipline-specific education (Fantus et al., 2016; Hamric & Wocial, 2016). The team should be made aware of resources available for their use. This should be introduced while one is in orientation and during ethics-related activities such as ethics rounds, debriefing, and ongoing ethics education.

Evidence-based practice! A study with 121 student participants from the schools of nursing, social work, and medicine explored the impact of a mock ethics committee on learning about ethical decision making. After a case study was introduced, the students were asked to identify the need for an ethics review, determine how to start the process, evaluate the ethical situation using a decision-making model, and use ethical principles to examine practice issues. In addition to learning about ethics, the students experienced interprofessional group dynamics and increased their understanding of discipline-specific responsibilities (Opsahl et al., 2020).

Morley and Ives (2017) described the approach to nursing ethics education as being focused on determining the ethical situation and developing actions to resolve it. In practice, nurses document the discussions held by the healthcare team and actions to be taken. Using this approach may risk nurses identifying themselves as moral agents based on their ability to compress a complex ethical situation into a concise ethical issue. This may lead one to limit oneself to only a single solution or to simplify the process of critically examining ethical issues. In addition, using this approach promotes the belief that ethical challenges are easy to identify and resolve. No consideration is given to those situations when a satisfying resolution is not available or feasible. Some clinicians may see this lack of resolution as a moral failure that could lead to moral residue as discussed above. In ethics education there is a need to clearly state that ethical challenges and moral dilemmas are complex and may have few options for resolution.

Three topics should be added to ethics education. The first is the resolution of the emotional responses clinicians may experience because of the perceived unsatisfactory resolution of the situation. Secondly, clinicians must be cognizant that compromise may be required after rigorous deliberation to identify solutions that have been implemented. Lastly, clinicians should discussthe possibility that a sense of moral failure and moral residue may occur because of the complexities of ethical situations (Morley & Ives, 2017).

Nursing consideration: Reflect on your employing agency. What ethics continuing education activities are available? What ethics resources are available? Consider people, written, and on-line resources. What education and additional resources are you planning to request?

Moral Reflective Space

When empowerment is strengthened, a sense of powerlessness and the hesitancy to speak up are reduced. A strategy to increase empowerment is to establish a safe place for healthcare professionals to assess the moral distress in their daily practice. A moral reflective space is a designated area within the agency designed for individual reflection and to promote interprofessional collaborative reflection on ethical and moral challenges (Carse & Rushton, 2017). The moral reflective space should be available at all times, providing a space for moral reflection on action to take when involved in a moral dilemma (Hamric & Wocial, 2016). The interprofessional team should meet regularly. There should be an understanding that participants may openly and honestly share concerns, anger, and suggestions without fear of retaliation. The goal is to provide various viewpoints from different disciplines on challenges confronting the members. Trust, team building, and greater understanding of members' roles result from the interactions. A moral reflective space provides a venue to build ethical skills and to share ideas for changes in practices, processes, and protocols.

There are risks associated with reflecting on the response to moral dilemmas. Others may perceive the expression of moral distress as a complaint or an opportunity to voice anger and frustration. Another risk is that others will identify with the experiences and will unite to intensify the negative expressions of moral distress. These risks highlight the importance of a facilitator to guide the process to explore the ethical challenges. Carse and Rushton (2017) proposed questions to be asked during the reflection: What assumptions are we making? Are they true? What interim steps might we take to shift our understanding or change the situation?

Schwartz Center Rounds are an example of a moral reflective space in which healthcare professionals discuss the social and emotional aspects of their clinical role in relation to a specific situation (Sabin, 2017). The structured process is facilitated by someone who has the interpersonal skills to encourage others to speak up. The discussion begins with the facilitator defining the purpose of the rounds, stating that the focus of the discussion is sharing and problem solving, not to debate decisions made about care provided. Each person is encouraged to share their experience with the situation, including their thoughts and feelings. A summary of the discussion is provided by the facilitator at the conclusion of the rounds (Pfaff, 2016).

A systematic review of the literature was conducted to determine the impact of Schwartz Rounds in providing support to healthcare professionals as well as comparing it to similar interventions with comparable support provided. The review of 43 articles resulted in 11 similar interventions identified that included interventions such as caregiver support programs, critical incident debriefing, and reflective practice groups. Only 10 articles provided data measuring the effectiveness of the intervention. It was found that the ability to reflect on one's practice resulted in increased self-awareness and empowerment. Interpersonal communication and teamwork were enhanced. There was an impact on team's focus on patient-centered care and knowledge of patient suffering (Taylor, 2018).

Another example of the use of the moral reflective space is moral case deliberation as described above. A facilitator leads a group through the examination of ethical practices implemented during a specific situation to reveal the moral reasoning used in practice and to identify alternative approaches (Hartman et al., 2018).

In a review of the literature completed to determine the impact of moral case deliberation, 25 studies were found (Haan et al., 2018). The authors classified their findings into four themes.

The first theme was the facilitator and barriers. The facilitator needed to establish a safe environment for participants to express their experiences. Therefore, only those directly involved with a specific situation were allowed to attend. Mutual trust and respect were important to encourage individuals to share their experiences. The focus must remain on the moral dimensions of the case being discussed.

Personal and interpersonal changes were identified as the second theme. There was a sense of relief from a moral burden. Those involved felt a strong sense of closeness after having experienced the event and participated in the moral case deliberation. Most participants reported an increase in their confidence and understanding. Some reported a better understanding of alternative approaches to the same dilemma. There was an increase in awareness of the moral issues and moral caring dimensions involved.

The third theme was centered on the changes made to patient and family care. Limited evidence demonstrated an impact on care. There was some evidence of an increased awareness of patient and family situations. Participants were more mindful of the patients' and families' right to be involved in the decision-making process. Determining patients' wishes was timelier. With the decrease in moral distress, there was an increase in job satisfaction and a decrease in absenteeism.

Professional attention to ethics at the organizational level was the fourth theme. There was some evidence found in one study regarding an improved ethical environment. Several of the studies did report an increase in informal ethical discussions.

Additional Agency Strategies

AACN has described a healthy work environment for a nurse as one where skilled communication is fostered, involvement in organizational decision making is encouraged, adequate competent staff are available, meaningful recognition is provided, and the work is led by an authentic leader (Pavlish et al., 2016). A culture of engagement and empowerment is fostered when members of the healthcare team are encouraged to voice concerns without fear of reprisal (Sabin, 2017). Policies and procedures should be established to provide guidance for clinicians to report ethical challenges and morally complex situations without concern regarding retribution (Lachman, 2016).

A symposium was held in 2016 to address moral distress and build resilience, with recommendations to organizations. Following are some of the recommendations from that meeting (Rushton et al., 2017):

- Commit to secure resources to support moral resilience.
- Assure healthcare team members have the education and development opportunities to enhance relationship skills and mindfulness.
- Appoint nurses as members of the ethics committee.
- Identify and distribute best practice for interprofessional communication and resolution of ethical issues.

Ethics Committee. An agency should establish an ethics committee that is responsible for the development and revision of all policies relating to ethics. Another responsibility of the committee is providing education to the staff on ethical issues. Members of the committee provide consultation to the healthcare team challenged by ethical situations and moral dilemmas. It is advisable the membership of the committee be interprofessional, including direct care nurses, social workers, chaplains, and palliative care staff in addition to the medical staff (Hamric & Wocial, 2016). Each member will contribute a different point of view. Direct care nurses provide insight into the daily ethical challenges. The social worker brings the perspective of social justice (Pugh, 2017). Chaplains are able to address the spiritual needs of patients and families. Their counsel may aid healthcare professionals as well as patients during complex situations to balance spirituality and ethical obligations. The knowledge and skills of the palliative care staff are important when considering end-of-life care (Hamric & Wocial, 2016).

Nursing ethics committees have been established in some agencies to provide guidance to nurses as they are confronted with ethical situations and moral dilemmas. The activity promotes an enhanced understanding of the ethical decision-making model used by the agency. The committee may be instrumental in the implementation of organizational changes. There is an increased sense of empowerment in those who participate (Rushton et al., 2016).

Leader's Role. The leader must possess the knowledge and skills to address clinicians' ethical concerns (Stutzer and Bylone, 2018). A climate of interpersonal collaboration to address ethical challenges and to minimize or prevent moral distress should be established by the leader (Lachman, 2016). Through coaching the leader assists clinicians to develop ethical awareness, which is the recognition of the ethical implication of their actions. Clinicians should be encouraged to identify and address ethical issues as they occur to prevent moral distress (Milliken, 2018). As a leader, one should use introspection to assure directions given are not in conflict with an ethical work environment (Lachman, 2016).

The leader must advocate for resources to support clinical staff as they are confronted daily with ethical challenges. Through the leader's advocacy, the healthcare professionals should be provided with education to develop skills in applying ethical and discipline-specific resources. The leader should champion the development of a moral reflective space. (Hamric & Wocial, 2016).

Self-Assessment Quiz Question #9

All must be present in an agency that is striving to minimize moral distress EXCEPT:

a. Establish an ethical climate.
b. Open the ethics committee to all medical staff and senior leaders.
c. Promote interprofessional collaboration.
d. Empower healthcare professionals to voice ethical concerns.

With the complexities of patient care, it is important to assure that the work environment promotes healthcare professionals to be empowered and engaged. Agency leaders create the work environment and culture. Through education, coaching, and dialogue, they should be able to prevent or minimize the impact of moral distress.

Ethics and moral distress during the pandemic

The global pandemic of 2020 and beyond has strained the entire healthcare system and has posed many ethical challenges for healthcare professionals. These challenges include high surges of patients arriving at healthcare facilities, scarce supplies and equipment, limited or no family visitation, and delay in the treatment of those without urgent needs (Webster & Wocial, 2020). The duty of care is impacted by these challenges (Morley et al., 2020). Additional ethical issues identified include the onset of mental health issues associated with isolation and prolonged lockdowns, management of biowaste, effective treatments, duty of care opposed to the protection of healthcare professionals, and lack of dignity and rituals during death (Gopichandran, 2020).

Misinformation and conspiracy theories have added to the ethical dilemma of individuals not adhering to preventative measures such as social distancing, face mask wearing, and resistance to receive the vaccine (Agley & Xiao, 2021).

During the pandemic, the importance of collaboration within the organization, city, county, and state among healthcare professionals has become paramount. There is a need for equitable distribution of supplies and equipment to meet patient care needs. A shift from patient-centered care to saving the most lives occurs (Webster & Wocial, 2020, September). The duty of care expands from the individual patient to include the community (Sheahan & Lamont, 2020). Nurses are still obligated to speak up for their patients and protect them from harm. All healthcare professionals must keep current in the developments in the progression and treatment of the disease and the variants in order to provide accurate information to others. As professionals they are obligated to promote their own health and well-being by engaging in protective measures such as the proper use of protective equipment, adhering to infection control practices, and social distancing.

Moral distress has resulted from healthcare professionals facing multiple ethical dilemmas encountered during the pandemic (Gopichandran, 2020; Webster & Wocial, 2020). When left unchecked, moral distress can result in burnout (Daubman et al., 2020), compassion fatigue (Saleh et al., 2019), and mental health issues, including a higher risk of suicide (Gopichandran, 2020; Rahman & Plummer, 2020).

As noted previously, moral distress is complex with individuals responding differently to moral and ethical dilemmas. Crises and disasters heighten the challenges. Many nurses believe that their moral integrity has been diminished because of agency policies during the pandemic that have prevented them from doing what is right (Zuzelo, 2020). In December 2020, it was reported that 93% of healthcare workers were experiencing stress with 86% anxious and 77% frustrated (Lagasse, 2020, December 2). No data were found on the number of healthcare professionals experiencing moral distress during the pandemic.

Moral distress has increased during the pandemic. Following are some of the contributing factors:

- Families not involved in patient care decisions because of strict visitation policies (Altman, 2020; Morley et al., 2020).
- Developing a caring relationship with patients has been impacted by the use of masks, face shields, and additional PPE, which has been seen as dehumanizing (Morley et al., 2020).
- Patients dying alone (Altman, 2020).
- Crisis standards that require shifting from meeting the care needs of the individual patient to the needs of the community (Morley et al., 2020).
- Inability to provide life-saving measures because of shortages (Altman, 2020) or care and procedures not emergent (Morley et al., 2020).
- Requirement to conserve PPE placing healthcare professionals at risk and, subsequently, their families (Morley et al., 2020).
- Reallocation of scarce resources to someone else who may receive greater benefit from the resource or meet a specific criterion such as removing a ventilator from one patient to give to another (Morley et al., 2020).

There has been a question whether nurses are experiencing moral distress or moral injury as a result of the pandemic. Moral injury has been used to describe the result of veterans committing, witnessing, or failing to prevent actions during war that were contrary to moral convictions (Zuzelo, 2020). Whether moral distress or moral injury, the pandemic has resulted in healthcare professionals suffering and experiencing frustration, anxiety, and anger.

The AACN developed a position statement calling on healthcare agencies to adopt the following recommendations to reduce the incidence of moral distress (AACN, 2020a):

- Supply the needed personal protection equipment and supplies.
- Develop evidence-based procedures to fairly distribute scarce resources.
- Establish an interprofessional committee to address difficult situations.
- Ensure visibility and accessibility of agency leaders to direct care providers to promote clear and transparent communication.
- Include nurses on decision-making ethics committees.
- Scrutinize work environment to identify situations that may result in moral distress.
- Secure resources to enable nurses to identify moral distress. Make certain that resource to address moral dilemmas, such as ethics committee, employee assistance, and critical incidents debriefing, are readily accessible.
- Recognize when a conflict arises between your values and the actions you are being asked to do.
- Develop a moral compass for yourself.
- Become aware of the signs and symptoms of moral distress.
- Engage a trusted mentor.
- Make use of available resources to address moral dilemmas or moral distress.
- Rely on colleagues and family members to help you through moral distress by providing a balance between personal and profession obligations.

Daubman and colleagues (2020) proposed a framework to manage moral distress during the pandemic. The three stages in the framework are indignation, resignation, and acclimation. With indignation, the conditions present, the suffering experienced by the patients, and the lack of supplies and equipment shock the clinician. The intensity of suffering and the frequency of death is overwhelming. The clinicians have a sense of powerlessness to provide compassionate care. Adding to the indignation is the realization that healthcare disparities are affecting racial and ethnic minorities. The resignation stage follows, with the clinician continuing to provide care with resignation to the fact they are doing the best they can. The final stage is acclimation, when the healthcare team has developed a shared purpose in meeting the patients' needs. The authors noted that there is not a linear progression through this framework, but that having knowledge of the stages is useful in managing moral distress as the pandemic continues. An added complexity to managing moral distress in the pandemic is that healthcare professionals are returning to their families after their shifts, not knowing what risks they are introducing to them.

Moral distress cannot be eliminated during the pandemic. Measures should be taken to lessen the impact by addressing the source of the moral distress and engaging in debriefing for the healthcare providers involved (Morley et al., 2020). Additionally, culturally sensitive, and appropriate individual crisis counseling should be provided that focuses on the current effects and residual effects of the pandemic (Zuzelo, 2020). At the beginning of the shift, take time to remember what you are grateful for and at the end of the shift reflect on what went well (Altman, 2020). Mindfulness activities, use of the AACN 4As, and self-care activities should be employed to manage moral distress (Daubman et al., 2020.) Self-care activities must be implemented, such as rest breaks during the shift, healthy eating, getting adequate sleep, paying attention to feelings and emotions, and seeking support to manage the stress and distress (Webster & Wocial, 2020). Agency leaders should make rounds in the units/departments to understand what the staff are experiencing, identify any barriers that are hindering care, gain input on decisions being made, and provide information (Rosa et al., 2020). Other strategies noted above to resolve and prevent moral distress should be considered.

Case study

Mrs. J., a 75-year-old patient, was admitted to the critical care unit with fever, increased respiratory secretions, Stage IV tunneling sacral ulcer, and leukocytosis. She is a resident at a long-term care facility. She has multiple comorbidities, including stroke 5years ago with right sided paralysis, COPD, and expressive aphagia. The plan of care included supportive care, treatment with antibiotics, and return to the long-term care facility. The patient did not have an advance directive. The patient's daughter, who held medical power of attorney, insisted her mother should be resuscitated. The physician ordered full code. The nurse's notes indicate there has been a decrease in Mrs. J.'s response to verbal commands in the past 24 hours. She no longer opens her eyes when spoken to.

Melissa, who is certified and has worked in the unit for 6 years, is experiencing symptoms of moral distress. She is concerned that resuscitating the patient would not be beneficial and ethically inappropriate.

Questions:

1. What is the best action for Melissa to take?
2. What should the healthcare team do to ease their moral distress?
3. Is there any additional action the team should consider and take?
4. What action could Jeff take to support the staff to prevent or minimize moral distress when they are confronted with ethical dilemmas?

Discussion:

1. With Melissa beginning to experience moral distress, one option would be for her to ask the charge nurse to change her assignment. This would separate her from the distressful situation. Another option would be to gain more understanding about the physician's decision to make the patient a full code. She may not understand the rationale for the full code. A third option would be to request an ethics consultation. The ethics consultation team would

review the ethical and medical reasoning for the care provided with respect to the four principles of ethics: autonomy, beneficence, nonmaleficence, and justice. The ethics consultation was requested. The ethics consult note indicated there was a meeting with the hospitalist and the patient's primary care physician to discuss the code status and to review the benefits of aggressive care. There was a hesitancy to change Mrs. J.'s code status because the antibiotics had just been started and what is occurring might be related to the infection and not a deterioration in the patient's status. Several other members of the healthcare team involved in Ms. J.'s care are discussing the pros and cons of the continuation of the aggressive treatment. Some state they think Mrs. J. is suffering. They feel powerless and helpless to take any meaningful action.

2. Some of the team think it would be advantageous for them to go to the wellness center and engage in some strenuous exercise to "work out their distress." Others think that the team should continue to discuss the pros and cons of the plan of care to resolve the distressing situation. One member suggests a facilitator-guided debriefing to enable members to discuss their feelings and identify possible actions to take. A team member indicated that in a similar situation one of the social workers served as the facilitator. Jeff, the nurse manager, agreed to contact the social workers to determine if they would be willing to serve as the facilitator and, if so, when could the session be scheduled. Jeff attended the debriefing. He had seen the anguish and anger the members of the team were experiencing. Of the possible actions to take that were discussed at the debriefing, the team agreed another ethics consult should be requested. Mrs. J. had been on antibiotics for 7 days with no improvement noted. Her status had changed only with her response to pain.
   After the second ethics consult, Mrs. J.'s code status was changed from full code to do not resuscitate (DNR). This was consistent with the unbeneficial or medically ineffective treatment agency policy. Mrs. J.'s primary care physician informed the patient's daughter of the change in her mother's code status. The daughter admitted that she knew her mother would probably not improve. However, she did not agree with the code status change and wanted her to get well enough to return to the nursing home.
3. The team should continue to provide comfort care. Mrs. J.'s daughter needs support and encouragement during this exceedingly difficult time. The staff need to continue to meet their duty of care.
   Connie, the social worker on the team, investigated if hospice care or palliative care was available at the long-term care facility Mrs. J. had come from. Connie discovered that a contracted hospice care service could be arranged. Connie made the referral for the contracted hospice service and Mrs. J. returned to the long-term care facility when the referral was finalized.
4. Jeff could establish ethics rounds or interprofessional ethics discussions at the unit. He could identify and designate a room on the unit to serve as a moral reflective space. Clinical nurses and other members of the unit healthcare team should be involved in determining resources to be available in the room. When ethical dilemmas occur in the future, Jeff should be an empathetic listener and timely initiate interventions to prevent or resolve moral distress

Conclusion

The professional code of ethics and professional standards are the foundation for ethical practice. Healthcare professionals are responsible for understanding how the code and standards apply to their role. Moral distress occurs when one's senses they have failed to meet their duty of care obligation. Internal, external, and environmental factors contribute to the cause of moral distress. When moral distress occurs, the individual experiences an emotional response that may also include physical and behavioral responses. If moral distress is not resolved, the individual may experience a sense of an assault on their integrity, burnout, or compassion fatigue. Moral distress has been shown to negatively impact patient care.

In addition, self-care activities – such as seeking counseling, debriefing, and mindfulness activities – have demonstrated a positive impact on resolving moral distress. Although moral distress cannot be completely prevented, education has provided individuals with the knowledge and skills to address ethical situations that could lead to moral distress. Another effective intervention is the development of a moral reflective space for individuals to reflect on their practice. The moral reflective space has been beneficial for interprofessional dialogue regarding complex patient situations and to be attuned to any members of the team who may be experiencing moral distress.

Agency leaders are responsible for establishing an ethical climate and a culture that promotes engagement and empowerment. Interprofessional collaboration is valued and promoted within the agency. Policies should guide ethical practice that enables healthcare professionals to work toward achieving improved patient outcomes.

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ETHICS AND MORAL DISTRESS FOR HEALTHCARE PROFESSIONALS

Self-Assessment Answers and Rationales

1. The correct answer is D.
Rationale: An ethical work environment promotes safety for staff and patients. Have a private conversation with the individual. The manager should be informed about the behavior and intervene if the behavior continues. See Provision 6.

2. The correct answer is D.
Rationale: Provide support to the mother. Assure she has the needed resources. This is a situation where the nurse is confronted with competing loyalties to the employing agency, the patient, and boundaries of professional nursing practice. See Provision 2.

3. The correct answer is A.
Rationale: Although the candidate is a former patient, it is your responsibility to maintain confidentiality about your past knowledge of the individual. See Provision 3.

4. The correct answer is A.
Rationale: It is the responsibility of the delegator to be knowledgeable of the delegatee's capabilities to determine if they have the knowledge and skills to provide the care to the patients assigned. See provision 4.

5. The correct answer is B.
Rationale: A new attendance policy may cause stress and distress, but for moral distress to occur, the situation must prevent the provider from meeting obligations to the patient.

6. The correct answer is D.
Rationale: Sally needs some guidance from experts in ethics and ethically challenging situations.

7. The correct answer is C.
Rationale: All actions should be done except do nothing more. The ethical dilemma needs to be escalated to individuals with the authority and responsibility to take meaningful action, and the staff needs to provide support to the family.

8. The correct answer is B.
Rationale: Ethics education is a strategy to be employed either before moral distress occurs or after moral distress is resolved to help prevent or minimize future moral distress.

9. The correct answer is B.
Rationale: The ethics committee may have a limited membership; however, direct care nurses, social workers, and chaplains should be on the committee.

Course Code: ANCCIA04EM

Mental Health Concerns and the Older Adult

6 Contact Hours

Release Date: October 12, 2022

Expiration Date: October 12, 2025

Faculty

Mary Perry, MSN, RN, PMHNP-BC, is a psychiatric mental health nurse practitioner board certified across the life span. She also holds a board certification as a clinical nurse leader. Her background is medical-surgical, aerospace medicine, military contingency aeromedical evacuation support, and mental healthcare. She received her BSN in 2006 from The University of Alabama at Birmingham, her MSN in 2016, and a postgraduate certificate in 2020 from The University of Alabama. Her previous employment includes the U.S. Air Force as an active-duty nurse; the U.S. Navy in Okinawa, Japan, as an independent contract nurse; and at Troy University in Montgomery, Alabama, as an adjunct professor.

Mary Perry has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Reviewer: Tonya Kasselman, MSN, RN, FNP-BC, is a board-certified family nurse practitioner. Her background includes skilled rehabilitation, long-term care, assisted living, diabetes management, and geriatric care. She received her BSN in 2003 from Fort Hays State University in Hays, Kansas. She received her MSN in 2011 from Wichita State University.

Tonya Kasselman has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Course overview

The healthcare worker meeting mental health needs will be able to view the older adult within the context of aging theories and identify interpersonal connection, biopsychosocial elements, and the assessment and treatment for common mental health problems in the older adult. The target audience is any healthcare worker who will assess, intervene, or treat mental health needs of an older adult client. Registered nurses, mental health technicians, mental health providers, case managers, and primary care healthcare workers can benefit from the perspective provided by this course.

Learning objectives

Upon completion of this course, the learner will be able to do the following:

- Examine the most common theories on aging, developmental tasks, and reflection from the older adult perspective.
- Evaluate essential components of the therapeutic alliance with the older adult.
- Demonstrate verbal communication styles that enhance the interpersonal connection with the older adult.
- Differentiate the social determinants of health and the barriers to care for the older adult.
- Select recommended assessment considerations for the older adult.
- Appraise biopsychosocial considerations for the assessment for the older adult.
- Analyze crisis, loss, grief, and bereavement for the older adult.
- Distinguish risk factors, treatment, and recovery for the older adult with a mental health diagnosis.

How to receive credit

- Read the entire course online or in print which requires a 6-hour commitment of time.
- Complete the self-assessment quiz questions which are at the end of the course or integrated throughout the course. These questions are NOT GRADED. The correct answer is shown after you answer the question. If the incorrect answer is selected, the rationale for the correct answer is provided. These questions help to affirm what you have learned from the course.
- Depending on your state requirements you will be asked to complete either:
  - An affirmation that you have completed the educational activity.
  - A mandatory test (a passing score of 70 percent is required). Test questions link content to learning objectives as a method to enhance individualized learning and material retention.
- Provide required personal information and payment information.
- Complete the MANDATORY Self-Assessment and Course Evaluation.
- Print your Certificate of Completion.

CE Broker reporting

Colibri Healthcare, LLC, provider # 50-4007, reports course completion results within 1 business day to CE Broker. If you are licensed in Arkansas, District of Columbia, Florida, Georgia, Kentucky, Michigan, Mississippi, New Mexico, North Dakota, South Carolina, or West Virginia, your successful completion results will be automatically reported for you.

Accreditations and approvals

Colibri Healthcare, LLC is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation.

Individual state nursing approvals

Colibri Healthcare, LLC is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation. In addition to states that accept courses offered by ANCC accredited Providers, Colibri Healthcare, LLC is an approved Provider of continuing education in nursing by: Alabama Board of Nursing, Provider #ABNP1418 (valid through February 5, 2025); Arkansas State Board of Nursing, Provider #50-4007; California Board of Registered Nursing, Provider #CEP17480 (valid through January 31, 2024); California Board of Vocational Nursing and Psychiatric Technicians (LVN Provider #V15058, PT Provider #V15020; valid through December 31, 2023); District of Columbia Board of Nursing, Provider #50-4007; Florida Board of Nursing, Provider #50-4007; Georgia Board of Nursing, Provider #50-4007; Kentucky

Board of Nursing, Provider #7-0076 (valid through December 31, 2023; CE Broker Provider #50-4007); Michigan Board of Nursing, Provider #50-4007; Mississippi Board of Nursing, Provider #50-4007; New Mexico Board of Nursing, Provider #50-4007; North Dakota Board of Nursing, Provider #50-4007; South Carolina Board of Nursing, Provider #50-4007; and West Virginia Board of Registered Nurses, Provider #50-4007. This CE program satisfies the Massachusetts States Board's regulatory requirements as defined in 244 CMR5.00: Continuing Education.

Activity director

Deborah Martin, DNP, MBA, RN, NE-BC, FACHE, Director of Learning Innovation Colibri Healthcare, LLC

Disclosures

Resolution of conflict of interest
In accordance with the ANCC Standards for Commercial Support for continuing education, Colibri Healthcare, LLC implemented mechanisms prior to the planning and implementation of the continuing education activity, to identify and resolve conflicts of interest for all individuals in a position to control content of the course activity.

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The information provided in this activity is for continuing education purposes only and is not meant to substitute for the independent medical judgment of a healthcare provider relative to diagnostic and treatment options of a specific patient's medical condition.

Course verification

All individuals involved have disclosed that they have no significant financial or other conflicts of interest pertaining to this course. Likewise, and in compliance with California Assembly Bill No. 241, every reasonable effort has been made to ensure that the content in this course is balanced and unbiased.

INTRODUCTION

Aging is a normal biological process. It is a distinctive, often progressive, natural decline in functioning that includes all body systems— cardiovascular, endocrine, immune, and neurological, to note a few. *Elderly* is a term often used interchangeably with *older adult*, which the American Association of Geriatric Psychiatry (Lundebjerg et al., 2017) defines as those age 65 years and older, which qualifies them for Medicare eligibility. This patient population is projected to double from 2015 to 2050 worldwide (World Health Organization, 2017). As the world population rapidly increases, so too do mental health needs. Everyone will experience aging on some level, but differing populations will advance at different rates. However, increasing age is not proportionally associated with declining intellectual and physical capacity. Older adults with mental health needs are a population subset with specific characteristics for the healthcare worker. The ability to thoroughly assess and diagnose, individualize care (whether lifestyle related or pharmacologic), and tailor mental health interventions for the older adult can improve quality care and safety. The unique presentation of the older adult can provide a better understanding for assessment, intervention, and treatment considerations for the healthcare worker addressing the mental health needs of the older adult.

THEORIES ON AGING

The inevitability of aging and its developmental stages in association with human health have been studied and debated over the years. What follows is a summarization of the most common theories on older adulthood, from Sigmund Freud, Heinz Kohut, Bernice Neugarten, Daniel Levinson, and Erik Erikson. Healthcare workers see aspects of each of these while assessing and caring for the older adult's mental health needs. Sigmund Freud was focused on the need to control the ego (part of the human psyche that operates in the real world) and id (part of the human psyche that strives to fulfill primal needs) with the superego (internalized values and morals that push the ego to act in a more virtuous way). Regression may induce rudimentary methods of coping to resurface in the older adult (Sadock et al., 2015). Heinz Kohut stated that the elderly are constantly faced with narcissistic injury as they cope and adapt to the biological, psychological, and social losses associated with the aging process. The central task of aging is preservation of self-esteem (Sadock et al., 2015). Bernice Neugarten theorized the major conflict of old age to lie in the release of autonomy and authority; the focus is on accomplishments and previous victory. This time is for reconciliation with others and processing grief related to the death of others and the inevitability of death of self (Sadock et al., 2015). Daniel Levinson found that age 60 to 65 is a transition period. Older people, "late adults," become consumed by the thought of their death and are often narcissistic and heavily engrossed in their body appearance. He found that creative mental activity is recommended and is a healthy substitute for decreased physical activity (Sadock et al., 2015). All the above theorists have aspects of interest for the healthcare worker to note; however, Erik Erickson's eight psychosocial stages of development are especially worthwhile to consume prior to working with an older adult.

Erik Erikson created a framework that highlights tasks to be accomplished, virtues to be gained, or—conversely—a crisis can occur throughout the life span. He expanded on Freud's theory by recognizing the relationship between the individual and their environment to include a client's customs and traditions (Sadock et al., 2015). The healthcare worker should approach each client's meaning, acceptance, or toil with life and death with cultural awareness. Erikson's stages from birth to older adult are a trajectory of development, an amalgamation of physical, cognitive, instinctual, and sexual realms (Sadock et al., 2015). An interruption or inability to accomplish the tasks in each stage may lead the client to undergo a decision point in their life. The older adult is influenced by each stage along the continuum. The healthcare worker can gain much by capturing the perspective

of the older adult client through the lens of the stages of Erik Erikson's psychosocial stages of development. Stage 1 is trust versus mistrust (usually met in infancy and has an associated virtue of hope); stage 2 is autonomy versus shame (usually met in the toddler timeframe with an associated virtue of will); stage 3 is initiative versus guilt (usually met in the preschool age and the associated virtue is purpose); stage 4 is industry versus inferiority (usually met during the school age and the associated virtue is competence); stage 5 is identity versus confusion (usually met in adolescence and the associated virtue is fidelity); stage 6 is intimacy versus isolation (usually met in early adulthood and the associated virtue is love); stage 7 is generativity versus stagnation (usually met in adulthood and has the associated virtue of care); and stage 8 is integrity versus despair (usually met in older adulthood and has the associated vesture of wisdom) (Boyd, 2017).

The older adult grew an appreciation of interdependence from stage 1. Acceptance of the life cycle and self-control were gained in stage 2. In stage 3, the older adult gains humor, empathy, resilience, and life direction. The older adult developed humility and acceptance of the course of their life to include unfulfilled hopes in stage 4. Stage 5 brings a sense of complexity to life and helps merge perception and devotion to life for the older adult. The older adult gathers a sense of relationships and comes to value tenderness and love during stage 6. In stage 7, the older adult has learned empathy and how to care for others with concern. The eighth and final stage, integrity versus despair, refers to the time period between being an older adult and death. An older adult client in this stage of life is juggling the purpose versus the finality of their life. This concept can be deep and meaningful, and it can drive the decisions a client makes toward their own health and the care they want/expect at the end of their life. An older adult client struggling with the fulfillment of this stage can experience high levels of despair and detachment (Sadock et al., 2015). These can be barriers the healthcare worker must consider when planning care and offering mental health interventions and treatments to the older adult. With an awareness of the theories on aging, the healthcare worker can more accurately conceptualize the client in their current presentation and use this information in the administration of mental healthcare.

Self-Assessment Quiz Question #1

The healthcare provider identifies the sense of satisfaction the older adult feels reflecting on a life lived productively as which task from the final stage of Erik Erikson's psychosocial stage of development?

a. Integrity.
b. Despair.
c. Generativity.
d. Stagnation.

INTERPERSONAL CONNECTION WITH THE OLDER ADULT

An essential component of mental healthcare is the therapeutic relationship between the healthcare worker(s) and the older adult client. A healthcare worker who builds and maintains a therapeutic relationship will be connected to the older adult client, enhancing their ability to meet their mental healthcare needs. The older adult views connection as vital to their identity, autonomy, and self-esteem (Jack et al., 2019). Key elements in the healthcare worker forming a therapeutic relationship are rapport, empathy, and professional boundaries—all within the bounds of cultural consideration for the older adult. These elements will aid communication between the healthcare worker and the older adult, which in turn strengthens the therapeutic relationship, a paramount component of mental healthcare.

Rapport—trust

Rapport is "interpersonal harmony" rooted in mutual understanding and respect for another (Boyd, 2017, p. 93). This concept of rapport is critical for the healthcare worker to develop a therapeutic relationship with the older adult in order to address their mental health needs. Trust is the foundation of the therapeutic alliance (Carlat, 2017). How a healthcare worker establishes rapport and builds trust depends on their individual capabilities and the current presentation of the client.

Connecting with the older adult can be challenging if the healthcare worker harbors conscious or unconscious bias or stereotypes. Ageism is a healthcare worker's perception and outlook based on their assumptions, perceptions, expectations, and beliefs that they form about older people, aging, and old age (Ayalon & Tesch-Romer, 2018). Ageism can negatively drive a healthcare worker's interaction with the older adult client. The World Health Organization (WHO) has identified ageism as one of the key targets for improving health (WHO, 2021). Awareness of ageism by the healthcare worker when meeting and building rapport with an older adult mental health client is imperative.

An example of ageism is a healthcare worker undervaluing depressive symptoms reported by the older adult and failing to address them in a timely manner or adequately because the healthcare worker assumes depression is common in all older adults. Ageism in this context could lead to a reduced calculation of risk, leaving the older adult client in an unsafe situation to self or others. Caution is warranted to avoid discriminating against the older adult client.

The healthcare worker can decrease common pitfalls of ageism through the practice of self-examination. The principle of self-awareness is defined as a healthcare worker's personal beliefs, thoughts, motivations, biases, and limitations (Boyd, 2017). By evaluating one's self, often through directed questions/thoughts, the healthcare worker can break internal or external barriers that inhibit personal connection with the older adult client. Self-concept awareness can be explored with a series of methodical questions related to what, when, and how a person has come to define themselves. The questions can be thought of as being in three major categories: body image, self-esteem, and personal identity (Boyd, 2017). Body image refers to the physical attributes that make up the outside of one's appearance and includes beliefs and attitudes about one's body (Boyd, 2017). An example of how this idea can be self-searched is to ask questions such as "How do I see myself when I look in the mirror?" and "What do I like about my body and/or dislike about my body?" How comfortable a person feels within their own skin can positively or negatively affect the way they interact with others. Self-esteem, another category, is one's perception of worth or importance, and it is a deeper view than body image (Boyd, 2017). It encompasses a person's confidence, which can be molded throughout time. An example of how to review self-esteem is to ask questions such as "How do I feel about myself and my worth?" and "How do I talk to myself in my own head (positive or negative self-talk)?" The third category of self-concept awareness is personal identity.

Personal identity is how a person sees themselves in relation to others (Boyd, 2017). An example of how to search this concept further is to ask questions such as "What words describe who I am?" and "What groups do I identify with?" and "How does my cultural or spirituality play into who I am?" By knowing more about body image, self-esteem, and personal identity, a healthcare worker can have a better understanding of their own roots, which provides insight into relationships. Self-assessment takes time and humility but will benefit the healthcare worker in all client interactions. Self-awareness leads a healthcare worker closer to objective empathy, thus allowing for connection with the older adult shaped through their individualism. Spend time getting to know yourself and re-evaluate regularly. There is value in understanding yourself and how you have changed over time, and this understanding can enhance interpersonal relationships with the older adult.

Rapport and trust are assembled or hindered from the initial client meeting and transform/shift at every subsequent interaction. Other ways to increase rapport and trust are with the use of interpersonal warmth and a nonjudgmental attitude (Boyd, 2017). The healthcare worker should prepare for positive interactions prior to the first interaction with the client and work at strengthening the bond whenever possible. Healthcare organizations can also strive to decrease ageism by offering educational activities that dispel misconceptions and prejudices while addressing intergenerational concerns of the older adult (WHO, 2021). Ultimately, the healthcare worker must foster a therapeutic relationship nurtured in rapport and trust in order to meet the mental health needs of the older adult.

Cultural care

To understand the older adult more completely, the healthcare provider must enter the therapeutic relationship with the understanding that cultural beliefs and practices impact care. The older adult client may identify with a particular culture, and the healthcare provider needs to assess that identification in order to provide quality mental health services. The healthcare worker needs to understand the definition of culture, its application, and how to extend cultural acceptance.

Definition of culture (American Psychiatric Association, 2022c):

1. The distinctive customs, values, beliefs, knowledge, art, and language of a society or a community. These values and concepts are passed on from generation to generation, and they are the basis for everyday behaviors and practices.
2. The characteristic attitudes and behaviors of a particular group within society, such as a profession, social class, or age group.

The healthcare provider must assess each older adult client with openness using cultural competence and cultural humility. Cultural competence is the knowledge, skill, and awareness the healthcare provider possesses (Boyd, 2017). Cultural humility is the healthcare provider's ability to self-reflect on potential bias and possible factors that could interfere with providing mental healthcare (Stubbe, 2020). It places emphasis on a continuous learning process for the healthcare worker. Both concepts are defined and designed to aid the healthcare worker in their interactions with older adult clients and provide cultural acceptance.

Techniques for the healthcare worker to extend cultural acceptance (Stubbe, 2020) include:

- Review your agency's policies and practices toward culture.
- Find out if your agency provides accommodations for language.
- Simply ask the client how they identify their culture.
- Take notes on specific practices, customs, and beliefs the client discusses.
- Avoid assumptions.
- Ask about discrimination, bullying, or possible harassment related to culture.
- For validation, reword and repeat what is being shared.
- Give the client permission to speak up when they are feeling misunderstood.

Empathy

In the healthcare profession, empathy has nineteenth-century historical beginnings. Florence Nightingale is the most notable advocate as a result of her role in bringing compassion and empathy to patients. She is credited with unifying science and skill with compassion and empathy (Magpantay-Monroe, 2015). Exhibiting empathy can be thought of as an individualistic portion of healthcare with artistic freedom. There is more than one correct and therapeutic way to connect with older adult clients when assessing, intervening, and delivering treatment—especially when meeting mental health needs. The healthcare worker addressing mental health concerns can utilize and modify various approaches to communication to elicit trust and rapport that enrich the environment for information exchange, often of a sensitive nature. The healthcare worker can use originality with the empathetic approach, with the goal of maximizing the dialogue with the older adult client. This is important for the older adult client because the WHO (2021) notes empathy as a method for combatting ageism. With trust and empathy, the healthcare worker can increase interpersonal connection enveloped in empathy with the older adult client, making it easier to assess, intervene, and treat mental healthcare needs.

Professional boundaries for the mental healthcare worker

While meeting the needs of the older adult mental health client, the healthcare worker is cautioned to maintain professional boundaries. Ethical topics such as abuse can be of concern with older adult mental healthcare, and they warrant a review of appropriate interaction. The National Council of State Boards of Nursing (2018) defines professional boundaries as the area between the healthcare worker's "power and the client's vulnerability." Mental healthcare assessments and interactions depend on the healthcare worker's aptness within this delicate scope. The focus during the interview should always be the client. Keeping the perspective of the client's recovery goals can guide the healthcare worker to maintain appropriate balance. The healthcare worker should avoid self-disclosure whenever possible. Self-disclosure is defined as personal information a healthcare worker shares with a client (Boyd, 2017). Using honesty and redirection can give the healthcare worker the ability to shift questions or comments about themselves back in line with the therapeutic relationship. Remember, the goal is to help the older adult client through professional interactions and work to improve their quality of life.

Transference and countertransference are two sides of the same coin. The healthcare worker meeting mental healthcare needs for the older adult should use acute recognition/awareness for the hindrance of either element. Transference is a client placing the thoughts, feelings, or behaviors they associate with someone else onto the healthcare worker (Boyd, 2017). This can be heard when a client says things such as "You remind me so much of my son/daughter" or "You look like a girl/boy a grew up with." While these comments are not infallible indicators, they should prompt the healthcare worker to follow up on the association the client is making. The association can be favorable—or an obstacle to overcome. Countertransference is when a healthcare worker knowingly or unknowingly places their own feelings or attitudes onto the client (Boyd, 2017). This term can present in a positive or negative connotation. If the elderly client reminds you of your loving grandparent, then you might take great care in meeting needs or risk breeching professional boundaries. If the older adult client reminds you of your abusive grandparent, then the client is at risk for decreased objectivity in assessment and possible degradation of care rendered. Both transference and countertransference can be combatted with awareness. The practice of self-awareness and the review of extenuating factors that contribute to ageism, as discussed above, can also be applied to transference and countertransference. Trust, empathy, and a focus on professionalism place the healthcare worker in the appropriate space for communicating and enhancing mental healthcare needs of the older adult.

Theory of interpersonal relationship

In 1952, Hildegarde Peplau created the first psychiatric framework for the nurse–patient relationship (Boyd, 2017). The systematic organization of the professional relationship she created can be generalized to a wider spectrum for healthcare workers meeting mental health needs. The framework consists of three phases of the professional relationship. The first phase is the orientation phase: the introduction and initial exchange of acquaintance and building of trust that can happen in minutes or may take months (Boyd, 2017). The older adult is seeking help and has identified unmet mental health needs. The therapeutic relationship begins with the first interaction and changes with every subsequent interaction. The healthcare worker uses the orientation phase to listen, establish boundaries, manage expectations, and use self-awareness to check for countertransference (Boyd, 2017). The second phase is the working phase: the space for examining existing problems and finding acceptable solutions to overcome them (Boyd, 2017). This phase is where the majority of the interpersonal relationship for assessing, implementing, and evaluating take place. It typically happens over time. A sense of comfort is felt in this phase for the older adult and the healthcare worker. The older adult has emotional safety in this phase and is able to address mental health struggles. The healthcare worker is cautioned that transference is common in this phase (Boyd, 2017). Goals toward recovery should be reached during this phase. The final stage of the framework is the resolution phase: the termination of the services and relationship take place in this stage (Boyd, 2017). Not all relationships will follow through to the resolution phase. But if they do, the healthcare worker can say "good-bye" and reflect on the progress made by the older adult as well as the social support put into place for continued success (Boyd, 2017).

The components of trust that build rapport, culture consideration, empathy, and professional boundaries can be applied throughout Hildegarde Peplau's framework. The healthcare worker can visualize the potential psychiatric therapeutic relationship with the older adult client prior to initiation with the goal of improved interactions. The healthcare worker can also have an awareness for the progression and evolution of the therapeutic relationship, including its termination.

COMMUNICATION AND LIMITATIONS WITH OLDER ADULTS

Communication is a vital key for the healthcare worker to properly meet mental health needs of older adult clients. A healthcare worker can provide dignity and respect when the older adult client feels heard (Jack et al., 2019). The National Institute on Aging (NIA) has recommendations for improving communication with the older adult. Communication with older adults is often hindered by declining sensory, cognitive, and physical abilities (NIA, 2021a). Therefore, a healthcare worker must utilize a variation in communication techniques—tailored to suit the needs/abilities of the client. These can aid the healthcare worker's ability to elicit information for proper assessment and intervention. They also have recommendations for communicating with the older adult who has hearing, visual, or cognitive deficiencies. Hearing and vision are both normal biological processes that decline with age and need to be accommodated when assessing and intervening with the older adult to ease the information exchange.

Recommendations for improving communication with the older adult include the following (NIA, 2017):

- Use an older client's preference for being addressed and include their proper titles such as Mr., Mrs., Ms., Dr.
- Avoid endearing terms such as *honey* and *dear*.
- Ensure comfort for them and provide adequate chairs or adjust the setting as needed.
- Choose your words wisely and clarify when confusion seems apparent; some words are used flippantly, such as *depression* and *crazy*.
- Proceed with cultural competence.
- Encourage the client to write or take notes if desired.
- Suggest that a family member or caregiver be present during interactions and be involved in tasks to provide support.
- Include reassurance of understanding and use the teach-back method when applicable to the older adult and the family members or caregivers.

Recommendations for accommodating hearing impairments include the following (NIA, 2017):

- Assess that the client can clearly hear you. If they cannot, ask if they use a hearing aid and make sure it is being used properly if needed.
- Use a regular pitch and volume. Raising your voice actually decreases understanding for those with hearing difficulties.
- Posture yourself directly in front of the client for face-to-face contact, which enhances their ability to read your lips if needed.
- Decrease background noise and close doors if they're comfortable with it.
- Spell words out if confusion is present nonverbally.
- Have a piece of paper ready if you need to write or they want to write to you.
- When transitioning is going to take place in the interview, tell them verbally that you are changing the subject, for example, "I'm going to move on to the next part of this interview."

Recommendations for accommodating visual impairments include the following (NIA, 2017):

- Assess whether the client can clearly see. If they need eyeglasses, ask if they brought them.
- Proper lighting is necessary for the older adult. Reduce glare for screens.
- Ask for their preferred method of learning when providing instructions (verbal, written, visual, pictures, etc.)
- If writing, make sure they can read it.
- If using printed materials, 14-point font is suggested.

Recommendations for accommodating cognitive impairments include the following (NIA, 2017):

- Be patient and allow for ample time to reduce feeling rushed.
- Ensure you have the client's attention prior to starting.
- Orient and reorient the client as needed throughout the interaction.
- Use a familiar setting for the interview if possible.
- Include family, friends, or caregivers with client consent.
- Avoid medical jargon and rephrase to understandable wording.
- Present one question or direction at a time.
- Choose open-ended (e.g., "How does that make you feel?" or "What do you think might have contributed to this feeling?") or closed-ended questions (e.g., "Did you get any sleep last night?" or "Have you been feeling sad and down lately?") based on the client's ability to answer (closed-ended questions are often easier if cognitive deficits are present).
- Consider following up with the client within the week to assess for understanding and allow for questions.
- Encourage cognitively stimulating activities, exercise, and a healthy diet.

Hearing, visual, or cognitive impairments that are clinically prohibitive to communication will require the healthcare worker to utilize more extensive variations in technique, and possibly require professional assistance or assistive devices. If professional assistance and assistive devices are required, the healthcare worker can collaborate with experts, such as case management, to mitigate communication barriers for the older adult client.

A brief review of verbal and nonverbal communication with older adult considerations can benefit the healthcare worker. Nonverbal communication is gestures, expressions, and body language (Boyd, 2017). It encompasses more of the interaction than verbal communication. The psychiatric older adult client can be difficult to interpret if disabilities or cultural differences are present. Using understandable language to verbally validate nonverbal observations can help clear any perceived deficiency in the information exchange.

Ten techniques can be used to improve the psychiatric interview with the older adult: acceptance, confrontation, doubt, interpretation, observation, open-ended statements, reflection, silence, and validation (Boyd, 2017). Acceptance is a therapeutic way to encourage information exchange in an open manner and is useful for establishing trust and building rapport (Boyd, 2017). The healthcare worker can practice this by saying things such as "It is ok to tell me about it—I would like to hear how it made you feel." Confrontation is used with discretion when trying to confront reality for the older adult (Boyd, 2017). The healthcare worker can use confrontation gently to address inconsistencies; however, it has the potential to divide the therapeutic relationship and cause discourse in communication. Doubt is also used cautiously when a healthcare worker is certain the older adult is incorrect about factual information. The healthcare worker should assess for the presence of cognitive deficiencies if misinformation in the older adult's communication is apparent.

