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WHAT'S INSIDE

SATISFIES CHILD ABUSE RECOGNITION AND REPORTING REQUIREMENT

REMAINING COURSES SATISFY GENERAL HOURS REQUIREMENT

FREQUENTLY ASKED QUESTIONS

What are the requirements for license renewal?

Licenses Expire	Contact Hours	Mandatory Subjects
October 31, every two years	30 (All contact hours allowed through home-study)	2 hours - Child Abuse Recognition and Reporting in Pennsylvania

How much will it cost?

If you are only completing individual courses in this book, enter the code that corresponds to the course below online.

COURSE TITLE	HOURS	PRICE	COURSE CODE
Pennsylvania Mandatory Child Abuse Recognition and Reporting (Renewal Licensure)	2	$20.95	ANCCPA02CA22
Asthma Management and Patient Education	2	$18.95	ANCCPA02AP
Crisis Resource Management for Healthcare Professionals	3	$23.95	ANCCPA03CR
Cultural Humility for Healthcare Professionals	3	$23.95	ANCCPA03CH
Diabetes Prevention and Management for Healthcare Professionals	5	$29.95	ANCCPA05DM
Ethical and Legal Issues in Nursing Practice	7	$35.95	ANCCPA07EL
Health Care Management of Patients with Substance Use Disorders	2	$18.95	ANCCPA02PS
Nursing Assessment, Management and Treatment of Autoimmune Diseases	6	$35.95	ANCCPA06AD
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Are my credit hours reported to the Pennsylvania board?

Yes, we will only report your 2-hour Pennsylvania Mandatory Child Abuse Recognition and Reporting (Renewal Licensure) course to the Pennsylvania Department of State within one business day.

Do I have to complete the Child Abuse Recognition and Reporting course and why do I have to provide the last 4 digits of my Social Security number?

Per the Pennsylvania Department of State, all health-related licensees must complete the 2-hour Child Abuse Recognition and Reporting course in order to renew their license. The Department of State requires us to obtain your date of birth and the last 4 digits of your Social Security number in order to report your hours. If you wish to not provide your date of birth and last 4 digits of your Social Security number on the test sheet, you can complete the course online at EliteLearning.com/Book. Please also provide your license number for test completion and certificate issuance.

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Important information for licensees:

Always check your state's board website to determine the number of hours required for renewal, and the amount that may be completed through home-study. Also, make sure that you notify the board of any changes of address. It is important that your most current address is on file.

Licensing board contact information:

Pennsylvania State Board of Nursing

PO Box 2649 | Harrisburg, PA 17105 | Phone (717) 783-7142 | Fax (717) 783-0822

Website: https://www.dos.pa.gov/ProfessionalLicensing/BoardsCommissions/Nursing/Pages/default.aspx

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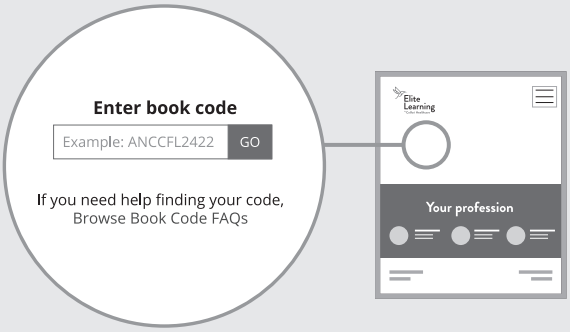

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Pennsylvania Mandatory Child Abuse Recognition and Reporting (Renewal Licensure) (Mandatory)

2 Contact Hours

Release Date: January 20, 2021 **Expiration Date:** January 20, 2024

Faculty

Author:
Margaret Hughes, MSN, RN, CPNP, is a pediatric nurse practitioner who graduated from the Yale School of Nursing in 2016 with a concentration in global health. Her interest in health care started at a young age when she had several opportunities to shadow doctors in France and Belgium. She currently works in student health at a large university in Boston. Before that, 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 nurse and worked in 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.

Peer reviewer:
Cheryl Jackson, DNP-FNP-C. Dr. Jackson's clinical experience in nursing ranges from medical-surgical ICU to telemetry and PACU. Her APN practice experience is in family practice, urgent care, and most recently adult primary care with Volunteers in Medicine in rural Pennsylvania. Cheryl started nursing with an ADN from Catonsville Community College and then obtained her BSN from the University of Maryland in Baltimore, a master's in nursing from Misericordia University, and finally a doctorate in nursing practice from University of Alabama in Tuscaloosa.

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

How to receive credit

- Read the entire course online or in print which requires a 2-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.
- At the end of the course, answer the Yes/No Affirmation question to indicate that you have completed the educational activity.
- A mandatory Final Examination with a passing score of 70% or higher 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 Nursing Course Evaluation.
- Print your Certificate of Completion.

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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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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.

Learning objectives

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

- Describe the Child Welfare System in Pennsylvania.
- Explain the differences between Child Protective Services (CPS) and General Protective Services GPS).
- Define various terms from the Child Protective Services Law (CPSL).
- Discuss child abuse types and indicators.
- List the various legislative updates made to the CPSL.
- Apply the updated requirements and reporting procedures for reporting child abuse in Pennsylvania.

Course overview

This course meets the two contact hour mandatory renewal requirement for health care professionals responsible for recognizing and reporting child abuse in Pennsylvania.

INTRODUCTION

Approximately 3.5 million children in the U.S. were the subjects of at least one child abuse report in 2017 (U.S. Department of Health & Human Services [HHS], 2019). In Pennsylvania alone, there were 46,208 reports of suspected child abuse in that same year (HHS, 2019). The