Interpretation is a technique that the healthcare worker can embrace when trying to help the older adult identify their thoughts and feelings. For example, if the older adult is adamant that they cannot attend appointments anymore after dark because they might wreck their car, the healthcare worker could state, "It sounds like you are scared to drive after dark. Let us chat about driving safety." The older adult may respond to the interpretation, and the healthcare worker can work from the given response. Observation is the healthcare worker noticing and remarking on the older adult's verbal and/or nonverbal behaviors (Boyd, 2017). It can be used by noting body language and remarking on it by saying, "I can see that you are reluctant to discuss this topic." Open-ended statements are a method for getting the older adult to speak freely on topics to aid with insight (Boyd, 2017). The healthcare worker can start a statement with something like "Happiness means . . ." and have the older adult finish the sentence/thought. Reflection is a technique that gives the older adult permission to have uncomfortable feelings (Boyd, 2017). If the older adult asks a pointed question to the healthcare worker such as, "Should I stop drinking alcohol?" The healthcare worker can use reflection to answer back with, "Do you think you should stop drinking alcohol?" The use of reflection can keep the focus on the patient instead of the healthcare worker. Restatement is a therapeutic way of validating what the older adult is saying (Boyd, 2017). For example, if the older adult says, "I hate coming here," the healthcare worker can restate the expression and say, "It sounds like you do not want to be here." A similar technique is validation. It is used when the healthcare worker is searching for understanding (Boyd, 2017).

When the healthcare worker uses it, it can sound like "I want to make sure I understood you"—and then describe what you think you heard. If restated or validated correctly, they both can reassure the older adult that you are listening and open to discussion. Silence is a communication tool that needs proper utilization with the older adult. With therapeutic silence, the healthcare worker remains silent but uses nonverbal facial expressions to show interest so that the older adult can have time to put their thoughts together (Boyd, 2017). The healthcare worker can try therapeutic silence early in the assessment and ask if the extra time is helpful. Extra silence during communication may indicate the need for intervention for the older adult or the need to change selected communication techniques. All communication techniques are useful for various situations. The healthcare worker will choose which technique(s) work best for each individual communication exchange.

The healthcare worker can also have difficulties with communication if the older adult client is reluctant to talk or, inversely, is overly talkative. These challenges can be due to poor cognition or resistance to change in the older adult (Jack et al., 2019). The healthcare worker needs a specific approach to address these situations.

Recommendations for the reluctant patient include the following (Carlat, 2017):

- Use open-ended questions, allowing for an opportunity for free dialogue such as "What things make you feel sad?"
- Use continuation prompts such as "Go on" and "Tell me more."
- Search for a neutral ground when the interview is going awry; talking on neutral ground can provide an easier and subtle way into difficult thoughts, feelings, or emotions.
- Remember that rapport and trust take time.
- Triage the information you need at each visit, and prioritize safety.

Recommendations for the overly talkative patient include the following (Carlat, 2017):

- Use close-ended questions and multiple-choice questions to keep the patient's answers brief (an interview needs open-ended questions as well, but closed questions and multiple choice can speed the interview along to maximize the information shared).
- Learn to politely interrupt. This requires empathy. If it was not covered prior to starting the assessment, a reminder of the allotted time of the interview helps reign in an overly talkative client.

The older adult who is unable to communicate may experience high rates of loneliness and depression (Palmer et al., 2016). Depression in older adulthood is often accompanied by tears. This can make interviewing difficult for the healthcare worker. Traversing tears and sad emotions can be heavy and uncomfortable for the healthcare worker.

Recommendations for the tearful patient include the following (Carlat, 2017):

- Refrain from self-disclosure.
- Provide tissues.
- Embrace any lengthy silences and lean into empathy.
- Try to understand the meaning behind the tears.
- Assess the frequency of tearful episodes.
- Validate that crying is acceptable if needed.
- Be aware that crying is also a sign of intense emotion and warrants further investigation; assess for safety.

The healthcare worker should view each older adult client as an individualized opportunity. Being able to effectively communicate is crucial for the healthcare worker to assess and build trust with the older adult. Understanding the problems and difficulties the client is facing will not be possible if a mutual understanding is not present. There are a multitude of variations in communication styles and techniques the healthcare worker can utilize to nurture rapport, build trust, and foster a therapeutic alliance with the older adult. If more assistance is needed to connect and communicate with the older adult client, ask for help from family, caregivers, and/or your employer. An inability to communicate is determinantal to successfully meeting the mental health needs of the older adult.

Self-Assessment Quiz Question #2

The healthcare worker initiates a therapeutic conversation with an older adult and is focused on improving communication techniques to enhance the relationship and elicit information for assessment. The healthcare worker will use all of the following EXCEPT:

a. Cultural competence.
b. Inclusion of family or caregivers.
c. Teach-back method.
d. Terms such as honey and dear.

Older adults seek mental healthcare 40% less than younger populations (Substance Abuse and Mental Health Services Administration [SAMHSA], 2019). Mental health treatment for instability or illness for the older adult is multifaceted. How the older adult views their collective health can determine the level at which they will seek care to maintain or restore their mental imbalance or illness. The U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion (ODPHP) in Healthy People 2030 names five areas related to social determinants of health: education access and quality, healthcare access and quality, neighborhood and built environment, social and community context, and economic stability (ODPHP, 2022). Each will be expanded upon for potential barriers and benefits of care.

Determinant 1: Education access and quality

On average, people who have greater levels of education live longer and healthier lives (ODPHP, 2022). Educational opportunities are often focused on younger populations, and older adults might be beyond the point of increasing their educational status level. However, the healthcare worker can identify and help them overcome this deficit. The healthcare worker should assess health literacy in the older adult client and plan written materials accordingly. Further assistance might be necessary for people with disabilities that severely impair cognition, hearing, or vision.

The Centers for Disease Control and Prevention (CDC) states that 71% of adults over the age of 60 struggle to read printed materials (CDC, 2021a). This is often due to naturally declining vision. With recommendations to help older adults who struggle with poor vision, the healthcare worker can help mitigate hindrances related to vision.

Ensuring health literacy in the older adult with visual challenges includes the following practices (CDC, 2021a):

- Ensure the written material can be read by the client (have them read it to you).
- Use high contrast (black words on a white background are best).
- Use an average font size of 16 to 18 (increase if needed).
- Use extra white space between lines of information (make the space of the lines at least 25% of the point size).
- Do not use glossy paper (it creates glare).
- Use the least amount of text necessary.
- Use audio instruction in addition or as a substitute (see NIA recommendations listed prior for best outcomes).
- Adjust needs accordingly and reduce screen glare if electronic materials are used.

Determinant 2: Healthcare access and quality

Older adults often delay addressing mental health needs until the problems become chronic or severe. While access to mental health services is problematic for many people across the mental health spectrum, it is critically important for those that suffer with severe mental illness (SMI) (Sadock et al., 2015). To address the healthcare access and quality social determinant for the older adult, the healthcare worker can review the frequency, ease, or difficulty of accessing mental health services. Available options for care, transportation, technology, and stigma will be discussed related to the role they play in the older adult client accessing or being prohibited from accessing mental healthcare.

If access to healthcare or decreased quality of current care is an issue for the older adult, the healthcare worker can propose federally qualified and/or local community-based options. The following recommendations are from the U.S. Department of Health and Human Services (HHS) and provide recommendations and tools to increase healthcare access and quality of care for the older adult. The older adult client, family, or caregiver can search for local options using the official benefits website of the U.S. government. One website to explore is Medicare. The older adult client can sign up for benefits that include preventative screenings and services; check what services are covered; submit claims; compare providers; find physicians, group practices, hospitals, home health agencies, and facilities based on star ratings, services offered, and quality of care; and get a replacement card if needed (United States Department of Health and Human Services [HHS], 2022). Another website to search is Medicaid. The older adult client can access information about state programs (HHS, 2022). The website Eldercare can connect the older adult to local and community-based care. The older adult, family, or caregiver can use their ZIP code or city and state to find resources in the local community that provide information and assistance for older adults and caregivers (HHS, 2022). Sometimes access to care is hindered by awareness, and the healthcare worker can increase awareness by providing federal and local sources for care.

Transportation

A crucial component of face-to-face access and quality of healthcare is transportation. The older adult may access public, community-based transportation options or a privately owned vehicle. If options are lacking, the deficit can be noted and further assistance sought. The need to assess an older adult's ability to safely operate a vehicle will be addressed in depth in the psychosocial assessment section.

Technology

The use of technology for healthcare dramatically increased with the COVID-19 pandemic. Telemedicine decreases direct contact and limits disease transmission while providing access to care. The WHO (2021) classifies its use as advantageous for vulnerable populations such as older adults. Telemental health has been found to reduce the number of emergency department visits for older adults with comorbid depression and chronic obstructive pulmonary disease or congestive heart failure (Tusaie & Fitzpatrick, 2017). It has also been effective for psychotherapy interventions. One study found that older adults who suffer from depression and insomnia had positive outcomes from cognitive-behavioral therapy administered via telemental health (Tusaie & Fitzpatrick, 2017). Telemental health can benefit the older adult in many ways.

The American Psychiatric Association (APA) collaborated with the American Telehealth Association (ATA) to address telepsychiatry. The healthcare worker is encouraged to reference the APA and ATA for clinical tips, tools, guidelines, and more, while continuing to follow all policies at their place of employment. The APA (2018) has specific recommendations for the healthcare worker caring for the older adult population: include family members on video calls when clinically necessary (with patient permission); adapt technology and assessment for cognitively, visually, or audio impaired patients; modify cognitive testing carried out via videoconferencing.

Although telemedicine ensures access to care, it is not always available for the older adult client. It is estimated that 40% of older adults on Medicare are unable to receive video care and 20% are unable to receive phone care (Chu et al., 2022). This can place an older adult needing virtual mental healthcare in a difficult position. The healthcare worker must perform a baseline assessment of the infrastructure required for and attainability of this option for the older adult.

Deficits in cognition, hearing, or vision may present greater challenges for the older adult client using telemedicine. The ATA has created guidelines for telemedicine. However, the guideline only addresses live video conferencing for mental health services (Tusaie & Fitzpatrick, 2017). Other forms of communication such as phone text messaging, social media, apps, and emails are not covered by the ATA. The healthcare worker is encouraged to refer all questions to their place of employment. The same considerations the healthcare worker would utilize for in- person visits for securing protected information exist for telemedicine. The older adult client would need access to stable Internet as

well as reliable video and audio services on a Health Insurance Portability and Accountability Act (HIPAA)–compliant site prior to medical use (Johnson et al., 2021). Barriers to utilizing telemedicine must be weighed when considering this approach for mental healthcare for the older adult.

To increase the potential benefits of telemedicine, the healthcare worker can interview the older adult as well as their family, friends, or caregivers when assessing the inclusion of telemedicine for mental healthcare. There are other technological gains for a willing and able client. Apps related to, for example, healthy coping techniques, exercise logs, medication reminders, and communication can enhance the quality of life and safety of the older adult. Technology can strengthen mental healthcare for the older adult; however, the healthcare worker must prudently examine the initial and continued feasibility of its use.

Stigma

Mental healthcare access and quality can also be affected by stigma. Racial inequalities have been found in this social determinant of health. Research has found that African Americans experience greater amounts of stigma surrounding mental health treatment than other Americans (Conner et al., 2010). The basis and continued existence of mental health stigma for African Americans is unclear; however, the rates of access to mental healthcare are undeniable. Stigma is a mental healthcare barrier that the healthcare worker should not ignore. More than half of people suffering with mental illnesses do not get help (APA, 2020). Older adults can be unwilling to seek mental healthcare due to feelings of shame and guilt; these same patients, who are willing to receive treatment from their primary care provider, are often reluctant to seek mental health specialty care until their symptoms are severe (SAMHSA, 2021). Stigma can trap the older adult and cause them to suffer silently. It can drive an older adult to feel the loss of dignity and reinforce isolation, which perpetuates loneliness (APA, 2020). The healthcare worker should be equipped to help reduce the feelings around stigmas.

Suggestions to help reduce the stigma of mental illness include the following (APA, 2020):

- Encourage the client to talk openly about mental health (share with others).
- Empower the client to stand up to misconceptions (give them facts and data).
- Be aware of the language used (this goes for words you say or they say; humor is acceptable but in the proper context).
- Educate the client about the importance of mental illness (draw comparisons to how they would treat someone with a physical illness).
- Show empathy for those with mental illness.
- Be honest about treatment (normalize mental health treatment).

The healthcare worker can educate family, friends, and caregivers about participating in normalizing mental healthcare for the older adult. Table 1 presents communication suggestions the healthcare worker can pass on to family, friends, or caregivers of the older adult suffering from mental illness. Words are powerful, so encourage others to choose them wisely.

Table 1: Anyone Can say This and Not That to Reduce Stigma

Say This	Not That
"Thanks for sharing with me."	"That's not that bad."
"Can I help you in any way?"	"You can do it."
"That sounds really difficult."	"Life moves on."
"I'm here for you."	"That happens to everyone."
"That sounds heavy and sad."	"Everything happens for a reason."
"I can't imagine. Tell me more."	"I know all about that."
"How are you feeling?"	"You've got to think happy thoughts."

Determinant 3: Neighborhood and built environment

The physical place where someone resides contributes to their overall health and safety. Those at highest risk for unsafe or unhealthy environments in the U.S. are ethnic and racial minorities (CDC, 2022b). Examples of negative impacts on health and safety are neighborhoods with high crime rates or environments close to pollution sources. A client's physical environment falls into the social and developmental history of the mental health assessment. Homelessness falls into this social determinant and would require additional assessment and coordination of care. The depth a healthcare provider should reach will depend on the client and their individual living situation. Clarity of a client's physical health and safety can also be obtained with client consent by interviewing and family, friends, or caregivers.

Determinant 4: Social and community context

Relationships and social support play crucial roles for the older adult. Lack of social support and decreased or absent significant relationships negatively impact mental health in the older adult (Harandi et al., 2017). A healthcare worker can assess this social determinant in the social and developmental history of the mental health assessment. Older adults are at significant risk of experiencing isolation and loneliness (CDC, 2021c). This can be due to the death of a spouse/significant other, estrangement from family, worsening disabilities, or perceived feelings of burden to others. Groups most at risk within the older adult population are immigrants; those who are lesbian, gay, bisexual, and transgender; and those suffering abuse (CDC, 2021c). While there is not a clear measure for loneliness, there is evidence of related health risks that accompany it.

Health risks of loneliness include the following (CDC, 2021c):

- Higher risk for premature death from disease, especially related to smoking, obesity, and sedentary lifestyle.
- Dementia risk increases by 50%.
- Heart disease risk increases by 32%, leading to higher rates of stroke.
- Coincides with higher rates of depression, anxiety, and suicide.
- Specific to heart failure: risk of death increases four times, risk of hospitalization increases by 68%, and emergency visits increase by 57%.

Determinant 5: Economic stability

Poverty contributes to clients not being able to meet their basic needs. Approximately 9.3% of the older adult population in the U.S. lives below the poverty line (SAMHSA, 2019). Housing, healthcare, and nutritious food and drink are major concerns for older adults that could contribute to mental health conditions. Case managers are a prudent referral for the older adult lacking the financial means to meet their needs.

The five *Healthy People 2030* social determinants from the U.S. Department of Health and Human Services {ODPHP, 2022 #17}—education access and quality, healthcare access and quality, neighborhood and built environment, social and community context, and economic stability—can be used as a circular framework for the healthcare worker assessing older adult mental health needs (ODPHP, 2022). A deficiency in any of the determinants for the older adult can be a barrier to

accessing mental health services and treatment. More than one social determinant can be missing for a client. Assessing social determinants can lead to better understanding of the obstacles an older adult must overcome to seek mental healthcare. Insufficient coverage in social determinants might require additional assistance from case management, family, or peer interventions. Stigma can stand in the way of access to care and treatment. Breaking stigma is everyone's job, but it can start with one healthcare worker. The healthcare worker capable of fostering a therapeutic alliance built on trust and rooted in empathy will enhance the possibility for healthy communication and connection, naturally decreasing stigma. Friends, family, and caregivers can also be educated in empathetic communication with the older adult to normalize mental illness and treatment.

Self-Assessment Quiz Question #3

Social determinants of health can enhance or inhibit care for the older adult. When the healthcare worker assesses Internet access and connectivity along with the technological capabilities of the older adult for telemental health follow-ups, the healthcare worker is exploring which social determinant of health?

a. Healthcare access and quality.
b. Education access and quality.
c. Social and community context.
d. Stigma.

ASSESSMENT CONSIDERATIONS FOR THE OLDER ADULT

Addressing mental health needs in the older adult will depend on the assessment recorded or provided to the healthcare worker. Assessment is not a single interaction; rather, it is a calculated and continuous process that evolves throughout the care for the older adult client (Boyd, 2017). The first interview can set the tone. Preparation prior to meeting the client is encouraged.

The healthcare worker can review common developmental tasks of the older adult at any point while providing mental healthcare. Developmental tasks of the older adult are to maintain body image and physical integrity, to conduct a life review, to maintain sexual interests and activities, to deal with the death of significant loved ones, to accept the implications of retirement, to accept the genetically programmed failure of organ systems, to divest oneself of the attachment to possessions, and to accept changes in relationships with grandchildren (Sadock et al., 2015). Any of these tasks can be explored in more depth to establish known protective factors or barriers to the mental health of the older adult.

An assessment is a deliberate and systematic gathering of information with the goal of formulating a plan. A mental health assessment includes biopsychosocial data to show current and previous health, functional ability, and problems/diseases/illnesses both present and future (Boyd, 2017). The mental health assessment includes the biological domain, that is, the physical status of the client. This assessment is often carried out in conjunction with the client's primary care provider. Biological data is important to the mental healthcare worker; however, a team approach to the older adult can serve the client best by allowing multiple disciplines to focus on their specialty area of practice. The medical record for the older adult can be quite involved. However, a records review and collaboration with the older adult client's primary care provider can benefit the holistic picture of the mental health needs to be addressed. Physical problems or disorders can be exacerbated or accounted for by addressing the underlying psychiatric disturbance. The overlap of biological problems and psychosocial problems can be complicated. The American Geriatric Society (AGS) organizes geriatric health via alliteration for ease of remembrance. The five M's of older age are multicomplexity, mind, mobility, medication, and what matters most (AGS, 2020). Multicomplexity is the description of the older adult as a client with comorbid biopsychosocial needs that can challenge the healthcare worker. Mobility refers to the level of autonomous or diminished functionality of the older adult, especially the ability to ambulate and care for themselves. Medication is typically remarkable for the older adult; polypharmacy can be common and problematic and often results in undesirable side effects that signal a strict need for regular consolidation evaluation. The final ideal, mattering most, encompasses the notion of aging and decision making to include the older adult as an advocate for health decisions and goals. This depiction can aid the mental healthcare worker to conceptualize the older adult's biopsychosocial needs.

Assessing the older adult as they present in their current level of functioning is paramount and requires establishing trust and building rapport. The psychiatric interview is the most important part of the mental health assessment. It provides an opportunity to positively impact older adults suffering from mental health issues and illnesses.

Approaches that can enhance the therapeutic alliance include the following aspects (Boyd, 2017):

- Establishing a relationship rooted in cultural competence and cultural humility.
- Availability to assist in times of crisis.
- Awareness of acute safety issues related to the patient.
- Ability to provide education and manage expectations.
- Review and modification of treatment to individual preferences.
- Realistic intervention and goal setting.
- Support for patient to maintain safe autonomy.

Every interaction provides the opportunity to strengthen or weaken this bond and to obtain facts, feelings, and thoughts that can be targeted for treatment. The psychiatric interview can be administered in any setting (e.g., hospital, clinic, nursing home, residential facility). The length of time allotted or needed will vary by client and setting. Consult your facility for the proper organization of psychiatric assessment documentation.

Healthcare directives

Advanced care planning can be completed for clients of any age; however, it is responsible to offer the option to all older adults prior to medical crises or the end of life. The mental healthcare provider can support the older adult in these legal and ethical plans according to policy. Advanced care planning decisions include measures that can be taken in an emergency: cardiopulmonary resuscitation, use of a ventilator, artificial nutrition such as tube feedings or intravenous fluids, and comfort care measures (NIA, 2018). Older adults need to be aware of the risks and benefits of these differing emergency measures. Older adults with multiple comorbidities are less likely to recover from cardiopulmonary resuscitation and might need extended ventilator care (NIA, 2018). The healthcare provider seeing the older adult for mental health needs can prompt the discussion with the inclusion of quality of life. Several options exist for an older adult in terms of an advanced directive: living will, durable power of attorney, and other specific medical measures such as a do not resuscitate order or a tissue or organ donation request (NIA, 2018). The mental healthcare worker can assist the older adult and family with advance care planning needs to increase the likelihood of receiving desired treatment during crises or the end of life.

Healthcare provider exceptions to confidentiality

There are notable exceptions to confidentiality for the healthcare worker meeting the mental health needs of the older adult. The healthcare provider should refer all scope of practice questions to their state regulatory agency. State laws define the scope of practice. Understanding confidentiality, and when to breach it, is a necessary discussion when caring for older adults.

Confidentiality is a client's right for restricted information (Boyd, 2017). All healthcare workers play a role in maintaining client confidentiality. The HIPAA of 1996 is a federal guarantee of legal protection for privacy and confidentiality.

Exceptions to confidentiality (when the need to inform outweighs confidentiality) include the following (Boyd, 2017):

- Client has an intent to harm self or others.
- Litigation if an attorney is involved.
- Insurance company need to know for coverage and billing purposes.
- Sending information to answer a court order, subpoena, or summons.
- State requirement to report.
- Tarasoff principle—warn victim of imminent homicidal danger.
- Elder abuse suspected or involved (refer to state laws for proper channels).

Knowing when and how to provide notification when exceptions of confidentiality are in question varies per state. The healthcare provider will need to follow policies subject to their practice and should take steps to familiarize themselves with the relevant policies and regulations.

Informed consent and diminished capacity

The American Bar Association (ABA) and APA created a working group to address the diminished capacity of the older adult in 2008. The framework is aimed at the psychologist who could be called to determine capacity in a legal, a medical, an ethical, or a civil situation for the older adult in medical, long-term care, or private practice settings. The healthcare provider should consult their scope of practice for their role in determining capacity. The ABA and APA outline six domains for capacity: medical consent, sexual consent, financial, testamentary, driving, and independent living capacities (American Bar Association & American Psychological Association, 2008). The ABA and APA working group highlights the importance of cultural and age considerations. Cultural intricacies such as immigration status, language, health perceptions, family member roles, and economics must be considered. The ABA and APA caution against ageism and the surrounding negative consequences. Clinical assessment and evaluation of older adult capacity is complex. Older adults have the right to informed consent for treatment. The healthcare provider must be aware of the importance of providing informed consent in conjunction with the client's voluntary competency.

> The APA (2022f) defines informed consent as a person's voluntary agreement to participate in a procedure on the basis of his or her understanding of its nature, its potential benefits and possible risks, and available alternatives. Informed consent is a fundamental requirement of research with humans and typically involves having participants sign documents, prior to the start of a study, that describes specifically what their involvement would entail and noting that they are free to decline participation or to withdraw from the research at any time. In therapeutic contexts, the principle of informed consent has provided a foundation for do not resuscitate (DNR) orders and other advance directives and for the natural-death acts that have been passed into law throughout the United States.

Along the lines of DNR and advanced directives for the older adult is the legal concept of undue influence:

> Undue influence is defined as a dynamic between an individual and another person. It describes the intentional use of social influence, deception, and/or manipulation to gain control of the decision making of another. For the healthcare worker, undue influence can be understood as a dynamic of a relationship when a person uses a role and power to exploit the trust, dependency, and/or fear of another. The role and power permit the person to gain control over the decision making of the victim. In cases of undue influence, a person may have full capacity. Alternatively, there may be a cognitive impairment that increases susceptibility and dependence. (ABA & APA, 2008, p. 14)

Mental capacity can be questioned for the older adult. The healthcare provider must differentiate between capacity and competency. Competency is a legal (not a medical) concept.

The APA (2022b) defines capacity as:

- The maximum ability of an individual to receive or retain information and knowledge or to function in mental or physical tasks.,
- The potential of an individual for intellectual or creative development or accomplishment.
- Inborn potential, as contrasted with developed potential

Collateral reports

Family, friends, and caregivers often play an important role in the mental healthcare of an older adult. The healthcare provider must obtain permission from the older adult client prior to discussing any medical or mental health information. Family, friends, and caregivers can help corroborate information (objective and subjective) gathered in the psychiatric interview of the older adult. Legal and ethical matters must be considered at all times. While caregivers can be beneficial to older adults and healthcare workers, they can also be sources of abuse and negative interactions in private for the older adult. Caregivers can experience overextension of self and inflict harm on older adults knowingly or unknowingly (NIA, 2017). The healthcare provider is cautioned to consult all places of practice and state boards of practice for scope of practice questions or concerns.

The healthcare worker has much to incorporate for the older adult assessment. Common developmental tasks can focus the healthcare worker's assessment and note strengths and deficits. Legal documentation or intervention for healthcare directives, confidentiality, informed consent, and diminished capacity considerations should be included in older adult mental healthcare. If assistance is needed, consult your place of employment. Assessment considerations specific to the older adult are integral to addressing mental health concerns.

ASSESSMENT OF THE OLDER ADULT: BIOLOGICAL AND PSYCHOSOCIAL

Assessment is a prerequisite for intervention and treatment. The healthcare worker needs to tailor the styles and techniques for obtaining the information needed to fully assess the older adult based on abilities and disabilities. The healthcare worker must enter each interaction with the older adult client with a willingness to embrace an objective perspective, the uniqueness of the encounter, and individualization of the assessment to maximize the quality of mental healthcare.

The assessment of the older adult will include biological and psychosocial elements. The current presentation and history of the older adult will help define the assessment depth, highlight symptoms of diagnostic criteria, as well as maneuver toward or eliminate treatment options and interventions for stabilization and recovery. The biological considerations of the older adult can impact the psychiatric treatment options and necessitate the need to collaborate with primary care or initiate coordinated care efforts. The most troubling mental health symptoms or concerns that interfere with daily functioning or relationships are often at the surface. The healthcare provider must verify nonverbal cues with verbal inquiry. The variation in communication and information exchange will be individualized, and the review of records will be taken into consideration,

preferably before the initial interview. The psychiatric history will provide the healthcare provider with a detailed, longitudinal picture of effective and ineffective treatments. A discussion of biological and psychosocial considerations for the older adult is imperative for the healthcare provider prior to diagnosing and recommending mental health treatment. Biological components coupled with psychosocial components provide the mental healthcare provider with a more comprehensive assessment of the older adult presenting with mental health concerns. The older adult assessment can be extensive and take multiple visits. The complexity level does not negate the need to assess in its entirety.

Biological considerations

The APA lists medical components for psychiatric evaluation. The healthcare worker can gather the data for the older adult directly from the client, family, friends, or caregivers (with consent), as well as historical medical charts. The information can be accumulated over time and prioritized during each interview. For example, the healthcare provider needs a complete medication history that includes all interventional trials (successes and failures), and most notably any side effects, prior to beginning or restarting psychiatric medication. The APA recommends that the following biological considerations be obtained by the healthcare worker: primary care involvement; allergies or drug sensitives; an exhaustive medication review of past and current prescription drugs as well as over-the-counter nutrients, supplements, and vitamins; current or historical medical illnesses, including hospitalizations, past or present medical treatments, surgeries, procedures, and alternative treatments; past or present neurological or neurocognitive disorders; physical trauma, especially head injuries and any sequela; sexual and reproductive history; cardiopulmonary issues; endocrinology involvement; past or current infectious disease; and current or past pain levels and treatments (Sadock et al., 2015).

There are a few notable biological considerations in neuropsychiatry for the healthcare worker to include when planning mental healthcare for the older adult. The healthcare worker understands the older adult can learn new information; however, the rate at which an older adult solidifies the material can take longer than for other age populations (Sadock et al., 2015). In addition, psychomotor speech and memorization are slower in older age, especially simple recall and encoding ability, but they are considered normal for the older adult. In addition, the intelligence quotient (IQ) typically holds steady until age 80 (Sadock et al., 2015). These biological considerations can drive the approach and length of time the healthcare worker might allot for assessment, intervention, or treatment. The healthcare worker might also include the older adult's family, friends, or caregiver(s) when new information is presented to the older adult. A historical baseline is an important piece of the assessment for the healthcare worker. The healthcare worker needs to know basic objective measures for physiological functioning such as vital signs (blood pressure, pulse rate, temperature, respiratory rate, and pain level) and nutritional status for older adult clients if psychopharmacology is involved. The healthcare worker adult can increase their understanding and provide a more thorough plan of care by coupling with the older adult's primary care provider.

Psychosocial considerations

There are psychosocial considerations related to an older adult's mental healthcare. Some overlap with biological considerations and can be assessed and targeted for treatment. For example, driving is a psychosocial aspect that can be affected by biology.

Activities of daily living (ADLS)

The healthcare worker needs to assess the older adult's ability to be autonomous. The inability to perform ADLs may indicate an unsafe or poor quality of life (Edemekong et al., 2022). The healthcare worker can utilize standardized measurement tools for assessing ADLs (basic and instrumental) of the older adult and intervene with other services when safety or quality of life is at stake. The AGS defines basic and instrumental ADLs.

Basic ADL are (AGS, 2022):

- Ambulating (ability to move and transfer independently, walking).
- Feeding (ability to feed self independently).
- Dressing (ability to cover self with clothing).
- Grooming (ability to care for personal hygiene, bathing, hair and nail care).
- Continence (ability to maintain bowel and bladder function).
- Toileting (ability to make it to the toilet and clean self).

Instrumental ADL are (AGS, 2022):

- Transportation and shopping (ability to buy groceries and necessities).
- Financial management (ability to pay bills and manage finances).
- Cooking (ability to prepare meals and serve them).
- Household maintenance (ability to clean and live in a home).
- Communicate (ability to get in touch with others via phone or electronic means).
- Medicate (ability to manage medications as prescribed).

Increasing age and health problems can cause increased difficulty with ADLs. Decreased physical functioning can be caused by biological deficiencies in the musculoskeletal, neurological, circulatory, or sensory systems. Cognitive, auditory, or visual impairments can increase difficulty with ADLs (Edemekong, 2022). Dementia can limit the older adult's capable and safe performance of ADLs like cooking and self-medicating. The healthcare provider can assess the strengths and weaknesses verbalized by the older adult as well as gather information from collateral sources. Interventions might include caregivers, family, other healthcare providers, or case management.

Employment status

The healthcare worker needs to assess the employment status and working habits of the older adult. Retirement is common in the older adult and can be a turbulent period of transition. The healthcare worker should attempt to assess whether retirement was voluntary or involuntary. Involuntary retirement is associated with negative mental health effects and decreased self-image (Rhee et al., 2016). However, the Age Discrimination Employment Act (ADEA) of 1967 protects older adults in the workforce from forced retirement by making it unlawful (Sadock et al., 2015). If the older adult is retired, follow-up questioning about how the older adult feels about the loss of occupation can open an opportunity for exploration of other topics like finance and relationships. The healthcare provider can assess beyond formal employment for responsibilities and time commitments acquired by the older adult.

Housing

The healthcare worker should assess the housing situation of the older adult. Housing is a basic need and typically must be met prior to the administration of interventions. It is estimated that about 5% of Americans live in nursing homes; however, approximately 35% of older adults will reside in a long-term care facility at some point during their lifetime (Sadock et al., 2015). The living situation of an older adult can affect treatment options. For example, an older adult that lives near a bus stop has the necessary financial resources, and is capable of navigating will have greater options for meeting their needs like attending mental health treatment. Where an older adult resides must be assessed to understand available mental health intervention and treatment.

Transportation—Driving safety

One of the most difficult subjects for the healthcare worker to discuss with the older adult, yet an impactful topic for self and others is autonomous driving. Driving is the leading cause of injury-related deaths in the 65- to 74-year-old population and is the second leading cause (behind falls) in the 75- to 84-year-old population (Promidor, 2019). The cessation of driving privileges

is inevitable for everyone. Each older adult interaction is an opportunity for the healthcare worker to assess for prevention. Knowing when and how to approach the older adult about driving safety is imperative. Preventing driving disability with properly timed interventions can impact lives.

There are acute and chronic medical conditions that should be strong indicators of safety for the older adult client. Cessation of driving privileges should be reviewed when the conditions in Tables 2 and 3 manifest or the medications in Table 4 are prescribed in the older adult and until they are medically evaluated by their primary care provider. The healthcare worker meeting mental health needs of the older adult will need to be in contact with the primary care provider about medical conditions and medications outside of their scope of practice.

Table 2. Acute Medical Conditions That Require Immediate Driving Cessation

- Acute myocardial infarction.
- Acute stroke or other traumatic brain injury.
- Arrhythmia (e.g., atrial fibrillation, bradycardia).
- Lightheadedness, dizziness.
- Orthostatic hypotension.
- Syncope or presyncope.
- Vertigo.
- Seizure.
- Surgery.
- Delirium from any cause.
- Newly prescribed sedating medications or those that can cause confusion or dizziness.
- Acute psychiatric diseases impairing cognitive function or decision making.

Note. Reproduced with permission (Promidor, 2019).

Table 3. Chronic Medical Conditions That Require Investigation for Driving Safety

Medical Condition	Examples
Disease/conditions affecting vision	• Cataracts • Diabetic retinopathy. • Macular degeneration. • Glaucoma. • Retinitis pigmentosa. • Field cuts. • Low visual acuity even after correction.
Cardiovascular disease, especially when associated with presyncope, syncope, or cognitive deficits	• Unstable coronary syndrome. • Arrhythmias. • Palpitations. • Congestive heart failure. • Hypertrophic obstructive cardiomyopathy. • Valvular disease.
Neurologic disease	• Dementia. • Multiple sclerosis. • Parkinson's disease. • Peripheral neuropathy. • Brain injury. • Spinal cord injury.
Psychiatric disease	• Mood disorders. • Depression. • Anxiety disorders. • Psychotic illness. • Personality disorders. • Alcohol or other substance abuse.
Metabolic disease	• Type 1 and type 2 diabetes mellitus (especially with hypoglycemic attacks or severe swings in blood glucose).

Table 3. Chronic Medical Conditions That Require Investigation for Driving Safety

Medical Condition	Examples
Musculoskeletal disabilities	• Arthritis and foot abnormalities. • Contractures and decreased range of motion. • Inflammation. • Pain.
Respiratory disease	• Chronic obstructive pulmonary disease. • Obstructive sleep apnea.
Chronic renal failure	• End-stage renal disease. • Hemodialysis.
Cancer and chemotherapy	• Weakness and extreme fatigue. Medication side effects.
Insomnia	• Sleep apnea. • Restless leg syndrome. • Anxiety/depression/pain contributing to insomnia.

Note: Reproduced with permission (Promidor, 2019).

Table 4. Medications that can Impair Older Adults and Increase Driving Risk

- Anticholinergics.
- Anticonvulsants.
- Antidepressants.
- Antiemetics.
- Antihypertensives.
- Antiparkinsonian agents.
- Antipsychotics.
- Benzodiazepines and other sedatives/anxiolytics.
- Hypoglycemic agents.
- Muscle relaxants.
- Narcotic analgesics.
- Stimulants.
- Hypnotics.
- Marijuana.
- Alcohol.
- Over-the-counter agents with anticholinergic adverse effects such as sleeping agents or allergy/cold medications, which are often first-generation antihistamines.

Note. Reproduced with permission (Promidor, 2019).

The healthcare worker should check for routine driving safety of the older adult and can refer to the CDC when planning interventions that maximize safe independence. Interventions should be individualized and performed in collaboration when necessary. The healthcare worker can help the older adult maintain their autonomous driving with proper identification of and interventions addressing clinical deficits. The most common disturbances are vision, cognitive, and motor/sensory (CDC, 2022a). The healthcare worker can evaluate the older adult or refer the older adult for prompt assessment of any notable organ systems, acute or chronic conditions, and medication(s) that interfere with safe driving. Intervention and rehabilitation can keep the older adult safely behind the wheel. The healthcare worker can utilize referrals and other resources to help the older adult client maximize restoration of functioning, leading to safer driving. The healthcare worker can contact case management and other specialty areas to collaboratively form a holistic care plan that meets all the needs of the driving older adult.

The healthcare worker is faced with a complicated decision matrix when it comes to addressing the older adult's driving privilege; there are personal, clinical, ethical, and legal ramifications. The healthcare worker is often consulted about the safety of the older adult who drives and is faced with the weight of the older adult's needs and safety versus the safety of society. The healthcare worker is encouraged to refer to state laws associated with reporting of unsafe driving and prescribed revocation of driving privileges in addition to the information provided.

Social support system (Isolation)
An important part of the social history is the social connectedness of the older adult. The older adult is capable of being physically and mentally healthy and maintaining autonomy. However, the inescapability of mortality often pushes the older adult living away from friends, family, and possibly their partner. An increased sense of isolation can cause symptoms of depression (Sadock et al., 2015). The healthcare worker can assess the social support system the older adult utilizes on a daily/weekly/as needed basis to better understand any deficits of care in the social history section of the psychiatric interview. Where the older adult resides is an important consideration for social support. The healthcare worker might work along with the long-term care facility team in coordinating the social needs of the older adult. Social isolation and loneliness have negative effects on the mental health for the older adult. They increase the risk for negative health consequences such as obesity and smoking as well as shorten life span (Czaja et al., 2021). The members of an older adult's social cohort and family structure will vary. There are objective and subjective measurements for social isolation and loneliness. The number of contacts and size of a social support network can be quantified, whereas loneliness is subjective. Loneliness is verbalized by the client and assessed qualitatively. Older adults who live alone are not always lonely. Loneliness is multifaceted and often intertwined with social interactions, which are unique to each client. Assessing limitations such as revoked driving privileges that can alter social interactions requires the healthcare provider to assess the social domain. Social engagement (personal, community, society connection) and individual productivity are major keys of successful aging (Czaja et al., 2021). This requires the healthcare provider to assess the quality of interactions and feelings of belonging when evaluating quality of life of the older adult.

Faamily history
The family history of an older adult can provide a genetic understanding and hint at vulnerabilities. Formal diagnosis can be lacking in older generations; however, subjective data on family members is a worthwhile investigation for the healthcare provider. Some mental health diagnoses are more likely than others to run in families. Obtaining historical family mental health diagnoses and medical diagnoses can focus risks as well as treatment options for the healthcare provider to consider. The healthcare worker can obtain the family history from the older adult, the family of the older adult (with consent), or caregiver(s).

Sexual orientation, function, and dysfunction
Sexual identification and function are assessed regardless of age. Older adults who identify as part of a sexual or gender minority (lesbian, gay, bisexual, transgender, etc.) are more prone to sexual difficulties and psychological distress later in life (NIA, 2022a). The healthcare provider is cautioned to assess with open empathy. Older adults often redefine the meaning of sexuality and intimacy in their life, and the healthcare provider must approach sexuality professionally and at the comfort level of the older adult. The healthcare provider needs to assess for the importance of sexual performance in the older adult's life. For example, sexual dysfunctions that can include decreased desire, delayed or absent orgasm and ejaculation are known side effects of antidepressant medications (Sadock et al., 2015). The healthcare provider must know the expected physical changes that occur in the older adult female, shortening and narrowing of the vaginal walls and decreased lubrication, which can decrease enjoyment of sexual activity (NIA, 2022a). The healthcare provider must also know the age-related physical changes that occur in the older adult male, erectile dysfunction (impotence) and decreased firmness with erection, which can cause stress in the older adult (NIA, 2022a). The healthcare provider can assess for sexual dysfunction distress. There are other common causes of sexual dysfunction: alcohol in excess, arthritis, chronic pain causing exhaustion and decreased energy, dementia, depression, diabetes, heart disease, incontinence, obesity, and stroke (NIA, 2022a). The healthcare provider can prescribe or refer the older adult for evaluation and treatment if desired.

Substance use, abuse, and treatment history
Substance use and abuse are a crucial part of the psychiatric assessment for the older adult. The Substance Abuse and Mental Health Services Administration (SAMHSA) states that substance use and abuse in older adults is often "overlooked and undertreated" (SAMHSA, 2022d, p. xi). The healthcare provider is reminded to self-assess for ageism, conscious bias, and unconscious bias that might inhibit the ability to evaluate substance disorders in the older adult.

Substance use disorder (SUD) guidance for the older adult population includes the following (SAMHSA, 2022d):
- Substance misuse disorders occur more in younger populations than elderly populations; however, this does not void the importance for assessment.
- Substance misuse in older adults increases physical injury and mortality.
- Illicit drug use in the older adult population is currently on the rise, as is dual diagnosis (co-occurring mental health and substance use disorders).
- Alcohol is the most abused substance by older adults.
- Caution is warranted for the older adult due to the commonality of multiple prescriptions and possible detrimental interactions with substances.
- Substance abuse symptoms can mimic cognitive deficits (normal or clinical).
- Avoid assumptions that older adults are unwilling to change or seek treatment.
- Multiple approaches have been found to be effective in the older adult population (screening, brief intervention, and referral to treatment; brief structured treatment; patient education; relapse prevention techniques; formal SUD treatment programs; and pharmacotherapy).

With alcohol being the most commonly misused substance by older adults, the healthcare worker must understand the risk factors contributing to increased alcohol consumption by the older adult. Older adults will experience numerous life stressors such as financial hardship, retirement or involuntary loss of job, living rearrangement, loss/grief/bereavement, trauma, or social isolation (SAMHSA, 2022d). Increased alcohol use and misuse can be detrimental to the older adult. Due to aging factors such as decreased metabolism and body fat storage, the older adult is more at risk for confusion, falls, injury, and exacerbated chronic conditions (SAMHSA, 2022d). The healthcare provider should assess tobacco product use presently or historically. Older adults who are lonely are at greater risk for smoking (Czaja et al., 2021). Smoking, vaping, or oral tobacco habits can be noted and assessed for intervention. Assessment of substance (legal or illegal), quantity, and frequency of use is critical for accurate assessment.

Barriers to older adults seeking treatment for substance misuse include the following (SAMHSA, 2022d):
- Negative beliefs and attitudes.
- Denial.
- Justification (caregivers accepting misuse due to the end of life).
- Decreased information on dangerous effects of substances and older age.
- False information about older adult treatment.

Protective factors for the older adult against substance misuse include the following (SAMHSA, 2022d):
- Healthy coping skills.
- Marriage or committed relationships.
- Social and family support.
- Autonomy and independent living.
- Accountable basic needs covered (food, shelter, safety).
- Positive self-esteem and self-image.
- Access to medical care and medications.
- Sense of purpose and belonging.

Person-centered care accounts for older age and lifestyle modifications, access to care, and quality of life considerations (SAMHSA, 2022d). The healthcare provider needs to consider the following for the older adult seeking treatment: physical disabilities to accommodate (mobility, hearing, vision), cognitive deficits that interfere (memory and attention), learning needs and preferences (slower pace and repeated information if needed), and respect for age and gender preferences for provider and group therapies.

Spirituality

The spiritual assessment of the older adult is documented in the social history section of the psychiatric evaluation. The healthcare worker is reminded that it is critical to maintain neutrality of stance while assessing the older adult's spiritual beliefs. Spirituality is a broader topic than religion. It is estimated that 80% of Americans practice some type of religion (APA, 2013). All healthcare workers will interact with the spiritual aspects of an older adult's beliefs, religion, or purpose of life while meeting their mental health needs. The inability to address spiritual involvement in an older adult's life can limit a client's recovery (Neathery et al., 2020). If the healthcare worker is reluctant or uncomfortable assessing an older adult's spirituality, a self-assessment to identify the barriers can be beneficial. Cultural awareness and acceptance are key for impartiality of assessment. Spirituality is a component of mental healthcare that is often woven into an older adult's lifestyle, guiding their adherence to medications and therapies (Rodgers et al., 2018). Proper understanding of an older adult's belief system, spirituality, and feeling of belonging is essential during assessment for relevant intervention and treatment.

Legal involvement

Legal history can be notable for the older adult client. The mental healthcare worker will assess for legal involvement or ramifications that could hinder treatment. A history of problematic behavior related to disregard for rules and remorse can be diagnostic for antisocial personality disorder (ASPD). ASPD is associated with younger populations; however, the presence of it historically must be taken into consideration, as it carries high rates of comorbidities, most commonly substance use disorders (Holzer et al., 2022). The healthcare worker can also assess for caregivers, friends, or family members who have any legal stake in the older adult's decision making.

Elder abuse (physical/emotional/sexual/financial)

According to statistics, abuse is reported for around 10% of those age 65 years and older (Sadock et al., 2015). The healthcare worker must understand definitions and classifications of abuse and assess for mistreatment in all older adults. The American Medical Association has three general definitions for elderly mistreatment: abuse (something that causes harm or the withholding of something to cause harm to the health and well-being of an elderly person), neglect (the inability to do good or provide needed services or basic needs [food, shelter, medical care] to an older adult), and exploitation (using an older adult's money for self-purposes) (National Research Council, 2003) The older adult is vulnerable to all generalized types of abuse: physical, emotional, sexual, and financial. Physical abuse is defined as "bodily harm by hitting, pushing, or slapping. This may also include restraining an older adult against his/her will, such as locking them in a room or tying them to furniture" (NIA, 2020). Emotional abuse, also called psychological abuse, includes "a caregiver saying hurtful words, yelling, threatening, or repeatedly ignoring the older adult. Keeping that person from seeing close friends and relatives is another form of emotional abuse" (NIA, 2020). Sexual abuse involves unwanted sexual acts or being forced to watch sexual acts (NIA, 2020).

Financial abuse happens when money or belongings are stolen from an older adult. It can include forging checks, taking someone else's retirement or Social Security benefits, or using a person's credit cards and bank accounts without their permission. It also includes changing names on a will, bank account, life insurance policy, or title to a house without permission (NIA, 2020).

Older adults most at risk for abuse are female, those without support systems, those with disabilities, and those who are cognitively inhibited or have dementia (NIA, 2020). The healthcare provider must assess for physical and verbal signs of abuse when interacting with the older adult.

Signs of abuse in the older adult include the following (NIA, 2020):

- Cessation of enjoyed activity.
- Unkempt appearance.
- Difficulty sleeping.
- Unexplained weight loss.
- Easily agitated or violent outbursts.
- Outward signs of trauma and regression (e.g., rocking back and forth).
- Unexplained bruises, burns, cuts, scars.
- Signs of physical altercation (such as broken eyeglasses).
- Bed sores or other preventable disorder or disease.
- Lack of medical aids needed for functioning (glasses, hearing aids, dentures, medications, etc.).
- Financial warnings (eviction notices, unpaid bills despite financial means).
- Report of unsafe living conditions (hazardous, unsanitary, or unsafe).

Long-term effects of elder abuse can lead to declining physical and psychological health, severed social support, financial loss, and early death (NIA, 2020). Elder abuse requires intervention. The healthcare worker must comply with state laws and authorized means of reporting elder abuse according to facility policy. Local, state, and national resources exist to report and/or stop elder abuse.

Self-Assessment Quiz Question #4

Abuse, a biopsychosocial consideration, in the older adult can lead to negative long-term effects; therefore, the healthcare worker recognizes the signs of elder abuse as all of the following EXCEPT:

a. Disheveled appearance.
b. Severed family ties.
c. Difficulty sleeping and easily agitated.
d. Unexplained bruises and bed sores.

CRISIS, LOSS, GRIEF, AND BEREAVEMENT IN THE OLDER ADULT

Older adults have lived through a multitude of challenges by the time the healthcare worker is assessing for intervention. Adaptation and change are inevitable. How the older adult has coped in the past is salient for how they will cope with present and future difficulties. The healthcare worker will see the older adult experience crisis, loss, grief, or bereavement; therefore, it is imperative to know the difference in presentation as well as the course of typical action and line of intervention.

Crisis

Prior to discussing loss, grief, and bereavement, it is prudent for the healthcare worker to understand crisis and its presentation to differentiate the state of being and possible intervention needed for the older adult. The definition of crisis is:

> A time-limited event that triggers adaptive or non-adaptive responses to maturational, situational, or traumatic experiences. A crisis results from stressful events for which coping mechanisms fail to provide adequate adaptive skills to address the perceived challenge or threat. (Boyd, 2017, p. 211)

Crisis is a crossroad. The direction taken in the context of crisis determines the positive or negative consequences of the outcome. If the older adult chooses to grow and strengthen from the crisis, positive outcomes are expected. However, if

the reverse is apparent or the client is incapable of coping, a negative and possible destructive outcome can occur such as self-harm or suicide. If an older adult in crisis has historically had difficulty coping, caution should be taken when assessing their safety. Depression and suicide are risks for clients who are unable to overcome a crisis (Boyd, 2017). Assessment for self-harm is paramount for the older adult in a crisis, regardless of past psychiatric history. A crisis should mitigate within four to six weeks (Boyd, 2017). When chronic crisis is not acknowledged, however, constant unrest is classified as chaos. The healthcare worker can note varying types of and reasons a client might be experiencing a crisis.

The healthcare worker assessing the older adult for mental health needs must be able to define crisis and understand the circumstances around the situations causing disequilibrium to psychological well-being. A crisis can cause feelings of being out of control, desperation, and/or fear (Boyd, 2017). There are three types of crises that an older adult can experience: developmental (a remarkable maturational event in life), situational (a specific event in a person's life that upsets the biopsychosocial equilibrium), and traumatic (due to an unknown incident) (Boyd, 2017). The older adult might experience a developmental crisis when their living situation changes dramatically, such as moving into a long-term care facility. A situational crisis can be an internal or external event for an older adult, such as disease progression or a new diagnosis. A natural disaster or a pandemic could affect the older adult and cause a traumatic crisis.

Differentiating a temporary crisis from acute stress disorder depends on the severity of distress and how it impairs social functioning. It will also depend on diagnostic criteria in the *Diagnostic and Statistical Manual of Mental Disorder* (*DSM-5*). Diagnostic inclusion for acute stress disorder requires "exposure to actual or threatened death, serious injury, or sexual violation" (not experienced through electronic media unless work related) (APA, 2013, p. 280). The healthcare worker must gather sufficient detail about the stressors and their causes in the older adult's life to offer appropriate intervention.

A healthcare worker often intercedes in times of crisis. Assessment for self-harm or harm to others is needed when an older adult is in crisis and will drive the immediate interventions. If harm is not a factor, the healthcare worker should focus their initial intervention on active listening (Corey & California State University, 2013). Allow the older adult the space to verbalize their feelings and experiences. The healthcare worker can meet these expressions with openness driving for acceptance. Feeling heard can help an older adult in crisis feel grounded (Corey & California State University, 2013). Stability in the midst of a crisis can help deescalate the extremes of emotions such as anger or sadness. Positive mental health support during a crisis opens the door for future intervention. Not all older adults who experience a crisis need mental healthcare. The necessity of crisis intervention will be determined by the ability or inability of the older adult to self-soothe and cope. It is worth understanding that the older adult may value feeling understood and supported during a crisis more than a healthcare worker's ability to solve the problem (Corey & California State University, 2013). Assessment of coping skills and previous crisis coping will provide the healthcare worker with a plan for present needs and intervention.

Loss, grief, and bereavement

Loss, grief, and bereavement are an expected part of life and will be seen in various presentations by the healthcare worker assessing the older adult. Statistical analysis suggests that 51% of women and 14% of men older than age 65 years will be widowed at least once in their lifetime (Sadock et al., 2015). The healthcare worker will assess the older adult suffering from loss, grief, and bereavement. Knowing the differences in terminology, the cycle of grief, and the risks to older adults unable to cope are crucial for the healthcare worker. The definition of loss according to the Merriam-Webster dictionary (2022) is "the act or fact of being unable to keep or maintain something or someone." Loss is synonymous with more than death. For example, the older adult can feel the loss of identity, loss of autonomy, or loss of functioning. The definition of bereavement is "the process of mourning and coping with the loss of a loved one" (Boyd, 2017, p. 213) This is synonymous with death. The definition of grief is:

> The anguish experienced after significant loss, usually the death of a beloved person. Grief is often distinguished from bereavement and mourning. Not all bereavements result in a strong grief response, and not all grief is given public expression. Grief often includes physiological distress, separation anxiety, confusion, yearning, obsessive dwelling on the past, and apprehension about the future. Intense grief can become life-threatening through disruption of the immune system, self-neglect, and suicidal thoughts. Grief may also take the form of regret for something lost, remorse for something done, or sorrow for a mishap to oneself. (APA, 2022e).

For the older adult, loss, grief, and bereavement are topics that are encountered over a lifetime. Loss can be felt over animate and inanimate objects. Older adults can experience loss over loved ones, driving privileges, jobs, and autonomy on many levels of health, home, and happiness. Cultures and societies have determined an acceptable amount of time to grieve loss. Typical American culture expects people to return to work or school after a few weeks of loss, find a new balance in a few months, and be adept in their coping to establish new relationships 6 to 12 months after the loss of a loved one (Sadock et al., 2015). The healthcare worker should assess and recognize that grief is an individual process each time it occurs. One notable framework for understanding grief in marked stages is by Kübler-Ross. However, the stages are not meant to be linear as they are written (Kübler-Ross & Kessler, 2005). Grief is felt uniquely by everyone but is often encountered with proportionally greater impact by the older adult than younger generations.

The Kübler-Ross and Kessler (2005) framework allows common terminology and an expression of information with the hopes of a better understanding of the psychological process occurring individually over loss. The stages are written sequentially but are not always experienced linearly. The stages can last minutes or hours, weeks or months. The stages are a response to loss that is seen and felt by many. There is no normal response to loss; all loss is different. Kübler-Ross and Kessler (2005) hoped by creating the stages it would create a space for grief to resolve, enabling a person to cope with the loss and carry on with their life.

Another view of grief comes from the dual process model. It provides the healthcare worker with a way of conceptualizing how an older adult can cope with loss over time. The exploration of this model can enable a healthcare worker to identify the coping mechanisms the older adult is utilizing in their journey of healing. The model has two processes working, sometimes simultaneously and other times not, and it focuses on the switch between loss-oriented coping and restoration-oriented coping as oscillation (Boyd, 2017). Both processes may take large amounts of time and effort, or one may take more or less. They are not mutually exclusive, but awareness of both is necessary for processing grief and loss. Loss-oriented coping is focused on the loss itself—the relationship—and restoration-oriented coping is focused on the burden felt from the responsibility from the loss (Boyd, 2017). The older adult might be consumed with thoughts of the loved one who has passed away and consumed with sadness by the void created in their life, thus exhibiting loss-oriented coping. Restoration-orientated coping can be scary and difficult for the older adult if the loss is accompanied with lifestyle changes, for example, related to finances.

Table 5. Five Stages of Grief: Denial Anger, Bargaining, Depression, and Acceptance	
Stage	**Characteristics**
Denial	• Frozen with shock or overcome with numbness. • Unconscious ability to manage strong emotions and feelings by slowly feeling them (this is a survival technique). • Feelings of grief varied to prevent mental overload (protection). • Nature's way of letting in only as much as we can handle.
Anger	• Does not have to make sense or be rooted in reality (also has no limits). • Anger surfaces once you are feeling safe enough to know you will probably survive what comes. • Needed for healing to process. • May be reoccurring visits with this emotion. • Can lead to an uneasy or hateful feeling toward spirituality/religion. • Contrary to its negative connotations is the strength it contains to solidify the idea of void and loss. • Difficulty in feeling it without causing damage to self or someone else. • Finding avenues of release such as exercise can help externalize and explore anger (decreases the chance of bottling it all up for a explosion). • Is an indication of the intensity of love. • Is a normal response to the unfairness of life and death. • Anger towards self is guilt; however, it is undeserved blame. • "Anger affirms that you can feel, that you did love, and that you have lost." (Kübler-Ross & Kessler, 2005, p. 16)
Bargaining	• Agreeing to anything to avoid loss prior to loss. • Agreement to anything after a loss can look like a temporary truce. • Understand if lost in the darkness of "what if." • Like anger, this stage can present guilt. • After a death, focus can futuristic.
Depression	This is a *DSM-5* clinical diagnosis as well as a Kubler-Ross and Kessler stage. It will be talked about with DSM-5 criteria later. Clinic depression can lead to worsening mental health if left untreated: • Feelings of nothing and emptiness take over. • A normal response to major loss. • Can feel heavy (like hitting the bottom) and lonely. • A natural way to protect the body's nervous system from overload by slowing it down or turning it off for processing. • A way toward healing. • Seeking a way out of depression can feel like being lost in a storm with no seeable way to escape (loss of hope). • Shift the view of depression from unwanted to invited (like a guest). • Allow the encounter with it even though it feels hard. • Use the opportunity to explore and renew self. • Society often seeks to rid someone of depression as quickly as possible. • Depression intervention can be necessary, but time can also heal if allowed an acceptable space. • Treating depression is seeking equilibrium. • View and feel sadness as an appropriate part of grief (balanced with quality of life and meeting needs). "Depression makes us rebuild ourselves from the ground up because it takes us to a deeper place in our soul that we normally would explore" (Kübler-Ross & Kessler, 2005, p. 24)
Acceptance	• Is not the notion of being all right or fine with what has happened (is about acknowledging all that has been lost and learning to that loss). • Healing looks like remembering–recollecting–reorganizing (RRR). • Not in a linear sequence; goal is not to arrive at acceptance (it is not a destination) rather, is a journey of healing to take, not a point. • Past cannot be altered; has been forever changed; therefore, readjust. • Slowly withdraw energy from the loss and begin to invest it in life. • Put loss into perspective. • What is lost cannot be replaced, but new connections, relationships, and interdependencies can be made. • Living begins again (but only if grief is given its time).
Note: From Kübler-Ross & Kessler (2005, pp. 7–28)	

Different types of grief can be experienced. The type of grief being felt can drive the responses and state of being for the older adult presenting to the healthcare worker. Uncomplicated grief is considered the normal and expected course of grief after major loss triggered by events other than death (Boyd, 2017). When initial news of loss is presented, physical symptoms are often felt such as shortness of breath, a feeling of choking, rapid heart rate, sickness in the stomach, and body weakness (Boyd, 2017). The healthcare worker can help assess and prompt the older adult to assemble their social support system. Although yearning over the loss can occur for two years, most people do not need clinical treatment (Boyd, 2017). Complicated grief can happen when a person cannot move beyond the loss and a degradation of functioning occurs; however, it is only experienced by about 10% to 20% of people (Boyd, 2017). If the older adult cannot move past the loss and is overwhelmed by the change, the healthcare worker needs to intervene.

Complicated grief occurs after six months of intense mourning; there is a feeling of being "stuck," deep yearning is expressed, trust toward other people is apparent, and life become

meaningless (Boyd, 2017). The healthcare worker will assess safety and the social support network to help the older adult overcome complicated grief. Grief that does not follow a normal response in the timing of symptoms can be documented as delayed grief. In delayed grief, there is a lack of initial symptoms of grief but they surface later (Sadock et al., 2015). The healthcare worker can explore the Kübler-Ross cycle of grief to assess for extended denial when the older adult appears stoic in presentation to acute loss. Cultural norms and awareness are cautioned as the healthcare provider works with the client to determine their definition of normal and what an appropriate response to loss and death are.

Another form of grief is prolonged grief, which is sometimes called traumatic grief because the loss was unforeseen. It is similar to persistent complex bereavement disorder. Persistent complex bereavement disorder is a clinical diagnosis that requires the deceased to have a significant connection to the mourner. In addition, there are intense feelings of yearning/sorrow/constant thoughts of the deceased/constant thoughts of the nature of death (one of those), and these difficulties interfere with functioning for more than a year after the death (APA, 2013). Traumatic grief is more difficult to cope with, thus leading to a longer recovery time. It often includes external circumstances such as violence, abruptness, and unanticipated or preventable death (Boyd, 2017). Traumatic grief is often termed prolonged grief due to extenuating forces and an anticipated loss. Therefore, the person experiencing the loss faces a longer period of change and adaptation.

Symptoms of traumatic grief/prolonged grief include the following (APA, 2013):

- Last all day (nearly every day) for at least one month.
- Disruption of self (feeling loss of self).
- Extended denial about the death.
- Inability to confront reminders of the deceased person (avoidance).
- Intense outward feelings (emotions such as anger).
- Constant struggle with moving forward with daily activities and social engagements.
- Empty feelings about life.
- Loneliness (feeling isolated and distant from others).

While considering the cycle of grief and the various types of grief an older adult may experience, the healthcare worker should consider the symptoms of grief and their interference with functioning and relationships, the risk of self-harm or harm to others, and the symptoms of clinical depression when presenting appropriate intervention. Most grief will resolve on its own accord without psychiatric intervention; however, a healthcare provider might be consulted for acute medical intervention. Sleep deficits can be addressed with short-term psychopharmacological agents; however, anxiolytics, antidepressants, and narcotics are not recommended for normal grief (Sadock et al., 2015). If therapy is warranted, the healthcare worker can provide options for treatment. Grief therapy (one-on-one or group sessions) and self-help groups have been found to be most beneficial for those mourning and unable to overcome grief, loss, or bereavement (Sadock et al., 2015). The healthcare worker can work with the client, family, and community to assess the availability of resources to support the older adult.

Case study: Ms. P

Ms. P. is a 68-year-old Caucasian female being seen by you in the mental health clinic. She recently lost her husband of 48 years. She barely talked at her appointment last week and has mostly been looking down at the floor avoiding eye contact. She reluctantly tells you that she overheard her children talking about housing options for her. She does not want to leave her home. Her husband drove her to all of her appointments and took care of all of her needs (groceries, medications, etc.). She has two married children who both live out of state. Her oldest daughter brought her to the visit today and is sitting in the lobby. Ms. P has a history of colon cancer (currently in remission), diabetes, hypertension, and depression. She takes oral medication for her elevated blood pressure, diabetes, and depression. Today she tells you that she feels empty, alone, and hopeless.

Question:
What stage of grief is Ms. P in and what assessment criteria supports this?

Discussion:
Ms. P is displaying signs that support the depression stage (Kübler-Ross & Kessler, 2005). She is stating that she feels empty, alone, and hopeless after the loss of her husband and loss of access to groceries, medications, and medical appointments. She is expressing concern that she might even be moved from her home. Depression is also a clinical diagnosis. Further assessment would be warranted to determine her safety risk and the need to intervene or treat. Ms. P's daughter is in the waiting area and can possibly provide clarity and insight into Ms. P's current and future mental health needs.

MENTAL HEALTH DIAGNOSES FOR THE OLDER ADULT

Neurocognitive disorders
Changes in cognition are statistically significant for the older adult population (Boyd, 2017). The healthcare worker must understand the differences in neurocognitive disorders for assessment, intervention, treatment, and when to refer to other disciplines and community resources. According to the APA (2013), the DSM-5 diagnosis of a neurocognitive disorder is a deficiency in the following: attention (distractibility with multiple stimuli), executive functioning (decision making, planning, and working memory), learning and memory (recollection and recognition), language (expressive, fluency, grammar, receptive), perceptual-motor (visual and motor perception), and social cognition deficits (emotion recognition, ability to relate to another). Differentiating cognitive regression and disruption can be difficult, especially when a baseline of functioning or collateral information is not available. The healthcare worker who assesses and/or treats older adults will encounter older adults with neurocognitive disorders.

Delirium

Delirium is a neurocognitive disorder that a healthcare worker will come across in the older adult population. Delirium is an acute cognitive impairment caused by an underlying medical culprit (Boyd, 2017). The healthcare worker needs sharp attention of its presence; however, treatment is often administered in the acute care setting by medical professionals. There are a multitude of risk factors and known causes for delirium in the older adult population.

Delirium risk factors for the older adult include the following (Boyd, 2017):

- Advanced age (65 years and older).
- Male.
- History of falls.
- Preexisting dementia.
- Functional dependence (long-term care facility residents).
- Endocrine and metabolic disorders.
- Fractures in bones.
- Medications (consider AGS 2019 BEERS criteria for potentially inappropriate medications in older adults).
- Vital sign changes (hypotension, hypo- or hyperthermic).
- Imbalances in intake (dehydration, renal failure, hyponatremia).
- Long-term care admission.
- Pain (acute or chronic).
- Stress (acute or chronic, notable risk during loss or bereavement).
- Substance use and alcohol withdrawal (alcohol is greatest offense).

Known causes that induce acute delirium include the following (Sadock et al., 2015):

- Seizures.
- Trauma (especially head trauma after a fall).
- Diabetes.
- Infection.
- Insufficient nutritional status.
- Uncontrolled pain.
- Medications (e.g., pain medication, antibiotics, antivirals, antifungals, steroids, anesthesia, cardiac medications, anticholinergics).
- Serotonin syndrome.
- Over-the-counter substances (e.g., herbs, teas, supplements).
- Cardiac disturbances (failure, arrhythmias, myocardial infarction).
- Disease (abnormality or failure in pulmonary, endocrine, renal, and hepatic systems).

Delirium can be life threatening but is usually reversible with treatment. The healthcare worker must be able to identify the signs of delirium. Key features of delirium include rapid and abrupt onset, decreased level of consciousness, altered attention, impaired cognitive functioning (can look like disorientation), and diminished memory (Sadock et al., 2015). It can present like other mental health disorders. A psychotic episode of schizophrenia, mania, or a factitious disorder can look like delirium upon the first encounter. Generally speaking, schizophrenia presents with better organization and a more stable level of consciousness; mania will be explained historically with a bipolar diagnosis or become apparent over time; and in a factitious disorder, inconsistencies will surface during examination or be easily revealed after an electroencephalography (Sadock et al., 2015). The healthcare worker can provide or request further examination of the older adult. Cognitive testing can be administered and compared to a baseline examination if available, along with laboratory studies looking for underlying causes of delirium. The treatment will often be dependent on the underlying cause of the delirium. Caution is needed for the older adult receiving treatment for psychosis. The AGS (2019) highly recommends avoidance of antipsychotic medications such as haloperidol (Haldol), risperidone (Risperdal), and quetiapine (Seroquel) due to their increased affiliation with tremors, fall risk, stroke, and death in patients with dementias. A refined assessment and understanding of underlying sequalae of psychosis are needed for treatment of delirium long term.

Mild cognitive impairment (MCI)

MCI lives in the space between normal age-related cognitive changes and dementia. Older adults with MCI are at greater risk for developing dementia or Alzheimer's disease (NIA, 2022f). The mental healthcare provider can note subjective data from the older adult or from caregivers, family, or friends (with consent). Data to note for older adults with suspicion of MCI: increased frequency of losing items; forgetting important dates, events, or appointments; and difficulty with word selection (NIA, 2022f). These symptoms can be concerning to the older adult. The NIA recommends tips to improve MCI. These suggestions can empower the older adult who feels embarrassed or saddened by their cognitive state. Recommendations for improving memory include the following (NIA, 2022f):

- Stick to a daily routine—predictability is key.
- Utilize tools such as calendars, to-do lists, notes, and reminders.
- Place daily objects in the same place in your house.
- Consider learning a new skill (check community resources).
- Volunteer time (give back to the local community).
- Increase time spent with friends and family.
- Ensure adequate sleep at night.
- Prioritize exercise and nutrition.
- Avoid alcohol (receive help if needed).

The older adult with MCI needs to be assessed regularly to recognize increased symptoms that would warrant intervention. The findings of MCI do not predict further impairment, do not necessitate treatment, and can cease without medical intervention (NIA, 2022f). Further evaluation by a neurologist or neuropsychologist can be provided if desired.

Dementia (vascular, lewy body, frontotemporal, Alzheimer's disease)

Dementia is a major neurocognitive disorder classified in the DSM-5 by severe impairment of memory, judgment, orientation, and cognition (APA, 2013). It is not part of normal aging and is common in older adults. Half of older adults age 85 years or older have a diagnosis of dementia (NIA, 2022c). Not all causes of dementia are known, and differentiating them can be challenging to the healthcare worker. If a specific dementia cannot be categorized but symptoms meet criteria, the diagnosis of general dementia will stand. Delirium and dementia are often confused, but they can be contrasted by several clinical features. The most distinguishable characteristic of delirium is the rapid onset of presentation and attention level. Delirium has an abrupt beginning and inconsistent level of attention, while most dementias occur over the course of time and maintain a consistent level of attention (Sadock et al., 2015).

Although vascular dementia, which is caused by a stroke, presents very similarly to delirium, it can be separated by clinical evaluation. Vascular dementia is one of the several subcategories of dementia. It is the second most common type behind Alzheimer's disease (NIA, 2022g). Those most at risk for developing vascular dementia are men, people with hypertension (especially uncontrolled), people with high cholesterol, and those who have other cardiovascular diseases (Sadock et al., 2015). The cognitive invasion of this type of dementia is a result of an infarcted plaque or emboli traveling to the brain. A diagnosis can be made after cognitive testing is performed, a medical history is taken, and brain imaging is completed (NIA, 2022g). One unfortunate truth about vascular dementia is the irreversibility of its damage. Treatment can include preventing further strokes by thinning the blood and lowering risk factors with lifestyle changes and medications (NIA, 2022g).

Another subtype of dementia is Lewy body disease (LBD). It presents similarly to Alzheimer's but it is distinguished by areas in the brain lumped with proteins known as alpha-synuclein and called Lewy bodies after the physician who discovered them (NIA, 2022e). The accumulation of Lewy bodies causes destruction and death of neurons and results in gradually decreasing brain activity (NIA, 2022e). There are two types of Lewy body dementia—dementia with Lewy bodies and Parkinson's disease dementia. The biggest difference between Lewy body and Parkinson's dementia is the timing and disruption in thought and movement.

Classification of dementia with Lewy bodies (NIA, 2022e):

> Problems with thinking, unpredictable change in attention and alertness, and visual hallucinations develop early in relation to movement symptoms, such as slow movement, difficulty walking, and muscle stiffness.

Classification of Parkinson's dementia (NIA, 2022e):

> Movement symptoms start first and are consistent with a diagnosis of Parkinson's disease. Later, problems with thinking and changes in mood and behavior develop.

Not everyone with Parkinson's disease will develop dementia. The evaluation of a person with either Lewy body or Parkinson's dementia will entail a physical exam, mental status examination, cognitive functioning evaluation, and brain imaging. LBD is neither preventable nor curable, and treatments focus on the patient's safety and quality of life (NIA, 2022e). Interventions can include many disciplines, especially case management. The mental healthcare worker can also offer community resources and nonprofit organizations as care options, dependent on their accessibility to the older adult.

Frontotemporal dementia (FTD), also known as Pick's disease, is named after a physician who described it and the "Pick bodies" seen in the brain postmortem (Sadock et al., 2015). FTD is a rare, progressive disease with an unknown etiology. It carries a life expectancy of 2 to 10 years after diagnosis and often requires full-time care (NIA, 2022d). It can present with notable personality and behavioral changes. Frontal lobe involvement can cause changes to behavior and movement; temporal lobe changes feature language and emotional changes (NIA, 2022d). FTD can have distinguishable symptoms. It can present with Klüver-Bucy syndrome: hypersexuality, placidity or complacency, and hyperorality or oral compulsions (Sadock et al., 2015). There is no cure and no way to prevent disease progression. Treatment focuses on symptom control (sometimes using antidepressants or antipsychotics) and quality of life. This disease can be distressing for family members and caregivers. The mental healthcare provider can refer all involved to resources and support groups.

The most common form of dementia is Alzheimer's disease. The mental healthcare worker will treat older adults with it or will see a family member affected by it. The NIA (2022b) states that over six million Americans, most 65 years and older, are diagnosed with Alzheimer's disease. It often presents as dementia. The causes of Alzheimer's disease remain unclear, but what has been discovered is brain atrophy and inflammation, genetic predispositions on chromosome 17, and environmental exposures such as aluminum toxicity (Sadock et al., 2015). Older adults or caregivers usually note the first symptoms as forgetfulness. The NIA (2022b) notes symptoms of Alzheimer's disease as difficulty finding words, struggles with vision and spatial perception, reduced reasoning and poor judgement, length of time it takes to complete ADLs, repetition of stories or questions, danger due to wandering and getting lost, losing common items, and change in mood and personality (usually more irritable).

There are three stages of Alzheimer's defined by the NIA (2022b):

- **Early-stage Alzheimer's**: When a person begins to experience memory loss and other cognitive difficulties, though the symptoms appear gradual to the person and their family. Alzheimer's disease is often diagnosed at this stage.
- **Middle-stage Alzheimer's**: Damage occurs in areas of the brain that control language, reasoning, sensory processing, and conscious thought. People at this stage may have more confusion and trouble recognizing family and friends.
- **Late-stage Alzheimer's**: A person cannot communicate, is completely dependent on others for care, and may be in bed most or all the time as the body shuts down.

Cognitive testing can be performed, as can brain scans. The mental healthcare worker can refer to neurology if needed. There is no cure, but the U.S. Food and Drug Administration (FDA) has approved medication to treat symptoms and slow the progression of invasion. The life expectancy with a diagnosis of Alzheimer's disease varies from 3 to 10 years (NIA, 2022b). The mental healthcare provider can prepare the older adult and family members for the future and focus treatment options on quality of care that is uniquely important to the older adult.

Sleep difficulties

Sleep is a crucial component of physical and mental health and warrants an assessment during every psychiatric mental health examination. Dementias, most notably Alzheimer's disease, can be a perpetuating cycle of negative sleep and interference with cognition (Boyd, 2017). Sleep changes are a natural part of advancing age but can contribute to worsening states of mental health if natural adaptations are not rendered or medications are improperly prescribed. With advancing age, restful sleep decreases and interruptions in the sleep pattern shorten, both of which contribute to a decreased quality of sleep. Rapid eye movement (REM) during sleep (the deepest and most restful part of sleep) becomes less frequent, as do circadian rhythms (Sadock et al., 2015). Falling asleep, staying asleep, and feeling rested become more difficult with advancing age. Sleep deficiencies can worsen cognitive functioning and can be magnified if the older adult has cognitive disorders. It's necessary to routinely assess the older adult's quality and quantity of sleep. Interventions for sleep difficulties will vary for the older adult. The safest sleep intervention is nonpharmacological. The healthcare worker can encourage and educate the older adult on healthy sleeping habits.

Nonpharmacological sleep interventions for the older adult include the following (Boyd, 2017):

- Use awareness for when to go to bed and go to bed when feeling tired.
- Create a routine and stick to it (it can take time).
- Use your bed only for intimacy or sleep.
- Decrease or eliminate stimulating foods after lunch (caffeine).
- Avoid naps.
- Add or increase physical exercise.
- Include relaxation techniques (simple relaxation, guided imagery, or distraction).

The use of pharmacological interventions needs further assessment and possible referral. The AGS (2019) notes possible dangers in prescribing medications that are potentially inappropriate for older adults: zolpidem (Ambien), zalepon (Sonata), eszopiclone (Lunesta), alprazolam (Xanax), lorazepam (Ativan), and diazepam (Valium). Sleep hygiene is the primary recommendation from the AGS (2019) for older adults. If the older adult is technologically savvy, the healthcare worker can suggest apps for healthy sleep regimen reminders, sleep logs, relaxation techniques, or medication reminders. Getting restful sleep is important for the health and well-being of the older adult.

Depression

The healthcare worker is likely to interact with an older adult experiencing depressive symptoms or suffering from a diagnostic depressive disorder. Depression is more common in people who suffer from illness or decreased functioning; 80% of older adults have at least one chronic health condition, and 50% have two or more (CDC, 2021b). Remembering ageism and bias is important as the healthcare worker assesses for depression. Depression is not part of the aging process, and not all older adults experience depression (CDC, 2021b). The healthcare worker must be able to identify risks for the older adult. The NIA (2021b) lists the risk factors for older adults as physical conditions (most notably stroke and cancer), genetics (familial history increases risk), stress (being a caregiver can cause greater stress), sleep difficulties (falling asleep or staying asleep), isolation and loneliness (assess the root cause of it if found and the subjective impact), sedentary lifestyle, limited physical functioning (struggling with ADLs), and alcohol addiction. Older adults can find themselves alone and socially disconnected. Loneliness can contribute to depression and heightens the risk of suicide for the older adult population (NIA, 2021b). Loneliness is a common feeling experienced by older adults and is an indication for further assessment to determine the level of distress.

The healthcare worker needs an understanding of the signs and symptoms of depression and can teach them to the older adult to empower them to speak up. Caregivers should also receive this intervention so that they can request early intervention when possible. Symptoms of depression include sad mood, persistent feelings of hopeless/worthless/helplessness, an inability to find pleasure in regular activities (including sex), a low energy level, markedly slow speech (noticed by others), cognitive struggles (difficulty concentrating/remembering/making decisions), problems sleeping (more or less than usual), changes in appetite (increased or decreased), and thoughts of death or suicide (NIA, 2021b). If multiple symptoms are found and last more than two

weeks, the healthcare worker (if allowed within scope of practice) can consider a clinical diagnosis of major depressive disorder (MDD) in line with the DSM-5 (APA, 2013). Recent loss, grief, bereavement, and culture must be taken into consideration prior to diagnosing. Untreated depression can lead to physical detriment for the older adult. Coping inappropriately with food can lead to obesity or geriatric anorexia (APA, 2022f). Depression can also alter cognitive clarity. Depressed older adults have a slower reaction time to stimuli, increasing the risk and dangers of driving, cooking, and self-care activities such as medicating (APA, 2022f). The healthcare worker can use a self-reporting scale when assessing. Geriatric-specific depression scales are available, but documentation and scope of practice should be discussed with your place of employment. A strength assessment can help the healthcare worker find the older adult's historical methods of coping and resilience. It can also highlight unhealthy coping mechanisms that can be discussed.

Questions for assessing an older adult's strength include the following (Boyd, 2017):

- How have you coped with depression or depressive symptoms in the past?
- What do you find relaxing?
- What brings you joy?

Treatments and recommendations for depression depend on the health status of the older adult and their living situation. Treatment may be necessary for older adults experiencing symptoms of depression that have a sustained impact on positive mental health: physical exertion, proper nutritional intake, regular restful sleep, social connection, and engagement in activities that bring satisfaction (NIA, 2021b). These recommendations can be individualized to fit the needs of the older adult and their circumstances. Case management and community engagement can be useful additions for support.

The APA has published treatment recommendations specific to age ranges. For initial treatment of the older adult with MDD, the APA (2019) recommends group-based cognitive-behavioral therapy (CBT) or interpersonal psychotherapy (IPT) in combination with pharmacotherapy. The APA recognizes that treatment options are dependent on social determinants. The following are recommended treatments for MDD if group CBT or IPT are unavailable for initial treatment: individual CBT with or without pharmacotherapy and problem-solving group therapy (APA, 2019). If the healthcare provider is considering psychopharmacological interventions, a review of the AGS list of potentially unsafe medications for the older adults is needed. The AGS (2019) lists two tricyclic antidepressants, amitriptyline (Elavil) and imipramine (Tofranil), as potentially inappropriate and encourages considering prescribing selective serotonin reuptake inhibitors (SSRIs) citalopram (Celexa) and sertraline (Zoloft) as well as bupropion (Wellbutrin) if possible. Treating depressive symptoms of MDD with medication can be accomplished but must be reviewed for the safest option that meets the needs of the older adult.

Suicidal risk

The older adult population has a particularly high rate of suicide. White men over the age of 65 have a risk that is five times higher than the general population, and older adult men account for 60% of all completed suicides (Sadock et al., 2015). The safety of the older adult is paramount for all healthcare workers in all settings. The recognition of risk factors coupled with appropriate intervention can save lives. Risk factors can be modifiable or nonmodifiable. The APA clinical practice guideline (2010) notes genetics, family history, and demographics as nonmodifiable risk factors. Knowing the older adult's risk factors can aid the healthcare worker in risk calculation but does not precisely predict attempts. The National Council on Aging (NCA) (2021) notes loneliness as the top reason for suicidal ideations, followed by suicidal intent caused by feelings of deep grief over a loved one, mourning the loss of autonomy and self-sufficiency, chronic illness and pain that decrease the quality of life, cognitive impairment and dementias, and financial stress that causes an inability to pay bills. The older adult's increased suicide risk is also consistent with a mental health diagnosis of depression, schizophrenia, posttraumatic stress disorder, substance use disorders, an inclusion of trauma, an experience of discrimination based on sexual identity, access to lethal means, and sleep disturbances (LeFevre & Force, 2014).

The suicidal older adult with access to lethal means should trigger the healthcare worker to immediately assess for safety. Statistics show that older adults plan more thoroughly for suicidal completion and are most likely to use lethal means (firearms) than younger populations (NCA, 2021). Reasons stopping or preventing the older adult from following through on suicidal thoughts, intent, and plans are called protective factors. Protective factors that apply to the older adult are cultural views, spiritual beliefs, coping skills, personality traits, social support systems, and past responses to stress/loss/bereavement (APA, 2010). Assessment can be completed during the psychiatric interview. The healthcare worker can use an informal format or systematic questioning to elicit safety responses. No formal training is needed to administer the brief suicide screener called the Columbia Suicide Severity Rating Scale (C-SSRS) (SAMHSA, 2022a). All healthcare workers can administer the C-SSRS. The tool probes the older adult about their intent, plan, and preparation for death. If the questions are answered honestly, it can indicate older adults who are at high risk of suicide completion (The Columbia Lighthouse Project, 2016).

To garner the greatest gains, the healthcare worker must utilize empathy to nurture an environment of trust within the therapeutic alliance with the older adult during this part of the assessment. The APA (2010) recognizes the use of a suicide contract commonly called a no harm contract between a mental healthcare provider and a patient. There is no evidence to prove its effectiveness in prevention and it is cautioned against as a replacement for a thorough suicide risk assessment. But it can be a useful method for discussing protective factors and a safety plan of action. The healthcare worker has decisions to make based on the level of risk verbalized by the older adult. The approach for intervention will depend on the severity of risk, workplace policy, and state legalities—especially related to breaching confidentiality. The healthcare worker will abide by the individualized plan of action for suicide prevention according to protocol and treatment setting.

Anxiety

Anxiety is commonly found in early or middle adulthood but can be seen after 60 years of age, although initial panic disorders are very rare (Sadock et al., 2015). The symptom profile for older adults experiencing anxiety is different than younger populations. Older adults tend to be less symptomatic, yet they are equally as troubled. The decreased symptoms have been attributed to a decreased autonomic nervous system (Sadock et al., 2015). Older adults have a vast life experience that can include change, transition, loss, and death. Upon assessment, loss, grief, and bereavement can look like anxiety. When assessing anxiety, it's necessary to establish the underlying etiology, length of symptom interference, and cultural considerations. A thorough psychiatric history is needed for clarity of diagnosis. Degrees of clinical anxiety are mild, moderate, severe, and panic (Boyd, 2017). Anxiety often accompanies depression. The older adult with depression is at a higher risk for suicide; therefore, anxiety symptoms coupled with depression need a critical safety assessment (Sadock et al., 2015).

There are medical conditions that can mimic anxiety symptoms in the elderly. Further assessment is needed to rule out stroke, multiple sclerosis, cardiac dysfunction, irritable bowel syndrome, hypoglycemia, hyperthyroidism, hepatic failure, vitamin B deficiencies (1, 6, and 12), and decreased folic acid (Subramanyam et al., 2018). Laboratory studies can also confirm

the presence of interference when considering the diagnosis of anxiety. If anxiety is found in the older adult, assessment for substance use and abuse is needed. Alcohol is often the drug of choice to self-medicate anxiety, but it is an inappropriate and ineffective method for anxiety treatment (Boyd, 2017). Treatment can be tailored to the individual needs of each patient. The AGS (2019) provides a list of potentially inappropriate medications for older adults, and it includes the benzodiazepines alprazolam (Xanax), lorazepam (Ativan), and diazepam (Valium) and offers alternatives for medicating anxiety with buspirone (Buspar) and SSRIs like citalopram (Celexa) and sertraline (Zoloft). Nonpharmacological approaches are plentiful for the treatment of anxiety in the older adult. The clinical practice guideline for geriatric anxiety recommends nonpharmacological methods of treatment: lifestyle modifications (sleep, diet, exercise, social support), behavioral therapy (relaxation), cognitive-behavioral therapy, mindfulness, yoga, art/dance/music therapy, or alternative therapies (Subramanyam et al., 2018). Knowing how the older adult has coped in the past is helpful when establishing strengths and weaknesses for current treatment focuses. The healthcare worker can assess for anxiety and offer treatment suggestions that are available and acceptable to the needs of the older adult.

Bipolar

Bipolar is a disease typically diagnosed earlier in life than older adulthood. The average age of onset is 25 years old and portends a short life expectancy (Sadock et al., 2015). Even though older adult onset is rare, bipolar is a diagnosis for life. Therefore, a healthcare worker would need knowledge of common bipolarity symptoms that can be found in bipolar I and bipolar II: mood lability, agitated and cyclic depression, episodic sleep irregularities, possible impulsivity (often involving high-stakes behavior like unsafe sexual activity, gambling, or substance use), deep depressive crashes (can coincide with suicidal ideations), and historical failure of antidepressant treatments (Sadock et al., 2015). Older adults with bipolar can still experience mania or hypomania, but the incidence decreases with age. Older adults with bipolar often suffer from multiple comorbidities such as cardiovascular disease, cancer, lung diseases associated with smoking, hypertension, diabetes, and substance use and abuse (Sajatovic et al., 2013).

The physical and mental health of the older adult can be quite compromised. More severe comorbidities are associated with poorer outcomes. A thorough psychiatric history of symptoms and treatments should be assessed. The assessment priority for the older adult with bipolar having a manic or depressive episode is safety. Interviewing family, friends, and caregivers can be helpful for addressing potentially harmful activities for the older adult. Immediate intervention can be taken if needed, in accordance with workplace policy or state law. The healthcare worker meeting the mental health needs of the older adult with bipolar is likely to see psychiatric mood-stabilizing medication. The most common pharmacological treatments for bipolar are lithium carbonate (Lithium), divalproex sodium (Depakote), and lamotrigine (Lamictal) (Boyd, 2017).

Successful past pharmacological treatment can be reviewed and taken into consideration for current treatment options. Since the older adult with bipolar is likely to have comorbidities, special considerations should be taken when prescribing or altering their medication regimen(s). Older adults metabolize, tolerate, and respond to medications differently than younger populations; therefore, lower doses of bipolar medications might be needed and are associated with good outcomes (Sajatovic et al., 2013). Lower rates of mood-stabilizing medication in elderly patients will also decrease side effects and possibly ease medication longevity. Recent findings for nonpharmacological approaches to bipolar treatment can be applied to the older adult population. A new treatment approach utilizes peer mentors who can provide support and hope (Sajatovic et al., 2013). The treatment settings and goals for the older adult with bipolar will depend on the current mental status of the patient.

Schizophrenia

Like bipolar, schizophrenia is a diagnosis expected to impact the remainder of life. Schizophrenia onset is typically in late adolescence to early adulthood, but an older adult diagnosis is possible (Boyd, 2017). Psychosis is classically associated with schizophrenia.

Definition of psychosis (APA, 2022h):

1. An abnormal mental state involving significant problems with reality testing It is characterized by serious impairments or disruptions in the most fundamental higher brain functions—perception, cognition and cognitive processing, and emotions or affect—as manifested in behavioral phenomena, such as delusions, hallucinations, and significantly disorganized speech.
2. Historically, any severe mental disorder that significantly interferes with functioning and ability to perform activities essential to daily living.

Psychosis requires immediate intervention and is handled according to workplace policy and state law for the healthcare worker. Older adults with schizophrenia usually have improved symptoms with age and experience fewer relapses (Boyd, 2017). The healthcare worker should be aware of common symptoms of schizophrenia. Schizophrenia symptoms are classified as positive, negative, and neurocognitive (Boyd, 2017):

- Positive symptoms happen in addition to regular functioning, most commonly as hallucinations (can involve any of the five sense) and delusions (unreasonable beliefs, involving thoughts only).
- Negative symptoms are an absence of regular functioning such as flat affect and diminished emotional expression and activity.
- Neurocognitive impairment is expressed as disorganized speech, thought, or behavior.

Prior to the diagnosis of schizophrenia, an assessment would include ruling out medical causes of schizophrenia symptoms, mainly psychosis. Underlying medical etiology can present as psychosis in the older adult. The top five psychosis-inducing medical conditions to check the older adult for are substance abuse, thyroid disorders, delirium cause by infection, dementia, and vitamin B12 deficiency (Gaddey & Holder, 2021). A thorough assessment of the older adult is prudent prior to an initial diagnosis of schizophrenia. If the older adult with a diagnosis of schizophrenia is exhibiting symptoms out of their ordinary, a sweep for known medical conditions that mimic psychosis is also warranted. A differential diagnosis of brief psychotic disorder, major depressive disorder (MDD), and posttraumatic stress disorder (PTSD) can also be considered for the older adult. Collateral information from family, friends, and caregivers would be prudent if given consent. Breaches of confidentiality would need to be reviewed if the older adult is a danger to self or others during an acutely psychotic episode. Many factors must be considered during the assessment of the older adult with schizophrenic symptoms or psychosis.

The healthcare worker can present psychosocial intervention and treatment modality options that fit the mental health needs of the older adult. The National Alliance on Mental Illness (NAMI) has found four types of psychosocial intervention that greatly improve self-esteem and quality of life for an older adult living with schizophrenia: CBT, functional adaptation skills training (FAST), vocational rehabilitation, and technology communication connection (e.g., it provides reminders for medications and appointments). FAST is a unique treatment approach for schizophrenia that seeks to build necessary life skills that can address social determinant barriers to mental healthcare (Cepla, 2014). For example, an older adult with schizophrenia who lacks personal transportation can be taught how to navigate public transportation. Enhancing transportation for the older adult can

address access to care issues and increase resource availability for items such as groceries, clothing, and medications. Psychosocial interventions strengthen the quality of care and life for an older adult living with schizophrenia.

Schizophrenia is treated pharmacologically with antipsychotic medications. First- and second-generation antipsychotics are most frequently seen as front-line treatment options, although third-generation antipsychotics are up and coming. Antipsychotic medications are used in patients with schizophrenia because they primarily block dopamine, a known cause of psychotic symptoms, and can alter other neurotransmitters (Sadock et al., 2015). Antipsychotic medications carry a difficult side effect risk profile. Sedation, postural hypotension, anticholinergic effects, extrapyramidal symptoms, and tardive dyskinesia are some of the most concerning side effects of antipsychotic medications (Boyd, 2017).

Definition of anticholinergic effects (APA, 2022a):

> Side effects are characteristic of anticholinergic drugs and are also associated with other agents (e.g., tricyclic antidepressants, monoamine oxidase inhibitors) that exert antagonist effects at muscarinic receptors. They include dry mouth, blurred vision, urinary hesitancy or retention, and constipation. Similar antagonistic effects may occur at nicotinic receptors as well. Depending on the specific receptors involved, these effects may also be called antimuscarinic effects or antinicotinic effects.

Definition of extrapyramidal symptoms (APA, 2022d):

> A group of adverse drug reactions attributable to dysfunction of the extrapyramidal tract, such as rigidity of the limbs, tremors, and other Parkinson-like signs; dystonia (abnormal facial and body movements); and akathisia (restlessness). Extrapyramidal symptoms are among the most common side effects of the high-potency antipsychotics and have also been reported with the use of other drugs (e.g., SSRIs). Also called extrapyramidal syndrome (EPS).

Definition of tardive dyskinesia (TD) (APA, 2022i):

> A movement disorder associated with the use of antipsychotics, particularly conventional antipsychotics that act primarily as dopamine- receptor antagonists. It is more common with prolonged use (months or years), and older patients, females, and patients with mood disorders are thought to be more susceptible. Symptoms include tremor; so-called choreoathetoid movements; and spasticity of muscle groups, particularly orofacial muscles and muscles in the extremities. Onset is insidious and may be masked by continued use of the antipsychotic, only appearing when the drug is discontinued or the dose lowered. Its incidence is estimated at up to 40% of long-term users of conventional antipsychotics; the incidence is lower with atypical antipsychotics. No effective treatment is known.

Older adults need special considerations for medications to treat schizophrenia. Older adults with schizophrenia often need adjustments to medication regimens with lower doses or divided doses throughout the day when possible (Sadock et al., 2015). The AGS releases and continually updates safety criteria to guide the treatment of the older adult population. The AGS (2019) recommends only patients with schizophrenia receive antipsychotic medication, which increases the risk of stroke, diminishes cognitive ability, and contributes to early death.

The healthcare worker should investigate all medications being taken by the older adult with acute notation of antipsychotics drugs and their known side effects. Table 6 is a snapshot of antipsychotic medication options and is presented to increase understanding of decreased dose ranges and the comparative difficulty of side effect risk profiles for antipsychotics in older adults.

Table 6. A Snapshot of Decreased Older Adult Dosing and Side Effect Risk Profiles

Drug	Adult Dosage (mg/day)	Geriatric Dosage (mg/day)	Sedation	Postural Hypotension	Anticholinergic Effects	EPS	TD
Clozaril (clozapine)	300–450	12.5–25	High	Moderate	High	Low	Low
Olanzapine (Zyprexa)	25–50	25	Moderate–high	Moderate	Moderate–high	Low	Low
Quetiapine (Seroquel)	150–750	50–200	Moderate	Moderate	High	Low	Low
Risperidone (Risperdal)	4–16	0.25–1.5	Low	Low	Low	Low	Low
Haloperidol (Haldol)	1–15	0.25–0.5	Low	Low	Low	Very high	Yes

Note: Information taken from https://www.Medscape.com

Neuroleptic malignant syndrome (NMS) is a life-threatening condition that can happen in response to antipsychotic medications. Early recognition and intervention are the most important things a healthcare worker can do for a patient experiencing NMS. The primary symptoms of NMS are mental status changes, severe muscle rigidity, and autonomic changes (historically presenting with high fever ranging between 101 and 103 degrees Fahrenheit, tachycardia, and fluctuating blood pressure) (Boyd, 2017). Emergency intervention is needed for NMS. The healthcare worker should intervene as workplace policy dictates to get the patient to appropriate medical care as soon as possible.

A delicate balance is needed to lessen problematic schizophrenic symptoms and antipsychotic medication side effect profiles, which can be dangerous to the older adult. The healthcare worker can help assess the older adult with schizophrenia and seek to find interventions and treatments that can be modified if needed. With an individualized plan of care and proactive planning, the healthcare worker can increase the quality of mental health services provided, in turn increasing the quality of life for the older adult living with schizophrenia.

Self-Assessment Quiz Question #5

The healthcare worker is assessing the older adult taking antipsychotic medication. What life-threatening condition warrants immediate attention?:

a. Postural hypotension.
b. Sedation.
c. Anticholinergic effects.
d. Neuroleptic malignant syndrome.

SERIOUS MENTAL ILLNESS (SMI)

The healthcare worker should be able to identify the older adult who suffers with serious mental illness so that the complexity of the accompanying intervention and treatment can be addressed. SMI is a significant functional impairment caused by one or more mental disorders (most commonly schizophrenia, bipolar, or MDD). Approximately 4.8% of older adults in the U.S. live with SMI (SAMHSA, 2022b). An older adult who suffers with SMI often needs greater medical and mental illness intervention than someone without SMI. The healthcare worker will need to assist with a comprehensive treatment plan. Older adults with SMI are likely to have comorbidities that complicate their quality of life and increase their risk of mortality (SAMHSA, 2021). The most common medical conditions contributing to earlier death are cardiovascular diseases, followed by diabetes, chronic obstructive pulmonary disease (COPD), obesity, and tobacco use (Bartels et al., 2020). Specific psychopharmacological interventions are individualized for the older adult with SMI and are chosen to best meet the specifics of their medical and mental illnesses. Older adults with SMI have better physical and mental health outcomes with psychosocial interventions that focus on improving independent living, teaching social skills, enhancing social support with peer mentors, and education about physical and mental illness management for better self-management lifestyles (Bartels et al., 2020). The healthcare worker can refer to case management or community resources, along with support from friends, family, and caregivers. Treatment options will be offered in accordance with appropriate care settings and social determinants for the older adult with SMI.

Psychosocial Interventions for the older adult with SMI include the following (Bartels et al., 2020):

- **Helping Older People Experience Success (HOPES)**: HOPES is a 12-month course that contains seven modules: Communicating Effectively, Making and Keeping Friends, Making the Most of Leisure Time, Healthy Living, Using Medications Effectively, and Making the Most of a Healthcare Visit. The courses are designed to meet weekly and teach a new skill set at every session. Weekly sessions provide active engagement for the older adult with SMI, and a wide range of potential tool sets offers the opportunity to meet a greater number of needs.
- **Cognitive Behavioral Social Skills Training (CBSST)**: CBSST individualizes training framed around personal functioning in a group setting. There are three modules that target self-management, communication techniques, and interpersonal problem solving. Each module meets weekly for one month. Unique goals are set for the older adult with SMI based on their needs and capabilities.
- **Health and Recovery Peer (HARP)**: HARP is a mental health program with peer support inclusion for the older adult with SMI that evolved from the chronic disease self-management program. The six topics it covers are illness self-management, exercise and physical activity, pain and fatigue management, healthy and affordable eating, medication management, and the importance of continuity of physical and mental healthcare. HARP helps older adults with SMI set short- and long-term goals for all topics covered.
- **Targeted Training in Illness Management (TTIM)**: TTIM is a combination focus for older adults with SMI and comorbid diabetes. This approach contains two sections. The first section has a nurse educator and peer mentor running weekly sessions for three months that address medication management, nutrition, exercise, substance use, problem-solving skills, engaging social support systems, and setting personal goals. The second half of the training is offered through telephone consultation with the goal of self-sustainment.

The healthcare worker meeting the mental health needs of the older adult will most likely be collaborating with a team to maximize the quality of care. Older adults with SMI are more likely to need acute care and premature permanent nursing home placement when compared to older adults without SMI; therefore, it is important to place greater emphasis on intervention and treatment options to increase autonomy (Bartels et al., 2020). A team approach between medical and psychiatric care is necessary for the healthcare worker addressing the mental health needs of the older adult with SMI.

RECOVERY PRINCIPLES AND HEALTHY AGING

Recovery and healthy aging should be initiated at the first psychiatric interview, systematically evaluated at every subsequent meeting, and adjusted as needed for the older adult with mental illness. Recovery is defined as the ability to overcome and adapt with positivity to any health disorder in order to reach one's potential and life goals (SAMHSA, 2022c). Striving toward prioritizing recovery and healthy aging brings mental healthcare in the direction of biopsychosocial interventions and functioning toward maximizing the quality of care for the older adult. This is an important goal of every mental health interaction and will be unique to each older adult client. Healthy aging is defined as healthy choices, connections, and prevention and management of health conditions that contribute to quality of life (HHS, 2022). There is more than one path to healthy aging and recovery. Deciding which practices and treatments (medications, therapies, community resources, etc.) are best suited for the older adult with mental illness will be a multifaceted assessment process, possibly including other healthcare disciplines. SAMHSA (2022c) classifies four major dimensions for recovery implementation, and HHS recognizes nine topics for healthy aging. Table 7 combines SAMSHA recovery dimensions and HHS healthy aging topics, and it highlights older adult considerations for the healthcare worker to address.

The healthcare worker can use recovery dimensions as factors for assessing an older adult. A review of an older adult's health, home, purpose, and community can signify protective factors or barriers to recovery, each able to alter the length of recovery. Recovery dimension barriers can be targets for intervention. In addition to recovery dimensions are recovery principles for the healthcare worker meeting mental health needs. The healthcare worker can view the 10 SAMSHA recovery principles and their applicability to the older adult in Table 8.

Table 7. SAMSHA Recovery Dimensions, HHS Healthy Ageing and Older Adult Considerations			
SAMSHA Recovery Dimension	**SAMSHA Dimension Definition**	**HHS Healthy Aging Topics**	**Older Adult Considerations**
Health	Living a lifestyle of healthy choices that minimize symptoms and positively contribute to physical and emotional welfare.	• Staying Active. • Nutrition for the Older adult. • Locating Benefits & finding care. • Managing medication & treatment. • Brain health.	• Living arrangement. • ADLs. • Transportation (driving safety). • Access to care (Medicare). • Access to resources like healthy food and medications. • Nutrition assistance (Meals on Wheels). • Food safety. • Access to healthcare. • Older adult specific treatment. • Physical exercise and activity. • Strengthening cognition and memory. • Ethical and legal implications
Home	Physical residence that includes safety.	• Staying connected to your community.	• Living arrangement. • Assisted living, long-term care, nursing home. • Fall prevention. • Family, friends, caregivers involved. • Access to support. • Lower risk of violence.
Community	The connection to others that provide comfort and support (friendship, love, intimacy, and hope).	• Staying connected to your community.	• Marital status. • Support network. • Group therapy. • Religious or spiritual considerations. • Sexual activity.
Purpose	Existential stability, sense of purpose and being, ability to find meaning and satisfaction in self and others.	• Learning about diseases, conditions, and injuries. • Understanding mental health.	• Developmental task completion. • Job(s). • Volunteer position(s). • Purposeful involvement. • Hobbies. • Cultural considerations. • Religious and spiritual inclusion.
Note: Information combined from SAMHSA (2022c) and HHS (2022)			

Table 8. SAMHSA Recovery Principles and Definitions with Older Adult Applicability		
SAMSHA Recovery Principle	**Recover Principle Definition**	**Older Adult Applicability**
Hope (The crux for recovery)	• Internalized drive. • Future focused. • Optimism.	• Hope can be instilled by self or others. • Hopelessness is a safety concern (assess for suicide).
Person-Driven	• Self-direction. • Taking responsibility.	• Focus on autonomy and incorporation for decision-making in life.
Many Pathways	• Personalization. • A nonlinear process.	• Based on personal strength, talent, capabilities, and coping skills
Holistic	• Whole life. • Mind, body, spirit, community.	• All recovery dimensions of health, home, purpose, and community.
Peer Support	• Sense of belonging. • Support.	• Peers can be family, friends, professionals. • Some psychosocial treatments include peer support.
Relational	• Connectedness. • Social networks. .	• Family, friends, caregivers, neighbors, faith groups, community groups and members. • Citizenship.
Culture	• Diversity inclusion. • Uniqueness.	• Cultural awareness. • Cultural sensitivity. • Culture humility.

Table 8. SAMHSA Recovery Principles and Definitions with Older Adult Applicability		
SAMSHA Recovery Principle	**Recover Principle Definition**	**Older Adult Applicability**
Addresses Trauma	• Verbal, physical, emotional, domestic violence, sexual, war, natural disaster, financial, substance.	• Assess past and present. • Establish trust. • Promote safe space. • Ethical and legal implications.
Strengths/Responsibility	• Resource availability for self and community. • Empowerment.	• Personal responsibility in recovery and resources. • Find barriers and protective factors.
Respect	• Acceptance. • Self-esteem.	• Eliminate discrimination and bias. • A sense of identity beyond the diagnosis. • Avoid labels.
Note: From SAMHSA (2012)		

Hope, the first listed SAMSHA recovery principles in Table 8, has been studied in the older adult population. Verbalized hope in older adults has been proven to have a positive correlation with better overall physical and mental health, as evidenced by decreased mortality, fewer chronic conditions, lower cancer rates, fewer sleep disturbance problems, decreased stress, improved sense of purpose, and increased life satisfaction (Hernandez & Overholser, 2021). The healthcare provider can assess for social connections and support in the older adult. Family, friends, caregivers, community members, and healthcare workers are all capable of instilling hope in the older adult. Hopelessness can be experienced after loss (Kübler-Ross & Kessler, 2005). Hopelessness can be a target for intervention in the older adult. Individual, group, and community hope-based treatments have been found to be effective for increasing hope, which in turn optimizes physical and mental health for the older adult (Hernandez & Overholser, 2021). Hope holds positivity for the older adult, yet is only one of 10 principles where the healthcare worker can assess and intervene.

Focusing on the recovery and healthy aging of the older adult, beginning with the initial interview, promotes a journey toward recovery as a fluid process with dimensions and principles to guide the healthcare worker. Healthy aging and recovery strategies can be preventive for mental health or goals set during any stage of mental health illness. Together, the healthcare worker and patient can maximize quality of life for the

Conclusion

Aging provides irrevocable changes and modifications to the human body, but it is not synonymous with mental health degradation. Theories of aging provide references for the healthcare provider who is assessing, intervening, and treating the older adult with mental health needs. Communication tailored to the older adult enhances the ability to build trust and rapport for the therapeutic relationship, the integral connection with the older adult. The healthcare worker might need to modify their communication with the older adult due to hearing, visual, or cognitive impairments. The healthcare worker is charged with considering the unique presentation of the older adult when assessing social determinants (protective factors or barriers) and biopsychosocial factors. Knowing risk factors, symptoms, and treatment options for older adults with mental health needs enables the healthcare worker to provide treatment options that maximize safety, recovery, and quality of life for the older adult

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MENTAL HEALTH CONCERNS AND THE OLDER ADULT

Self-Assessment Answers and Rationales

1. The correct answer is A.

Rationale: Erik Erikson's eighth and final stage of psychosocial development is targeted at the older adult and called integrity versus despair. The main conflict in older age happens between integrity (the sense of satisfaction people feel reflecting on a life lived productively) and despair (the sense that life has little purpose or meaning).

2. The correct answer is D.

Rationale: The National Institute on Aging (2017) provides recommendations for improving communication with the older adult. They recommend using an older client's preference for being addressed; including their proper titles, such as Mr., Mrs., Ms., Dr.; and avoiding endearing terms such as honey and dear.

3. The correct answer is A.

Rationale: The U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion (ODPHP, 2022) in Healthy People 2030 names five areas related to social determinants of health: education access and quality, healthcare access and quality, neighborhood and built environment, social and community context, and economic stability. Healthcare access and quality includes telemental healthcare for the older adult with the ability and means to utilize the Internet to receive care electronically.

4. The correct answer is B.

Rationale: The National Institute of Aging (2020) lists signs of abuse in the older adult and recognizes that long-term health effects include decreased physical and psychological health, severed social support, financial loss, and early death.

5. The correct answer is D.

Rationale: Neuroleptic malignant syndrome is a life-threatening condition that can happen in response to antipsychotic medications. Early recognition and intervention are the most important things a healthcare worker can do for a patient experiencing NMS. The primary symptoms of NMS are mental status changes, severe muscle rigidity, and autonomic changes (historically presenting with high fever ranging between 101 and 103 degrees Fahrenheit, tachycardia, and fluctuating blood pressure) (Boyd, 2017).

Nursing Assessment, Management and Treatment of Autoimmune Diseases

6 Contact Hours

Release Date: March 3, 2022

Expiration Date: March 2, 2025

Faculty

Author: Adrianne E. Avillion, DEd, RN, is an accomplished nursing professional development specialist and published healthcare education author. She is the owner of Strategic Nursing Professional Development, a business devoted to helping nurses maintain competency and enhance their professional growth and development. Dr. Avillion earned her doctoral degree in adult education and her MS from Penn State University, along with a BSN from Bloomsburg University. She has served in various nursing roles over her career in both leadership roles and as a bedside clinical nurse. She has published extensively and is a frequent presenter at conferences and conventions devoted to the specialty of continuing education and nursing professional development.

Adrianne E. Avillion has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Reviewer: Mary C. Ross, PhD, RN, is an experienced nursing educator with substantial clinical experience in multiple areas of nursing including medical/surgical nursing and community health. She is a retired Air Force flight nurse and has extensive experience as an administrator and graduate faculty member, teaching advanced practice nurses.

Mary C. Ross has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Course objective

Almost 4% of the world's population is affected by one of more than 80 different autoimmune diseases. In the United States (US), as many as 50 million Americans are living with an autoimmune disease, at a cost of $86 billion a year (National Stem Cell Foundation [NSCF], 2021).

This education program provides information on autoimmune diseases with the purpose of adding to the nurse's ability to recognize, assess, and facilitate treatment of such diseases.

Learning objectives

Upon completion of this course, the learner should be able to:

- Discuss the incidence and prevalence of common autoimmune diseases.
- Describe the pathophysiology of common autoimmune diseases.
- Initiate appropriate assessment of patients affected by common autoimmune diseases.
- Explain diagnosis and treatment options for common autoimmune diseases.
- Identify nursing interventions important to the care of patients living with common autoimmune diseases.

How to receive credit

- Read the entire course online or in print which requires a 6-hour commitment of time.
- Complete the self-assessment quiz questions either integrated throughout or all at the end of the course. These questions are NOT GRADED. The questions are included to help affirm what you have learned from the course. The correct answer is shown after the question is answered. If the incorrect answer is selected, a Rationale for the correct answer is provided.
- Depending on your state requirements you will then be asked to complete either:
  - An affirmation that you have completed the educational activity.
  - A mandatory test (a passing score of 70 percent is required). Exam questions link content to the course learning objectives as a method to enhance individualized learning and material retention.
- If requested, provide required personal and payment information.
- Complete the MANDATORY Course Evaluation.
- Print your Certificate of Completion

CE Broker reporting

Colibri Healthcare, LLC provider # 50-4007, reports course completion results within 1 business day to CE Broker. If you are licensed in Arkansas, District of Columbia, Florida, Georgia, Kentucky, Michigan, Mississippi, North Dakota, New Mexico, South Carolina, or West Virginia, your successful completion results will be automatically reported for you.

Accreditations and approvals

Colibri Healthcare, LLC is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation.

Individual state nursing approvals

Colibri Healthcare, LLC is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation. In addition to states that accept courses offered by ANCC accredited Providers, Colibri Healthcare, LLC is an approved Provider of continuing education in nursing by: Alabama Board of Nursing, Provider #ABNP1418 (valid through February 5, 2025); Arkansas State Board of Nursing, Provider #50-4007; California Board of Registered Nursing, Provider #CEP17480 (valid through January 31, 2024); California Board of Vocational Nursing and Psychiatric Technicians (LVN Provider #V15058, PT Provider #V15020; valid through December 31, 2023); District of Columbia Board of Nursing, Provider #50-4007; Florida Board of Nursing, Provider #50-4007; Georgia Board of Nursing, Provider #50-4007; Kentucky Board of Nursing, Provider #7-0076 (valid through December 31, 2023; CE Broker Provider #50-4007); Michigan Board of Nursing, Provider #50-4007; Mississippi Board of Nursing, Provider #50-4007; New Mexico Board of Nursing, Provider #50-4007; North Dakota Board of Nursing, Provider #50-4007; South Carolina Board of Nursing, Provider #50-4007; and West Virginia Board of Registered Nurses, Provider #50-4007. This CE program satisfies the Massachusetts States Board's regulatory requirements as defined in 244 CMR5.00: Continuing Education.

Activity director

Shirley Aycock, DNP, RN, Executive Director of Quality and Accreditation

Disclosures

Resolution of conflict of interest
In accordance with the ANCC Standards for Commercial Support for continuing education, Colibri Healthcare, LLC implemented mechanisms prior to the planning and implementation of the continuing education activity, to identify and resolve conflicts of interest for all individuals in a position to control content of the course activity.

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It is the policy of Colibri Healthcare, LLC not to accept commercial support. Furthermore, commercial interests are prohibited from distributing or providing access to this activity to learners.

Disclaimer

The information provided in this activity is for continuing education purposes only and is not meant to substitute for the independent medical judgment of a healthcare provider relative to diagnostic and treatment options of a specific patient's medical condition.

Course verification

All individuals involved have disclosed that they have no significant financial or other conflicts of interest pertaining to this course. Likewise, and in compliance with California Assembly Bill No. 241, every reasonable effort has been made to ensure that the content in this course is balanced and unbiased.

INTRODUCTION

Autoimmune diseases are typically chronic conditions that often present with non-specific symptoms. Therefore, it may be a good deal of time before patients are diagnosed and properly treated. Living with a chronic condition can be burdensome as providers and patients work together to find the optimal treatment and promote the ideal quality of life. As autoimmune conditions can present differently and patients may react in various ways to medication options, treatment plans vary from patient to patient. This education program provides information on autoimmune diseases with the purpose of adding to the nurse's ability to recognize, assess, and facilitate treatment of such diseases.

INCIDENCE AND PREVALENCE

An estimated four percent of the world's population is affected by one of more than 80 different autoimmune diseases. In the United States, autoimmune diseases are the third most common cause of chronic illness. The National Institutes for Health (NIH) reports that autoimmune diseases affect between five and eight percent of the population. The prevalence of autoimmune diseases is increasing. However, the reason for this increase is not yet known (NSCF, 2021).

About 50 million Americans are living with an autoimmune disease at a cost of $86 billion a year. Autoimmune diseases affect women three times as often as men. In fact, the Office of Research on Women's Health at the NIH has named autoimmunity a major women's health issue. These types of diseases are the fourth largest cause of disability in women in the US and they are the eighth leading cause of death for women between the ages of 15 and 64 (NSCF, 2021).

Self-Assessment Question 1

When discussing autoimmune diseases with a female patient, the nurse should explain that:

a. Autoimmune disease affects males and females equally.
b. In the US, autoimmune diseases are the third most common cause of chronic illness.
c. About 25 million Americans are living with an autoimmune disease.
d. Autoimmune diseases are the third largest cause of disability in males.

COMMON AUTOIMMUNE DISEASES

An autoimmune disease develops when the body's immune system mistakes its own healthy tissues as foreign substances and attacks these tissues. Most autoimmune diseases cause inflammation that can affect many parts of the body (National Cancer Institute, n.d.). Autoimmune diseases tend to run in families and affect various races and ethnicities differently (National Cancer Institute, n.d.; NSCF, 2021).

Autoimmunity appears to be increasing in the US according to scientists at the National Institutes of Health (2020) and their collaborators. The most common biomarker of autoimmunity was found to be increasing generally in the US, especially in males, non-Hispanic Whites, adults 50 years of age and older, and adolescents.

The reasons for these increases have not been definitely identified but they suggest a possible increase in future autoimmune diseases.

Some of the most common autoimmune diseases include the following (Messenger, 2021; NSCF, 2021):

- Alopecia Areata.
- Celiac Disease.
- Crohn's Disease.
- Diabetes Type 1.
- Multiple Sclerosis (MS).
- Rheumatoid Arthritis (RA).
- Lupus.
- Scleroderma.
- Psoriasis.
- Ulcerative colitis.
- Vitiligo.

Alopecia areata

Alopecia areata is a chronic disorder that affects anagen hair follicles and causes non-scarring hair loss. The disorder occurs throughout the world. Its estimated prevalence is about one in 1,000 people, with a lifetime risk of approximately two percent. The disorder occurs at similar rates in males and females and affects both children and adults. The mean age for diagnosis of alopecia areata is 32 years in males and 36 years in females (Messenger, 2021).

Pathophysiology

Alopecia areata is an autoimmune disease. Cells of the immune system surround and "attack" hair follicles, which causes the attached hair to fall out. The greater the number of hair follicles attacked by the immune system, the greater the loss of hair. Although hair loss occurs, hair follicles are rarely destroyed (American Academy of Dermatology Association (AAD), 2021a).

Anyone can develop alopecia areata. There are, however, some people who are at greater risk for its development (AAD, 2021a):

- An estimated 10% to 20% of people with alopecia areata have a family member with the disorder. The actual percentage may be much higher since many people try to hide hair loss.
- People who have asthma, hay fever, atopic dermatitis, thyroid disease, vitiligo, or Down syndrome are at higher risk for developing the disease.
- People with cancer who are being treated with various chemotherapeutic drugs are at risk for hair loss. Hair generally regrows after treatment is completed.

Assessment

Alopecia areata most typically causes discrete, smooth patches of hair loss on the scalp (see Figure 1). Hair loss may also occur in other areas of the body, such as eyebrows, eyelashes, beard, and extremities. Severe disease may lead to the loss of all scalp hair (alopecia totalis) or of all body hair (alopecia universalis; AAD, 2021a).

In addition to the physical findings, a complete health history needs to be obtained. Emphasis is on current state of health, medications being taken, and any risk factors that are in evidence. A mental health assessment is also an important part of any assessment process (AAD, 2021a).

Figure 1. Alopecia areata

Note. Andrzej. (2011). Alopecia areata.JPG https://commons.wikimedia.org/wiki/File:Allopecia_areata.JPG

Diagnosis and treatment

Diagnosis is based on patterns of hair loss, history, and physical findings. It is important to rule out other autoimmune disorders (AAD, 2021b).

Treatment in Persons Less than 10 Years of Age. Treatment depends on age, the amount of hair loss, and the location of the hair loss. In children 10 years of age and younger, treatment may be initiated to help hair regrowth. Pharmacological interventions include the following (AAD, 2021b):

- **Corticosteroids**: Prescription-strength corticosteroids may be applied to sites of hair loss. Corticosteroids may be applied once or twice a day. For children, corticosteroids alone may be effective in promoting hair growth.
- **Minoxidil**: Minoxidil (Rogaine) can help to maintain regrowth after corticosteroids are discontinued.

Treatment in Persons over 10 Years of Age. If there are only a few patches of alopecia areata, one or more of the following treatments may be initiated (AAD, 2021b):

- **Injection of corticosteroids**: Corticosteroids are injected into bald areas every 4 to 8 weeks.
- **Application of minoxidil (Rogaine)**: The medication is applied to bald spots once or twice a day as prescribed. It is useful when bald spots are over the scalp, beard area, and eyebrows.
- **Application of anthralin**: This medication is applied to bald spots, allowing it stay on the skin for as long as prescribed, and then it is washed off. Skin irritation is expected. Using anthralin in conjunction with minoxidil is prescribed for most effective results.

If eyelashes are affected, false eyelashes or wearing glasses helps to make hair loss less apparent. The use of bimatoprost or similar medications has been approved, in addition to glaucoma treatment, to help eyelashes grow longer (AAD, 2021b).

For eyebrow loss, "stick-on" eyebrows or semi-permanent tattoos may be used. A dermatologist may also inject intralesional corticosteroids in conjunction with the application of minoxidil (AAD, 2021b).

If hair loss is rapid and extensive, the following interventions may be used (AAD, 2021b):

- **Topical immunotherapy**: This intervention is designed to alter the immune system so that it stops attacking hair follicles. Treatment is typically implemented on a weekly basis.
- **Methotrexate**: This medication may be prescribed when other treatments fail to be effective.

Nursing consideration: Methotrexate is also used to treat leukemia and various malignancies including cancers of the breast, skin, head, neck, lung, or uterus. It is also used to treat severe psoriasis and rheumatoid arthritis in adults. Methotrexate can cause serious, even fatal, side effects (Entringer, 2020). Such side effects include bone marrow, liver, lung, and kidney toxicities, soft-tissue necrosis, osteonecrosis, severe bone marrow suppression, aplastic anemia, gastrointestinal toxicity, hemorrhagic enteritis, and intestinal perforation (Comerford & Durkin, 2021).

- **Corticosteroids**: Taking corticosteroids for about 6 weeks may help hair growth in the presence of widespread alopecia areata.
- **Janus kinase (JAK) inhibitors**: These types of medications may treat extensive hair loss. Examples include tofacitinib, ruxolitinib, and baricitinib.
- **Wigs, hairpieces, or scalp prosthesis**: Use of these items may cover up hair loss.

Nursing Interventions

Nurses are typically involved in patient/family education. They take a lead role in education regarding accurate medication administration, adherence to treatment regimen, and psychosocial support. In the case of patients who are dealing with alopecia areata, body image changes may have

psychological consequences, therefore, mental health is an aspect of care that nurses must assess.

Although the symptoms of alopecia areata typically do not cause physical pain, psychological pain may become a serious problem (National Alopecia Areata Foundation, n.d.).

Evidence-based practice! An analysis of U S hospitalizations found that alopecia areata patients are at risk for anxiety disorders, attention-deficit hyperactivity disorder, dementia, mood disorders, personality disorders, and suicide or intentionally self-inflicted injury. It was unclear if psychological stress might cause or exacerbate alopecia areata, or whether alopecia areata can lead to or worsen mental health disorders (Singam et al., 2018).

A diagnosis of alopecia areata in children can be just as, or even more, upsetting for parents. Parents of these children have reported that they feel a sense of "guilt" as though they had somehow contributed to the development of the disease or cannot stop its progression (National Alopecia Areata Foundation, n.d.).

Parents (and other caregivers) are urged to avoid being overly protective or permissive with their children. They should identify a support network to help them manage stress. Parents are also encouraged to speak directly to their children about their alopecia areata and urge the children to talk about their feelings about living with alopecia areata (National Alopecia Areata Foundation, n.d.).

Children with alopecia areata are at risk for emotional distress, anxiety, depression, and sadness. Children may not be able to describe their feelings, so it is important to teach parents and other family members/caregivers how to recognize depression and anxiety. Symptoms of depression in children include the following (National Alopecia Areata Foundation, n.d.):

- Sadness and/or irritability.
- Not wanting to participate in "fun" activities that were enjoyed in the past.
- Changes in eating patterns.
- Changes in sleep patterns.
- Changes in energy patterns.
- Having a hard time paying attention.
- Feelings of worthlessness, uselessness, and/or guilt.
- Exhibiting self-destructive behavior.

Symptoms of anxiety in children include the following (National Alopecia Areata Foundation, n.d.):

- Excessive fearfulness or worry.
- Irrational anger.
- Trouble sleeping.
- Physical symptoms including fatigue, headaches, and stomach aches.

Children are also at risk for bullying. Examples of bullying behaviors that affect children with alopecia areata include the following (National Alopecia Areata Foundation, n.d.):

- Pulling head coverings from the child's head.
- Verbalizing insults about the child's appearance.
- Telling others about the child's alopecia and making deliberate attempts to humiliate and embarrass the child.

Evidence-based practice! Results from a study of 80,000 students showed that 25% of participants reported having been bullied. Results also showed a significant disconnect between teachers' perceptions and what their students say is happening in their schools (Stringer, 2016).

To combat bullying, the National Alopecia Areata Foundation offers the following suggestions for parents and other caregivers as they work to help their children who are being bullied (National Alopecia Areata Foundation, n.d.):

- Help children to understand and identify bullying behaviors.
- Encourage open communication, check in with the children frequently, and listen/observe closely to what children are saying and doing.
- Encourage children to participate in enjoyable activities to foster confidence.
- Model treating other with kindness and respect.
- Speak to school officials and leaders of extra-curricular activities about bullying and how to stop it.
- Provide information about how to deal with bullying such as leaving the bullying situation if possible, telling the bully (calmly) to stop the bullying, controlling emotions (avoiding showing fear or anger, which may increase the bullying), and do not try to bully the person(s) who is doing the bullying (this only perpetuates the cycle of bullying).

When working with patients who are dealing with alopecia areata nurses have a responsibility to work with patients and families as they attempt to navigate the mental health issues that often accompany the disease. They should be prepared to discuss these issues and intervene effectively.

Case Study: Mr. Nathan Lacy

Nathan has recently been diagnosed with alopecia areata. He has a few patches of alopecia over his scalp and is distressed over his hair loss. There is no hair loss of eyebrows or other facial hair. At 28 years of age, Nathan says, "I never thought I'd be going bald at my age!" The nurse practitioner, who is Nathan's primary healthcare provider, assures him that there are treatment options for alopecia areata.

Question:
What treatment options are available to Nathan?

Discussion:
There are several treatment options for Nathan. Treatment varies according to age and the amount of hair loss. Nathan is over 10 years of age and has only a few patches of alopecia. Corticosteroids may be injected directly into the bald areas every 4 to 8 weeks. Topical medications that are available are minoxidil (Rogaine) and/or anthralin. Minoxidil is applied to the bald spots once or twice a day.

Anthralin is applied to bald spots and left on the skin for a prescribed amount of time, after which it is washed off. Patients should anticipate skin irritation when using anthralin. Treatment is most effective when these drugs are used together.

Nathan also needs to receive emotional support. He has already told his nurse practitioner that he is distressed about his hair loss. Research shows that people who have alopecia areata are at risk for a variety of mental health issues including anxiety disorders, mood disorders, and personality disorders. A mental health assessment is very important as is ongoing observation and professional mental health consultation as needed.

Celiac disease

Celiac disease, also referred to as celiac sprue or gluten-sensitivity enteropathy, is an immune reaction to eating gluten, which is a protein found in wheat, barley, and rye (Mayo Clinic, 2020a). An estimated one in 100 people throughout the world are affected by celiac disease. Two and one-half million Americans are undiagnosed and at risk for long-term health-related complications (Celiac Disease Foundation, 2018; Celiac Disease Foundation, 2021).

A recent meta-analysis and review of studies from throughout the world showed that the world-wide prevalence of celiac disease is an estimated 1.4% based on blood tests, and 0.7% based on the results of biopsies. The prevalence was higher in females than males and was significantly higher in children compared to adults (Celiac Disease Foundation, 2018).

Evidence-based practice! Research shows that celiac disease typically becomes evident between the ages of 6 and 18 months after gluten-containing foods are introduced into the diet (Meadows-Oliver, 2019). Therefore, parents should be taught to carefully observe their children for symptoms of the disease during this period of time.

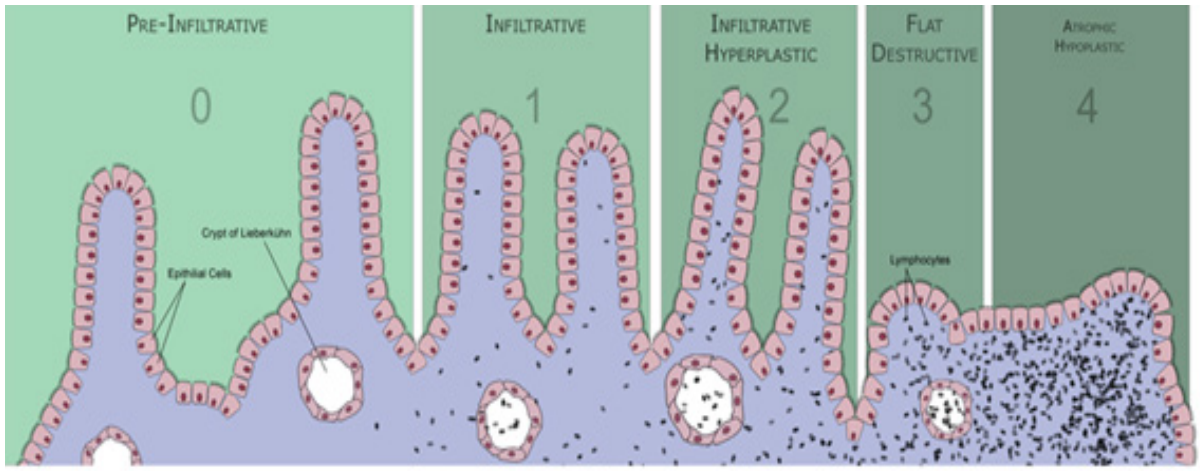
Pathophysiology
When people with celiac disease ingest gluten, the immune system responds and attacks the cells of the small intestine. Eventually the villi of the small intestine are damaged. Villi are the projections that line the small intestine and facilitate the absorption of protein (Celiac Disease Foundation, n.d.).

Nursing consideration: Celiac disease cannot be prevented, but adherence to a strict gluten-free diet may stop and reverse small intestine damage (My Health Alberta, 2021).

Figure 2 illustrates the various stages of celiac disease. These stages can be explained as follows (Celiac Disease Foundation, n.d.; Goebel, 2019):

- **Stage 1**: Pre-infiltrate. There is an increased percentage of intraepithelial lymphocytes (>30%).
- **Stage 2**: Infiltrative hyperplastic. This stage is characterized by the presence of inflammatory cells and crypt cell (which act as immunoglobulin receptors) proliferation while preserving the architecture of the villa.
- **Stage 3**: Flat destructive. Stage 3 is characterized by villous atrophy progressing from mild to total atrophy.
- **Stage 4**: Atrophic hypoplastic. Stage 4 is characterized by total mucosal hypoplasia.

Figure 2. Upper Jejunal Mucosal Immunopathology



Note. From Wikipedia Commons, 2020.

Nursing consideration: Dermatitis herpetiformis (DH) is an itchy, bumpy rash commonly found in people with celiac disease. DH causes blisters that resemble herpes, but they are associated with celiac disease. The antibody produced by the intestines in the presence of celiac disease, called IgA, can enter the bloodstream and accumulate in blood vessels under the skin. This causes the DH rash (Nazario, 2020).

Risk Factors. There several risk factors associated with celiac disease. These include the following (Mayo Clinic, 2020a):

- Having a family member with celiac disease or dermatitis herpetiformis.
- Having type 1 diabetes.
- Having Down syndrome or Turner syndrome.
- Having autoimmune thyroid disease.
- Having microscopic colitis.
- Having Addison's disease.

Complications. Celiac disease can lead to several complications, especially if it is untreated. These complications include the following (Mayo Clinic, 2020a):

- **Malnutrition**: Malnutrition occurs if the small intestine is unable to absorb adequate amounts of necessary nutrients. In children, untreated malnutrition can slow growth and shorten stature.
- **Weakening of bones**: Failure to absorb calcium and vitamin D may lead to osteomalacia (softening of the bone) in children. It may cause loss of bone density, referred to as osteopenia or osteoporosis.
- **Infertility and miscarriage**: Inability to absorb calcium and vitamin D may cause fertility issues and pregnancy complications.
- **Lactose intolerance**: The small intestine damage may cause abdominal pain and diarrhea after consuming dairy products that contain lactose.
- **Malignancy**: If persons affected by celiac disease fail to adhere to a gluten-free diet, they are at higher risk for the development of cancers such as intestinal lymphoma and small intestine malignancy.
- **Nervous system issues**: Celiac disease is associated with issues such as seizures or peripheral neuropathy.

Types of Celiac Disease that Fail to Respond to Treatment. There are two forms of celiac disease that do not respond to traditional treatment.

Nonresponsive Celiac Disease. Some patients do not respond to what they believe is a gluten-free diet. This problem is typically because patients continue to consume food and drink that contain gluten. A dietary consult is needed to help these types of patients completely eliminate gluten form their diets. People with nonresponsive celiac disease might have bacterial overgrowth in the small intestine, pancreatic insufficiency, irritable bowel syndrome (IBS), microscopic colitis, or trouble digesting sugars such as lactose, sucrose, and/or fructose (Mayo Clinic, 2020a).

Refractory Celiac Disease. In some rare cases, patients fail to respond to treatment even when adhering to a strict gluten-free diet. This failure is referred to as refractory disease. Those persons who still have signs and symptoms for 6 months to 1 year after following a gluten-free diet require further evaluation (Mayo Clinic, 2020a). The exact cause of this form of the disease is not yet known. It is believed that the body's immune system is involved, particularly T lymphocytes and intraepithelial lymphocytes (IEL), cytokines, and antigens (National Organization for Rare Disorders, 2021).

Assessment
A complete physical and mental health assessment is conducted. Symptoms related to the disease are an integral part of the patient assessment. However, signs and symptoms of celiac disease can vary significantly, and signs and symptoms may differ in children and adults (Mayo Clinic, 2020a).

Upon assessment, nurses should monitor for the presence of the following symptoms in adults (Mayo Clinic, 2020a):
- Abdominal pain.
- Bloating and gas.
- Constipation.
- Diarrhea.
- Fatigue.
- Nausea and vomiting.
- Weight loss.

According to the Mayo Clinic (2020a), more than 50% of adults with celiac disease have signs and symptoms that are unrelated to the digestive system. These types of signs and symptoms include the following:
- Anemia.
- Dermatitis herpetiformis.
- Fatigue.
- Headaches.
- Hyposplenism.
- Joint pain.
- Mouth ulcers.
- Symptoms related to the nervous system such as numbness and tingling of the extremities, impaired cognition, and problems with balance.
- Osteoporosis.

Children with celiac disease are more likely than adults to experience digestive problems such as the following (Mayo Clinic, 2020a):
- Abdominal distention.
- Chronic diarrhea.
- Flatulence.
- Nausea and vomiting.
- Pale, foul-smelling stools.

Nursing consideration: In children, celiac disease leads to an inability to absorb adequate amounts of nutrients. This may lead to failure to thrive in infants, weight loss, anemia, delayed puberty, short stature, and tooth enamel damage (Mayo Clinic, 2020a). Nurses must be aware of the potential for these types of complications when working with children who have celiac disease.

Long-Term Health Effects
People with celiac disease have a 2X greater risk of developing coronary artery disease (CAD) and a 4X greater risk of developing small bowel malignancies. Untreated celiac disease can lead to other autoimmune disorders such as Type 1 diabetes and multiple sclerosis (MS) as well as dermatitis herpetiformis, anemia, osteoporosis, infertility, miscarriage, and neurologic conditions such as epilepsy and migraines (Celiac Disease Foundation, 2021).

Diagnosis and Treatment
Diagnosis. In addition to the presence of relevant signs and symptoms, results from some diagnostic tests help to confirm the diagnosis. These include the following (Mayo Clinic, 2020a; Meadows-Oliver, 2019):
- Histologic changes observed on small-bowel biopsy specimens, which confirms diagnosis.
- Poor glucose absorption as evidenced by a glucose tolerance test.
- Decreases in albumin, calcium, sodium, potassium, cholesterol, and phospholipids.
- Possible decreases in hemoglobin and hematocrit levels, white blood cell (WBC) counts, and platelet counts.
- Immunologic assay screen is positive for celiac disease.
- Serology testing looks for the presence of specific antibodies that indicate an immune reaction to gluten.
- Genetic testing for human leukocyte antigens (HLA-DQ2 and HLA_DQ8) can be used to rule out celiac disease.
- High fat content in stool specimens.

Nursing consideration: It is important that patients be tested for celiac disease BEFORE trying a gluten-free diet. If gluten is eliminated from the diet before testing, the results may appear falsely normal (Mayo Clinic, 2020a).

If any of the preceding tests indicate the presence of celiac disease, it is most likely that the healthcare provider will order one of the following tests (Mayo Clinic, 2020a):
- **Endoscopy**: Conducted to enable a view of the small intestine and take a biopsy for analysis.
- **Capsule endoscopy**: The patient swallows a capsule that contains a minute wireless camera that takes pictures of the small intestine. As the capsule moves through the digestive tract thousands of pictures are taken. The pictures are transmitted to a recorder.

Treatment. The foundation of treatment is a strict, lifelong adherence to a gluten-free diet (Mayo Clinic, 2020a). Patients and families must be educated about what foods, besides wheat, contain gluten. These include the following (Mayo Clinic, 2020a; Meadows-Oliver, 2019):
- Barley.
- Bulgur.
- Durum.
- Farina.
- Graham flour.
- Malt.
- Rye.
- Semolina.
- Spelt (a form of wheat).
- Triticale.

Nursing consideration: A referral to a nutritionist is important. The nutritionist can help patients and families make informed choices and plan a suitable diet (Meadows-Oliver, 2019). A gluten-free diet helps to heal the villous atrophy and promotes symptom resolution. Following a gluten-free diet helps to prevent complications in the future, including malignancy development (Celiac Disease Foundation, 2021).

The recommended diet is a high-protein, low-fat, high calorie diet that includes corn and rice products, soy and potato flour, and fresh fruits. Additionally, infants may have breast milk or soy-based formula (Celiac Disease Foundation, 2021).

If the patient is anemic or severe nutritional deficiencies are present, healthcare providers might recommend that supplements be taken, including the following (Mayo Clinic, 2020a):
- Copper.
- Folate.
- Iron.
- Vitamin B-12.
- Vitamin D.
- Vitamin K.
- Zinc.

Nursing consideration: Supplements and vitamins are typically taken in pill form. However, if the digestive tract is not able to absorb prescribed supplements, they may need to be administered via injection (Mayo Clinic, 2020a).

If the small intestine has sustained severe damage, steroids may be prescribed to control inflammation. Steroids can help to reduce severe signs and symptoms. If the patient has refractory celiac disease the small intestine will not heal. Patients with refractory celiac disease should be evaluated in a specialized center. This disease can be very serious. To date, there is no proven effective treatment (Mayo, 2020a).

There are a significant number of foods that are allowed on a gluten-free diet. These include the following (Mayo Clinic, 2020a):
- Eggs.
- Fresh meats, fish, and poultry that have not been breaded, batter-coated, or marinated.

- Fruits.
- Lentils.
- Most dairy products, unless some of the products exacerbate symptoms.
- Nuts.
- Potatoes.
- Vegetables.
- Wine, distilled liquors, ciders, and spirits.

The grains and starches allowed on a gluten-free diet include the following (Mayo Clinic, 2020a):

- Amaranth.
- Buckwheat.
- Corn.
- Cornmeal.
- Gluten-free flours (rice, soy, corn, potato, bean).
- Pure corn tortillas.
- Quinoa.
- Rice.
- Tapioca.
- Wild rice.

Self-Assessment Question 2

Which of the following actions is acceptable for a person with celiac disease?

a. Incorporate farina into the diet.
b. Eliminate corn from the diet.
c. Reduce the amount of zinc ingested in the diet.
d. Include buckwheat in the diet

Nursing Interventions

Emotional support is critical for patients and their loved ones. Nurses, via education and empathy, must help patients and families to deal with a chronic disease that requires life-style changes for life. Ensuring a consult with a nutritionist is also critical. The complexities of diet for patients with celiac disease necessitate professional consultation and ongoing monitoring (Meadows-Oliver, 2019).

Patients and families should be educated to avoid packaged foods unless they are clearly labeled as gluten-free or have no gluten-containing ingredients such as emulsifiers. Reading labels is an essential skill when purchasing food. In addition to cereals, pastas, and baked goods, other packaged foods that can contain gluten include the following (Mayo Clinic, 2020a):

- Beers, lagers, ales, and malt vinegars.
- Candies.
- Gravies.
- Imitation meats and seafood.
- Processed luncheon meats.
- Rice mixes.
- Salad dressings and sauces, including soy sauce.
- Seasoned snack foods (e.g., potato chips).
- Seitan (a food made from gluten).
- Self-basting poultry.
- Soups.

Nursing consideration: Although pure oats are not harmful for the majority of patients with celiac disease, oats may be contaminated by wheat during growing and processing. Patients and families should consult with their healthcare providers regarding eating small amounts of pure oat products (Mayo Clinic, 2020a).

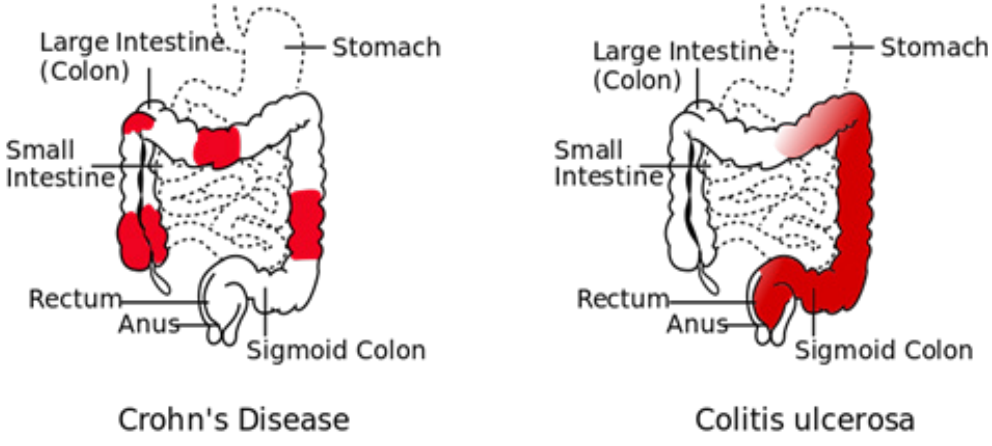
Patients and families may benefit from participating in a support group. Support resources include the following:

- National Celiac Association: 1-888-4-CELIAC https://nationalceliac.org/celiac-disease-support-groups/
- Gluten Intolerance Group: 1-253-833-6655 https://gluten.org/
- Hospitals, social services organizations, and healthcare providers can make recommendations regarding local support groups.

Crohn's disease

Crohn's disease is a chronic, idiopathic inflammatory bowel disease and is categorized under the spectrum of chronic idiopathic inflammatory bowel disease (IBD; Feuerstein & Cheifetz, 2017). The other most common type IBD is colitis ulcerose, which will be discussed later in this education program (Mayo Clinic, 2021d). The differences between Crohn's disease and colitis ulcerosa are shown in Figure 3.

Figure 3. Crohn's Disease vs Colitis Ulcerosa



Note. The red areas indicate the portions of the colon that are typically inflamed.
(Wikipedia Commons, 2021)v

Crohn's disease typically affects the distal ileum and colon but may occur in any part of the gastrointestinal (GI) tract. Effects of Crohn's disease can extend through all layers of the intestinal wall and may also involve regional lymph nodes and the mesentery (Gersch et al., 2017; Merck Manual, 2020a).

Evidence-based practice! Research shows that Crohn's disease peaks at two specific age ranges: between 15 and 30 and again at 60 to 70 years of age. Women are more often affected than men during the age range of 60-70 (Gersch et al., 2017). These age ranges should be considered when evaluating patients. The disease is most often diagnosed in adolescents and adults between the ages of 20 and 30 (Crohn's & Colitis Foundation, 2021b).

Pathophysiology and Assessment

Crohn's disease starts with crypt (glands of the intestinal lining) inflammation and abscesses, which evolve into tiny focal aphthoid ulcers (mucosal lesions). These lesions may advance into deep longitudinal and transverse ulcers accompanied by mucosal edema, which creates the characteristic cobblestoned appearance of the bowel (Merck Manual, 2020a).

Bowel thickening causes stenosis of the bowel, which can occur in any part of the intestine and cause varying degrees of intestinal obstruction (Rebar et al., 2019).

Abscesses are common. Fistulas frequently penetrate adjoining structures and may even extend into the skin of the anterior abdomen or flanks (Merck Manual, 2020a).

Evidence-based practice! Research shows that perianal fistulas and abscesses occur in 25% to 33% of cases of Crohn's disease. These complications can be the most problematic aspects of the disease (Merck Manual, 2020a).

- As the inflammation of Crohn's disease progresses, evident pathophysiology includes the following (Rebar et al., 2019):
- As lymph nodes enlarge the lymph flow in the submucosa is impeded.
- Lymph flow obstruction leads to edema, ulceration of the mucosa, fissures, abscesses, and, possibly, granulomas.
- Peyer's patches form. These patches are oval, elevated, closely packed lymph follicles.
- Fibrosis develops, causing further thickening of the walls of the bowel, stenosis, and/or narrowing of the lumen.
- Inflamed loops of the bowel adhere to not only other diseased portions of the bowel, but to healthy portions as well.
- The diseased parts of the bowel continue to thicken and narrow.

Complications. Anal fistula is the most common complication. Fistulas may develop to the bladder, vagina, or even in the area of an old scar. Additional complications include the following (Rebar et al., 2019):

- Intestinal obstruction.
- Nutrient deficiencies.
- Fluid and electrolyte imbalances.
- Peritonitis.

There is also a long-term risk of colorectal cancer (Merck Manual, 2020a). Patients and families should be taught to monitor for signs and symptoms of colorectal cancer and adhere to screening guidelines.

Risk factors. Crohn's disease appears to be initiated by alterations in intestinal microbes or alterations in the mucosa of the intestine. Gastrointestinal (GI) infections, nonsteroidal anti-inflammatory drugs, and antibiotics have been implicated in the development of inflammatory bowel disease (IBD). However, none of these types of associations have been substantiated with large epidemiological studies (Feuerstein & Cheifetz, 2017).

Cigarette smoking, the best-studied environmental risk factor, doubles the risk of developing Crohn's disease. It is important to note that the risk is increased in both current and former smokers (Feuerstein & Cheifetz, 2017).

Nursing consideration: Family history may be linked to an increased risk for the development of Crohn's disease. However, only 10% to 25% of patients with IBD have a first-degree relative with the disease. More than 200 genes have been associated with IBD development, making genetic specificity difficult (Feuerstein & Cheigetz, 2017).

Diagnosis and Treatment.

Diagnosis. Various conditions can mimic Crohn's disease. Examples of conditions that present with similar signs and symptoms include appendicitis, Behcet disease, and ulcerative colitis (Feuerstein & Cheifetz, 2017).

The diagnosis of Crohn's disease is made based on signs and symptoms and some diagnostic tests. It is important to know which part of the gastrointestinal tract is affected by the disease. Signs and symptoms may vary depending on what type of Crohn's disease a patient has (Crohn's & Colitis Foundation, 2021a)

Types of Crohn's disease based on affected part of the gastrointestinal tract are as follows (Crohn's & Colitis Foundation, 2021a):

- **Ileocolitis**: Ileocolitis is the most common type of Crohn's disease. It affects the terminal ileum and the colon. Symptoms associated with ileocolitis include cramps, diarrhea, and pain in the lower right abdominal quadrant.
- **Ileitis**: Ileitis affects only the ileum. Symptoms are the same as ileocolitis. If the disease is severe, complications may develop including fistulas or inflammatory abscesses in the right lower abdominal quadrant.
- **Gastroduodenal Crohn's Disease**: Gastroduodenal Crohn's disease affects the stomach and the duodenum. Symptoms may include nausea, vomiting, loss of appetite, and weight loss.
- **Jejunoileitis**: Characterized by patchy areas of inflammation of the jejunum, jejunoileitis may cause mild to intense abdominal pain and cramps after meals, diarrhea, and fistulas that may form in severe cases or after lengthy periods of inflammation.
- **Crohn's (Granulomatous) Colitis**: Crohn's colitis affects only the colon. Its symptoms may include diarrhea, rectal bleeding, and disease around the anus (e.g., abscess, fistulas, and ulcers). Skin lesions and joint pain are more common in this type of Crohn's disease than others.

Both types of IBD (Crohn's disease and ulcerative colitis) have similar symptoms but are not the same disease and affect different areas of the gastrointestinal tract. Differences include the following (Crohn's & Colitis Foundation, 2021a):

- **Crohn's Disease**: May affect any part of the gastrointestinal tract from mouth to anus. Can affect the entire thickness of the bowel wall.
- **Ulcerative Colitis**: Only the colon and rectum are affected. The disease affects the inner-most lining of the colon.

Nurses must be aware of these differences, which are important as part of the diagnostic and treatment process.

Self-Assessment Question 3

Which type of Crohn's disease affects the terminal ileum and the colon?

a. Ileitis.
b. Ileocolitis.
c. Jejunoileitis.
d. Gastrointestinal.

Various diagnostic test results support a diagnosis of Crohn's disease. These include the following (Rebar et al., 2019):

- **Fecal occult test**: Minute amounts of blood in the stool.
- **X-rays of the small intestine**: Irregular mucosa, ulceration, and stiffening.
- **Barium enema**: The string sign, which occurs when segments of stricture are separated by normal bowel. Fissures, ulceration, and narrowing of the bowel may be observed.
- **Sigmoidoscopy and colonoscopy**: Patchy areas of inflammation are observed. (This sign helps to rule out ulcerative colitis). The surface of the mucosa has a cobblestone appearance. Ulcers may be seen if the colon is affected.

Nursing consideration: Colonoscopy has been found to be more accurate than barium enema in assessing the degree of inflammation present (Rebar et al., 2017). Since repeated testing can be quite stressful, patients need to understand that a combination of these test are typically used since no one test is definitive.

Treatment. Lab tests should be conducted every 1 to 2 years to detect vitamin D and B12 deficiencies. Additional lab tests are conducted to screen for anemia, hypoalbuminemia, additional vitamin deficiencies, and electrolyte abnormalities. Any nutritional deficiencies may be treated with supplements and, possibly, dietary alterations (Merck Manual, 2020a).

Nursing consideration: In general, treatment requires drug therapy, lifestyle changes, and, possibly, surgery. When acute attacks occur, it is imperative that fluid and electrolyte balance is maintained. If patients are debilitated, parenteral nutrition is prescribed to ensure adequate caloric and nutrition intake while allowing the bowel to rest (Merck Manual, 2020a; Rebar et al., 2019).

General Treatment Interventions. For relief of cramps and diarrhea, oral loperamide, 2 to 4 mg or antispasmodic drugs can be taken up to four times a day, preferably before meals. These drugs are typically safe for patients. However, if the patient is suffering from severe, acute Crohn colitis (that may progress to toxic colitis and bowel obstruction), antidiarrheal and antispasmodic drugs are not used (Comerford & Durkin, 2021; Merck Manual, 2020).

Hydrophillic mucilloids such as methylcellulose are sometimes given to help prevent anal irritation by increasing the firmness of the stool. Patients should avoid dietary roughage in cases of structuring or active colonic inflammation (Merck Manual, 2020a).

Mild to Moderate Disease. Patients with mild to moderate disease are ambulatory, tolerate oral intake, and are without signs of toxicity, tenderness, masses, or obstruction. In mild to moderate disease cases, first-line treatment is 5-ASA (mesalamine). However, benefits from 5-ASA drugs appear to be limited. Several experts do not recommend using them in small-bowel Crohn disease (Comerford & Durkin, 2021; Merck Manual, 2020a). Antidiarrheals are used to control diarrhea, but not in patients who have significant bowel obstruction (Rebar et al., 2019).

Some experts prescribe antibiotics as first-line treatment, while others reserve antibiotics for patients not responding to 4 weeks of 5-ASA (Merck Manual, 2020a). The use of antibiotics is not definitive. Results from a 2019 study suggest that benefits provided by antibiotics in active Crohn's disease are probably very modest. The effects of antibiotics on preventing Crohn's disease relapse are uncertain. No definitive conclusions were drawn, and more research is needed to identify the risks and benefits of antibiotic therapy in Crohn's disease (Cochrane, 2019).

Moderate to Severe Disease. Patients are considered to have moderate to severe disease if they are without fistulas or abscesses but are in significant pain and have tenderness, fever, and/or vomiting, or patients who have been non-responsive to mild disease treatment interventions (Merck Manual, 2020a).

Administration of corticosteroids, either oral or parenteral, frequently provides swift relief of symptoms. Corticosteroids such as prednisone or prednisolone reduce diarrhea, pain, and bleeding by decreasing inflammation. If patients do not respond to corticosteroids, they must not be maintained on these types of drugs (Comerford & Durkin, 2021; Merck Manual, 2020a). Aminosalicylates such as sulfasalazine (Azulfidine) are also used to decrease inflammation (Rebar et al., 2019).

Immunosuppressants such as azathioprine (Azasan) and mercaptopurine (Purinethol) are prescribed to suppress the body's response to antigens (Rebar et al., 2019). These types of drugs have a positive impact for most patients. If immunosuppressant therapy does not work in patients who are not candidates for surgery, biologic agents such as vedolizumab may be used (Merck Manual, 2020a). If patients fail to respond to conventional treatment, an antitumor necrosis factor agent (infliximab) may be given (Rebar et al., 2019).

Bowel obstruction is managed with nasogastric suction and intravenous (IV) fluids. Obstruction in uncomplicated Crohn disease should resolve within a few days, However, failure to respond suggests a complication or other etiologies and immediate surgery is required (Merck Manual, 2020a).

Fulminant Disease, Abscesses, Fistulas. Fistulas are typically treated with metronidazole and ciprofloxacin. If patients fail to respond within 3 to 4 weeks they may receive an immunomodulator (e.g., azathioprine). Fistulas often relapse (Merck Manual, 2020a).

Patients who present with toxicity, high fever, persistent vomiting, or a tender or palpable mass must be hospitalized for administration of IV fluids and antibiotics. Abscesses must be drained either percutaneously or surgically (Merck Manual, 2020a).

Nursing consideration: Surgery is necessary in cases of bowel perforation, massive hemorrhage, fistulas unresponsive to medication, or acute intestinal obstruction. A colectomy with ileostomy may be performed in patients who have extensive disease of the colon and rectum (Rebar et al., 2019).

Lifestyle Changes. Lifestyle changes are an integral part of the treatment plan. Patients must try to reduce the stressors in their lives as well as reducing physical activity to allow the bowel to rest (Rebar et al., 2019).

Dietary changes are implemented to decrease bowel activity while still providing adequate nutrition. Suggestions for meal planning and intake include recommending the following actions for patients to implement (Crohn's & Colitis Foundation, 2021c):

- Eat four to six small meals daily rather than three large meals.
- Stay hydrated with water, broth, tomato juice, or a reduction solution.
- Drink beverages slowly. Avoid using a straw, which can cause the ingestion of air that leads to flatulence.
- Prepare meals in advance. Keep foods that are well tolerated on hand.
- Use simple methods to cook such as boiling, grilling, steaming, and poaching.
- Use a food journal to keep track of what is eaten and what foods cause or exacerbate symptoms.

The Crohn's and Colitis Foundation (2021c) suggests that patients avoid the following foods when experiencing a flare-up of the disease:

- Insoluble fiber foods that are difficult to digest including raw green vegetables, fruits with skin and seeds, whole nuts, and whole grains.
- Lactose, the sugar found in dairy products such as milk and cream.
- Non-absorbable sugars that are found in sorbitol, mannitol, sugar-free gum, candy, and ice cream.
- Foods that are high in sugar such as baked goods, candy, and juices.
- High-fat foods including butter, coconut, margarine, cream, and foods that are fatty, fried, or greasy.
- Alcohol and caffeinated beverages including beer, wine, liquor, coffee, and soda.

Nursing Interventions

Nurses have a great deal of responsibility to provide effective patient/family education. Education topics of particular importance include the following (Rebar et al., 2019):

- Medication.
- Stress reduction.
- Diet and nutrients.
- Emotional support and counseling.
- Lifestyle changes and how to implement them.

During hospitalization nurses should carefully monitor patients' intake and output and weight and monitor for signs of dehydration. It is important for patients to be monitored for fever and pain on urination, which may suggest the development of a bladder fistula. Abdominal pain, fever, and a hard distended abdomen are signals of an intestinal obstruction (Rebar et al., 2019).

If patients have an ileostomy, they must be able to demonstrate proper ostomy care and should have a consultation with an ostomy therapist. Patients should also be referred to support groups and counseling as needed (Rebar et al., 2019).

Type 1 diabetes

James Patten is a 25-year-old who has recently accepted his first position as a clinical engineer. He has worked hard to earn this job and is eager to excel. He has developed annoying symptoms over the past 4 weeks. These include severe thirst, extreme hunger, frequent urination, and unintentional weight loss. James' healthcare provider told him he has type 1 diabetes. His first response is, "That can't be right. Only kids get this kind of diabetes! You have made a mistake." James's response is not unusual. However, experts now know that type 1 diabetes can also develop in adults.

Type 1 diabetes (T1D) is an autoimmune disease that develops when the pancreas stops producing insulin. People can be diagnosed with T1D at any age, but it is the most common childhood endocrine disorder (Meadows-Oliver, 2019).

An estimated 1.6 million Americans are living with T1D, including about 200,000 youth (people less than 20 years of age) and 1.4 million adults (people 20 years of age and older; JDRF, n.d.).

Statistics that indicate the probable future development of T1D and its significance include the following (JDRF, n.d.):

- About 64,000 people in the US are diagnosed with T1D each year.
- It is expected that five million people in the US will have T1D by 2050, including almost 6,000,000 youth.
- In the US, there are $16 billion in T1D-associated healthcare costs and lost income annually.
- Less than 33% of people with T1D in the US are consistently achieving target blood-glucose control levels.

Pathophysiology

In T1D, the beta cells of the pancreas are destroyed or suppressed. The disease is divided into two types: idiopathic and immune-mediated. Idiopathic T1D causes a permanent insulin deficiency with no evidence of autoimmunity. In immune-mediated T1D there is an autoimmune attack on beta cells. This type of attack causes an inflammatory response known as insulitis (Rebar et al., 2019).

Evidence-based practice! Research shows that by the time signs and symptoms are evident, 80% of beta cells have been destroyed (Rebar et al., 2019).

Although signs and symptoms occur rather abruptly, it can take months or even years for enough beta cells to be destroyed before these signs and symptoms appear. Signs and symptoms, once evident, can be severe (Centers for Disease Control and Prevention (CDC)), (2021c).

Nursing consideration: Symptoms of T1D are similar to those of other health conditions. Nurses must encourage patients to immediately seek medical help if signs and symptoms develop. Untreated T1D can lead to severe, even fatal, health conditions (CDC, 2021c).

The development of T1D typically occurs in three stages (Lucier & Weinstock, 2021):

- **Stage 1**: Stage 1 is characterized by a lack of symptoms and a normal fasting glucose, normal glucose tolerance, and the presence of greater than, or equal to, two pancreatic autoantibodies.
- **Stage 2**: Stage 2 diagnostic criteria include the presence of greater than or equal to 2 pancreatic autoantibodies and dysglycemia (glucose of 100 to 125 mg/dl), impaired glucose tolerance (2-hour PG of 140 to 199 mg/dL), or a hemoglobin A1C between 5.7% to 6.4%. Patients remain asymptomatic.
- **Stage 3**: In Stage 3 the patient has hyperglycemia with clinical symptoms and two or more pancreatic autoantibodies.

Etiology. The exact cause of T1D is unknown. However, several risk factors and possible trigger factors have been identified, including the following:

- **Genetics**: Having a family history of T1D puts people at greater risk of developing the disease. However, the majority of diagnoses are found in people who have no family members with the disease (JDRF, n.d.).
- **Viral Infections**: Viral infections may be triggers for T1D development (JDRF, n.d.).
- **Geography**: The further away from the equator a person lives, the greater the incidence of T1D (Mayo Clinic, 2021c).
- **Age**: Although T1D can occur at any age, it seems to peak at two specific age ranges. The first peak appears in children between the ages of 4 and 7 years old. The second peak is in children between the ages of 10 and 14 years old (Mayo Clinic, 2021c).

Nursing consideration: Unlike type 2 diabetes, no dietary changes can be made to prevent the onset of T1D. Likewise, lifestyle factors such as exercise and weight do not contribute to T1D development (JDRF, n.d.). Some insulin regimens can be very expensive, so this should be discussed with patients to help them avoid skipping doses.

Complications. Maintaining a normal blood glucose level can significantly reduce the occurrence of complications. Such complications may be disabling or even fatal. Without insulin to facilitate the entry of glucose into the cells, blood glucose levels increase and complications may be likely (Mayo Clinic, 2021c).

Complications linked to T1D include the following (Mayo Clinic, 2021c):

- **Cardiac and vascular diseases**: T1D radically increases the risk of cardiovascular diseases such as coronary artery disease (CAD), angina, heart attack, stroke, atherosclerosis, and hypertension.
- **Neuropathy**: Excessive blood glucose levels may injure the capillaries that nourish the nerves. Symptoms of neuropathy include tingling, numbness, and burning or pain that typically starts at the tips of the toes or fingers and spreads gradually. If blood glucose levels are not controlled, all sensation may be lost in the affected limbs. If the nerves of the gastrointestinal tract are damaged, patients may suffer from nausea, vomiting, diarrhea, or constipation. In men, erectile dysfunction may occur.
- **Diabetic retinopathy**: If the blood vessels of the retina are damaged, the patient may go blind. Other conditions linked to diabetic retinopathy include cataracts and glaucoma.
- **Damage to the feet**: Nerve damage or reduced blood flow to the lower extremities increases the risk of complications to the feet. Without treatment, even minor cuts and blisters can become quite serious, leading to infections that may eventually require the amputation of toes, feet, or leg(s).
- **Skin and mouth issues**: Patients may be more vulnerable to skin and mouth infections including those caused by bacteria and fungi. Disease of the gums and dry mouth are also likely.
- **Pregnancy issues**: If the T1D is poorly controlled in pregnant females, the risk of miscarriage, stillbirth, and birth defects increases. The risk of diabetic ketoacidosis, retinopathy, pregnancy induced hypertension, and preeclampsia may also increase.

Diabetic ketoacidosis (DKA) is a serious, acute metabolic complication characterized by hyperglycemia, hyperketonemia, and metabolic acidosis. DKA is most common in patients with T1D and occurs when insulin levels are inadequate to meet the body's basic metabolic requirements. Hyperglycemia causes osmotic diuresis with severe fluid and electrolyte loss (Merck Manual, 2020b).

Signs and symptoms of DKA include nausea, vomiting, and (especially in children) abdominal pain. If untreated, significant decompensation can occur. Patients may display hypotension and tachycardia because of dehydration and acidosis. To compensate for acidemia, respirations increase in rate and depth (Kussmaul respirations). The patient's breath may have a fruity odor because of exhaled acetone (Merck Manual, 2020b).

Treatment consists of rapid intravascular volume repletion with 0.9% saline given IV, correction of hyperglycemia and acidosis, and prevention of hypokalemia. Treatment should take place in critical care settings because of the need for hourly clinical and laboratory assessments with necessary adjustments indicated by assessment results (Merck Manual, 2020b).

Assessment and Diagnosis

Patients are assessed for common symptoms of T1D. These include the following (Mayo Clinic, 2021c; Rebar et al., 2019):

- Increased thirst.
- Extreme hunger.
- Frequent urination.
- Unintended weight loss
- Fatigue.
- Weakness.
- Blurred vision.
- Irritability.
- Mood changes.
- In children, bed-wetting in those who did not previously wet the bed at night.

A thorough history and physical are conducted to help rule out other conditions. In addition to history, physical, and a review of signs and symptoms, several diagnostic tests are performed. These include the following (Mayo Clinic, 2021c; Rebar et al., 2019):

- **Glycated hemoglobin (A1C) test**: The A1C is a blood test that reports average blood glucose levels for the past 2 to 3 months. The test measures the percentage of blood glucose that is attached to the body's hemoglobin. The higher the glucose levels, the higher the percentage of hemoglobin with attached glucose. An A1C level of 6.5% or higher on two separate tests is an indicator of T1D.
- **Random blood glucose test**: This test requires that a blood sample be obtained at a random time and confirmed by repeat testing. A random blood glucose level of 200 mg/dL or higher suggests T1D, particularly if the patient has signs and symptoms of T1D.
- **Fasting blood glucose test:** The fasting blood glucose test requires that a blood sample be obtained following an overnight fast. A fasting blood glucose level of less than 100 mg/dL is normal. A level from 100-125 mg/dL is classified as prediabetes. A level of 126 mg/dL or higher on two separate tests is diagnostic for T1D.
- **Antibody test:** If a diagnosis of diabetes is made, the healthcare provider may order blood tests to check for antibodies that are common in T1D. Presence of antibodies helps to differentiate between T1D and type 2 diabetes when the diagnosis is uncertain.

Nursing consideration: Certain conditions such as pregnancy or having a hemoglobin variant may interfere with the accuracy of the A1C test. In these types of cases, the healthcare providers will rely on additional blood tests to determine an accurate diagnosis.

Self-Assessment Question 4

A young pregnant female is being evaluated for T1D. Which of the following statements are accurate in this situation?

a. Two separate fasting blood glucose tests with a result of 126 mg/dL are diagnostic for diabetes.
b. The A1C test is the best diagnostic test to determine T1D in pregnant females.
c. Random blood glucose tests are contraindicated for pregnant females.
d. The glycated hemoglobin test indicates the average blood sugar for the past 2 to 4 weeks.

Treatment

T1D is managed with a variety of insulins. Patients, families, and the healthcare team must work together to find the best treatment regimen. Types of insulin may include the following (JDRF, n.d.):

- **Rapid acting**: Starts working in about 15 minutes after injection. It peaks in about 1 hour and continues for about 2 to 4 hours after injection. Examples include aspart (Novolog), glulisine (Apidra), and lispro (Humalog).
- **Regular or short acting**: Starts working 30 minutes after injection, peaks from 2 to 3 hours after injection, and continues to work for about 3 to 6 hours. An example is Humulin R.
- **Intermediate acting**: Starts working 2 to 4 hours after injection. It peaks about to 12 hours later and lasts 12 to 18 hours. An example is Novolin N.
- **Long acting**: Long acting is often combined with rapid or short acting insulin. It starts to work several hours after injection and tends to lower glucose levels up to 24 hours. An example is Lantus.
- **Ultra-long lasting**: Starts to work in 6 hours, but it does not peak and lasts an estimated 36 hours. An example is Tresiba.

Insulin is administered in a variety of ways. Historically, insulin was administered via injection using a syringe. Today, other options are available including the following (CDC, 2021a; JDRF, n.d.):

- **Insulin pen**: Some pens use cartridges that are inserted into the pen while others are pre-filled and discarded after all insulin is used. The dose of insulin is dialed on the pen and the insulin is injected through a needle.
- **Insulin pump**: About the size of a small cell phone, insulin pumps provide a basal dose of short or rapid-acting insulin per hour. When blood sugar is high, the patient calculates the dose and the insulin in the pump delivers the bolus.
- **Artificial pancreas**: The artificial pancreas is a hybrid closed-loop system that requires minimal patient intervention. It is a combination of the technology of a pump with that of a continuous glucose monitor.
- **Inhaled insulin**: Inhaled insulin is taken by using an oral inhaler to deliver ultra-rapid-acting insulin at the start of meals. Inhaled insulin is used in conjunction with an injectable long-acting insulin.
- Additional treatment interventions include having personalized meal plans designed to meet nutritional needs, control blood glucose levels, and help patients maintain ideal body weight. With the guidance of healthcare providers, patients should participate in regular exercise. Patients should be cautioned that physical activity lowers blood glucose levels. Thus, blood glucose levels should be monitored frequently. Patients may need to adjust their meal plans or insulin to compensate for increased physical activity (Mayo Clinic, 2021c; Rebar et al., 2019).

Nursing Interventions

Nursing interventions focus on education and emotional support. Patients and families need education pertaining to meal planning, exercise, and insulin administration. Emotional support is also critical to the success of any treatment regimen (Rebar et al., 2019).

Patients and families also need information about potential complications, how to recognize them, and what to do if they occur. It is recommended that families pay special attention to the issue of complications. Teachers should be informed that a child is diabetic and they must be aware of emergency procedures. In some cases, patients experiencing complications (such as DKA) may not be able to articulate the need for help or describe their symptoms at the time. It is, therefore, absolutely essential that family members and other caretakers be able to intervene correctly in the event that complications occur (Rebar et al., 2019). DKA is a medical emergency and must be treated immediately.

Systemic lupus erythematosus

Systemic lupus erythematosus (commonly referred to as lupus) is a chronic, inflammatory, autoimmune disorder that affects the connective tissues (Rebar et al., 2019). The determination of incidence and prevalence of lupus is a challenge. There are several issues that make it difficult to collect accurate data. These include the following (Lupus Foundation of America, 2020; National Resource Center on Lupus, 2021):

- Difficulty in deciding what constitutes a case of lupus. There are multiple types of lupus and they have overlapping signs and symptoms.
- There is no specific test for the diagnosis of lupus. An estimated 40% of people with lupus report that their healthcare providers initially said that they had some disorder other than lupus.
- Twenty-three percent of patients were told that their problems were psychological, not physical.
- No two cases of lupus are the same, which makes it difficult to recognize and diagnosis the disease.

Nursing consideration: The Lupus Foundation of America estimates that 1.5 million Americans are living with a form of lupus (National Resource Center on Lupus, 2021). Nurses must support ongoing lupus research and be alert to the signs and symptoms that suggest the disease.

Lupus can affect anyone. It is diagnosed in women, men, children, and even newborns. It is much more common in women than in men. About 90% of diagnosed cases of lupus are women of reproductive age. Women are often diagnosed between the ages of 15 and 44. Lupus is also more prominent in certain ethnicities including African American, Hispanic, Asian, and Native American women compared to Caucasian women (Cleveland Clinic, 2021).

Pathophysiology

The exact etiology of lupus is unknown. However, experts believe that the primary cause is autoimmunity, along with environmental, hormonal, genetic, and (possibly) viral factors. In autoimmune diseases, the body produces antibodies against its own cells. A significant factor in the pathophysiology of lupus is the production of antibodies that attack various tissues of the body. These include red blood cells (RBCs), neutrophils, platelets, lymphocytes, or almost any organ or tissue (Rebar et al., 2019).

Risk Factors. The majority of people with lupus have a genetic predisposition for the disease (Rebar et al., 2019). Additional risk factors include the following (Cleveland Clinic, 2021; Mayo Clinic, 2021a):

- **Sex**: Lupus is more common in females.
- **Age**: Although lupus is diagnosed in all age groups, it is most often diagnosed between the ages of 15 and 45.
- **Race**: Lupus is more common in African Americans, Hispanics, and Asian Americans.
- **Environmental factors:** Although not specifically identified, environmental factors such as the amount of sunlight a person is exposed to, medications taken, stress, and viral infections are being investigated as contributing to the development of lupus.
- **Smoking**: A history of smoking may also increase risk of lupus.

Types of Lupus. Although systemic lupus erythematosus is the most common type of lupus, there are several additional types. These include the following (Cleveland Clinic, 2021):

- **Cutaneous lupus erythematosus**: This type of lupus affects the skin. It is characterized by various skin issues such as photosensitivity and rashes. Hair loss may also occur.
- **Drug-induced lupus**: Certain medications may cause lupus. Rather than being a chronic disease, drug-induced lupus is typically temporary. Usually, this type of lupus resolves after the medication is discontinued. However, in rare instances, symptoms continue even after the medications are stopped.
- **Neonatal lupus**: Neonatal lupus is quite rare. When it does occur, it is found in infants at birth. Infants born with neonatal lupus have antibodies that were passed to them from their mothers, who either had lupus at the time of pregnancy or developed the disease later in life.

Organs Affected by Lupus/Complications. Lupus can affect many different areas of the body, which can lead to complications of various degrees of severity. These include the following (Cleveland Clinic, 2021; Mayo Clinic, 2021a):

- **Blood and blood vessels**: Lupus may cause serious reductions in the number of red blood cells (RBCs), white blood cells (WBCs), and/or platelets. Blood vessel inflammation may also occur.
  These alterations in blood counts may lead to fatigue, anemia, serious infections, and/or easy bruising. Patients are also prone to deep vein thrombosis, pulmonary embolus, and stroke. Blood clot development may be linked to the production of antibodies. Note that patients may not have symptoms that suggest blood and blood vessel abnormalities.
- **Brain and central nervous system (CNS)**: Brain involvement is characterized by headaches, dizziness, behavior changes, vision problems, strokes, and seizures. Memory problems may become evident and patients may have trouble expressing themselves.
- **Heart**: Lupus may cause inflammation of the heart muscle, pericardium, and arteries.
- **Joints**: Arthritis is a common finding in patients who have lupus. Joint pain (with or without swelling) and stiffness are noted, especially in the morning after awakening. Arthritis may last for days or weeks or become permanent.
- **Kidneys**: Kidney complications are found in half of patients with lupus. In fact, kidney damage and kidney failure are one of the leading causes of death in patients with lupus. Kidney disease does not typically cause symptoms until the disease is in the advanced stages.
- **Lungs**: Lung involvement may cause pleural inflammation, pneumonia, and bleeding into the lungs.
- **Skin**: Skin problems are common in patients with lupus. These include a characteristic red rash over the cheeks and the bridge of the nose, plaques, skin rashes exacerbated by sunlight, hair loss, and mouth sores.

Other types of complications associated with lupus include the following (Mayo Clinic, 2021a):

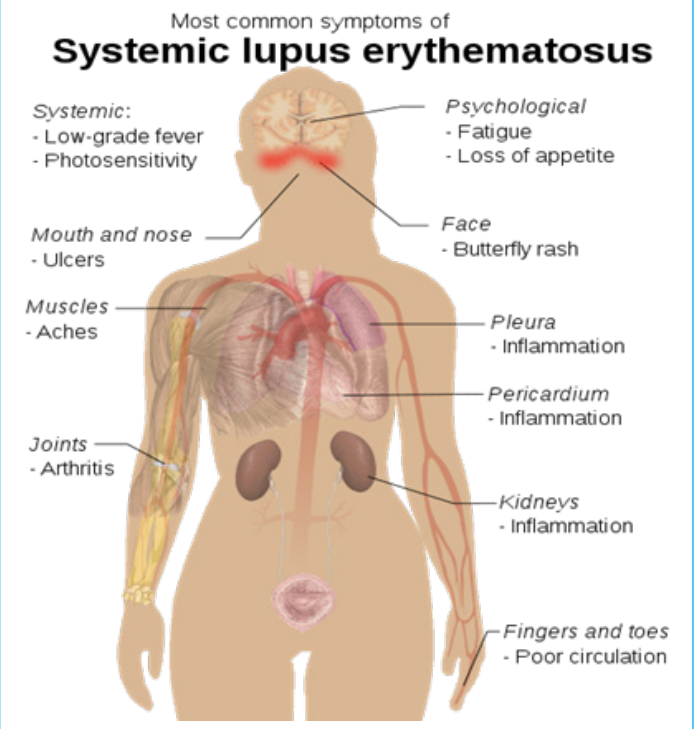
- **Infection**: Patients with lupus are more susceptible to infections because the disease and its treatments weaken the immune system.
- **Malignancies**: Having lupus leads to a small risk of increased vulnerability to malignancies.
- **Death of bone tissue**: When the bone's blood supply is reduced, tiny breaks in the bone may occur, leading to the collapse of the bones.
- **Complications of pregnancy**: Lupus increases the risk of miscarriage, pregnancy-induced hypertension, and preterm birth. Healthcare providers often recommend that women should delay pregnancy until the disease has been under control for at least 6 months.

Assessment and Diagnosis

Making a diagnosis of lupus is challenging because signs and symptoms vary considerably among patients and may change overtime. These signs and symptoms are also common to many other diseases (Mayo Clinic, 2021a).

Healthcare providers will conduct a thorough history and physical and carefully review patients' signs and symptoms. Detailed descriptions of signs and symptoms are found in the section on pathophysiology. As a summary, Figure 4 displays the most common signs and symptoms of lupus.

Figure 4. Most Common Symptoms of Lupus Erythematosus



Note. From Haggstrom, M., 2009

Laboratory Tests. Although no single test can diagnose lupus, several tests are used to help determine diagnosis. Tests include the following (Mayo Clinic, 2021a; Rebar et al., 2019):

- **Complete blood count (CBC)**: Results may show anemia and/or a reduced white blood count (WBC), both of which may occur in lupus.
- **Serum electrophoresis**: Serum electrophoresis may show hypergammaglobulinema.
- **Chest X-rays**: Chest X-rays may reveal pleurisy or lupus pneumonitis.
- **Kidney and liver assessment**: Blood tests may be ordered to help assess kidney and liver functioning.
- **Urinalysis**: Urinalysis may show elevated protein levels or the presence of RBCs in the urine.
- **Antinuclear antibody (ANA) Test**: A positive test for the presence of antibodies suggests a stimulated immune system. Most people with lupus have a positive ANA test. However, most people with a positive ANA test do not have lupus. A positive ANA test calls for more-specific antibody testing.
- **Echocardiogram**: Echocardiograms may show cardiac abnormalities.

Treatment

Lupus is a chronic condition that needs ongoing management. The overall goals of treatment are to promote remission of symptoms and limit the damage that the disease does to patients' organs (Cleveland Clinic, 2021).

Nursing consideration: Lupus is an unpredictable disease that can change with time. This means that treatment interventions may need to be changed to meet the current state of the disease (Cleveland Clinic, 2021

Medications are the foundation of treatment for lupus. Medications most often prescribed to treat lupus include the following (Cleveland Clinic, 2021; Mayo Clinic, 2021a; Rebar et al., 2019):

- **Corticosteroids**: Corticosteroids such as prednisone are prescribed to reduce the inflammatory process. Steroid creams can be applied directly to rashes. Steroid pills in low doses may be effective for patients with mild to moderate forms of the disease. High doses of steroids such as methylprednisolone (Medrol) are frequently used to control serious disease involving the kidneys and brain and other internal organs. Unfortunately, high doses of steroids often produce side effects. Side effects include weight gain, bruising easily, hypertension, diabetes, and bone diseases such as osteoporosis.

Nursing consideration: Initial prednisone doses of 60 mg or more are typical. Noticeable improvement of the patient's condition is usually apparent within 48 hours. After symptoms are controlled, the dosage is tapered gradually and then discontinued (Rebar et al., 2019).

- **Hydroxychloroquine (Plaquenil)**: Hydroxychloroquine is an antimalarial drug that has been prescribed to help keep lupus-related skin and joint disease under control. It has also been found to be effective in the treatment of fatigue and mouth sores.
- **Azathioprine (Imuran)**: An immunosuppressant, azathioprine (originally used to prevent transplanted organ rejection) is generally used to treat the more serious aspects of the disease.
- **Methotrexate (Rheumatrex)**: Methotrexate is an antineoplastic drug used to suppress the immune system. It has been found to be helpful in the treatment of lupus-related skin disease, arthritis, and other forms of the disease that are not life-threatening. This medication is used for patients who have not responded to drugs such as hydroxychloroquine or low doses of prednisone.
- **Cyclophosphamide (Cytoxan) and mycophenolate mofetil (CellCept)**: These are antineoplastic drugs that significantly reduce immune system activity. They are used to treat more severe forms of lupus, particularly if there is kidney involvement.
- **Belimumab (Benlysta)**: Belimumab is a monoclonal antibody used to reduce the activity of lymphocytes, which produce autoantibodies. Autoantibodies cause tissue damage and their suppression is the reason they are prescribed to treat lupus. Belimumab is used to treat lupus that does not involve the kidneys and has not responded to other interventions.
- **Rituximab (Rituxan)**: Rituximab is a monoclonal antibody that reduces lymphatic activity. It is occasionally used to treat lupus that has not responded to other types of treatments.

Some complementary treatments for lupus include the following (Cleveland Clinic, 2021):

- **Dehydroepiandrosterone (DHEA)**: Supplements that contain this hormone, in conjunction with conventional treatment, may help reduce the occurrence of flares of lupus. DHEA may cause acne in women.
- **Fish oil**: Fish oil supplements that contain omega-3 fatty acids may have some beneficial effects. Research is underway to identify specific effects and how these effects occur. Side effects of fish oil supplements include nausea, belching, and a "fishy" taste.
- **Acupuncture**: Acupuncture may help to ease the muscle pain that is associated with lupus.

Nursing Interventions

Patients may have a difficult time adjusting to a disease that is a life-long problem. Nurses should assess the effectiveness of patients' support systems, which are critical to the health and wellness of a patient with lupus (Mayo Clinic, 2021a; Rebar et al., 2019)

Feelings of helplessness, anger, fear, and frustration are common in patients who have lupus. They are at risk of mental health problems such as depression, anxiety, and low self-esteem. Patients' mental health should be monitored and referrals made to mental health professionals as needed (Mayo Clinic, 2021a).

Nurses are usually the members of the healthcare team who provide medication education to patients and families. Patients and families must demonstrate knowledge of what medications have been prescribed, route, dose, side effects, and what to do if side effects occur (Rebar et al., 2019).

Patients and families should learn all they can about their disease and how to monitor their signs and symptoms. Regular appointments with their healthcare providers are essential for ongoing monitoring and treatment adjustments (Rebar et al., 2019).

Self-Assessment Question 5

An antimalarial drug used to keep lupus-related skin and joint disease under control is:

a. Methotrexate.
b. Azathioprine.
c. Hydroxychloroquine.
d. Belimumab.

Multiple sclerosis (MS)

Multiple sclerosis (MS) is an immune-mediated disease in which an abnormal immune system response is directed against the central nervous system (CNS; National Multiple Sclerosis Society [MS], 2020a). MS is characterized by a progressive demyelination of the white matter of the brain and spinal cord, which can lead to widespread neurological dysfunction (Rebar et al., 2019).

An estimated 2.8 million people throughout the world live with MS. Prevalence of the disease has increased in every region of the world since 2013.The mean age at diagnosis is 32 years of age. Females are twice as likely to live with MS compared to males (Walton et al., 2020).

In the US, results from a recent study funded by the National MS Society confirmed that nearly one million people are living with the disease. This is double the estimate from an earlier study (National MS Society, 2020b).

The majority of people with MS have a relapsing-remitting disease course. These patients experience periods of new symptoms or exacerbations of previous symptoms that take place over days or weeks. Patients usually improve partially or completely after each relapsing period. Relapses are typically followed by periods of disease remission. Remissions can last for months or even years. Other persons may be diagnosed with primary-progressive MS, which is characterized by a steady progression of signs and symptoms without relapse (Mayo Clinic, 2020b).

Evidence-based practice! At least half of patients with relapsing-remitting MS eventually experience a steady progression of symptoms without periods of remission. This is referred to as secondary-progressive MS (Mayo Clinic, 2020b).

Pathophysiology

In MS the immune system destroys myelin (the fatty substance that coats and protects nerve fibers in the spinal cord and brain). Myelin is critical to the transport of electrical impulses to the brain for interpretation. The myelin sheath is a lipoprotein complex that is formed by glial cells. It protects the nerve axon (the neuron's long nerve fiber) similarly to the insulation on electrical wires. (Rebar et al., 2019).

Myelin can be damaged by hypoxemia, toxic chemicals, vascular insufficiency, or autoimmune responses such as those with MS. A summary of the pathological process that occurs when myelin is damaged is as follows (National MS Society, 2020a; Rebar et al., 2019):

- When myelin is damaged the myelin sheath becomes inflamed.
- Inflammation causes the membrane layers of the myelin sheath to break into smaller components.
- The smaller components become circumscribed plaques, which are filled with lymphocytes, microglial elements, and macroglia. This is referred to as demyelination.
- The damaged myelin sheath is unable to appropriately transport messages to the brain. Messages within the CNS are either altered or stopped completely.
- Damage to areas of the CNS produce various neurological symptoms that vary in type and severity.
- Damaged areas develop scar tissue. Areas are multiple, which leads to the name of the disease: multiple sclerosis.

Assessment and Diagnosis

To date, there are no signs, symptoms, physical findings, or laboratory tests that can make a definitive diagnosis of MS. Diagnosis is made based on the findings of a careful physical and mental examination/history, a neurologic exam, lab studies, and imaging studies (National MS Society, 2021).

Before MS can be diagnosed, other causes must be excluded since there are many causes of neurological signs and symptoms. For some people, the diagnostic process may be fairly rapid. For others, it may take quite a bit longer. Waiting for a diagnosis is stressful and frightening. It is crucial that a diagnosis be made as accurately and as quickly as possible so that patients can begin to adjust to the reality of having the disease and treatment can begin as early as possible (National MS Society, 2021).

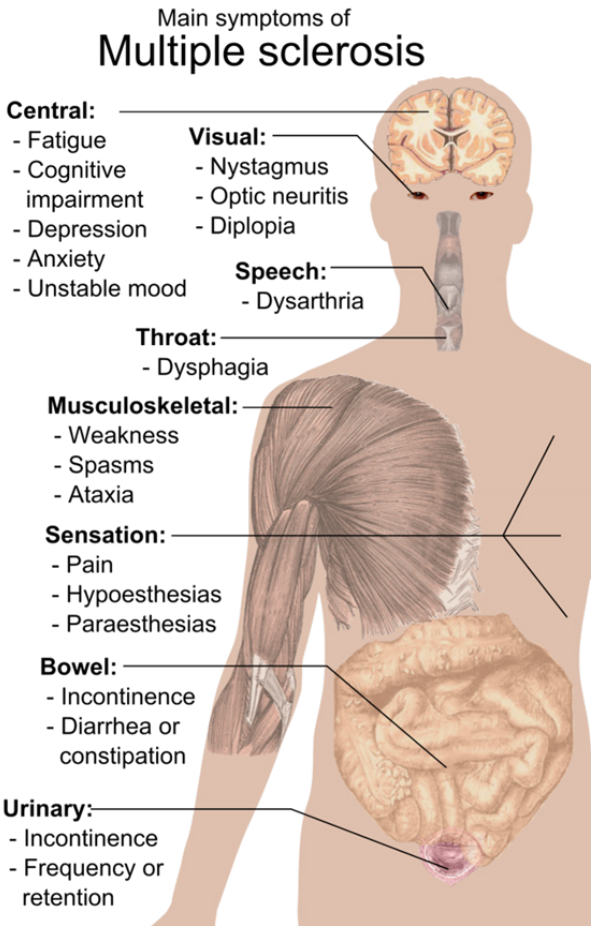
Signs and Symptoms. Assessment of signs and symptoms can be challenging because they are both unpredictable and hard for the patients to describe. Signs and symptoms may be transient or may last for hours or weeks. Typically, there are two general categories of initial symptoms: vision problems (because of optic neuritis) and sensory impairment such as paresthesia (Rebar et al., 2019).

Patients experience a variety of signs and symptoms including the following (Rebar et al., 2019):

- Vision issues such as blurred vision, scotoma, ophthalmoplegia.
- Emotional lability.
- Dysphagia.
- Poorly articulated speech.
- Muscle weakness.
- Muscle spasticity.
- Hyperreflexia.
- Urinary problems.
- Intention tremors.
- Ataxia.
- Bowel problems.
- Cognitive dysfunction.
- Fatigue.
- Varying degrees of paralysis.

Figure 5 provides an overview of the main symptoms of MS.

Figure 5. Main Symptoms of Multiple Sclerosis



Note. From Häggström, 2014

Blood and Imaging Tests. The following tests, while not definitive, can help to make the diagnosis of MS (Mayo Clinic, 2020b; Rebar et al., 2019):

- **MRI**: MRI is the most sensitive method to identify areas of MS lesions on the brain and spinal cord. It is also used to evaluate the progression of the disease.
- **Lumbar puncture**: A sample of cerebrospinal fluid can show elevated immunoglobulin G levels, but normal protein levels. This is significant only when serum gamma O levels are normal, and it reflects immune system hyperactivity because of chronic demyelination. The WBC count may be slightly elevated. Results of a lumbar puncture can help to rule out infections and other disorders with signs and symptoms similar to MS.
- **Evoked potential tests**: These tests record electrical activity produced by the CNS. CNS damage may cause slowing of electrical conduction.
- **Blood tests**: Blood tests help to rule out other disorders with signs and symptoms similar to those of MS. Blood tests may also be used to check for specific biomarkers associated with MS.

Diagnostic Criteria: The Revised McDonald Criteria, published in 2017 by the International Panel on the Diagnosis of Multiple Sclerosis, includes guidelines for using findings from MRIs and lumbar puncture. These can help to speed up the diagnostic process (National MS Society, 2021).

According to these criteria, in order to make a diagnosis of MS there must be (National MS Society, 2021):

- Evidence of damage in at least two separate areas of the CNS.
- Evidence that the damage occurred at different points in time.
- Elimination of all other possible diagnoses.

Risk Factors. There are a number of risk factors associated with MS that may be used in the diagnostic process. These include the following (Mayo Clinic, 2020b):

- **Age**: Although MS can occur at any age, its onset typically occurs around the ages of 20-40 years of age.
- **Certain autoimmune diseases**: A higher risk of MS is associated with people who have other autoimmune disorders such as thyroid disease, type 1 diabetes, or inflammatory bowel disease.
- **Certain infections**: Viral infections have been linked to MS development. An example is infection with the Epstein-Barr virus, which causes infectious mononucleosis.
- **Climate**: MS is more common in countries with temperate climates, including the northern US, Canada, New Zealand, Europe, and southeastern Australia.
- **Race**: Whites, especially those of Northern European ancestry, have the greatest risk of developing MS. People of Asian, African American, or Native American descent have the lowest risk.
- **Family history**: Risk increases if one's parents or siblings were diagnosed with MS.
- **Sex**: Research shows that women are more than two to three times as likely as men to have relapsing-remitting MS.
- **Smoking**: Research shows that smokers are more likely than non-smokers to have a second event that confirms a diagnosis of relapsing-remitting MS.
- **Vitamin D**: Low levels of vitamin D and low exposure to sunlight increases the risk of MS.

Complications. Complications associated with MS include the following (Mayo Clinic, 2020b):

- Muscle stiffness and spasticity.
- Paralysis.
- Bowel and bladder problems.
- Sexual dysfunction.
- Mental changes such as forgetfulness and/or mood swings.
- Depression.
- Epilepsy.

Treatment

Treatment goals are to shorten exacerbations, relieve neurologic deficits (if possible), and facilitate the maintenance of maximum health and wellness (Rebar et al., 2019). To date, MS treatment falls into three categories: abortive therapies, preventive therapies, and symptomatic therapies (Johns Hopkins Medicine, n.d.).

Abortive Therapies. An MS exacerbation is defined as "new or returning neurological symptoms that have evolved over at least 24-48 hours and have not been provoked by a metabolic cause, such as a fever" (Johns Hopkins Medicine, n.d.).

For acute exacerbations of symptoms, steroids may be prescribed to shorten both the duration and the intensity of the attack. The typical regimen involves intravenous administration of methylprednisolone once a day for 3 to 5days. Intravenous therapy may be followed with oral steroids such as oral prednisone. These oral steroid pills are given in tapering doses for an additional 1 to 2 weeks (Johns Hopkins Medicine, n.d.; Mayo Clinic, 2020b).

Plasma exchange (plasmapheresis) may also be used during acute attacks following steroid therapy. During plasmapheresis, blood plasma is removed from the body and separated from the blood cells. The blood cells are mixed with albumin and returned to the body. Plasmapheresis is most often used if patients' symptoms are new, severe, and have not responded to steroids (Johns Hopkins Medicine, n.d.; Mayo Clinic, 2020b).

Preventive Therapies. The Food and Drug Administration (FDA) has approved, to date, a number of preventive therapies to reduce the frequency and severity of exacerbations or to treat worsening MS (Johns Hopkins Medicine, n.d.).

The FDA-approved preventive therapies include the following (Johns Hopkins Medicine, n.d.; Rebar et al., 2019):

- **Interferon beta-1-a**: This beta interferon is given once a week by intramuscular (IM) injection or beta interferon administered via injection under the skin three times a week.

- **Interferon beta-1b**: This therapy may be administered via injection every other day. Frequency depends on specific therapy and patient needs.

Nursing consideration: Interferon betas have various side effects. In addition to redness and discomfort at the injection site, side effects include fever, chills, achiness, fatigue, depression, and changes in liver function. While patients are receiving interferon, they need to be monitored for changes in liver function on a regular basis. All interferons work by interfering with the immune system's ability to cause inflammatory processes (Johns Hopkins Medicine, n.d.).

- **Glatiramer acetate**: This drug is a synthetic protein that is similar to a component of myelin. Given subcutaneously, glatiramer acetate is believed to work by modifying the immune system so that it produces more anti-inflammation immune cells. Side effects include redness, swelling, and itching at the injection site. A small number of patients may experience a "post injection reaction," which is a brief period of flushing, racing of the heart, feeling faint, and shortness of breath.
- **Natalizumab**: Natalizumab is a monoclonal antibody administered intravenously once every 4 weeks. This drug is believed to work by preventing lymphocytes from entering the CNS. Natalizumab may produce a rare, but serious, possibly fatal, infection of the brain called progressive multifocal leukoencephalopathy (PML).
- **Mitoxantrone**: Mitoxantrone is a chemotherapeutic drug that is used for patients experiencing worsening forms of relapsing MS and secondary progressive MS. It is given intravenously every 3 months. The potential for toxicity is high, so patients may receive a limited number of doses throughout their lifespan. The drug is believed to work by suppressing the immune system to reduce the number of immune cells that might be causing inflammation. Mitoxantrone is associated with cardiotoxicity.

There are also a number of oral medications administered to reduce relapse rates. These include the following (Comerford & Durkin, 2021; Mayo Clinic, 2020b):

- **Fingolimod (Gilenya)**: This drug is taken once daily. The patient's heart rate and blood pressure are monitored for 6 hours after the first dose because there is the potential for reduction in heart rate. Additional side effects include infections, headaches, hypertension, and blurred vision.
- **Teriflunomide (Aubagio)**: This is an oral medication taken once daily to reduce relapse rates. Teriflunomide can cause liver damage and hair loss, when taken by men or women or birth defects in the infants of pregnant women . Contraception should be used while taking this medication and up to 2 years afterward.
- **Siponimod (Mayzent)**: Siponimod can help to reduce the rate of relapse and slow progression of MS. It is also approved for use in secondary-progressive MS. This drug is harmful to a developing fetus. Contraception is advised while taking this medication and for 10 days after the medication is discontinued. Associated side effects include viral infections, liver dysfunction, and low WBC counts. Changes in heart rate, headaches, and vision problems may also occur.
- **Cladribine (Mavenclad)**: Cladribine is usually prescribed as a second line treatment for patients with relapsing-remitting MS as well as for secondary-progressive MS. It is administered in two treatment courses spread over a 2-week period over a period of 2 years. This drug is contraindicated in patients who have chronic infections, cancer, or who are pregnant or breastfeeding. Both men and women should use contraception while taking this drug and for 6 months after the medication is stopped. Side effects include upper respiratory infections, headaches, tumors, serious infections, and reduced levels of WBCs.

Symptomatic Therapies. Certain medications may be administered to control symptoms. Such medications include drugs for bladder issues, antidepressants, vertigo, and fatigue (Rebar et al., 2019).

Medications are not the only treatment initiative for patients with MS. It is important that an interdisciplinary team approach be used in the treatment of patients. Additional treatment initiatives may include the following:

- Physical therapy.
- Occupational therapy.
- Speech-language therapy.
- Neuropsychology therapy.

Complementary Medicine. Many people with MS use various alternative or complementary therapies to help manage systems. Complementary therapies include the following (Mayo Clinic, 2020b):

- Exercise.
- Meditation.
- Yoga.
- Massage.
- Acupuncture.
- Relaxation techniques.

Research findings suggest that maintaining adequate levels of vitamin D may have a protective effect and may lower the risk of developing MS. Some experts consider vitamin D supplementation as a modifiable risk factor for MS development (Mayo Clinic, 2021e).

Daily intake of vitamin D3 of 2,000-5,000 international units daily is recommended for patients with MS (Mayo Clinic, 2020b). However, it is important to note that very large doses of vitamin D over a long period of time may lead to toxicity. Signs and symptoms of vitamin D toxicity include nausea, vomiting, constipation, reduced appetite, weakness, and weight loss. Toxicity can also cause increased levels of blood calcium, which, in turn, can cause kidney stones (Mayo Clinic, 2021e).

Nursing Interventions

As mentioned throughout this education program, nurses often take the lead in medication administration education. Patients and families both need education regarding medication administration. Nurses should emphasize the importance of adhering to the prescribed regimen and how to recognize and report side effects (Comerford & Durkin, 2021).

Providing emotional support is critical. Patients' mental health should be monitored and appropriate interventions and referrals to mental health professionals made.

Family members/caregivers should also be monitored for mental health issues since they, too, are under emotional stress (Rebar et al., 2017).

- Educate and support patients and family with the following recommendations (Mayo Clinic, 2021b).
- Encourage patients to maintain normal daily activities as able.
- Encourage patients to interact and maintain contact with family and friends, but to avoid those with infections or contagious diseases while taking immunosuppressing medications
- Encourage patients to pursue hobbies that they enjoy and are able to do.
- Facilitate connections with support groups.
- Encourage patients and families to discuss feelings and concerns regarding living with MS.
- Explain that it is important for patients and families to monitor signs and symptoms, what causes them to become worse, and what, if anything, helps to reduce the symptoms.
- Explain that patients and families should write down questions and concerns to ask the healthcare team in order to avoid forgetting important issues.
- Encourage patients to bring a family member or friend with them when they have appointments with healthcare team members.

Self-Assessment Question 6

A patient who has MS also has cardiac disease. Which of the following drugs would probably NOT be appropriate for this patient?

a. Mitoxantrone.
b. Teriflunomide.
c. Natalizumab.
d. Cladribine.

Psoriasis

Psoriasis is a chronic autoimmune skin disease characterized by an acceleration of the growth cycle of skin cells. Although psoriasis can be treated, there is no cure. A dermatologist is often the best healthcare provider to diagnosis psoriasis because it has been confused with other skin disease, such as eczema (CDC, 2020b).

Psoriasis is characterized by raised, red, itchy, scaly patches on various parts of the body. Psoriasis patches can range from a few spots of dandruff-like scaling to major plaques that cover large areas. The areas most commonly affected are the lower back, elbows, knees, legs, soles of the feet, scalp, face, and palms (Mayo Clinic, 2020c).

An estimated 125 million people throughout the world (two to three percent of the total population) have psoriasis. In the US, more than three percent of the adult population is affected by psoriasis; this translates to more than 7.5 million adults (National Psoriasis Foundation, 2021).

Figure 6 is a picture of the characteristic patches on the skin of a patient with psoriasis.

Figure 6. Psoriasis Skin Patches

Note. image from Unsplash opensource

Pathophysiology

Psoriasis is a complex disease that appears to be influenced by genetic and immune-mediated facets. The exact trigger or triggers of the disease are unknown, but experts believe that triggers may include an infectious episode, traumatic insult, or stressful life events. Once triggered, a substantial number of leukocytes gather at the dermis and epidermis, which leads to characteristic psoriatic plaques. Many patients, however, have no obvious trigger (Habashy, 2021).

Possible Triggers. Many patients who are vulnerable to the development of psoriasis may be free of signs and symptoms for years until the disease is triggered by various environmental factors (Mayo clinic, 2020c). Common triggers include the following (Mayo Clinic, 2020c):

- Infections such as bacterial or skin infections.
- The weather, particularly a cold, dry environment.
- Injury to the skin such as severe sunburn, lacerations, or bug bites.
- Stress.
- Smoking as well as exposure to second-hand smoke.
- Heavy alcohol consumption.
- Certain medications such as lithium, anti-hypertensive medications, and antimalarial drugs.
- Swift withdrawal of oral or systemic corticosteroids.

Psoriasis can develop in anyone. An estimated 33% of cases begin in the pediatric years. The following factors increase risk of psoriasis (Mayo Clinic, 2020c:.

- **Family history**: Having one parent with psoriasis increases risk. If both parents have psoriasis, the risk increases even higher.
- **Stress**: Since stress can impact the immune system, high levels of stress may increase the risk of disease development.
- **Smoking**: Smoking tobacco products increases risk and may also increase the severity of the disease. Smoking may even play a part in the initial development of the disease.

Complications. Psoriasis increases the risk of developing other diseases including the following (Mayo Clinic, 2020c):

- Eye conditions such as conjunctivitis and blepharitis.
- Obesity.
- Type 2 siabetes.
- Hypertension.
- Cardiovascular disease.
- Other autoimmune diseases such as inflammatory bowel disease.
- Mental health disorders such as depression.

Pathogenesis. The epidermis is infiltrated by large numbers of activated T cells. These T cells seem to be capable of causing keratinocyte proliferation. Psoriatic plaques reveal large amounts of T cells within the psoriasis lesions. An uncontrolled inflammatory process occurs. Important findings in the affected skin include vascular engorgement because of superficial blood vessel dilation and a changed epidermal cell cycle (Habashy, 2021).

Assessment and Diagnosis

Patients are assessed for characteristic signs and symptoms of the disease and possible other causes of these signs and symptoms are investigated. It is important to rule out other skin conditions before making a diagnosis of psoriasis (Habashy, 2021).

Signs and Symptoms. There are several types of psoriasis. During patient assessment, it is important to differentiate among the various psoriasis types. These include the following (Mayo Clinic, 2020c):

- **Plaque psoriasis**: Plaque psoriasis is the most common type of psoriasis. It is characterized by dry, raised, red skin patches that are covered with silver-looking scales. The most common sites affected are elbows, knees, lower back, and scalp.
- **Guttate psoriasis**: Guttate psoriasis typically affects children and young adults. It is often triggered by a bacterial infection (e.g., strep throat) and is characterized by small, scaling lesions shaped like drops that are located on the trunk, arms, or legs.
- **Inverse psoriasis**: Inverse psoriasis usually affects the skin folds of the groin, buttocks, and breasts. It is characterized by smooth, red patches of skin. These patches become worse with friction and sweating. It is suspected that fungal infections trigger inverse psoriasis.
- **Nail psoriasis**: Nail psoriasis is characterized by pitting, abnormal nail growth, and discoloration. Affected nails may loosen and separate from the nail bed (onycholysis). Severe cases of nail psoriasis may cause affected nails to crumble.

- **Psoriatic arthritis**: Psoriatic arthritis is characterized by swollen, painful joints that are the typical signs of arthritis. Symptoms range from mild to severe. Psoriatic arthritis can affect any joint and causes stiffness and progressive joint damage. The joint damage may be permanent.
- **Pustular psoriasis**: Pustular psoriasis is a rare form of the disease. It is characterized by well-defined lesions that are filled with pus. These lesions are widespread patches or occur in smaller areas on the palms of the hands or the soles of the feet.
- **Erythrodermic psoriasis**: This is the least common type of psoriasis. Erythrodermic psoriasis can cover the whole body with a red, peeling rash, which can burn or itch intensely.

Common, general signs and symptoms of psoriasis are (Mayo Clinic, 2020c):
- Red patches of skin that are covered with thick, silvery scales.
- Small scaling spots that are commonly seen in children.
- Skin that is dry and cracked, and may bleed.
- Itching, burning, or soreness.
- Thick, pitted, or ridged nails.
- Joints that are swollen and stiff.

Diagnostic Tests. Laboratory studies and findings for patients with psoriasis may include the following (Habashy, 2021):
- Rheumatoid factor (RF) to differential psoriatic arthritis from rheumatoid arthritis. It is negative in psoriasis.
- Erythrocyte sedimentation rate (RF) is negative .
- Uric acid level may be elevated, especially with pustular and erythrodermic psoriasis.
- Fluid from pustules is sterile with neutrophilic infiltrate.
- Fungal studies may show infection.

Various other tests may be ordered to identify psoriasis. A biopsy of the skin lesion may show basal cell hyperplasia, absence of normal cell maturation, and keratinization. A considerable number of activated T cells are found in the epidermis. Joint x-rays can hasten the diagnosis of psoriatic arthritis. Bone scans are used for the early recognition of joint involvement (Habashy, 2021).

Treatment

Treatment of psoriasis is individualized to each patient. The goals of treatment are to relieve pain, remove scales, reduce swelling, maintain joint functioning, and prevent additional damage to joints (National Psoriasis Foundation, n.d.).

Topicals. Topical medications are typically the first treatment recommended to someone who is newly diagnosed. Topical medications can be purchased over the counter or by prescription (National Psoriasis Foundation, n.d.).

The following is a summary of topical therapy medications (Comerford & Durkin, 2021; Mayo Clinic, 2020c; National Psoriasis Foundation, n.d.):
- **Corticosteroids**: Topical steroids are one of the most common topical treatments for psoriasis. They come in a variety of ranges from very strong to very weak. Corticosteroids are available as ointments, creams, lotions, gels, foams, sprays, and shampoos. Topical corticosteroids are typically applied once daily during exacerbations and on alternate days or weekends to maintain remission. Mild corticosteroid ointments (e.g., hydrocortisone) may be purchased over the counter. However, prescription creams or ointments may be needed. Examples of prescription corticosteroids include triamcinolone (Trianex) and clobetasol (Clobex).

Nursing consideration: Patients should be advised to apply only a small amount of the steroid on affected areas only; not to use a topical steroid for longer than 3 weeks without the approval of healthcare providers; not to abruptly discontinue a topical steroid because it may cause a psoriasis exacerbation; avoid using steroids in or around the eyes unless the medication is specifically for the eyes; know that the more potent the steroid, the more effective it is, but the risk of side effects is greater (National Psoriasis Foundation, n.d.).

- **Vitamin D analogues**: Synthetic forms of vitamin D are prescribed to slow skin cell growth.
- **Calcineurin inhibitors**: Calcineurin inhibitors (e.g., tacrolimus [Protopic]) reduce both inflammation and plaque build-up. These medications are particularly useful in treating delicate areas of thin skin such as around the eyes.
- **Coal tar**: Coal tar is given to reduce scaling, itching, and inflammation. It comes in over-the-counter and prescription formats such as shampoo, cream, and oil. Unfortunately, these products can cause skin irritation, stain clothing and bedding, and have a strong odor. Coal tar is contraindicated for pregnant women and for those who are breastfeeding.
- **Goeckerman therapy**: This is a combination of coal tar treatment and phototherapy (light therapy). This combined treatment is more effective than either of them alone.

Phototherapy. There are various types of phototherapies (light therapy) used in the treatment of psoriasis. The following list provides descriptions of some of the types of phototherapies used in the treatment of psoriasis:
- **Sunlight**: Brief, daily exposures to sunlight (heliotherapy) might improve psoriasis, but precautions should be taken. Before beginning treatment with sunlight, healthcare providers should be consulted about the most effective and the safest way to expose skin to the sun (Mayo Clinic, 2020c).
- **UVB phototherapy**: This treatment involves exposing affected skin to an artificial UVB light source for an established length of time or a regular basis. UVB phototherapy can be administered in the healthcare provider's office, outpatient clinic, or at home with a phototherapy unit (National Psoriasis Foundation, n.d.).
- **Psoralen plus ultraviolet A (PUVA)**: PUVA treatment involves taking a light-sensitizing medication (psoralen) before exposure to UVA light. This light penetrates deeper into the skin than does UVB light. Psoralen increases the skin's response to UVA exposure (Mayo Clinic, 2020c).
- **Excimer laser**: With this type of phototherapy, a strong UVB light specifically targets only the affected skin. Excimer laser therapy requires fewer treatment sessions than traditional phototherapy because a more powerful UVB light is used (Mayo Clinic, 2020c).

Oral or Injected Medications. If the patient has moderate to severe psoriasis that has not responded to other treatments, oral or injected medications may be prescribed. Severe side effects may occur, so these medications are only used for brief periods of time and might be alternated with other forms of treatment (Mayo Clinic, 2020c).

Oral and injected medications include the following (Comerford & Durkin, 2021; Mayo Clinic, 2020c; National Psoriasis Foundation, n.d.):
- **Steroids**: A few small and persistent psoriasis patches may be treated with a steroid injection directly into lesions.
- **Retinoids**: Retinoids are oral medications given to decrease skin cell production. These types of drugs are not recommended for females or for those who are breastfeeding.
- **Methotrexate**: Methotrexate is typically administered as a single oral dose. This drug works by decreasing skin cell production and suppressing inflammation. Both men and women should stop taking methotrexate at least 3 months before trying to conceive.
- **Biologics**: Biologics such as infliximab (Remicade) are used for patients who have moderate to severe psoriasis and have not responded to first-line therapies. They are usually given by injection. It is important that biologics be administered with caution. They may suppress the immune system to the point that increases the risk of serious infections. Patients must be screened for tuberculosis. Biologics are expensive and may or may not be covered by health insurance.

Alternative/Complementary Interventions. Several alternative therapies may be used to ease psoriasis signs and symptoms. None have been proved to be effective by scientific research, but they are generally safe and may reduce symptoms in patients with mild to moderate psoriasis (Mayo Clinic, 2020c).

Examples of alternative therapies include the following (Mayo Clinic, 2020c):

- **Aloes extract cream**: This cream may reduce redness, inflammation, scaling, and itching. Aloe extract cream is typically applied several times a day. Patients should know that it may take a month or more to notice improvement.
- **Fish oil supplements**: Fish oil supplements used in conjunction with UVB therapy may reduce the amount of skin that is affected. Typically, fish oil is applied to the affected skin and covered with a dressing for 6 hours a day for 4 weeks.
- **Essential oils**: Essential oils used for aromatherapy (e.g., lavender) have been associated with stress and anxiety reduction.

Nursing consideration: Patients must be cautioned that before adding alternative therapies to their treatment regimens they must consult with their healthcare providers.

Nursing Interventions

Nursing interventions include, as always, patient/family education regarding medication and other aspects of the treatment regimen. Nurses should assess the patients' support network. It is important that they have the support of family and friends (Rebar et al., 2019).

Patients also need to know that self-care measures are available. With the approval of the healthcare providers, nurses can explain the value of the following lifestyle and home remedies (Mayo Clinic, 2020c):

- **Daily baths**: Daily baths help to remove scales as well as calm inflamed skin. Bath oil, colloidal oatmeal, and Epsom salts can be added to the water, and patients should soak in this water for at least 15 minutes. Lukewarm water and mild soaps that have additional oils and fats are recommended.
- **Moisturizers**: After gently patting nearly dry, a heavy ointment-based moisturizer should be applied when the skin is still moist. If moisturizing has positive results, a moisturizer may be applied one to three times a day.
- **Overnight coverage**: An ointment-based moisturize should be applied to the affected skin and wrapped with plastic wrap before going to bed. Upon awakening, the plastic wrap is removed and scales are washed away.
- **Medicated ointments**: To reduce itching and inflammation, over-the-counter hydrocortisone creams may be applied to the affected skin.
- **Triggers**: Patients should identify personal triggers and make plans to avoid them. Infections, stress, and smoking can exacerbate signs and symptoms.
- **Alcohol**: Alcohol may interfere with the effectiveness of treatment regimens. Alcohol should be avoided.

Self-Assessment Question 7

A nurse is conducting a patient/family education session for a patient recently diagnosed with psoriasis. The topic of discussion is medication. Which of the following statements would be appropriate to tell the patient and family?

a. Vitamin D Analogues are prescribed to decrease itching.
b. Coal tar is contraindicated for pregnant women.
c. Biologics are prescribed for patients with mild psoriasis.
d. Methotrexate is typically administered daily for 6 weeks.

Rheumatoid arthritis (RA)

Rheumatoid arthritis is a chronic, systemic, inflammatory disorder that usually affects the joints, the cervical spine, and surrounding muscles, tendons, ligaments, and blood vessels (Rebar et al., 2019). In some people RA can damage a number of body systems, including the skin, eyes, lungs, heart, and blood vessels (Mayo Clinic, 2021b).

The annual incidence of RA on a global scale is about three cases per 10,000 population. The prevalence rate is about one percent. Prevalence increases with age, peaking between the ages of 35 and 50 years.

RA affects all populations but is thought to be more prevalent in some groups (e.g., Native Americans) and less prevalent in others (e.g., dark-skinned persons from the Caribbean region; Smith, 2021b).

In the US, various types of arthritis are quite prevalent. Osteoarthritis is the most common form of arthritis. Gout, fibromyalgia, and RA are other common rheumatic conditions in the US (CDC, 2021b).

The CDC (2021b) has compiled and published the following arthritis related statistics:

- From 2013-2015, an estimated 58.5 million US adults (22.7%) annually had ever been told by a doctor that they had some form of arthritis.
- Prevalence by age: From 2013 to 2015 in the US:
  - Of people aged 18 to 44 years, 7.1% ever reported doctor-diagnosed arthritis.
  - Of people aged 45 to 64 years, 29.3% ever reported doctor-diagnosed arthritis.
  - Of people aged 65 years or older, 49.6% ever reported doctor-diagnosed arthritis.
- From 2013 to 2015 in the US, 26% of women and 19.1% of men ever reported doctor-diagnosed arthritis.
- Adults aged 18 years or older who are overweight or obese report doctor-diagnosed arthritis more often than adults with a lower body mass index (BMI).
- More than 16% of under/normal weight adults report doctor-diagnosed arthritis.
- Almost 23% of overweight and 31% of obese US adults report doctor-diagnosed arthritis.
- In 2015, 15 million adults reported severe joint pain because of arthritis.
- Arthritis and other rheumatic conditions are a leading cause of work disability among US adults.
- One in 25 working-age adults aged 18 to 64 years face work limitations they attribute to arthritis.
- Arthritis limits the activities of 23.7 million US adults.
- Adults with arthritis were about 2.5 times more likely to have two or more falls and suffer a fall injury in the past 12 months compared with adults without arthritis.
- In 2013, the national costs of arthritis were $304 billion.

Regarding RA statistics in the US, it is estimated that RA affects between 1.28 and 1.36 million Americans. Women are affected more often than men, and its peak onset is highest in people in their sixties (Rebar et al., 2019).

Pathophysiology

Pathogenesis. The pathogenesis of RA is not completely understood, but infections, genetics, and endocrine factors may influence its development (Rebar et al., 2019). An external trigger such as cigarette smoking, infection, or trauma may set off an autoimmune reaction, which leads to synovial hypertrophy and chronic joint inflammation. There is also potential for extra-articular manifestations to develop in individuals who are genetically susceptible (Smith, 2021a). Susceptible people may develop abnormal or altered IgG antibodies. The person's immune system does not recognize these antibodies as "self" and forms an antibody (the rheumatoid factor) against the person's own antibodies.

The rheumatoid factor causes inflammation, which leads to cartilage damage (Rebar et al., 2019).

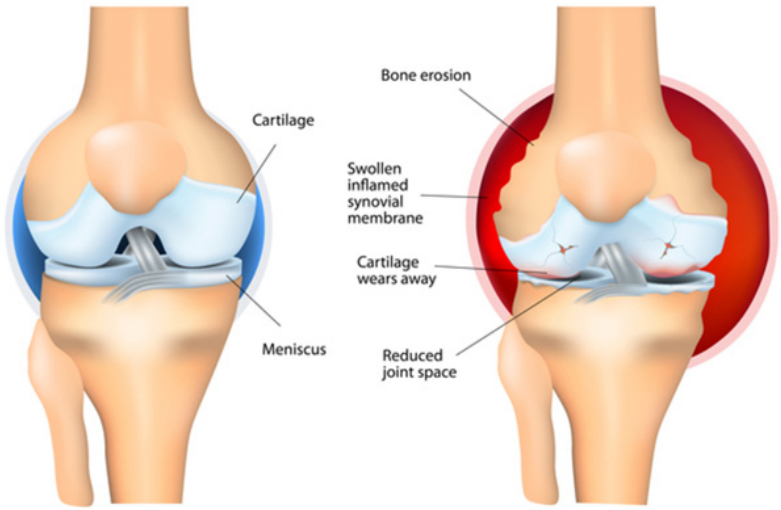
Joint inflammation occurs in four stages (Rebar et al., 2019; Smith, 2021a):

- **Phase 1**: Interaction occurs between genetic and environmental risk factors of RA. Initial inflammation in the joint capsule occurs in conjunction with swelling of the synovial tissue. This causes joint pain, swelling, and stiffness.
- **Phase 2**: RA antibodies are produced. Pannus (thickened layers of granulation tissue) covers and invades cartilage, eventually destroying the joint capsule and bone.

- **Phase 3**: This stage is characterized by arthralgia (joint stiffness), fibrous ankylosis, bone atrophy, and misalignment that causes visible deformities.
- **Phase 4**: This stage is characterized by fibrous tissue calcification, which leads to bony ankylosis (joint fixation). Pain, restricted joint movement, soft-tissue contractures, and joint deformities are evident.

Figure 7 shows the joint damage caused by RA.

Figure 7. Rheumatoid Arthritis



Note. From National Library of Medicine U.S., 2013.

Etiology. The exact cause of RA is not known. However, experts propose that genetic, environmental, hormonal, immunologic, and infectious factors may contribute to its development (Smith, 2021a).

The following descriptions show how contributing factors may contribute to RA development (Smith, 2021a):

- **Genetics**: Genetic factors account for 50% of the risk of developing RA. Various genes are thought to contribute to the development of RA.
- **Infectious agents**: Various infectious pathogens have been suggested to be possible causes of RA. These include the rubella virus and the Epstein-Barr virus (EBV). The proposal that infectious pathogens can be a cause of RA is supported by the following:
  - Reports of flulike illnesses before the start of RA.
  - The ability to produce RA in experimental animals using various bacteria.
  - The presence of bacterial products in patients' joints
- **Hormonal factors**: Sex hormones may play a part in the development of RA. Evidence to support this includes the disproportionate number of females with RA, improvement of signs and symptoms during pregnancy, and their recurrence after giving birth.
- **Lifestyle factors**: The main lifestyle contributory possible cause is the use of tobacco. Risk of developing RA is significantly higher in people who use tobacco.

Nursing consideration: Patients and families should be aware that in former smokers, the risk for RA may not return to the level of non-smokers for up to 20 years after ceasing to smoke (Smith, 2021a).

- **Immunologic factors**: The autoimmune response possibly triggers the formation of immune factors that activate the inflammatory process to a significantly greater degree than is normal.

Risk Factors. A number of risk factors are associated with the development of RA. These include the following (CDC, 2020a; Mayo Clinic, 2021b):

- **Sex**: New cases of RA are usually two to three times higher in women compared to men.
- **Age**: Although RA can begin at any age, occurrence increases with age. Onset of RA is highest among adults in their sixties.
- **Inherited traits**: People born with genes called human leukocyte antigen (HLA) class II genotypes are more likely to develop RA. These genes can also make RA worse. The risk may be highest when people with these genes are exposed to environmental factors such as tobacco use, or when the person is obese.
- **Smoking**: Tobacco use increases risk of developing RA and can also make the disease worse.
- **History of live births**: Women who have never given birth may be at greater risk for developing RA.
- **Exposures early in life**: Research suggests that some early life exposures may increase the risk of developing RA in adulthood. One study found that children whose mothers had smoked had twice the risk of developing RA as adults. Children of lower income parents also seem to be at increased risk of developing RA.
- **Obesity**: Research shows that the more overweight a person is, the greater the risk of developing RA.

Evidence-based practice! Research shows that women who have breastfed their infants have a decreased risk of developing RA (CDC, 2020a).

Self-Assessment Question 8

Which of the following people is most likely to develop RA?

a. A man in his sixties.
b. A woman who has given birth to three children.
c. A woman who smokes one pack of cigarettes per day.
d. A man who is underweight.

Complications. RA increases the risk of developing several complications. These include the following (Mayo Clinic, 2021b):

- **Osteoporosis**: RA and medications used to treat RA can increase the risk of osteoporosis.
- **Rheumatoid nodules**: These firm tissue nodules are usually found around pressure points. However, these nodules can form anywhere in the body, even in the heart and lungs.

- **Dry eyes and mouth**: RA increases the risk of developing Sjogren's syndrome, which is a disorder that decreases the amount of moisture in the eyes and mouth.
- **Infections**: RA and medications used in its treatment can impair the immune system, which leads to increased risk of infections. Patients are urged to get recommended vaccines such as influenza, pneumonia, shingles, and COVID-19.
- **Body composition**: The ratio of fat to lean body mass is often higher in people with RA. This is true even for persons who have a normal body mass index (BMI).
- **Carpal tunnel syndrome**: If RA affects the patient's wrists, the resulting inflammation can compress the nerves that serve the hands and fingers.
- **Cardiac issues**: RA increases the risk of atherosclerosis and arteriosclerosis. RA can also cause inflammation of the pericardium.
- **Lung disease**: People who have RA have an increased risk of inflammation and scarring of lung tissue. This can compromise respiratory status.
- **Lymphoma**: RA increases the risk of lymphoma.

Assessment and Diagnosis

Assessment. The primary characteristic of RA is persistent polyarthritis (synovitis) that affects any joint lined by a synovial membrane. In many patients, RA has an insidious onset (Smith, 2020a). Initially, patients may complain of non-specific symptoms that are seen in multiple disorders. These symptoms include fatigue, malaise, anorexia, low-grade fever, and weight loss. As the inflammatory process progresses, more specific symptoms develop (Rebar et al., 2019).

Nursing consideration: About 10% of patients with RA experience an abrupt onset with acute development of synovitis as well as extra-articular manifestations (Smith, 2021a).

During physical assessment patients are assessed for the following more specific signs and symptoms (Smith, 2020a):
- Stiffness.
- Tenderness.
- Pain with motion.
- Warmth of affected joints.
- Swelling.
- Deformity.
- Limitations of range-of-motion.
- Extra-articular manifestations.
- Rheumatoid nodules.
- Muscle atrophy.
- As joints and tendons are destroyed, deformities such as ulnar deviation, boutonniere deformation (the middle joint of the injured finger will not straighten, while the fingertip bends back), swan-neck deformity (flexion of the base of the finger, extension of the middle joint, and flexion of the outermost joint), hammer toe deformities (toe is bent at the middle joint, resembling a hammer), and, sometimes, joint ankylosis.

Symptoms usually occur bilaterally and symmetrically, typically involving fingers, wrists, elbows, knees, and ankles (Rebar et al., 2019). Many patients have muscle atrophy secondary to joint inflammation (Smith, 2021a).

Diagnostic Tests. No test specifically identifies RA. However, the following tests may be useful in making a diagnosis (Rebar et al., 2019):
- X-rays may show bone demineralization and soft tissue swelling.
- A rheumatoid factor is often positive in patients with RA. A positive test is indicated by a value of less than 60 units/ml.
- Analysis of synovial fluid shows an increase in volume and turbidity but decreased viscosity and complement levels. WBC count is often greater than 10,000/mm3.
- Serum protein electrophoresis may show an elevation in serum globulin levels.
- Erythrocyte sedimentation rate (ESR) is elevated in many patients with RA. The ESR helps in the monitoring of patients' response to therapy.

Treatment

There is no cure for RA. Research indicates that symptom remission is more likely when treatment begins early with disease-modifying antirheumatic drugs (DMARDs; Mayo Clinic, 2021b).

Medications. Medications are prescribed based on the severity of the symptoms and how long the patient has had RA. Medications include the following (Comerford & Durkin, 2021; Mayo Clinic, 2021b; Rebar et al., 2019):
- **Nonsteroidal anti-inflammatory drugs (NSAIDs)**: NSAIDs are administered to relieve pain and reduce inflammation. Over-the-counter options include ibuprofen (e.g., Advil) and naproxen sodium (Aleve). Stronger prescription NSAIDs such as celecoxib (Celebrex) may be given with caution. Side effects of prescription NSAIDs include stomach irritation, cardiac issues, and kidney damage.
- **Steroids**: Corticosteroids, such as prednisone, are taken to reduce inflammation and pain as well as to slow joint damage. Side effects of corticosteroids include osteoporosis, weight gain, and diabetes. Therefore, corticosteroids are typically given to quickly relieve symptoms and are gradually tapered off in an attempt to prevent or reduce side effects.
- **Conventional DMARDs**: DMARDs are taken to slow disease progression and to protect the joints and other body tissues from permanent damage. Examples of conventional DMARDs include methotrexate (Otexup), leflunomide (Arava), and hydroxychloroquine (Plaquenil). Side effects may include hepatic damage and severe respiratory infections.
- **Biologic agents**: Also known as biologic response modifiers, biologic agents are a new class of DMARDs. Examples include abatacept (Orencia), certolizumab (Cimzia), and rituximab (Rituxan).

Nursing consideration: Biologic DMARDs are typically most effective when paired with a conventional DMARD (Mayo Clinic, 2021b).

Targeted synthetic DMARDs: If conventional DMARDs and biologics are not effective, targeted synthetic DMARDs may be prescribed. An example is tofacitnib (Xeljanz).

Therapy. Physical and occupational therapies may be prescribed. In addition to keeping joints flexible, patients may be taught to use assistive devices that do not stress painful joints and make performing activities of daily living (ADLs) easier. For example, cutlery with hand grips make cooking and eating easier. Buttonhooks can help to make dressing easier (Mayo Clinic, 2021b).

Surgery. Various surgical procedures may be performed. These include the following (Mayo Clinic, 2021b; Rebar et al., 2019):
- **Synovectomy**: Synovectomy is the removal of the inflamed lining of joints (synovium). The goal of this surgery can help to reduce pain and improve flexibility of joints.
- **Tendon repair**: Inflammation and damage to the joints may cause tendons around the joints to rupture or loosen. Repair of the tendons may be possible with this type of procedure.
- **Joint fusion**: Joint fusion may be performed to stabilize or realign joints for the relief of pain. This procedure is generally performed when joint replacement is not an appropriate option.
- **Total joint Replacement**: This procedure involves the removal of damaged parts of joints and insertion of a prosthesis. Such prostheses are generally made of metal and plastic.

Nursing Interventions

Support for patients with a chronic, potentially disfiguring disease is critical. Nurses need to encourage patients to seek medical help as soon as possible, not only when symptoms first start, but if and when signs and symptoms change. Families must also be involved in and support healthcare visits (Rebar et al., 2019).

In conjunction with the primary healthcare provider and other members of the healthcare team, the following suggestions for symptom management may be provided by nurses (Mayo Clinic, 2020e):

- **Exercise**: Staying physically active is essential to strengthening muscles and keeping joints flexible. Physical therapists may be consulted for the recommendation of specific exercises. No exercise program should be initiated without the knowledge and consent of the primary healthcare provider.
- **Heat or cold therapy**: Warm baths, showers, and heating pads can help to ease pain and joint stiffness. In the event of periods of symptom exacerbation, cold packs rather than heat are recommended to reduce pain and inflammation.
- **Joint support**: Splints are typically used for joint support. Occupational and physical therapists can recommend the splint that is best suited to individual patient needs.
- **Self-help devices**: Several self-help devices may be used to facilitate movement and reduce joint stress. Examples include hand grips, long-handled shoehorns, and raised toilet seats.
- **Healthy lifestyle**: Patients should be encouraged to get enough rest and sleep, avoid tobacco products, adhere to medication regimens, and eat a healthy diet.

Scleroderma

Scleroderma is an autoimmune connective tissue and rheumatic disease. It is characterized by inflammation in the skin leading to patches of tight, hard skin. Scleroderma develops as the result of overproduction and accumulation of collagen in body tissues (Mayo Clinic, 2019). Scleroderma is not contagious, infectious, cancerous, or malignant (Scleroderma Foundation, 2021). Scleroderma can involve multiple body systems or just one area of the body (National Institute of Arthritis and Musculoskeletal and Skin Diseases, 2020).

When scleroderma affects multiple body systems it is referred to as systemic scleroderma (National Institute of Arthritis and Musculoskeletal and Skin Diseases, 2020)..

The estimated incidence of systemic scleroderma in the US is 20 cases per million population. Its prevalence is estimated at 276 cases per million population. Incidence and prevalence of systemic scleroderma in the US has been increasing in the last 50 years (Jimenez, 2020).

Systemic scleroderma is not particularly common. An estimated 75,000 to 100,000 people in the US have the disease. Most patients are women between the ages of 30 and 50 (American College of Rheumatology, 2019). Localized scleroderma is more common in children. Systemic scleroderma is more common in adults. However, scleroderma can develop in every age group from infants to older adults (Scleroderma Foundation, 2021).

Pathophysiology

There are two major classifications of scleroderma: localized scleroderma and systemic sclerosis (SSc). Each classification has its own characteristics and prognosis (Scleroderma Foundation, 2021).

Localized Scleroderma. The changes associated with localized scleroderma are found in only a few places on the skin or muscles. It rarely spreads elsewhere in the body. Usually, localized scleroderma is rather mild (Scleroderma Foundation, 2021).

There are two forms of localized scleroderma: morphea and linear scleroderma (Scleroderma Foundation, 2021).

Morphea. Morphea is characterized by waxy patches on the skin that vary in size, shape, and color. These patches may grow or shrink and may even disappear spontaneously. Skin underneath patches may thicken. Morphea typically develops between the ages of 20 and 50 but is often found in young children (Scleroderma Foundation, 2021).

Linear Scleroderma. This form of localized scleroderma often starts as a streak of hardened, waxy skin. It typically appears on the arm, leg, or forehead. It may form as a long crease on the head or neck that resembles a wound caused by a sword. Linear scleroderma usually involves the deeper layers of the skin as well as the surface layers of the skin. Linear scleroderma typically develops in childhood, and growth of affected limbs may be affected (Scleroderma Foundation, 2021).

Systemic Scleroderma (Systemic Sclerosis). Systemic scleroderma is characterized by changes in connective tissue that occur in many parts of the body. Systemic sclerosis can involve the skin, esophagus, gastrointestinal tract, lungs, kidneys, heart, and other internal organs. The disease can also affect blood vessels, muscles, and joints (Scleroderma Foundation, 2021). Affected tissues become hard and fibrous, leading to functional impairment. There are two major patterns that systemic scleroderma can take-- diffuse or limited patterns (Scleroderma Foundation, 2021).

- **Diffuse scleroderma**: In diffuse scleroderma thickening of the skin occurs at a rapid rate and involves more areas of the skin than the limited disease. People with diffuse scleroderma are at higher risk of developing sclerosis or fibrous hardening of the internal organs.
- **Limited scleroderma**: Limited scleroderma affects about 50% of persons who have scleroderma. It progresses more slowly and is a more benign illness than diffuse scleroderma. Internal issues may evolve, but they are typically less frequent and less severe compared to diffuse scleroderma. However, patients with limited scleroderma can develop pulmonary hypertension, which causes a narrowing of the blood vessels of the lungs, impaired blood flow to the lungs, and shortness of breath.

Risk Factors. Several factors may influence the risk of developing scleroderma. These include the following (Mayo Clinic, 2019):

- **Genetics**: It is possible that gene variations may be a risk factor for the development of scleroderma. A small number of cases of scleroderma seem to run in families. The disease also appears more often in certain ethnic groups. For example, Choctaw Native Americans are more likely to develop scleroderma that affects the internal organs of the body.
- **Environmental triggers**: Research findings indicate that scleroderma symptoms may be triggered by exposure to some viruses, medications, or drugs. Work exposure to harmful chemicals may also increase the risk of scleroderma development.
- **Immune system issues**: As an autoimmune disease, the body's immune system negatively impacts its own connective tissues. In about 15% to 20% of cases, someone who has scleroderma also has symptoms of another autoimmune disease such as lupus or rheumatoid arthritis.

Complications. Scleroderma complications range from mild to severe. These include the following (Mayo Clinic, 2019):

- **Raynaud's Disease**: A form of Raynaud's disease sometimes occurs with systemic scleroderma. Raynaud's disease in these patients can be so severe that impaired blood flow permanently damages fingertip tissue, leading to pits and/or skin sores. In some patients, fingertip tissue may die and amputation may be necessary.
- **Lungs**: If lung tissue is scarred, respiratory function can be impaired, leading to respiratory distress and possible pulmonary hypertension.
- **Kidneys**: If kidneys are impacted by scleroderma, hypertension may occur as well as increased protein levels in the urine. Kidney damage may also cause renal crisis that involves rapid kidney failure.
- **Cardiac**: If the tissue of the heart is scarred, arrhythmias, congestive heart failure, and pericarditis may occur.
- **Teeth**: If scleroderma causes severe facial skin tightening, the mouth may become smaller and narrower. If this occurs, it may be difficult for patients to brush their teeth or have dental work. Frequently, patients do not produce adequate amounts of saliva, which increases the risk of tooth decay.

- **Gastrointestinal system**: Digestive issues may cause heartburn and dysphagia. Cramps, bloating, constipation, or diarrhea may also occur.
- **Sexual dysfunction**: Men may experience erectile dysfunction. In women, sexual lubrication may decrease and the vaginal opening may narrow.

Assessment and Diagnosis

A complete history and physical is conducted. Assessment of patients for various signs and symptoms are a critical part of the assessment and diagnostic process

Signs and symptoms may include the following (Mayo, 2019):

- **Skin changes**: Almost all patients with scleroderma have a hardening and tightening of patches of skin. Patches present as ovals, straight lines, or wide areas that may cover the trunk and limbs. Skin may also appear shiny because it is so tight. There may be restriction of movement of affected areas.
- **Fingers or toes**: Raynaud's disease is one of the earliest signs of systemic scleroderma. The small blood vessels of the fingers and toes contract when exposed to cold temperatures or when patients experience emotional distress. Fingers and toes may turn blue or become painful or numb.
- **Gastrointestinal system**: Symptoms depend on what part of the gastrointestinal system is affected. For example, an affected esophagus may lead to heartburn or dysphagia. If intestines are affected, cramping, bloating, diarrhea, and/or constipation may occur. There may be problems with absorption of nutrients if intestinal muscles fail to move food through the intestines in an efficient manner.
- **Body systems**: Scleroderma can affect any body organ or tissue. There may be heart, lungs, or kidney problems. If not treated, life-threatening complications may develop.

Diagnostic Tests. Some diagnostic tests may be ordered to aid in diagnosis. These may include the following (American College of Rheumatology, 2019):

- **X-rays and computerized tomography (CT) scans**: These tests are ordered to look for abnormalities in the body.
- **Thermography**: Thermography can detect differences in skin temperature between affected and non-affected tissue.
- **Ultrasound and magnetic resonance imaging (MRI)**: These tests can help in the assessment of soft tissue.

Treatment

Signs and symptoms vary according to the severity of the disease and the areas of the body that are affected.

Medications. Various medications may be administered. These include the following (Gardner, 2020; Mayo Clinic, 2019):

- **Steroidal creams or pills**: Steroid preparations are administered to reduce swelling, pain, and inflammation. Steroids may also loosen tight, stiff skin and slow the progression of new skin changes.
- **Nonsteroidal anti-inflammatory drugs (NSAIDs)**: NSAIDs are given to reduce pain and swelling.
- **Anti-hypertensive medications**: These medications help to dilate blood vessels and increase circulation. They may help in the prevention of lung and kidney issues and treat Raynaud's disease.
- **Acid reducers**: Medications (e.g., protein pump inhibitors) reduce gastric acid to help to relieve heartburn.
- **Immune system suppressants**: Medications given to suppress the immune system (such as those taken after organ transplants) may help with symptom reductions.
- **Analgesics**: Analgesics are taken to reduce pain.
- **Gastrointestinal stimulants**: These drugs increase motility of the gastrointestinal muscle. They work to move the contents of the gastrointestinal tract more rapidly without acting as a purgative.

Therapies. Physical and occupational therapies may be ordered. These therapies are designed to help patients manage pain, improve their strength and mobility, and maintain independence with ADLs (Mayo Clinic, 2019).

Surgery. Surgery is typically considered to be a last resort to use for severe scleroderma complications. Amputation may be necessary if Raynaud's disease has progressed to the point of tissue death. Lung transplants may be indicated for patients with severe respiratory system issues (Mayo Clinic, 2019).

Nursing Interventions

In addition to typical patient/family education initiatives such as medication education, nurses are also viewed as healthcare professionals who provide much-needed emotional support. A chronic disease with potentially serious complications leads to stress and anxiety. Patients and families may benefit from joining support groups and obtaining mental health counseling (American College of Rheumatology, 2019; Rebar et al., 2019).

Nurses should be instrumental in helping patients to lead a healthy lifestyle. Patients are encouraged to (Mayo Clinic, 2019):

- **Stay active**: Exercise helps to maintain flexibility, improve circulation, and relieve stiffness. Patients should be taught to perform self-range-of-motion exercises to help keep skin and joints flexible. Before starting an exercise program, the primary healthcare provider should be consulted.
- **Protect their skin**: Patients should avoid hot baths and showers and avoid using strong soaps, which can dry out the skin and cause further damage. Sunscreen should be used to protect the skin as well.
- **Avoid tobacco products**: Nicotine causes blood vessel contraction, which can worsen Raynaud's disease. Smoking can also cause permanent narrowing of blood vessels and lead to or exacerbate lung issues.
- **Manage heartburn**: Patients should avoid spicy foods and beverages. They should be taught to identify and avoid other foods and beverages that trigger heartburn. Late night meals should be avoided as well. Sleeping with the head of the bed elevated helps to prevent gastric acid from backing up into the esophagus. Antacids or protein pump inhibitors may be suggested to relieve symptoms of heartburn.
- **Protect from cold**: Mittens should be worn anytime hands are exposed to cold, even when reaching into a freezer. If outside in cold weather several layers of warm clothing are recommended, and the face and head should be covered as much as possible.

Self-Assessment Question 9

A form of scleroderma that affects 50% of persons with the disease and is a more benign form of scleroderma is:

a. Morphea.
b. Linear scleroderma.
c. Diffuse scleroderma.
d. Limited scleroderma.

Ulcerative colitis

Ulcerative colitis is a chronic inflammatory bowel disease (IBD). An autoimmune disease, ulcerative colitis causes inflammation and ulcerations of the mucosa in the colon. Ulcerative colitis affects the innermost lining of the colon and rectum (Mayo Clinic, 2021d; National Institute of Diabetes and Digestive and Kidney Diseases [NIDDK], n.d.; Rebar et al., 2019).

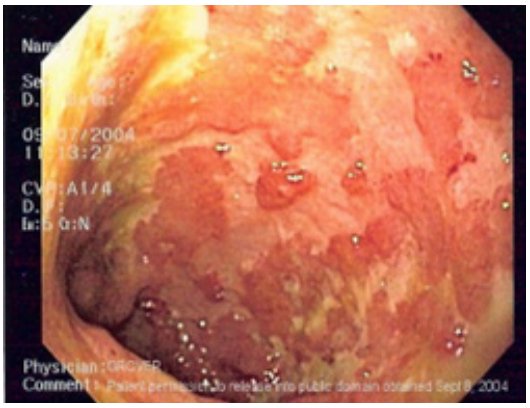
Ulcerative colitis can develop at any age, but peak occurrence is between the ages of 15 and 30 and between 50 and 70. The disease is slightly more prevalent in men compared to women. An estimated 238 per 100,000 adults in the US may have ulcerative colitis (Rebar et al., 2019).

Pathophysiology

The exact cause of ulcerative colitis is not known but is likely linked to an abnormal immune response in the gastrointestinal tract (Rebar et al., 2019). Ulcerative colitis typically begins in the rectum, where it may remain localized (ulcerative proctitis) or extend proximally, progressing to involve the entire colon. Inflammation affects the mucosa and submucosa. There is a distinct border between normal and affected tissue (Merck Manual, 2020c). Figure 8 shows a picture of damage that occurs as the result of the disease.

Nursing consideration: Stress does not cause ulcerative colitis. However, stress can increase the severity of the attack (Rebar et al., 2019). Patients should take steps to reduce stress whenever possible.

Figure 8 Ulcerative Colitis



Note. Wikimedia Commons., 2006.

Early in the course of the disease, the mucous membrane is erythematous and finely granular. There is a loss of normal vascular pattern often accompanied by scattered hemorrhagic areas. Severe disease is characterized by large mucosal ulcers with copious purulent exudate. Fistulas and abscesses do not occur (Merck Manual, 2020c).

A summary of the disease progression is as follows (Rebar et al., 2019):

- The disease typically originates in the rectum. It may progress to involve the entire colon.
- The colon's mucosa develops diffuse ulceration with hemorrhage, congestion, edema, and exudative inflammation.
- Large mucosal ulcers form and drain purulent pus and become necrotic.
- Sloughing of the mucosa occurs, leading to bloody, mucous-filled stools.

Progression of the disease may cause intestinal obstruction, dehydration, and significant fluid and electrolyte imbalances. Malabsorption is common and anemia may develop because of blood loss in the stools (Rebar et al., 2019).

Ulcerative colitis is often classified according to its location. Types of ulcerative colitis include the following (Mayo Clinic, 2021d):

- **Ulcerative proctitis:** Inflammation is confined to the area that is closest to the anus. Rectal bleeding may be the only sign of the disease.
- **Proctosigmoiditis**: Inflammation involves the rectum and sigmoid colon. Bloody diarrhea, abdominal cramps and pain, and constipation are signs and symptoms of proctosigmoiditis.
- **Left-sided colitis**: Inflammation extends from the rectum through the sigmoid and descending colon. Signs and symptoms include bloody diarrhea, abdominal cramping and pain on the left side, and an urgent need to defecate.
- **Pancolitis**: The entire colon is affected, causing bloody diarrhea that may be severe, abdominal cramping and pain, fatigue, and weight loss.

Risk Factors. There are several risk factors associated with the development of ulcerative colitis. These include the following (Mayo Clinic, 2021d):

- **Age**: Ulcerative colitis typically begins before the age of 30. However, it can occur at any stage in life. Some patients may not develop the disease until after the age of 60.
- **Race or ethnicity**: Whites develop the disease most often, although it can occur in any race or ethnicity. The risk is even higher if someone is of Ashkenazi Jewish descent.
- **Family history/Gemetocs**: Risk increases if a parent, sibling, or child has the disease.

Complications. Complications that may occur with ulcerative colitis. These include the following (Mayo Clinic, 2021d):

- Hemorrhage.
- Perforated colon.
- Severe dehydration.
- Osteoporosis.
- Skin, joint, and eye inflammation.
- An increase in the risk for colon cancer.
- Toxic megacolon.
- Increased risk of blood clots.

Assessment and Diagnosis

In order to diagnose ulcerative colitis, a complete history and physical is performed, family history obtained, symptoms reviewed, and some diagnostic tests ordered (NIDDK, n.d.).

Signs and Symptoms. Patients are assessed for the following symptoms, which vary depending on the severity of the disease and its location. Signs and symptoms may include the following (Mayo Clinic, 2021d):

- Diarrhea, often containing blood or pus.
- Abdominal pain and cramping.
- Rectal pain.
- Rectal bleeding.
- Urgency with defecation.
- Unable to defecate despite urgency feelings.
- Weight loss.
- Malaise.
- Fever.
- In children, failure to grow.

Most people with ulcerative colitis have mild to moderate symptoms. Additionally, the course of the disease may vary from person-to-person, and some patients have long periods of remission (Mayo Clinic, 2021d).

Diagnostic Tests. Stool cultures for enteric pathogens should be done to identify a pathogenic cause of the disease. In women who are using oral contraceptives, contraception-induced colitis is possible. This type of ulcerative colitis usually resolves spontaneously after hormone therapy is stopped (Merck Manual, 2020c).

Additional diagnostic tests include the following (Mayo Clinic, 2021d; Merck Manual, 2020c):

- **Flexible sigmoidoscopy**: Flexible sigmoidoscopy is used to visually confirm the diagnosis and allows direct sampling of stool or mucous for culture and microscopic evaluation. If the sigmoid colon is severely inflamed, a flexible sigmoidoscopy may be performed instead of a full colonoscopy.
- **Colonoscopy**: Colonoscopy allows visualization of the entire colon. Tissue samples are obtained for laboratory analysis, which is necessary to make an accurate diagnosis.
- **X-rays**: If patients have severe symptoms an X-ray of the abdominal area can help to rule out serious complications, such as a perforated colon.
- **CT scan**: A CT scan is typically used if complications are suspected. It can also show how much of the colon is inflamed.
- **Computerized tomography (CT) enterography and magnetic resonance imagery (MRI)**: These non-invasive tests may be performed to exclude inflammation of the small intestine.

Treatment

Treatment goals are to control inflammation, replace lost nutrients and blood, and prevent complications. General supportive initiatives include bed rest, IV fluid replacement, and, if needed, blood transfusions (Rebar et al., 2019).

Medications. Several classifications of drugs are used in the treatment of ulcerative colitis. Medications prescribed depend on the severity of the disease and need to be individualized to each patient (Mayo Clinic, 2021d; Rebar et al., 2019). Drugs include the following:

- **Corticosteroids**: Corticosteroids such as prednisone are used to control inflammation when the patient does not

respond to other treatments. They are usually used in patients who have moderate to severe ulcerative colitis. Corticosteroids are not given long-term and must be tapered off, not abruptly discontinued.

- **Aminosalicylates**: These medications (e.g., mesalamine [Asacol]) are taken to reduce inflammation.
- **Anti-diarrheal medications**: These are prescribed for patients who have frequent, troublesome diarrhea and whose ulcerative colitis is otherwise under control.
- **Immune system suppressors**: In addition to reducing inflammation, immune system suppressors suppress the immune response that initiates the inflammation process.
- **Iron supplements**: Iron supplements are given to correct anemia.
- **Biologics**: Biologics target proteins manufactured by the immune system. These drugs (e.g., infliximab [Remicade]) help to heal the intestinal lining and, hopefully, to induce remission.
- **Antispasmodics**: Antispasmodics are given to help reduce cramping.
- **Pain relievers**: For mild pain, acetaminophen (Tylenol) may be taken. However, ibuprofen (e.g., Advil, Motrin) is contraindicated since it can exacerbate symptoms and increase disease severity.

Diet. Patients may find that limiting or eliminating dairy products may help to improve issues such as diarrhea. Patients affected by severe disease may need total parenteral nutrition (TPN) and to take nothing by mouth. Patients with moderate disease may benefit from supplemental drinks. A low-residue diet may be ordered for patients who have mild disease (Rebar et al., 2019).

Surgery. If massive dilation of the colon (toxic megacolon) occurs, surgery may be indicated. The most common surgical procedure is proctocolectomy with colostomy or ileostomy (Rebar et al., 2019).

Nursing Interventions

In addition to facilitating adherence to treatment regimens, nurses need to help patients modify their lifestyles to help reduce symptoms and increase quality of life. Diet modifications may be of significant help. Keeping a food diary is recommended. Patients should keep track of what they eat and how they feel after eating. By doing this, patients may be able to identify what foods exacerbate their symptoms and learn to avoid them (Mayo Clinic, 2021d).

Rather than eating two or three large meals, eating five or six small meals a day may help to reduce symptoms. Patients should also be encouraged to drink plenty of fluids. Water is the beverage of choice. Alcohol and beverages containing caffeine stimulate the intestines, which can exacerbate diarrhea. Carbonated drinks may cause flatulence and increase cramping (Mayo Clinic, 2021d; Rebar et al., 2019).

Stress reduction is important. Stress can worsen symptoms and trigger disease flare-ups. To help control stress patients may find the following interventions helpful (Mayo Clinic, 2019d):

- **Exercise**: Exercise can help to reduce stress, relieve depression, and restore some normalcy to bowel functioning. Patients should consult their healthcare providers before beginning exercise programs.
- **Biofeedback**: Biofeedback helps to reduce muscle tension and reduce heart rate. The goal of biofeedback is to achieve a relaxed state so that stress is reduced.
- **Relaxation and breathing exercises**: Relaxation breathing, yoga, and meditation may help to reduce stress and alleviate symptoms.

Vitiligo

Vitiligo is a painless autoimmune skin disorder that causes the skin to lose its color. It typically begins with a few small white patches that may gradually spread over the body over a period of several months (Cleveland Clinic, 2020). Vitiligo can affect the skin on any part of the body as well as the hair and the inside of the mouth (Mayo Clinic, 2020d).

Vitiligo occurs in about one percent of the world's population. The disease affects all races equally, but it is more visible in people whose skin is darker. Vitiligo affects men and women equally (Cleveland Clinic, 2020). Vitiligo is not life-threatening nor is it contagious. However, the obvious loss of pigment can be stressful and reduce self-esteem. It may even lead to patients being teased or bullied (Mayo Clinic, 2020d).

Vitiligo can develop at any age. It appears most often in people 10 to 30 years of age. The disease seldom appears in the very young or the very old (Cleveland Clinic, 2020).

Nursing consideration: Treatment may restore color to the affected skin in persons with vitiligo. However, it does not prevent continued loss of skin color or a recurrence of the disease (Mayo Clinic, 2020d).

Pathophysiology

Vitiligo occurs when the body's melanocytes are destroyed by the body's immune system. Smooth white areas on the skin are called macules if less than 5 mm, or patches if they are larger than 5mm (Cleveland Clinic, 2020). There are several types of vitiligo that are classified by the extent and location of the pigment loss, as follows (Cleveland Clinic, 2020; Mayo Clinic, 2020d):

- **Universal vitiligo**: This type of vitiligo is characterized by a loss of color over nearly all (more than 80%) skin surfaces.
- **Generalized vitiligo**: This is the most common form of vitiligo. Generalized vitiligo is characterized by discolored patches (loss of pigmented skin) that generally progress symmetrically on corresponding body parts.
- **Segmental vitiligo**: Only one side or part of the body is affected. This type of vitiligo usually occurs at a younger age, progresses for a year or two, then stops.
- **Localized vitiligo**: Localized (focal) vitiligo affects one or only a few areas of the body.
- **Acrofacial vitiligo**: This form of vitiligo is characterized by a loss of pigment on the face and hands, and around body openings such as the eyes and nose.
- **Mucosal vitiligo**: Mucosal vitiligo affects mucous membranes of the mouth and/or the genitals.
- **Trichome vitiligo**: This type of vitiligo is characterized by a white or colorless center, an area of lighter pigmentation, and then an area of normally colored skin.

Predicting the progress of the disease is difficult. The patches may stop forming without treatment. In most people, pigment loss spreads, eventually involving most of the skin (Mayo Clinic, 2020d). Figure 9 shows how a loss of pigmentation looks.

Figure 9. Vitiligo

Note. Heilman, 2015.

Nursing consideration: Patients have varying amounts of skin affected by vitiligo. Some people have few depigmented areas, while others experience widespread loss of skin color (Cleveland Clinic, 2020).

Etiology. The exact cause of vitiligo is unknown. However, experts propose several theories about why it develops, including the following (Cleveland Clinic, 2020):

- **Autoimmunity**: Autoimmunity is the destruction of melanocytes by the body's immune system.
- **Genetics**: About 30% of vitiligo cases run in families.
- **Neurogenics**: A substance toxic to melanocytes may be released at nerve endings in the skin.
- **Self-sestruction**: A defect in the melanocytes causes them to self-destruct.

Complications. Because of the lack of melanocytes, affected skin is more sensitive to the sun's rays than normal skin and will burn easily instead of tan. People with vitiligo may have retinal abnormalities that cause inflammation of the retina or iris, but vision is typically not affected. Patients with vitiligo may be more likely to develop other autoimmune diseases. Finally, changes in appearance caused by vitiligo may cause embarrassment and anxiety. Patients may face bullying or rude questions. Such factors may lead to anxiety, excessive stress, and depression (Cleveland Clinic, 2020).

Assessment and Diagnosis

The disease is often recognized from its physical appearance. A history and physical is performed, and a skin biopsy may be taken to confirm diagnosis or to differentiate vitiligo from other skin conditions (Mayo Clinic, 2020d).

Healthcare providers will also assess presenting signs and symptoms to make a diagnosis. Signs include the following (Mayo Clinic, 2020d):

- Patchy loss of skin color that usually first appears on the hands, face, and areas around body openings and genitalia.
- Premature whitening or graying of hair on the scalp, eyelashes, eyebrows, or beard.
- Loss of color in the mucous membranes of the mouth.

Treatment

There is no cure for vitiligo. The goal of treatment is to create a uniform skin tone by either repigmentation or by eliminating remaining color (depigmentation). The goal can be achieved by the following methods:

- **Camouflage therapy**: This therapy involves using sunscreen with an SPF of 30 or higher. Use of sunscreens minimizes tanning, thus limiting the contrast between normal and affected skin. Makeup can help to camouflage depigmented areas. Hair dyes can be used if the disease affects the hair. Depigmentation therapy with the medication monobenzone can be used to treat extensive disease. The medication is applied to pigmented patches of skin to turn them white to match affected areas of skin (Cleveland Clinic, 2020).
- **Medications**: Corticosteroids can be used in oral or topical forms to promote repigmentation. It may take up to 3 months to show results. Topical vitamin D analogs may also be helpful. Topical immunomodulators may be useful for treating small areas of pigmentation. However, there may be a possible link between these kinds of drugs and lymphoma and skin cancer (Mayo Clinic, 2020d).
- **Light therapy**: Phototherapy with narrow band ultraviolet B may stop or slow progression of the disease. Effectiveness might be enhanced when used with corticosteroids or calcineurin inhibitors. Light therapy is administered two to three times a week. It may take 1 to 3 months before any change is noticed. However, there is a possible risk of skin cancer with the use of calcineurin inhibitors (Mayo Clinic, 2020d).
- **Depigmentation**: For widespread vitiligo that has not been treated successfully with other options, a depigmenting agent is applied to unaffected areas of skin. The skin is gradually lightened so that it blends with discolored areas. This type of therapy is done once or twice a day for 9 months or longer (Cleveland Clinic, 2020).

If medications and light therapy do not work, surgery may be performed. Possible procedures include the following (Mayo Clinic, 2020d):

- **Skin grafting**: Small sections of healthy, pigmented skin are grafted to affected areas. Risks include infection, scarring, a cobblestone appearance, spotty color, and failure of the area to recover.
- **Blister grafting**: Blisters are creating on pigmented skin and then the tops of the blisters are transplanted to affected areas. Risks include scarring, a cobblestone appearance, and failure of the area to recover.
- **Cellular suspension transplant**: Tissue is taken from pigmented skin, cells from the skin are placed into solution, and then are transplanted onto affected areas. Results start to show within 4 weeks.

Self-Assessment Question 10

A nurse is providing education to a patient newly diagnosed with vitiligo. The nurse should tell the patient that:

a. Vitiligo often causes mild to moderate pain.
b. Vitiligo appears most often in people over 65 years of age.
c. The most common form of vitiligo is universal vitiligo.
d. Corticosteroids are used to promote repigmentation.

Nursing Interventions

Nurses need to teach patients and families about lifestyle modifications and home remedies. These include the following (Mayo Clinic, 2020d):

- Skin must be protected from the sun and artificial sources of UV light. A broad-spectrum, water-resistant sunscreen with an SPR of at least 30 is recommended.
- Makeup and self-tanning products can help to reduce differences in skin color. If a self-tanner is used, one should be chosen that contains the Food and Drug Administration (FDA) approved ingredient dihydroxyacetone.
- Patients should not get tattoos. Any skin damage may cause new patches of vitiligo to appear.
- Patients should seek emotional support in the form of family and friend support, vitiligo support groups, and/or professional counseling.

Conclusion

Autoimmune diseases can cause a wide range of effects from mild to serious and, in some cases, life-threatening. Nurses and other members of the healthcare team must work together to provide a coordinated approach to patient care and help patients attain the best possible outcomes. To do this, the healthcare team must keep abreast of the effects of autoimmune diseases, how to recognize them, and treatment advances.

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NURSING ASSESSMENT, MANAGEMENT AND TREATMENT OF AUTOIMMUNE DISEASES

Self-Assessment Answers and Rationales

1. The correct answer is B.
Rationale: An estimated four percent of the world's population is affected by one of more than 80 different autoimmune diseases. In the United States, autoimmune diseases are the third most common cause of chronic illness.

2. The correct answer is D.
Rationale: There are various grains and starches allowed on a gluten-free diet. These include buckwheat.

3. The correct answer is B.
Rationale: Ileocolitis is the most common type of Crohn's disease. It affects the terminal ileum and the colon.

4. The correct answer is A.
Rationale: The A1C is a blood test that reports average blood glucose levels for the past 2 to 3 months. However, certain conditions such as pregnancy or having a hemoglobin variant may interfere with the accuracy of the A1C test.

5. The correct answer is C.
Rationale: Hydroxychloroquine is antimalarial drug that has been prescribed to help keep lupus-related skin and joint disease under control. It has also been found to be effective in the treatment of fatigue and mouth sores.

6. The correct answer is A**.**
Rationale: Mitoxantrone is a chemotherapeutic drug that is used for patients experiencing worsening forms of relapsing MS and secondary progressive MS. It is given intravenously every 3 months. The potential for toxicity is high, so patients may receive a limited number of doses throughout the lifespan. Mitoxantrone is associated with cardiotoxicity.

7. The correct answer is B.
Rationale: Over-the-counter and prescription formats such as shampoo, cream, and oil, unfortunately, can cause skin irritation, stain clothing and bedding, and have a strong odor. Coal tar is contraindicated for pregnant women and for those who are breastfeeding.

8. The correct answer is C.
Rationale: Women are diagnosed with RA more frequently than men. Tobacco use is associated with a significant increase in risk for the development of RA.

9. The correct answer is D.
Rationale: Limited scleroderma affects about 50% of persons who have scleroderma. It progresses more slowly and is a more benign illness than diffuse scleroderma. Internal issues may evolve, but they are typically less frequent and less severe compared to diffuse scleroderma.

10. The correct answer is D.
Rationale: Corticosteroids can be used in oral or topical forms to promote repigmentation. It may take up to 3 months to show results.

Course Code: ANCCIA06AD

Recognizing the Warning Signs of Pediatric Headaches

3 Contact Hours

Release Date: October 19, 2021 **Expiration Date:** October 19, 2024

Faculty

Margaret Hughes, MSN, RN, CPNP-PC, PMHNP-BC, is a dual-certified pediatric and psychiatric-mental health nurse practitioner who graduated from both the Yale School of Nursing in 2016 and Northeastern University in 2021. She currently works in student health at a large university in Boston and sees psychiatric patients at an outpatient clinic. Previously, she worked at community-based and school-based health centers providing primary care to high-risk, medically underserved populations. She also has experience as a registered nurse and has worked at a private pediatric clinic in Connecticut and at an overnight summer camp in New York.

Margaret Hughes has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Course overview

Nurses who work in both acute care and primary care settings will benefit from this course. It covers acute care, emergency care/red flags for infants, children, and adolescents with a headache, and prevention strategies and information about chronic, recurring headaches. A headache in a child may be benign or may signal a medical emergency. How can you tell the difference? What are signs and symptoms specific to infants, children, and adolescents? What in the history or physical exam is crucial to notice quickly and efficiently to provide the best care for a child?

This course will explore recurrent headaches in children and adolescents, consider headache prevention strategies, describe the acute headache, and identify those with serious or life-threatening causes ("red flags"). The components of the pediatric history and neurological exam will be discussed. Various examples of primary headaches and secondary headaches will be described. After taking this course, the nurse will be able to identify red flags, describe signs and symptoms specific to children, and distinguish between different types of pediatric headaches. Nurses who are experienced in pediatrics or are completely new to the pediatric population will equally benefit from this course.

Learning objectives

After completing this course, the learner will be able to:

- Describe the characteristics, signs and symptoms, assessment, and management of different types of headaches in children.
- Distinguish between primary and secondary headaches, as well as acute and chronic headaches.
- Identify red flags in clinical presentation and history taking of a child with a headache.
- Describe differences in how young children and adults present with headaches.
- Explain the importance of good history taking with both parent and child.
- Describe various etiologies for headaches, including those caused by illness, acute brain injuries, or head trauma.
- Identify ways to educate parents and children regarding headaches to promote headache prevention, decrease headache frequency, reduce the risk of falling and head trauma, and allow children and adolescents to help manage their own headache care through the incorporation of patient education into the nurse's practice.

How to receive credit

- Read the entire course online or in print which requires a 3-hour commitment of time.
- Complete the self-assessment quiz questions which are at the end of the course or integrated throughout the course. These questions are NOT GRADED. The correct answer is shown after you answer the question. If the incorrect answer is selected, the rationale for the correct answer is provided. These questions help to affirm what you have learned from the course.
- Depending on your state requirements you will be asked to complete either:
  - An affirmation that you have completed the educational activity.
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Disclosures

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INTRODUCTION

A headache is one of the most common medical complaints in the pediatric population. Up to 90% of children will experience a headache by age 18 (Bonthius & Hershey, 2021). Although fewer than 3% of headaches are caused by brain tumors or other serious medical conditions, it is important to take a thorough history and perform a neurological exam for children who complain of headaches (Cleveland Clinic, 2017b). An acute or changing headache may indicate an emergency or serious health concern. It is important that the nurse caring for an infant, child, or adolescent recognizes the red flags of headaches that indicate a serious medical condition requiring urgent intervention. An understanding of the components of the neurological exam, as well as the differences in findings depending on the child's age, is essential. Chronic headaches such as migraines and tension headaches may cause a lower quality of life and negatively affect academic and social development. The impact of headaches on a child's life is comparable to that of cancer, heart disease, and rheumatic disease (Kacperski, Kabbouchr, O'Brien, & Weberding, 2016).

PEDIATRIC HEADACHES: INCIDENCE AND ETIOLOGY

Headaches affect approximately 60% of children and adolescents worldwide (Bonthius & Hershey, 2021). The average age of onset of headaches is 7 years old for boys and 10 years for girls (Johns Hopkins Medicine, 2019). By age 17, approximately 5% of all children and adolescents have had migraines, and 15% have had tension-type headaches (Cleveland Clinic, 2017b). The prevalence of headaches increases with age from 4.5% between ages 4 and 6 years to 27% among adolescents aged 16 to 18 years (Bonthius & Hershey, 2021). Before age 12, the prevalence of headaches is similar in boys and girls. After age 12, there is a higher incidence in pubertal girls because of hormonal fluctuations related to the menstrual cycle (Bonthius & Hershey, 2021).

There are several factors that may explain the pathophysiology of headaches. It used to be thought that headaches were a result of muscle contractions in the head causing vasoconstriction and ischemia; however, this is no longer an important cause of headaches (O'Brien, 2021). Now, headaches are believed to be related to an individual's susceptibility to pain, which is influenced by both genetics and gender and may be triggered by stress or emotion (O'Brien, 2021).

Migraines are thought to be caused by various environmental and genetic factors. The mechanism of migraines appears to be a neuronal dysfunction that leads to increased sensitivity to environmental stimuli (Gelfand, 2021). Approximately 90% of children with migraines have one or more parents with a history of migraines (Migraine Research Foundation, 2021). However, despite the strong evidence that migraines can be hereditary, no specific genes have been identified (Gelfand, 2021).

HEADACHE ASSESSMENT: KEY COMPONENTS OF A PEDIATRIC HEADACHE HISTORY

A detailed headache history from the patient, including family migraine history, must be obtained. Ideally, the history should be elicited from the child's reporting and should include age of onset, frequency of headache, temporal pattern, headache location, and duration (Kelly, Strelzik, Landon, & DiSabella, 2018).

The following information should be gathered when taking a history (Cleveland Clinic, 2017b):

- How and when the headaches started.
- Headache characteristics:
  - Location of pain.
  - How often the headache occurs and how long it lasts.

- Pain description (dull, throbbing) and pain score from 0 to 10.
- If headaches appear suddenly without warning or with other symptoms.
- What time of day the headache occurs.
- Presence of aura before the headache.

- What other symptoms are present (nausea, decreased appetite, sensitivity to light or noise, weakness, vision change, loss of consciousness) and what symptoms occur between headaches.
- Alleviating and aggravating factors (certain foods, lack of sleep, activities, medications).
- If physical activity aggravates the headache.
- Family history of headaches.
- School performance: Consider a child's grades and school absenteeism.
- Current or past history of substance use.

When assessing how a headache affects a child's daily life, a provider can administer the Pediatric Migraine Disability score, or PedMIDAS (Kelly et al., 2018). The PedMIDAS has been tested and validated for ages 4 to 18 years old (Kelly et al., 2018). The PedMIDAS tool uses six questions, three evaluating participation in events outside of school and three addressing school attendance and functioning and asks about the child's previous 3 months (Kelly et al., 2018).

NEUROLOGICAL EXAM

Following are key components of the pediatric neurological assessment (Kotagal, 2019):

- Fontanels (less than 18 months old): closure of the anterior fontanel by 18 months of age; posterior fontanel closes by 6 weeks to 2 months of age.
- Level of alertness or consciousness. (See below "Neurological exam: Pediatric Glasgow Coma Scale.")
- Motor function.
- Sensory function.
- Cranial nerves I-XII.
- Deep tendon reflexes.
- Superficial reflexes.
- Coordination.
- Balance and gait.

Neurological exam: Pediatric Glasgow Coma Scale

The Glasgow Coma Scale is used to determine the level of consciousness of the child. The adapted GCS assesses three major areas: eye opening, verbal ability, and motor ability. It can help determine the severity of a head injury (Brazelton & Gosain, 2020). The severity of head injury is based on the following scores (Brazelton & Gosain, 2020):

EYE OPENING	
Spontaneous eye opening.	4
Opens eyes to loud noise (birth to 1 year old); to verbal command (over 1 year old).	3
Opens eyes to pain.	2
No response.	1
MOTOR RESPONSE	
Spontaneous responses (birth to 1 year old); obeys (over 1 year old).	6
Localizes pain.	5
Withdrawal to pain.	4
Involuntary flexion.	3
Involuntary extension.	2
No response.	1

VERBAL RESPONSE	
Cries as a response, vocalizes (birth to 2 years); purposeful words (2 to 5 years); oriented and responds (older than 5 years).	5
Cries (birth to 2 years); incoherent words (2 to 5 years); disoriented and converses (older than 5 years).	4
Inappropriate crying (birth to 2 years); cries or screams (2 to 5 years); inappropriate words (older than 5 years).	3
Grunts (birth to 2 years); grunts (2 to 5 years); incomprehensible words (older than 5 years).	2
No response.	1
13 to 15 = Mild **9 to 12 = Moderate** **8 or lower = Severe**	

Self-Assessment Quiz Question #1

An 8-year-old girl presents to you in the emergency room after falling head-first on the playground from the swings onto a patch of grass from a height of 3 feet. What score on the Pediatric Glasgow Coma Scale would you give her if she has spontaneous eye opening, obeys motor response commands, is oriented to time and place, and responds verbally?

a. Score of 13: a mild head injury.
b. Score of 15: a possible mild head injury.
c. Score of 7: a severe head injury.
d. Score of 10: a moderate head injury

Neurological exam: Cranial Nerves

CNI: Olfactory

- **Infants**: Pass strong smelling substance (cloves, peppermint) under the nose. Observe for sniffing, grimace, startle response.
- **Children and adolescents**: Pass strong smelling substance (cloves, peppermint) under the nose

CNII: Optic

- **Newborn and infants**: Light source, ophthalmoscope, on medium or large aperture. Pupils constrict in response to light; the infant can fix on object and follow it.
- **Children and adolescents**: Allen vision cards, Snellen chart for visual acuity testing; test peripheral vision fields; assess pupillary light response; perform a fundoscopy exam to assess the optic disc.

CNIII (Oculomotor), IV (Trochlear), and VI (Abducens)

- **Newborn and infants**: Shine penlight toward pupil and elicit pupillary response to test optic nerve. Evaluate shape, size, symmetry, and spontaneous movements of pupil. Use doll's eye test. Rotate the head and body from side to side and observe the eyes. Eyes should deviate left when turning head right. If eyes remain fixed or do not track in the opposite direction, there is a possible brainstem dysfunction.
- **Children and adolescents**: Use light source, ophthalmoscope, to test direct and consensual pupillary response to light. Have the child follow a light source or

index finger through the six cardinal fields of gaze to test eye movement.

CNV: Trigeminal
- **Newborn and infants**: Touch the infant's cheek area; infant turns cheek toward the touch stimulus. Test jaw muscles by placing gloved finger in infant's mouth. Infant should bite down and begin sucking.
- **Children and adolescents**: Touch the child's facial area with a cotton swab and observe the child move away from the stimulus; observe the child chewing and swallowing to test jaw strength.

CNVII: Facial
- **Newborn and infants**: Observe when crying and observe infant's face for symmetry of facial movements; asymmetrical nasolabial folds and asymmetrical facial expression is abnormal.
- **Children and adolescents**: Ask the child to frown, smile, and puff cheeks and observe for symmetrical facial expressions.

CNVIII: Acoustic
- **Newborn and infants**: Ring a bell sharply within a few inches of the infant's ears with the infant lying supine and observe for a response to the sound stimulus. A response could be a mild startle or blink reflex.
- **Children and adolescents**: Perform audiometric testing to evaluate range of hearing.

CNIX and CNX: Glossopharyngeal and Vagus
- **Newborn and infants**: Use a tongue blade to apply pressure on the midtongue area to overcome tongue thrust. Observe tongue movement and strength; elicit gag reflex. Evaluate the pitch of the cry and assess for hoarseness or stridor. A normal cry is loud and angry. A shrill, penetrating cry could indicate intracranial hemorrhage. A whiny, high-pitched cry indicates central nervous system dysfunction.
- **Children and adolescents**: Observe tongue strength and movement and elicit gag reflex with tongue blade. Normally, a child is able to swallow without difficulty, and voice quality and sound is normal and intact.

CNXI: Accessory
- **Newborn and infants**: Turn the infant's head to one side with the infant lying supine. The infant should work to bring the head to midline.
- **Children and adolescents**: Have the child shrug their shoulders to assess trapezius muscle strength, and a child can turn their head from side to side against resistance.

CNXII: Hypoglossal
- **Newborn and infants**: Observe infant when feeding; sucking, swallowing should be coordinated.
- **Children and adolescents**: Have the child stick their tongue out and push their tongue against a tongue blade.

(CN; Kotagal, 2019)

Neurological exam: Pediatric evaluation of cerebellar function

Cerebellar function evaluates balance, muscle tone, and coordination (Stanford Medicine, 2019). Abnormalities in coordination and balance may prompt evaluation for cerebellar disease (Stanford Medicine,2019). Failure to perform any of these tests normally requires further evaluation (Stanford Medicine, 2019):
- **Romberg test (preschool age and older)**: Assesses balance and equilibrium. Observe the child's balance for several seconds while they stand with their eyes closed. Cerebellum lesions can cause the child to stagger or fall.
- **Finger-to-thumb test (school age and older)**: Assesses cerebellar function, coordination, and cognitive processing disorders. Child touches each finger to the thumb in rapid succession.
- **Hopping in place (4 years and older)**: Tests for balance, cerebellar function, spatial sense, and intact motor function. Child hops on one foot and then hops on the other foot.
- **Heel-to-toe walking or tandem walking (6 years and older)**: Assesses balance and coordination. Child walks heel to toe in a straight line. Requires a high level of neuromuscular coordination and is usually not possible until age 6 years.
- **Rapid alternating movements test (8 years and older)**: Assesses for cerebellar function, cognitive processing disorders, and coordination. Failure may indicate cognitive or behavioral dysfunction. The child places their hands palm down on the thighs and then flips both hands palm up and back palm down quickly in rapid rhythmic movement.
- **Finger-to-nose test (8 years and older)**: Assesses dysfunction in spatial perception and coordination. Failure may indicate dysfunction in spatial perception and coordination. The child touches their nose and then touches the finger of the examiner about 18 inches in front of them quickly, from their nose to the examiner's finger, back to their nose, and so on.
- **Heel-to-shin test (school age and older)**: Assesses coordination and balance. Failure may indicate a cerebellar lesion, an alteration in proprioception, or decreased motor strength. The child slides one heel from the opposite knee down the shin to the foot and repeats on the opposite side.

RED FLAGS WITH HEADACHES

Although most headaches in children and adolescents are not the result of a serious illness, it is important to know the red flags of when to worry about a child's headache.

Red flag symptoms that warrant an immediate referral

The following red flags should prompt further evaluation (Garza & Schwedt 2020b; Saladino, 2019):
- Headaches that follow injuries or trauma.
- Headaches with seizures, fainting episodes, neurological symptoms, fevers and a stiff neck, personality changes.
- A thunderclap headache described as the "worst headache ever."
- Worsening headaches and increased frequency of headaches.
- Headaches with early morning vomiting (without nausea).
- Headaches that wake the child from sleep.
- Headaches that occur early in the morning.
- Headaches that worsen with lying down or with Valsalva.
- Neurologic symptoms or signs: altered mental status, papilledema, abnormal eye movements, other abnormalities, or asymmetries.
- Secondary risk factors: immunosuppression, hypercoagulable state, neurocutaneous disorder, cancer, genetic disorder, rheumatologic disorder.
- Systemic symptoms: fever, weight loss, rash, joint pains.
- Increased headache with straining, coughing, or sneezing.

Red flags from the child's physical exam

A more serious problem should be considered when the child's physical exam reveals any of the following (O'Brien, 2021):
- More than six coffee-colored spots on the skin indicating a sign and symptom of neurofibromatosis 1 (NF1).
- A noise or bruit in the head heard auscultated by a stethoscope.

- Growth abnormalities: increased head circumference, short stature or deceleration of linear growth, abnormal pubertal progression, obesity.
- Inflammation of the optic nerve, the nerve in the back of the eye (papilledema). or retinal hemorrhages.
- Abnormalities of blood pressure, pulse, breathing, or temperature.
- Uncooperative during physical examination.
- Lethargy: being indifferent, apathetic, or sluggish, or sleeping too much.
- Vision changes: blurry vision, double vision, or blind spots.
- Personality changes, inappropriate behavior.
- Mental confusion.
- Speech difficulties.
- Nuchal rigidity.
- Sudden loss of balance or falling.
- Weakness.
- Signs of trauma.

Red flags: Intracranial cause

If there is a suspected intracranial etiology, immediate referral to an emergency department for further neurological evaluation is required. Critical indicators of possible intracranial cause include the following (Bonthius & Hershey, 2021; Tasker, 2020):

- Depressed level of consciousness.
- Behavior or personality change.
- Gait abnormalities.
- Evidence of cranial trauma, including blood in or behind ear.
- Split sutures.
- Papilledema or retinal hemorrhages.
- Hypertension with bradycardia or tachycardia.
- Focal neurologic signs.
- Meningismus: symptoms suggestive of meningitis, stiff neck.
- Cranial bruits.
- Severe occipital headache.
- Short or paroxysmal headache, thunderclap headache.
- Exacerbated by straining, sneezing, defecating, or coughing.
- Awakens child from sleep.
- Exacerbated or improved markedly by position changes.
- Associated with projectile vomiting or vomiting without nausea.
- Change in quality, severity, frequency, or pattern.
- Recurrent localized headache.

Red flags following a head trauma, fall, or injury

Hospital observation may be required for the following (Shutzman, 2020):

- Caregiver concern that child is not acting normally.
- Lethargy, confusion, seizure.
- More than momentary loss of consciousness.
- Severe or worsening headache.
- Focal neurologic abnormality.
- Scalp abnormalities such as hematoma or skull depression.
- Bulging anterior fontanelle in infants.
- Vomiting. A child who suffered from a high-risk mechanism of injury such as a fall from greater than 3 feet, head struck by a high-impact object, significant motor vehicle collision, concern for child abuse, or unknown mechanism.
- Pre-existing conditions that place the child at risk for intracranial hemorrhage, such as arteriovenous malformation or a bleeding disorder.

Red flag mnemonic: SNOOP

S-N-O-O-P is a guideline for identifying an emergency headache (Smith, 2018):

S = Secondary or systemic symptoms

- If the child has secondary issues that might cause a headache such as a history of HIV/AIDS or a history of cancer.
- If the headache is accompanied by fever, nausea, vomiting, or weight loss.
- This could be a sign of a secondary problem such as a brain tumor or meningitis.

N = Neurologic symptoms

- Nausea and vomiting.
- Vision issues: If visual symptoms such as seeing flashing lights, or a loss of vision come on suddenly or they do not go away after the headache is gone.
- Inability to speak.
- Weakness in one part of the body or another, especially on one side.
- Severe numbness.

O = Onset

- If the onset of the headache is like a thunderclap, which is sudden and often lasts less than 1 second.
- If the child is fine one moment and suddenly feels like they have been hit with a shovel out of nowhere.

O = Older

(This letter of the mnemonic applies to patients over the age of 50 who have a sudden, uncharacteristic headache, not intended for pediatric patients.)

P = Previous history

- If the child has a previous history of headaches and the child or parent knows what the child's typical headache is like, then this is a new, more severe, and sudden headache than the child has ever had before.

Diagnostic tests

Diagnostic tests are unnecessary unless the history and physical exam suggest intracranial etiology such as infection, bleeding, or tumors. If an intracranial etiology is suspected, then a CT, MRI, or lumbar puncture may be required (Saladino, 2019). Obtaining neuroimaging studies on a routine basis is not indicated in children with recurrent headaches and a normal neurologic exam (Gelfand, 2021). The benefit of neuroimaging in headaches with no worrisome features, normal neurological exam, and normal funduscopic exam for underlying pathologies in children is low (less than 0.4%; Saladino,2019).

Neuroimaging should be considered for children with recurrent headaches who also have had any of the following problems (Gelfand, 2021; Saladino, 2019):

- Seizures.
- Significant alteration of consciousness.
- Signs of increased intracranial pressure, including headaches worsening with lying down and with vomiting.
- Focal findings.
- Abnormal neurologic examination.
- Recent onset of a severe headache.
- Thunderclap headache, especially with neck pain or stiffness.
- A change in the type of headache.
- Rapidly increasing headache frequency.
- History of lack of coordination.
- History of headache causing awakening from sleep, although this can also occur in migraine headaches.
- Associated features that suggest neurologic dysfunction.

Classification of headaches

The International Classification of Headache Disorders (ICHD)-3 is used for the classification of headaches. Headaches in children can be divided into primary headaches or secondary headaches.

PRIMARY HEADACHES

Primary headaches are self-limited, are not caused by another medical condition, and are diagnosed based on their symptoms and patterns (Saladino, 2019). Primary headache disorders comprise 90% of all headaches in children and represent one of the most common diseases in childhood.

There are three types of primary headaches (Saladino, 2019):

1. Tension-type headaches.
2. Migraines.
3. Cluster headaches.

Tension-type headaches and migraine are the most frequent types of headaches in children and adolescents (Saladino, 2019).

Tension-type headaches

Tension-type headaches (TTHs), also known as chronic nonprogressive headaches, are daily or frequent headaches, or headaches that come and go over an extended period without causing neurological symptoms (Cleveland Clinic, 2021). TTHs typically occur more often during periods of increased stress (O'Brien, 2021). The underlying pathophysiology of TTHs is thought to be because of a pain susceptibility from genetics and sex that involves both central and peripheral nervous systems (O'Brien, 2021).

Prevalence and epidemiology

The prevalence of TTHs is approximately 30% in the pediatric population (O'Brien, 2021). TTHs can develop in children under age 6; however, the prevalence increases with age and affects more girls than boys (O'Brien, 2021). TTH is the most common type of headache among adolescents and is two to three times more common than migraines (O'Brien, 2021).

Triggers

Common triggers of TTHs in children and adolescents include the following (Cleveland Clinic, 2021):

- Sleep problems such as insomnia.
- Emotional stress related to family, school, or friends.
- Eye strain.
- Pain in other parts of head or neck caused by temporomandibular disorders, for example.

Signs and symptoms

TTH is described as a sense of continuous bifrontal head pressure, is less painful than a migraine, and may include lightheadedness, fatigue, photophobia (sensitivity to light), or phonophobia (sensitivity to sound; O'Brien, 2021).

The following are criteria and characteristics for TTHs (O'Brien, 2021):

- The ICHD-3 criteria for TTHs are defined as headaches with at least two of the following characteristics:
  - Bilateral location.
  - Pressing or tightening quality, often described as "a band around the head."
  - Not aggravated by routine physical activity.
  - Mild to moderate intensity.
- The criteria must also include both of the following:
  - No nausea or vomiting.
  - May have either photophobia or phonophobia, but not both.
- There are no auras with TTHs.
- Duration of headache is 30 minutes to 7 days.
- TTHs may be classified as:
  - **Infrequent episodic**: fewer than 1 day per month, occurring fewer than 12 days per year.
  - **Frequent episodic**: 1 to 4 days per month, occurring more than 12 and fewer than 180 days per year.
  - **Chronic**: 15 or more days per month or more than 180 days per year.

Migraine headaches

Migraine headaches are also a common primary headache in children and adolescents (Gelfand, 2021). They are typically characterized as a throbbing headache that may be accompanied by sensitivity to light or noise, nausea, vomiting, or movement sensitivity (Gelfand,2021). Migraines can be disabling and can cause poor quality of life. Migraine is the cause of 130,000 absent school days every 2 weeks among children and adolescents (Tricarico, 2017).

Prevalence

Migraine is among the most common chronic conditions, with an estimated prevalence of 10% to 28% among adolescents and children (Cleveland Clinic, 2017b). The prevalence of migraine increases with age from 3% in preschool years, to 4% to 11% in elementary school years, and to 8% to 15% during high school years (Cleveland Clinic, 2017b). Before puberty, migraines are seen in more boys than girls (Cleveland Clinic, 2017b). After puberty, migraines affect girls more often than boys because of hormonal changes associated with the menstrual cycle (Cleveland Clinic, 2017a). Children from low socioeconomic status are more likely to have chronic migraines than children from privileged backgrounds (American Migraine Foundation, 2019).

Pathophysiology

Until recently, migraines were theorized to be vascular and associated with changes in the size of the arteries within the brain (Gelfand, 2021). However, this popular theory has been discredited and migraines are now thought to be caused by a brain malfunction in which chemicals, most notably serotonin, are released leading to increased sensitivity to stimuli (Cleveland Clinic, 2017b; Gelfand,2021).

Nursing consideration: When taking the history of the child with a headache, nurses should ask if there are relatives with a history of migraines, as there is a genetic component associated with migraines. It is still important to rule out other underlying medical reasons for the headaches by taking a thorough history and performing a thorough neurological exam.

Triggers

Migraines may be caused by various factors including the following (Cleveland Clinic, 2017b):

- Emotional stress, which is the most common migraine trigger.
- Normal hormonal changes associated with menstrual cycles and ovulation.
- Skipping meals, which can lower the body's blood sugar and cause migraines.
- Other diet-related triggers are aged cheeses, pizza, luncheon meats, sausages, hot dogs, chocolate, and foods containing MSG.
- Excessive caffeine consumption or withdrawal.
- Weather changes such as strong winds, barometric pressure changes, storm fronts, or changes in altitude.
- ADHD stimulant medications and oral contraceptives (side effect).
- Personal routine changes such as illness, travel, riding in a car, and lack of sleep.

- Loud noises, bright light, excessive physical activity, too much sunlight, depression, and anxiety.

Signs and symptoms
Migraines without aura are the most frequent type of migraine in children and adolescents and comprise about 60% to 85% of all migraines (Cleveland Clinic, 2017b). Migraines with aura are less frequent in children and represent about 15% to 30% of all migraines in children (Cleveland Clinic, 2017b). In young children, migraines often begin in the late afternoon and change to early morning as the child gets older (Cleveland Clinic, 2017b).

Many younger children do not present with the classic symptoms of adult migraines. Classic adult symptoms are headaches that are usually unilateral and pulsating and may be associated with autonomous symptoms such as photophobia, phonophobia, or nausea (Gelfand, 2021). In children and adolescents, the pain usually affects the front or both sides of the head and lasts 2 to 72 hours, whereas in adults, the pain usually affects one side of the head and may last 4 to 72 hours (American Migraine Foundation, 2021).

The following cranial autonomic symptoms occur in 70% of children and adolescents with migraine:
- A sense of aural fullness.
- Facial sweating and flushing.
- Lacrimation.
- Conjunctival injection.
- Ptosis or miosis.
- Nasal congestion or rhinorrhea.
- Periorbital edema.

As some of the above symptoms are very similar to sinus headaches, this is one of most common misdiagnoses given to individuals with migraines.

What is an aura?
An aura is a focal cerebral dysfunction that typically precedes migraines (Robertson, 2019). Auras usually occur about 10 to 30 minutes before the onset of a migraine and last between 5 and 60 minutes (Gelfand, 2021). Auras may be visual, motor, sensory, language, brainstem-type, and retinal (Gelfand, 2021).

The most common auras in children are visual (Robertson, 2019):
- Blurred or distorted vision.
- Zigzag lines, scintillations, black dots.
- Blind spots.
- Distortion of size.
- Brightly colored, flashing, or moving lights or lines.

A sensory aura may include tingling or numbness in a limb or on one side of the face (Gelfand, 2021). A language aura may range from wording difficulties to frank dysphagia (Gelfand, 2021). A motor aura causes weakness in extremities or one side of the face (Gelfand, 2021).

In females with migraines with auras, the risk of stroke is slightly elevated (Gelfand, 2021). Because estrogen-containing contraceptives also increase the risk of stroke, they are contraindicated in any female with a history of migraine with auras (Gelfand, 2021).

Self-Assessment Quiz Question #2

An "aura" is defined as:

a. A type of headache tracking device.
b. A warning sign that a migraine is about to begin.
c. A sign that a migraine is over.
d. A type of head injury.

Diagnosis and stages of migraines
The following are the stages of migraines:

1. Premonitory phase (Prodrome)
Both migraines with and without aura have a premonitory phase; however, the symptoms are more pronounced in migraines with aura (Robertson, 2019).

The most common symptoms that appear hours or days before onset of a migraine include the following (Gelfand, 2021; Robertson, 2019):
- Fatigue.
- Irritability.
- Elation or sadness.
- Talkativeness.
- Social withdrawal.
- Increased or decreased appetite.
- Food craving or anorexia.
- Sleep disturbances.
- Increased yawning.
- Urinary or bowel changes.

One pediatric study noted that 67% of participants showed at least one of these symptoms (Gelfand, 2021).

2. Migraine headache phase
The ICHD-3 requires the following diagnostic criteria for migraines without aura (Gelfand, 2021):
- At least five headaches lasting 2 to 72 hours with at least two of the following characteristics:
  - Moderate to severe headache.
  - Aggravation by or causing avoidance of routine physical activity.
  - Pulsing or throbbing quality.
  - Unilateral, bifrontal, or bitemporal pain.
- And with at least one of the following:
  - Nausea or vomiting.
  - Phonophobia and photophobia.

The ICHD-3 requires the following diagnostic criteria for migraines with aura (Gelfand, 2021):
- At least two headaches with the following:
  - One or more aura symptoms: visual, sensory, speech or language, motor, brainstem, retinal.
- At least 3 of the following:
  - At least one aura symptom spreads gradually over more than 5 minutes.
  - Two or more symptoms occur in succession.
  - Each aura lasts 5 to 60 minutes.
  - At least one aura symptom is unilateral.
  - At least one aura symptom is positive (tingling or scintillations).
  - The aura is accompanied or followed by a headache within 60 minutes.

3. Migraine postdrome phase
After a migraine, individuals may feel drained and exhausted or elated and energized (Robertson, 2018). They may also experience thirst, somnolence, vision changes, food craving, paresthesia, and ocular pain (Gelfand, 2021).

Complicated migraine syndromes and migraine variants in children and adolescents
Complicated migraines are associated with the following neurological symptoms (Cleveland Clinic, 2017b):
- **Confusional migraine**: A temporary period of confusion often initiated by minor head injury.
- **Basilar migraine**: Pain at the base of the skull with numbness, tingling, visual changes, and balance difficulties.
- **Ophthalmoplegic migraine**: Paralysis or weakness of eye muscles.
- **Hemiplegic migraine**: A stroke-like weakness on one side of the body.

Migraine variants are syndromes in which symptoms appear and disappear after some time. These include the following (Cleveland Clinic, 2017b):
- **Cyclic vomiting**: Uncontrolled vomiting that happens repeatedly every 60 to 90 days.
- **Paroxysmal torticollis**: Sudden contraction of one side of the neck muscles that causes the head to lean to one side.
- **Paroxysmal vertigo**: Dizziness and vertigo that is brief and intense.

- **Abdominal migraine**: Pain near the belly button with vomiting that lasts 1 to 2 hours: No headache is present.

Migraine prognosis

Migraines can resolve as soon as 1 year after they first appear or they may remain for life. Approximately 60% of adolescent-onset migraines continue off and on for many years (Cleveland Clinic, 2017b). About 50% of children and adolescents report migraine improvement within 6 months after treatment (Cleveland Clinic, 2017b).

Evidence-based practice! Headaches that begin in childhood may eventually remit or improve with time. In one study, 100 children and adolescents with headache were seen 8 years after the initial visit. Remission occurred in 44% of children with tension headache and in 28% of children with migraine. In another long-term study of 103 children with chronic headaches, frequent headaches persisted in 25% at 2 years and 12% at 8 years. It was also noted that early onset of headaches was associated with a protracted disease course (Bonthius & Hershey, 2021).

Cluster headaches

Cluster headaches are usually located on one side of the head, can be severely painful, last less than 3 hours, and can occur as a "cluster" over a short period (Bonthius & Hershey, 2021). Headaches range from every other day to 8 headaches a day (Mayo Clinic, 2019). They may be associated with lacrimation, conjunctival injection, nasal congestion or runny nose, facial sweating, eyelid swelling, or miosis/ptosis (Bonthius & Hershey, 2021). These types of headaches are rare in children under age 10 and become more frequent between ages 10 and 20 years (Bonthius & Hershey, 2021).

Self-Assessment Quiz Question #3

Cluster headaches are:

a. Common in children.
b. Not common in children.
c. Longer in duration and less frequent than migraines.
d. Always bilateral.

SECONDARY HEADACHES

Secondary headaches are caused by an underlying condition. The most common cause of secondary headaches in children and adolescents is a respiratory or sinus infection (Bonthius & Hershey, 2021). Other common causes include fever, pharyngitis, temporomandibular joint dysfunction, and dental infections (Saladino, 2019). Some secondary headaches may be caused by life-threatening conditions such as head trauma, intracranial hemorrhage, severe infection such as meningitis or encephalitis, hypertension, or intracranial mass (Saladino,2019).

Concerning history from the child or family includes the following signs (Bonthius & Hershey, 2021):

- Headaches that awaken the child from sleep.
- Thunderclap headaches.
- Persistent nausea or vomiting.
- Altered mental status.
- Recurrent localized headache.
- Occipital headache.
- Change in headache characteristics (quality, frequency, pattern).
- Headache worsened when lying down or by cough, defecation, or physical activity.

Critical indicators of possible intracranial cause include the following (Bonthius & Hershey, 2021):

- An abnormal neurologic exam (ataxia, weakness, diplopia, abnormal eye movements or other focal signs).
- Papilledema or retinal hemorrhages.
- Nuchal rigidity.
- Cranial bruits.
- Signs of trauma.
- Skin lesions suggesting neurofibromatosis.

Self-Assessment Quiz Question #4

Which of the following is true about secondary headaches?

a. They are headaches that result from another medical condition.
b. They are headaches that are not the result of another medical condition.
c. Examples of secondary headaches are migraine headaches and tension headaches.
d. Cluster headaches are secondary headaches.

Menstrual migraines

Menstrual migraines and menstrual-related migraines are one of the most common disabilities in reproductive-aged females (Calhoun, 2021). These are a type of secondary headache that do not have an aura and are related to estrogen levels in the body (Calhoun, 2021). Menstrual migraines usually occur 2 days before through 3 days after onset of menses, usually during (or after) the time when estrogen and progesterone drop to their lowest levels (Calhoun, 2021). Menstrual-related migraines have the same onset as related to menses as menstrual migraines, but headaches can also occur at other times in the menstrual cycle (Calhoun, 2021). Menstrual migraines are usually treated with non-steroidal anti-inflammatory drugs (NSAIDs) beginning 2 or 3 days before the menstrual period starts (Calhoun, 2021). If the response is inadequate, they may be prevented with oral contraceptives (Calhoun, 2021). Careful characterization of headaches is important before starting combined hormonal contraceptives because of the increased risk of stroke in females who have migraines with aura. Use of combined hormonal contraceptives to manage menstrual migraine is controversial, and the risks and benefits should be weighed.

Brain tumors

Brain tumors are the most common tumor in childhood. A brain tumor is a mass (group) of expanding abnormal intracranial cells that may cause headaches because of the traction on blood vessels and dura by the tumor as well as compression on nerve fibers (Lay & Sun- Edelstein, 2020). Headaches occur at presentation in 20% of patients with a brain tumor and will occur during the course of the disease in 48% to 60% of individuals (Lay & Sun- Edelstein, 2020). The most common types of primary tumors in children are gliomas, meningiomas, and pituitary adenomas (Lay & Sun-Edelstein, 2020).

Signs and symptoms

Signs and symptoms of brain tumors in children vary widely and depend on the tumor location, size, and rate of growth (Lay & Sun-Edelstein, 2020). Headaches caused by brain tumors typically follow the classic "brain tumor triad," involving a headache that occurs in the early morning or at night, is severe, and is followed by nausea or vomiting (Lay & Sun- Edelstein, 2020). Headaches as the only symptom are present in only 0% to 1% of children with brain tumors (Lay & Sun-Edelstein, 2020). Other symptoms that may accompany headaches are seizures, fatigue, cognitive dysfunction, or focal weakness (Lay & Sun-Edelstein, 2020).

Red flags

Following are possible signs of headaches caused by brain tumor (Lay & Sun-Edelstein, 2020):

- Acute, new, severe headache or headache that has changed patterns.
- Headache on exertion, onset at night or early morning.

- Progressively worsening headache.
- Headache associated with fever or other systemic symptoms.
- Headache with meningeal signs.
- Headache with new neurologic signs.
- Precipitation of headache with Valsalva maneuver.

Management and treatment
The therapy used to treat brain tumors depends on the type and site of the tumor. Treatment may involve surgery, chemotherapy, radiation, or a combination of any of these (Lay & Sun- Edelstein, 2020).

Hydrocephalus

Hydrocephalus is an accumulation of cerebrospinal fluid (CSF) in the brain leading to increased intracranial pressure (ICP) and ventricular dilation (Haridas & Tomita, 2020c). The prevalence of hydrocephalus in infants is 0.5 to 0.8 per 1,000 births in the US and Europe (Haridas & Tomita, 2020c). Hydrocephalus may be caused by primary cerebral malformation (congenital) or acquired postnatally secondary to a tumor, hemorrhage, or CNS infection such as meningitis (Haridas & Tomita, 2020c).

Signs and symptoms
Infants and children with mild hydrocephalus may not have any symptoms (Haridas & Tomita, 2020a). Signs and symptoms of hydrocephalus are nonspecific and independent of the etiology (Haridas & Tomita, 2020a):

- Headache--caused by a distortion of the meninges and blood vessels. If associated with ICP, headaches occur in the early mornings and may be accompanied by nausea and vomiting.
- Behavioral changes including irritability, aggression, or indifference.
- Developmental delays--in young children, psychomotor delay or gait dysfunction may occur.
- Nausea, vomiting, decreased appetite.
- Lethargy and drowsiness.

Physical exam findings
Physical findings of hydrocephalus are due mostly to the effects of ICP (Haridas & Tomita, 2020a):

- Vital signs--bradycardia, systemic hypertension, and altered respiratory rate.
- Head--macrocephaly, full or distended anterior fontanelle, abnormal percussion note to head (Macewen sign), frontal bossing, prominent scalp veins.
- Neurologic examination--spasticity of extremities, diplopia, upward gaze ("setting sun" sign).
- Fundus—papilledema.
- Spine--acquired Chiari II malformation.
- Growth and pubertal development may be accelerated.

Management and treatment
Most cases of hydrocephalus in children require surgical drainage using extracranial shunts or third ventriculostomy (Haridas & Tomita, 2020b). In children who already have a shunt, headaches should be evaluated for potential shunt malfunction.

Nursing consideration: For a child with hydrocephalus, a nurse can provide anticipatory guidance for families, including the management of psychomotor challenges, daily head circumference measurements, teaching signs and symptoms of ICP, and the referral to support groups.

Hypertension in children and adolescents

The definition of hypertension for children and adolescents is the average systolic blood pressure (SBP) and/or average diastolic blood pressure (DBP) greater than or equal to the 95th percentile for sex, age, and height or is ≥130/80 mmHg (Mattoo, 2020a).

Etiology and incidence
The prevalence of hypertension in childhood is 4% (Mattoo, 2020b). Primary hypertension is a diagnosis of exclusion and is the most common cause of hypertension in children and adolescents (Mattoo, 2020b). In primary hypertension, no identifiable cause is found (Mattoo, 2019). Risk factors for primary hypertension include male sex, African American ethnicity, hereditary, obesity, stress, low birth weight, and salt intake (Mattoo, 2020b). Secondary hypertension is caused by an underlying disease, the most common being renal, endocrine, and renovascular diseases (Mattoo, 2020b).

Signs and symptoms

- **Primary hypertension**: Primary hypertension usually causes no symptoms in children (Mayo Clinic, 2018).
- **Secondary hypertension**: Symptoms are related to the underlying disease (Mattoo, 2019). In a Polish study, 351 of 636 children (55%) with sustained hypertension had a known secondary cause (Mattoo, 2019). The most common causes were renal disease (68%) and endocrine and renovascular diseases (11% and 10 % respectively; Mattoo, 2019).

Severe Hypertension Signs and Symptoms Suggesting a Hypertensive *Emergency* (Mattoo, 2019):

- Headaches, especially if severe.
- Seizures.
- Vomiting.
- Dizziness.
- Visual disturbances.
- Symptoms suggestive of heart failure: chest pain, palpitations, cough, shortness of breath.
- Infants may show irritability, failure to thrive, vomiting, or feeding problems.

Self-Assessment Quiz Question #5

Which of the following is true regarding hypertension in children and adolescents?

a. Primary hypertension is related to male sex, obesity, and salt intake.
b. The prevalence of hypertension is more than 30% in children.
c. Children over the age of 1 year old should have their blood pressure measured routinely.
d. Primary hypertension shows multiple signs and symptoms.

Physical exam findings
Physical findings of secondary hypertension in children and adolescents are related to the underlying disease. The diagnosis of hypertension must be made when blood pressure is elevated on three separate occasions (Mattoo, 2020a). Children older than 3 years old should have their blood pressure measured at annual visits (Mattoo, 2020a).

Management and treatment
For primary hypertension, general counseling and nonpharmacologic therapy should be offered. This includes weight reduction; regular exercise; diet modification, including restricting salt; and avoiding smoking, alcohol, caffeine, and energy drinks (Mattoo, 2020c). If there is an insufficient response to lifestyle modifications, then antihypertensive drug therapy is recommended (Mattoo, 2020c).

For secondary hypertension, therapy for the underlying disease is needed (Mattoo, 2020c). Severe symptomatic hypertension should be treated with IV antihypertensive agents in an acute care setting until controlled (Mattoo, 2020c).

Headaches can be caused by many illnesses, including influenza, upper respiratory infection, sinusitis, and meningitis.

Influenza (the Flu)

Influenza is an illness caused by a respiratory virus Influenza A, B, or C and can spread rapidly through communities, usually during the winter (Munoz, 2020). Influenza typically is a self-limited and uncomplicated disease but can be associated with significant morbidity and mortality (Munoz, 2020). Influenza can spread through coughing, sneezing, and by touching a contaminated hard surface, such as a door handle, and then touching the nose, mouth, or eyes (Munoz, 2020).

Signs and symptoms

All influenza viruses cause a respiratory illness that can last 1 week or longer. Children usually feel much sicker and more miserable than when they have a common cold (Munoz, 2020).

The following are classic symptoms of influenza in children (Munoz, 2020):

- A sudden fever, usually above 100.4˚ F (38˚ C).
- Headache.
- Chills.
- Body aches.
- Fatigue.
- Sore throat.
- Dry, hacking cough.
- Nasal congestion, rhinorrhea.
- Vomiting or diarrhea.

Treatment

Treatment of influenza for children and adolescents includes the following (Munoz, 2021):

- Bed rest.
- Extra fluids.
- Acetaminophen in age-appropriate and weight-appropriate doses if the child is uncomfortable because of a fever.
- Ibuprofen is approved for use in children 6 months of age and older. Ibuprofen should not be given to children who are dehydrated or who are vomiting continuously.
- Never give aspirin to a child who has influenza because of the increased risk of developing Reye's syndrome.

Antiviral medications can be important for children and adolescents who develop influenza despite being immunized and for those who are not immunized (Munoz, 2021). The most common medication is oseltamivir (Tamiflu), which is approved for any individual above 2 weeks of age (Munoz, 2021). It is important to note the medications are more effective if given within 2 days of onset of illness and result in a shorter duration of symptoms by only 1 day (Munoz, 2021).

The Centers for Disease Control (CDC; 2020) advises the following indications for antiviral treatment:

- Any child hospitalized for influenza.
- Children with confirmed or suspected influenza who have severe or complicated illness.
- For any child at high risk for complications regardless of immunization status: This category includes children under age 5 (especially under age 2); Native Americans and Alaska Natives; those with asthma, neurologic conditions, heart disease, and blood, endocrine, kidney, liver, and metabolic disorders; those with extreme obesity; and any immunocompromised individual.
- Any healthy child for whom a decrease in duration of symptoms is warranted.

Self-Assessment Quiz Question #6

Which of the following is NOT true about influenza in children?

a. Headaches are common in children with the flu.
b. All flu viruses cause a respiratory illness that can last 1 week or more.
c. The flu can be spread by touching a contaminated hard surface like a door handle.
d. The flu is harmless and will pass on its own.

Upper respiratory infection (common cold)

An upper respiratory infection (URI), or common cold, is an acute, self-limiting illness of the upper respiratory tract (Pappas, 2020a).

Etiology and incidence

Children under age 6 develop an average of 6 to 8 URIs per year, compared to adults who average 2 to 4 URIs per year (Pappas, 2020a). Children suffer more from URIs than adults do because of their immature immune systems and close physical contact with other children at school or at daycare (Pappas, 2020a). URIs can be spread through direct contact as well as though droplets from sneezing or coughing (Pappas, 2020a).

Children can get URIs at any time of year but are more likely to get them during fall and winter (Pappas, 2020a). More than 100 different viruses can cause URIs, but rhinoviruses are responsible for 50% of cases in children and adults (Pappas, 2020a). Other types of viruses that cause common colds are the respiratory syncytial virus, enterovirus, adenovirus, parainfluenza, and coronavirus (Pappas, 2020a). These viruses can survive on human skin for 2 hours and on surfaces for 1 day (Pappas, 2020a).

Nursing consideration: Nurses should educate parents that viruses can spread through close contact. Handwashing with soap and water for 20 seconds can greatly reduce risk. People should avoid touching eyes, nose, and mouth with unwashed hands. Objects such as toys that have been previously touched by someone with a cold also spread viruses and should be cleaned appropriately.

Signs and symptoms

Symptoms of a URI start 1 to 2 days after the child has been in contact with the virus. Approximately ¾ of children remain symptomatic on day 10 of illness (Pappas, 2020a). The following are common signs and symptoms (Pappas, 2020a):

- **Infants**: fever, fussiness, nasal discharge, difficult feeding, difficult sleeping, sometimes vomiting and diarrhea.
- **Older children**: headaches (sometimes), nasal congestion and discharge, rhinorrhea, scratchy and tickly throat, watery eyes or redness, sneezing, mild hacking cough, sore throat, muscle aches, low-grade fever, chills.

These signs and symptoms require further follow-up (Pappas, 2020a):

- A fever higher than 100.4˚ F (38˚ C).
- Symptoms that are not relieved by over-the-counter medication.
- Symptoms lasting more than 10 days without improvement.
- Presence of earache (indicating a possible ear infection), wheezing (asthma), a worsening or persistent cough (pneumonia, pertussis).

Treatment

There is no role for antibiotics because URIs are caused by viruses (Pappas, 2020b). Treatment emphasizes supportive care, including increased fluid intake, avoidance of secondhand smoke, using saline nose drops, a bulb syringe to remove mucus, a cool mist humidifier, and analgesics such as acetaminophen or ibuprofen (Pappas, 2020b). Over-the- counter (OTC) cold medications should be avoided in children under age 6 and are not advised in ages 6 to 12 years (Pappas, 2020b). Codeine, dextromethorphan, guaifenesin, or other mucolytics (found in OTC cold medications) have not been found to be efficacious and have potential for toxicity (Pappas, 2020b).

Nursing consideration: Nurses should not give OTC cold medication to children under age 6 (Pappas, 2020b).

Prognosis
Both influenza and URIs can be relatively harmless, but influenza has the potential to develop into pneumonia and even death in children. A URI can lead to otitis, sinusitis, throat infections, and pneumonia (Pappas, 2020a).

Sinusitis

Sinusitis is an inflammation of the mucosal lining of one or more of the paranasal sinuses and is a common infection in children (Wald, 2021a). Sinusitis can be caused by a virus or a bacterium (Wald, 2021a). Bacterial sinusitis is a secondary infection caused by the trapping of bacteria in the sinuses during the course of a cold or allergy (Wald, 2021a). Viral sinusitis usually accompanies a URI and is self-limited (Wald, 2021a).

Signs and symptoms
Signs and symptoms in children and adolescents may include the following (Wald, 2021a):

- A severe headache or facial pain behind or around the eyes that gets worse when bending over (these symptoms are rare in young children).
- Cold symptoms (cough, nasal discharge, or both).
- Nasal discharge (watery or yellow).
- Fever.
- Bad breath.

Compared to viral sinusitis, acute bacterial sinusitis typically causes fever for 3 or more days and is associated with symptoms that last more than 10 days without improving (Wald, 2021a). Bacterial sinusitis can also present with "double sickening," in which the individual seems to be recovering but becomes worse on the 6th or 7th day (Wald, 2021a).

In an estimated 5% of cases, a bacterial sinus infection may spread to the eye or the central nervous system (Wald, 2021a). A child will require immediate urgent care if they present with the following (Wald, 2021a):

- Swelling or redness around the eyes.
- Severe headache.
- Severe pain in the back of the neck.
- Persistent vomiting.
- Sensitivity to light.
- Focal neurological deficits.
- Increasing irritability.
- Altered level of consciousness.

Treatment
For children with 10 days of persistent symptoms that are not severe or worsening, an antibiotic may be given or they may be observed for 3 days (Wald, 2021b). For children with worsening or severe symptoms, an antibiotic is prescribed (Wald, 2021b). Once the child starts on medication, symptoms should resolve over the next 2 to 3 days (Wald, 2021b).

Meningitis

Meningitis is an inflammation of the meninges (the membranes that line the skull and enclose the brain and spinal cord) caused by viruses or bacteria (Pentima, 2021). The mortality rate of untreated bacterial meningitis is 100% and survivors are at high risk for neurological impairment (Kaplan, 2020b).

Etiology and incidence
Infants younger than 2 months are at the highest risk for bacterial meningitis from group B Streptococcus (GBS), Escherichia coli, and other gram-negative bacilli (Edwards & Baker, 2020).

Signs and symptoms
Viral meningitis symptoms are similar to those of bacterial meningitis but less severe (Pentima, 2021).

Signs and Symptoms in Infants Younger than 1 Year (Edwards & Baker, 2020; Kaplan, 2020a):

- Abrupt onset fever with nonspecific symptoms: poor feeding, vomiting, diarrhea, rash, respiratory symptoms.
- Neurological signs can be absent or can present as irritability, lethargy, nuchal rigidity, bulging fontanelle, seizures.

Signs and symptoms in older infants and children Headache.

- Fever.
- Neck stiffness.
- Nausea and vomiting.
- Irritability, confusion.
- Photophobia.

(Kaplan, 2020a)

Physical exam findings
Physical exam findings for meningitis vary depending on the age of the child (Edwards & Baker, 2020; Kaplan, 2020a):

- **Newborn**: bulging fontanel, temperature instability, poor tone, tremors or twitches, seizures, respiratory distress.
- **Older infants and children**:
  - Kernig's sign: Flexion of the leg 90 degrees at the hip causes pain on extension of the leg.
  - Brudzinski sign: Involuntary flexion of legs occurs when neck is flexed.
  - Headache is a frequent sign of increased intracranial pressure.

Diagnostic tests and findings
Diagnosis of meningitis is based on the examination and culture of cerebrospinal fluid (CSF) and blood (Kaplan, 2020a). Lumbar puncture is performed for CSF analysis which may reveal increased white blood cell count (predominantly neutrophils), increased protein, or decreased glucose (Kaplan, 2020a).

Management and treatment
Hospitalization is required for bacterial meningitis, with the first 3 to 4 days critical (Kaplan, 2020b). Antibiotic therapy should be initiated once diagnosis is confirmed by clinical findings or while awaiting specific CSF and blood culture results (Kaplan, 2020b). The prognosis depends on level of consciousness at the time of admission, causative agent, prolonged or complicated seizures, low CSF, glucose concentration, delayed sterilization of the CSF, and nutritional status (Kaplan, 2020b). Immunizations given for the prevention of meningitis are the Hib, PCV13, MenB, and MCV4 vaccines (Kaplan, 2020b).

HEADACHE CAUSED BY ACUTE BRAIN INJURIES OR HEAD TRAUMA

Head trauma is any injury to the skull, scalp, meninges, or any part of the brain. Most head trauma in children is minor and not associated with any long-term consequences (Schutzman, 2021). Head trauma can be subdivided into skull fractures, focal brain injuries, and diffuse brain injuries.

Etiology and incidence
Head injuries are common in pediatrics, and headaches are the most common complaint following mild head trauma (Schutzman, 2021). Falls are the most common cause of head injury, followed by car accidents, pedestrian and bicycle accidents, projectiles, assaults, sport-related trauma, and abuse (Schutzman, 2021).

In US children younger than age 14, traumatic brain injuries (TBI) cause 500,000 emergency room visits, 37,000 hospitalizations, and 2,000 deaths annually (Schutzman, 2021). TBIs are the most common cause of death and disability in children and adolescents (Schutzman, 2018). Head trauma is more common in younger male children, especially in those younger than age 5 (Schutzman,2018).

Physical exam findings
Physical exam findings of severe head injury include the following (Schutzman, 2021):

- Scalp hematoma, tenderness, or depression.
- Bulging anterior fontanelle in infants.
- Altered mental status with Glasgow score below 14.
- Focal neurological abnormality
- Signs of basilar skull fracture:
  - Periorbital ecchymosis.
  - Battle's sign (bruising over mastoid process).
  - Hemotympanum (blood in tympanic cavity.)
  - CSF leaking from ears or nose.

Diagnostic tests and findings
The PECARN Pediatric Head Injury Trauma Algorithm rule can help determine if a child is at low risk of significant traumatic brain injury (Schutzman, 2021). Children and adolescents at low risk for a TBI do not need neuroimaging (Schutzman, 2018).

According to the PECARN rule, below are findings associated with very low risk of significant head injury in children 0-2 years and 2-18 years (Schutzman, 2021):

Ages 0 to 2
- Normal mental status.
- Normal behavior per caregiver.
- No loss of consciousness.
- No severe mechanism of injury.
- No nonfrontal scalp hematoma.
- No evidence of skull fracture.

Ages 2 to 18
- Normal mental status.
- No loss of consciousness.
- No severe mechanism of injury.
- No vomiting.
- No severe headache.
- No signs of basilar skull fracture.

Children under the age of 2 years require imaging in the following circumstances (Schutzman, 2021):

- Suspicion of child abuse.
- Focal neurological signs or symptoms.
- Skull fracture.
- Altered mental status.
- Bulging fontanelle.
- Persistent vomiting.
- Seizures.
- Loss of consciousness.

Children 2 years and older require neuroimaging in the following situations (Schutzman, 2021):

- Focal neurologic findings.
- Skull fracture.
- Seizures.
- Persistent altered mental status.
- Prolonged loss of consciousness.

Neuroimaging
Magnetic resonance imaging (MRI) is most useful in the evaluation of subacute or chronic rather than acute injuries. A computed tomography (CT) scan is useful in detection of all clinically important TBIs. CT scans must be used carefully in children with minor head trauma because of a risk of radiation-induced malignancy. Skull radiography is rarely performed because it does not give direct information about intracranial injury. It may be used in suspected child abuse or concern for a foreign body (Schutzman, 2021).

General management and treatment
A child who is at intermediate risk for a clinically important TBI based on physical exam findings or the PECARN rule, and does not need neuroimaging, may safely be discharged home if they show improvement in initial symptoms in the 4 to 6 hours post-injury (Schutzman, 2021). Those who meet the PECARN rule, have normal neuroimaging, and normal level of consciousness (LOC) may be discharged safely home (Schutzman, 2021). Children not meeting criteria for discharge should be admitted to hospital for further observation or consultation with a specialist.

Skull fractures

The type, severity, and symptomatology of a skull fracture depend on the area involved in the skull fracture, the age of the child, and the force of impact (Atabaki, 2019). Skull fractures are seen in 2% to 20% of children presenting to outpatient visits for head trauma (Atabaki, 2019).

Nursing consideration: Nurses should educate parents about preventing falls to protect their children from head injuries. Parents should use child safety equipment for recreation and sports (helmets), use a seat belt or car seat, and evaluate play areas for risk of falls and injury.

Types of skull fractures:
- Linear skull fractures involve the thickness of the skull, sometimes disrupt the underlying vascular structure, and occur in 75% of all skull fractures in children.
- Depressed skull fractures are caused by blows over small areas and may cause cerebral injury.
- Basilar skull fractures occur at the base of the skull and can cause bruising over the mastoid bone (Battle's sign) or around the eyes (raccoon eye sign), as well as CSF leaking from the ear or nose.
- Open fractures increase risk of central nervous system infection as there is an opening of the skull to the outside environment.

(Atabaki, 2019)

Nursing consideration: It is important for the nurse to understand that brain damage may not be present in a child when there is a skull fracture, and a child's brain can be injured without a skull fracture.

Focal brain injuries

A headache in a child may indicate a possible focal brain injury. Focal brain injuries occur in a specific location of the brain. Types of focal brain injuries are brain contusion, brain hemorrhage, subarachnoid hemorrhage, epidural hematoma, and subdural hematoma (Vavilala & Tasker, 2019).

Brain contusions are typically caused by blunt trauma when the skull accelerates and then decelerates (Vavilala & Tasker, 2019). Subarachnoid hemorrhage is a type of hemorrhage caused by a tearing of small vessels in the brain (Vavilala & Tasker, 2019).

Subdural hematoma
A subdural hematoma (SDH) is a blood clot formation on the brain surface beneath the dura mater (Vavilala & Tasker, 2019). SDH is often seen in child abuse and shaken baby syndrome (Vavilala & Tasker). Signs of intracranial hypertension include irritability, lethargy, vomiting, seizure, loss of consciousness, and headache. Outcomes after SDH are predicted by the neurologic status of the child on presentation. Those presenting with severe altered level of consciousness and neurological symptoms will lead to poorer outcomes than those who present neurologically intact (Vavilala & Tasker, 2019).

Epidural hematoma
An epidural hematoma (EDH) is a hemorrhage between the skull and dura of the brain (Vavilala & Tasker, 2019). As the hematoma expands in the skull, it separates the dura from the skull (Ahn & Proctor, 2018). EDHs can be caused by a fall from a height higher than 10 feet or two times a child's height, a motor vehicle accident, or a direct blow to the skull (Ahn & Proctor, 2018).

Signs and symptoms

The classic clinical sign of an epidural hematoma is a delayed onset of symptoms. The individual suffers a direct blow to the skull, has decreased level of consciousness, and then returns to a normal level for several hours (Ahn & Proctor, 2018). Once the blood accumulates in the brain, the child rapidly deteriorates (Ahn & Proctor, 2018).

Physical exam findings

EDH should be suspected in an infant with a scalp hematoma in the temporal or occipital regions, as well as an infant who presents with seizures and loss of tone (Ahn & Proctor, 2018). As the hematoma enlarges and increases the ICP in the brain, children and adolescents may experience the following (Ahn & Proctor, 2018):

- Headache.
- Confusion.
- Vomiting.
- Lethargy.
- Loss of consciousness.

EDH may progress to lethargy, coma, and even death if left untreated (Ahn & Proctor, 2018). Emergency consultation with a pediatric neurosurgeon is required (Ahn & Proctor, 2018).

Nursing consideration: In epidural hematoma, there is a delayed onset of symptoms, and it may progress to coma and even death in children left untreated (Ahn & Proctor,2018). Therefore, it is especially important that nurses consider this in the differentials when caring for a child who complains of a headache and promptly refer the child for further medical care if other symptoms develop.

Diffuse brain injuries

Diffuse brain injuries occur over a widespread area of the brain, not just in one specific location as in focal brain injuries. These are the most common type of TBI resulting in death and are usually caused by impaction, acceleration, and deceleration forces (Vavilala & Tasker, 2019). A child who presents with a headache may have a diffuse brain injury, under which concussion falls.

Concussion

A concussion, or mild traumatic brain injury (mTBI), is a head injury that causes a pathophysiological state that results in characteristic signs and symptoms after experiencing a head injury (Meehan & O'Brien, 2020a). The American Academy of Neurology defines mTBI as loss of consciousness (LOC) lasting less than 30 minutes, post-traumatic amnesia lasting less than 24 hours, and an initial Glasgow Coma Scale (GCS) of 13 to 15 (Evans & Whitlow, 2021). Concussion can be caused by a direct blow to the head, face, neck, or elsewhere on the body, with an impulsive force that is transmitted to the head (Meehan & O'Brien, 2020a). Acute clinical symptoms reflect a functional disturbance rather than a structural injury (Meehan & O'Brien, 2020a).

Etiology and incidence

Concussion and mBTI are common pediatric injuries. The CDC estimates that 3.8 million sport-related brain injuries occur every year (Meehan & O'Brien, 2020a). The incidence of concussions is highest in boys playing rugby, football, hockey, and lacrosse (Meehan & O'Brien, 2020a). In girls, soccer, lacrosse, and field hockey have the highest incidences (Meehan & O'Brien, 2020a). Sports represent 25% to 50% of concussions in the emergency department (Meehan & O'Brien, 2020a).

History-taking for children and adolescents

It is important to obtain a thorough history of the trauma and detailed description of the headache in a child with a suspected concussion. It is also crucial to establish a mechanism of injury, whether there was any loss of consciousness or seizures, whether there are neurological symptoms, the time of onset of symptoms in relation to the injury, and any prior history of head injury or concussions (Meehan & O'Brien, 2020a).

Signs and symptoms

The following are concussion signs and symptoms for children and adolescents (Meehan & O'Brien, 2020a):

- Somatic symptoms: headache, fatigue, dizziness, nausea, self-limited vomiting, unsteadiness with gait, vision changes, sensitivity to noise, tinnitus.
- Emotional symptoms: lability (rapid, often exaggerated changes in mood), irritability. Cognitive symptoms: "feeling like in a fog," difficulty remembering, trouble concentrating.
- Sleep disturbances: insomnia, sleeping more than usual.
- Change in LOC. (However, it is important to note that not all concussions result in LOC)

Nursing consideration: It is important to remember that a concussion may or may not involve a loss of consciousness in the child (Meehan & O'Brien, 2020a). It should not be assumed that the child has not had a concussion if they did not lose consciousness.

Physical exam findings

Following a head injury or suspected concussion, a child should have a complete neurological examination and an examination of the cervical spine and skull (Meehan & O'Brien, 2020a). Because concussions usually cause a functional disturbance of the brain and not a structural injury, children and adolescents with concussion typically have a normal physical exam (Meehan & O'Brien, 2020a).

Red flags

Rarely, a concussion may cause a hematoma in the brain that can squeeze the brain against the skull (CDC, 2019a). If the child shows any of the red flag symptoms described below, they may need to be taken to the emergency department for immediate care and further imaging (CDC, 2019a).

It is important to note that because concussion is a disturbance of brain function, structural neuroimaging (CT, MRI) does not reveal concussive brain injury and should not be routinely performed unless a structural intracranial injury is suspected (Meehan & O'Brien, 2020a). The presence of any of the following red flags should prompt neuroimaging (CDC, 2019a; Meehan & O'Brien, 2020a):

- Loss of consciousness longer than 1 minute.
- Lethargic, somnolent.
- Headache induced by positional change or Valsalva.
- Thunderclap headache: a headache that strikes severely and suddenly and is sometimes described as "the worst headache ever experienced," peaks within 60 seconds, lasts between an hour and 10 days, and can be accompanied by nausea, vomiting, or loss of consciousness.
- Progressively worsening headaches despite rest.
- Seizure.
- Signs of basal or depressed skull fracture.
- Focal neurological symptoms or deficits.
- Confused, agitated, or irritable.
- One pupil larger than the other.
- Drowsiness or inability to wake up.
- Slurred speech, weakness, numbness, decreased coordination.
- Repeated vomiting or nausea.
- Unusual behavior.
- Restlessness.
- Any concussions symptoms lasting longer than 3 to 4 weeks.
- Will not stop crying (Infants and toddlers).
- Cannot be consoled (Infants and toddlers).
- Will not nurse or eat (infants and toddlers).

Self-Assessment Quiz Question #7

A 10-year-old boy comes to a pediatric primary care clinic with his mother. The child hit his head during gym class and says that his headache is the "worst headache of my life," the headache has become "worse and worse," and more frequent. What should be done to care for this child?

a. Send the child back to school because he is probably complaining to get attention.
b. The headache may sound serious, but the child can go to school and come back to the office if he feels any worse in the next few days.
c. The child is too young to understand his own pain and headache history. He is only 10 years old.
d. These are red flags and the child should be immediately referred to a hospital for emergency care.

Diagnostics, forms, and tools for concussions

Acute concussion evaluation (ACE) forms are used by healthcare providers and by patients and families to document symptoms and to be aware of red flags (CDC, 2019b). Other diagnostic tools include the Sport Concussion Assessment Tool (SCAT), which is available for both children ages 5–12 years and adolescent and/or adults 13 years and older (Halstead, Walter & Moffatt, 2018).

Management of concussions

The initial management of concussion focuses on cognitive and physical rest, symptom management, and removal from sports to avoid additional head injuries. Cognitive rest means avoiding tasks (reading, schoolwork) that worsen symptoms (Meehan & O'Brien, 2020b). There is no conclusive research showing that use of electronics such as computers, television, or phones is harmful after a concussion and may instead contribute to a child or adolescent's isolation, anxiety, or depression (Halstead, Walter & Moffatt, 2018). However, activities that worsen symptoms, including headache, should continue to be avoided, and that may or may not include screens.

For headaches, a child may take acetaminophen or NSAIDs for a few days (Meehan & O'Brien, 2020b). However, their prolonged use should be avoided because of the risk of rebound headaches (Meehan & O'Brien, 2020b). Antinausea medication such as Ondansetron (Zofran) can be helpful for the first few days after injury if nausea interferes with eating and drinking (Meehan & O'Brien, 2020b). Sleep disturbances are common after concussion and will typically improve with sleep hygiene (Meehan & O'Brien, 2020b). Children and adolescents also may try melatonin if they are having difficulty falling asleep (Meehan & O'Brien, 2020b). Dizziness tends to resolve with rest; however, if prolonged, the clinician may consider vestibular rehabilitation by a physical therapist (Meehan & O'Brien, 2020b).

Nursing consideration: One of the few interventions that has been shown to improve outcome following a mild traumatic brain injury is education about the expected clinical course following the head injury and education about the injury. Often, this education is not provided to the families of injured children and adolescents. Nurses should educate children and their families about what to expect following a mild traumatic brain injury.

Returning to sports and school

A concussion will usually cause a disruption of the child's ability to learn, concentrate, remember, and process new school material (Meehan & O'Brien, 2020b). Healthcare providers should work with the family and the child's school to help set up support services such as response to intervention protocol (RTI), 504 Plan, or an Individualized Education Plan (IEP; CDC, 2019c).

Individuals should adhere to physical rest for 24 to 48 hours followed by a gradual and progressive return to noncontact, aerobic activity (Meehan & O'Brien, 2020b). Return-to-play guidelines assist athletes to return safely to sports through a protocol of increasing levels of physical exertion (Meehan & O'Brien, 2020b). The steps for returning to sports for children and adolescents are completed over the course of days, weeks, or months, depending on the condition of the child (CDC, 2019c). Athletes should progress to the next step only if they are not having any symptoms (CDC,2019c). If symptoms return at any level, they should stop the activity, and once the symptoms have resolved for at least 24 hours, the athlete may start again at the previous step (CDC,2019c).

Return to play involvers the following 5 steps (CDC, 2019c):

- **Baseline:** Back to school first.
- **Step 1**: Light aerobic activity (5 to 10 minutes walking, light jogging, or on an exercise bike).
- **Step 2**: Moderate activity (moderate jogging, brief running, moderate biking, or weightlifting).
- **Step 3**: Heavy, noncontact activity (sprinting or running, high-intensity biking, regular weightlifting routine).
- **Step 4**: Return to full contact in controlled practice. Step 5: Return to competition.

Evidence-based practice! A study of more than 100 adolescents with sports-related concussion found that those who initiated aerobic exercise within 10 days of injury significantly decreased the time to recovery compared to those who performed gentle stretching. There also was a lower incidence of persistent concussion symptoms in the aerobic exercise group, but this finding was not statistically significant (Meehan & O'Brien, 2020b).

Prognosis

Most children and adolescents who suffer from concussion are symptom-free within 1 month (Meehan & O'Brien, 2020b). Some may take a few months to fully recover from a concussion (Meehan & O'Brien, 2020b). Factors leading to prolonged recovery include a history of prior concussions, female sex, history of migraines, history of learning disabilities, recurrent concussion soon after recovery, and degree of symptoms after a concussion (Meehan & O'Brien, 2020b).

Postconcussion syndrome

Postconcussion syndrome (PCS) is sequela resulting from a TBI, including concussion (Evans, 2021). It is estimated that 30% to 80% of individuals with mild to moderate brain injury will have PCS symptoms (Evans, 2021). PCS symptoms may be vague and subjective, but are generally characterized by headache, dizziness, neuropsychiatric symptoms, and cognitive impairment leading to confusion or irritability (Evans, 2021). The most common symptoms are headache, dizziness, fatigue, irritability, anxiety, insomnia, loss of concentration and memory, and noise sensitivity (Evans, 2021). Post-traumatic headaches occur in 25% to 78% of individuals following a mild TBI (Evans, 2021). Post-traumatic headaches are predominantly migraines and tension type (Schytz, 2021).

Self-Assessment Quiz Question #8

A 15-year-old male football player was diagnosed with a mild concussion. When he is able to return to play?

a. The patient should rest for at least 24-48 hours followed by gradual and progressive return to non-contact, aerobic activity if tolerated.
b. The patient can return to sports whenever he feels he is ready.
c. The patient can immediately begin sports the day after the concussion, including full-contact sports.
d. The patient should not participate in any physical activity for a length of time and then resume competition on a day that he chooses.

CHRONIC HEADACHES: CHRONIC DAILY HEADACHE

Chronic daily headache (CDH) encompasses several diagnoses characterized by frequent primary or secondary headaches (Garza & Schwedt, 2020b). The term "chronic" refers either to the frequency or the duration of the headache.

Following are the types of chronic headaches that last 4 hours or longer (Garza & Schwedt, 2020b):

- Chronic migraines.
- Chronic tension-type headaches.
- Medication overuse headaches.
- New daily persistent headaches: New, abrupt, daily, unremitting headache in individuals typically without prior headache history.
- Hemicrania continua: Unilateral, continuous headache with autonomic and migrainous features.

The term CDH is applied when the patient experiences more than 15 headaches a month for longer than 3 months in the absence of organic pathology (Garza & Schwedt, 2020b).

The physical exam is generally normal in children with chronic migraines or tension headaches (Bonthius & Hershey, 2021).

The treatment of chronic daily headaches depends on the etiology. For chronic migraines or tension-type headaches, prophylactic interventions are needed, and for medication overuse headaches, the offending agent must be discontinued (Garza & Schwedt, 2020b). Hemicrania continua is responsive to indomethacin (Garza & Schwedt, 2020b). New persistent daily headaches are difficult to treat. The current approach is to try to classify the headache as migrainous or tension-type and treat accordingly (Garza & Schwedt, 2020b).

Chronic progressive headaches

Chronic progressive headaches are headaches that get worse and happen more often over time (Cleveland Clinic, 2017a). Some may be caused by head trauma or, rarely, they are the sign of a more serious medical condition (Cleveland Clinic, 2017a).

When chronic progressive headaches worsen over time and occur along with other neurological symptoms, they can be the sign of a certain disease process in the brain (Cleveland Clinic, 2017a):

- Abscess of the brain.
- Head trauma.
- Blood clots.
- Tumor.
- Intracranial hemorrhage: Bleeding within the brain.
- Encephalitis: Inflammation of the brain.
- Meningitis: An infection or inflammation of the membrane that covers the brain and spinal cord.
- Hydrocephalus: Abnormal build-up of fluid in the brain.

Nursing consideration: If a child's chronic headaches have lasted for more than 6 months and the child has frequent attacks (more than 3 attacks per week) with significant interference with school or any activity, the child may benefit from further assessment. Careful history taking and recording symptoms of a child with chronic headaches will allow the nurse to recognize the child's need for treatment.

Medication overuse headache

When analgesic medications are used too often on a regular basis, the child may develop medication overuse headaches (MOH), also known as rebound headaches. The criteria for MOH are the presence of headache on 15 or more days per month and regular use of a medication for headache relief for more than 3 months (Garza & Schwedt, 2020a). The risk of developing MOH is highest with opioids, butalbital-containing medications, and acetaminophen-aspirin-caffeine combinations (Garza & Schwedt, 2020a). The risk for NSAIDS is conflicting and has shown to be low in most studies and high in some (Garza & Schwedt, 2020a). The risk of MOH for triptans is also varied amongst studies, ranging from intermediate to low (Garza & Schwedt, 2020a). The approach for discontinuing overused medications other than opioids or barbiturates is to discontinue the offending agent, use medication from another class two or three times a week for abortive therapy, and start preventive therapy (Garza & Schwedt, 2020a).

Nursing consideration: Nurses should always acknowledge the child's pain as real. Children and adolescents may have been told by their teachers, parents, or friends that they do not really have headache pain and it is not that bad, so there should be an acknowledgment of the pain by the nurse to form a therapeutic triad between the child, family, and the nurse.

MANAGEMENT OF HEADACHES

The treatment of headaches in children and adolescents is determined by the etiology of the headache. If there is a suspected intracranial etiology, the child or adolescent will need evaluation by a physician or neurologist. The child will need to be referred to specialists for further evaluation if headaches are recurrent and unresponsive to treatment.

Medications used in the treatment of headaches

Symptomatic relief medications are used to relieve symptoms associated with headaches. These medications include simple analgesics (ibuprofen or acetaminophen; O'Brien, 2021). Dosing should be appropriate for the age and weight of the child. Acetaminophen (Tylenol) pediatric dosing is 10 to 15 mg per kg every 4 to 6 hours (Medscape, n.d.a). Ibuprofen pediatric dosing is 10 mg per kg every 6 to 8 hours (Medscape, n.d.b). Ibuprofen should not be given to children who are dehydrated or who are vomiting continuously. Given the increased bleeding risk with NSAIDS, these should be avoided in the first 24 hours after a head injury or if there is a possibility of neurosurgical intervention (Mao, 2021). Aspirin should be avoided in children under age 15 because of the risk of Reye's syndrome (O'Brien, 2021). Combination medications with ergotamine, caffeine, butalbital, and codeine should also be avoided because of the potential for drug dependency and rebound headaches (O'Brien, 2021).

Abortive therapy medications are most effective when used at the first sign of a migraine. For mild to moderate attacks, abortive therapy includes ibuprofen, acetaminophen, or naproxen, as well as an antiemetic if nausea and vomiting are prominent (Mack, 2020). For moderate to severe migraines, a triptan such as sumatriptan may be used in children ages 5 years and older (Mack, 2020). For children and adolescents with headaches that are refractory to monotherapy, a combination of a triptan with an analgesic is recommended (Mack, 2020).

Medication is most effective when used in combination with relaxation therapy, exercise, and dietary or lifestyle changes (Cleveland Clinic, 2017a).

Nursing consideration: Nurses must consider the side effects of the prophylactic medications used and be knowledgeable about the dosing for the child's weight and age.

Self-Assessment Quiz Question #9

Which is true regarding using aspirin as a treatment for pediatric headaches?

a. Aspirin is safe for use in the pediatric population for all ages.
b. Aspirin should never be given to infants or children because of the risk of Reye's syndrome.
c. Aspirin can be given at most once or twice per week
d. Aspirin can be given to children over the age of 2 years old.

Prophylactic treatment of headaches

Prophylactic treatment of headaches is indicated if they occur more than once per week, interfere with routine activities such as school attendance, or if the child is unresponsive to symptomatic treatment (O'Brien, 2021).

For frequent or chronic headaches, preventive therapy is aimed at reducing both the severity and frequency of the headaches. Tricyclic antidepressants, particularly amitriptyline, can result in a significant reduction in headaches, analgesic medication use, and headache- related disability (O'Brien, 2021). Other commonly used drugs include gabapentin and topiramate (O'Brien, 2021).

Nursing consideration: When treating adolescents, nurses should remember to consider the child's cognitive developmental stage. The adolescent may not understand the instructions of how to take their medication. An early adolescent may need concrete examples and may not understand abstract instructions. An older adolescent may be able to take more control of their own health management.

Psychiatric and behavioral interventions

To treat headaches, it is important to identify what causes or triggers the headaches. A headache diary can help keep headaches under control and can be used to record characteristics of headaches and triggers of headaches and can reveal how well the treatment program is working (O'Brien, 2021). The child and parents can learn ways to remove or cope with the stressful activities or events causing headaches (O'Brien, 2021).

Early identification of anxiety, depression, and other psychiatric disorders may be helpful in the evaluation of frequent headaches in children and adolescents (O'Brien, 2021). The evaluation should assess the child's personality, depression, anxiety, parental anxiety, family history of pain, global family functioning, and relevant social factors (O'Brien, 2021).

Behavioral treatment strategies for pain management are mostly derived from cognitive behavioral therapy (CBT) and relaxation techniques. Evidence for these is limited and conflicting in children; however, some reports indicate they can be effective in reducing headache severity and frequency (O'Brien, 2021). While CBT and biofeedback relaxation therapy (guided imagery, muscle relaxation, deep breathing) may help with headaches, physical therapy, acupuncture, hypnosis, meditation, and massage have been unproven to help (Bonthius & Hershey, 2021). Unfortunately, few children and adolescents receive CBT because of a lack of awareness that this type of treatment exists, misconceptions about having to see a therapist, and a shortage of skilled therapists using these techniques (O'Brien, 2021).

Evidence-based practice! A meta-analysis conducted in 2017 reviewed studies evaluating the effectiveness of CBT for treating pediatric headaches and migraines. The review defined significant improvement in headaches if they were reduced in frequency by at least 50%. Results found not only support for CBT as an effective form of treatment compared to placebo, waitlist, or medication, but also that the headache frequency reductions were maintained long term (Kroon Van Diest & Powers, 2018).

Lifestyle changes and prevention of recurrent headaches

Children and adolescents who suffer from recurrent headaches may be able to prevent their headaches or reduce their frequency by making lifestyle modifications. Regular exercise for 20 to 30 minutes a day and regular healthy meals (without skipping meals) can be helpful (Bonthius & Hershey, 2021). Other lifestyle modifications include adequate hydration, weight management, limiting caffeine intake, and consistent sleep schedules (O'Brien, 2021).

The existence of a close relationship between sleep, mood, and headache has been recognized. Sleep, headache, and mood are all located in the same brain region and involve the same chemical messengers (American Migraine Foundation, 2019). With irregular or inadequate sleep, increased risks of headache and mood changes may occur (American Migraine Foundation, 2019). Keeping a consistent bedtime and waking time and ensuring that sleep is continuous without frequent awakening is also helpful (American Migraine Foundation, 2019). Rest and sleep in a quiet, dark room is often helpful for those experiencing a migraine (American Migraine Foundation, 2019). Children and adolescents should avoid the overuse of analgesic medications and limit the use of these medications to fewer than 15 days per month (Bonthius & Hershey, 2021).

Nursing consideration: Nurses should help educate children, adolescents, and their parents about their headaches. Headache education includes recording and identifying what triggers the child's headache. Triggers can include stress, caffeine, eating certain foods or additives, not eating at regular times, or lack of sleep. Nurses can suggest that the child keep a headache diary to help record information about possible triggers. Encouraging older children and adolescents to manage their headaches with simple analgesia and trigger avoidance has benefits in the long term.

Case study

A 17-year-old female presents with her mother to a pediatric primary care clinic with a complaint of a throbbing headache on the right side of her head 2 to 4 times per month for the past 4 months. Each headache lasts about 24 hours. Approximately 30 minutes before each headache, she has blurred vision and sees flashing lights. She also complains of abdominal pain, nausea, and sensitivity to bright lights and loud noises. Exercise makes her headaches worse but sleeping and Tylenol help improve her level of pain slightly. Her headaches cause her to miss school, and she worries that missing too much school will make her fall behind. She denies head injuries, seizures, and recent illnesses, and has no history of any serious medical conditions. The headaches do not align with her menstrual cycle. Her current stresses are applying to college, taking her SAT exam, and her soccer college scholarship. She is worried that her headaches are causing her to miss school and soccer practice and are

making her feel depressed. Her mother has a history of migraine headaches. There is no family history of strokes, brain tumors, or seizures. Vital signs, abdominal exam, and neurological exam are normal.

Questions

1. Based on the patient's history and presentation, which type of headache would you diagnose her with?
2. What are possible triggers for her symptoms?
3. What recommendations would you make?

Answers

1. This patient meets the diagnostic criteria of migraine with aura. The patient's headaches meet the criteria of headache restricted to one side of her head, throbbing pain, an aura, recurrent abdominal pain, nausea, and sensitivity to light or sound. The patient has a family history of migraine, and because migraine is a genetic disorder, the patient may have more migraines in the future if the triggers are not controlled.
2. A possible trigger of her migraines could be stress from the transition from high school to college, stress surrounding the SAT exam, and the pressure of the soccer scholarship. Her comment about feeling depressed should be taken seriously and counseling should be recommended if appropriate.
3. The patient should initially treat her headaches with acetaminophen or ibuprofen and rest in a quiet, dark room, and try to eliminate as much stress as possible through talking with a counselor or friend and relaxing activities. A headache diary may be helpful to track headaches, triggers, and the frequency of headaches.

Conclusion

Infants, children, and adolescents who present with a headache to an acute care or primary care setting may be facing a recurrent and chronic issue that will negatively affect their quality of life, or they may be in an emergency situation and require immediate assistance. The nurse, aware of the signs and symptoms of medical emergencies associated with a headache, can help expedite the process of rapid treatment of the child. Armed with the knowledge of the possible types of headaches, both primary and secondary; the techniques of the neurological physical exam; and signs and symptoms, depending on the child's age, the nurse can be an advocate for the health, safety, and the social and psychological well- being of the child with a headache.

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Self-Assessment Answers and Rationales

1. The correct answer is B.
Rationale: She has a score of 15, which is the highest score, but is still considered in the range of possible "mild head injury" (score of 13-15). Although the Glasgow Coma Scale is helpful to determine level of consciousness, she would have a neurological exam and physical exam as well.

2. The correct answer is B.
Rationale: Aura is a warning sign that a migraine is about to begin. An aura can be blind spots, blurred or distorted vision, brightly colored or flashing lights, sensory changes, or speech disturbances. It usually occurs 10-30 minutes before a migraine but can happen as early as the night before.

3. The correct answer is B.
Rationale: Cluster headaches are not common in children. They are less common than migraines and tension headaches. Cluster headaches are briefer in duration and more frequent than migraines, and are usually on one side of the head.

4. The correct answer is A.
Rationale: Secondary headaches are headaches that result from another medical condition. Secondary headaches are usually because of viral illnesses, but also may be caused by central nervous system infection, brain tumor, intracranial hemorrhage, head trauma, or severe hypertension. Migraine, tension, and cluster headaches are primary headaches.

5. The correct answer is A.
Rationale: Primary hypertension is related to the male sex, African American ethnicity, genetics, obesity, stress, and salt intake. The prevalence of hypertension in children is about 1-3%. Children greater than 3 years old should have their blood pressure measured routinely. Primary hypertension usually shows no symptoms.

6. The correct answer is D
Rationale: The flu has the potential to develop into pneumonia and even death in children. It is important for children to receive the flu vaccination starting at 6 months of age.

7. The correct answer is D.
Rationale: Headaches that are the "worst headache of my life" and progressively worsening headaches should be considered a red flag. This could indicate a brain hematoma. The nurse should ask more follow up questions about his head trauma.

8. The correct answer is A.
Rationale: Return to sports should be gradual and progressive. It starts with light aerobic activity, followed by moderate activity, heavy non-contact activity, full contact, and then the child may return to competition. Athletes may only progress to the next step if they are not having any symptoms.

9. The correct answer is B.
Rationale: Aspirin should never be given to infants or children or adolescents. Aspirin has been linked to Reye's syndrome, an extremely dangerous illness in the pediatric population that can cause swelling in the liver and the brain.

Course Code: ANCCIA03PH

Elite
PO Box 37 | Ormond Beach, FL 32175
Questions? Call us toll-free: 1-866-344-0971

Iowa Nursing Professionals
CE Correspondence Package
Course Participant Sheet

Please fill in all the information below in CAPITAL LETTERS. Upon completion, please return this sheet, along with payment and mail to the address above. If paying by check or money order, please make payable to **Elite** for $38.95. For even faster service, we offer this course participant sheet online with instant certificate issuance. Please visit **EliteLearning.com/Book** to complete your affirmation online.

Please PRINT NEATLY in the areas below using black or blue pen only:

First Name **M.I.** **Last Name**

Mailing Address

Suite / Floor / Apt Number **City (do not abbreviate)** **State**

Zip Code **Telephone Number** (Please include area code) **IA Nursing License Number** (Please provide for course credit)

E-Mail address (include to receive processing confirmation and instant certificate access)

☐ Entire Package only $38.95

or

☐ Asthma: A Comprehensive Overview - $26.95
☐ Basic Psychiatric Concepts - $35.95
☐ Communication in Health Care, 2nd Edition - $26.95
☐ Crisis Resource Management for Healthcare Professionals - $23.95
☐ Ethics and Moral Distress for Healthcare Professionals - $26.95
☐ Mental Health Concerns and the Older Adult - $35.95
☐ Nursing Assessment, Management and Treatment of Autoimmune Diseases - $35.95
☐ Recognizing the Warning Signs of Pediatric Headaches - $25.95

Payment Method

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Cardholder Signature: _____

Important Note:
The box below must be checked for verification sheet to be processed.

☐ By checking this box and signing below, I hereby affirm that I have completed this educational activity, including the self-assessment.

_____
Signature

For Internal Use Only - Please Do Not Mark In This Area

ANCCIA3623B

0772194819

Test Expiration: 5/5/2024

1. ANCCIA04AC 2. ANCCIA06PC 3. ANCCIA04CH 4. ANCCIA03CRI 5. ANCCIA04EM
6. ANCCIA06MH 7. ANCCIA06AD 8. ANCCIA03PH

NURSING - COURSE EVALUATION (ANCCIA3623B - Required)

To receive continuing education credits for this program, this mandatory evaluation form must be completed.

Licensee Name: _____ **License #**_____

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SECTION I: Demographics: Your current license type and education level: ❍LPN/LVN ❍RN - Associate degree ❍RN - Bachelor's degree ❍RN - Master's degree ❍APRN - Master's degree ❍Doctorate / DNP / Other Doctorate ❍Other (specify)_____

How long have your been a nurse: ❍Less than 5 years ❍6 to 10 years ❍11 to 15 years ❍16 to 20 years ❍Over 20 years ❍Not a nurse

SECTION II: Course Evaluation
Please complete the following for each course you have completed. Mark the circle that best matches your evaluation of the question.

1. After completing this course, I am able to meet each of the Learning Outcomes.	7. The course demonstrated the author's knowledge of the subject.
2. The course content was unbiased and balanced.	8. I intend to apply the knowledge from this course to my practice.
3. The course was relevant to my practice.	9. What I have learned from this course will have an impact on my knowledge.
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5. What I have learned from this course will have an impact on my practice.	11. The overall rating for this course.
6. The course was well-organized and clear.	

	Asthma: A Comprehensive Overview **4 Contact Hours**					Basic Psychiatric Concepts **6 Contact Hours**					Communication in Health Care, 2nd Edition **4 Contact Hours**				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
2	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
3	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
4	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
5	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
6	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
7	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
8	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
9	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
10	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
	Excellent	Good	Average	Below Average	Poor	Excellent	Good	Average	Below Average	Poor	Excellent	Good	Average	Below Average	Poor
11	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
12	How many total hours did it take you to complete this course? Please indicate the number of hours: _____														
13	Please provide any additional feedback on this course: _____														

SECTION III: General

Fill in the circle below numbers **0=Not likely at all, 5=Neutral and 10=Extremely likely**

How likely is it that you would recommend Elite to a friend or colleague?..... 0 1 2 3 4 5 6 7 8 9 10

If your response is less than a 10, what about the course could we change to score a 10? _____

_____

List other topics that you would like to see provided: _____

❑ I agree to allow Colibri Healthcare, LLC to use my comments. If you agree, please provide your name and title as you would like to see them to appear.

_____

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	Crisis Resource Management for Healthcare Professionals **3 Contact Hours**					Ethics and Moral Distress for Healthcare Professionals **4 Contact Hours**					Mental Health Concerns and the Older Adult **6 Contact Hours**				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
2	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
3	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
4	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
5	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
6	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
7	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
8	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
9	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
10	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
	Excellent	Good	Average	Below Average	Poor	Excellent	Good	Average	Below Average	Poor	Excellent	Good	Average	Below Average	Poor
11	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
12	How many total hours did it take you to complete this course? Please indicate the number of hours: _____														
13	Please provide any additional feedback on this course: _____														

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If your response is less than a 10, what about the course could we change to score a 10? _____

_____

List other topics that you would like to see provided: _____

❑ I agree to allow Colibri Healthcare, LLC to use my comments. If you agree, please provide your name and title as you would like to see them to appear.

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	Nursing Assessment, Management and Treatment of Autoimmune Diseases **6 Contact Hours**					Recognizing the Warning Signs of Pediatric Headaches **3 Contact Hours**				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
2	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
3	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
4	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
5	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
6	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
7	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
8	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
9	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
10	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
	Excellent	Good	Average	Below Average	Poor	Excellent	Good	Average	Below Average	Poor
11	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
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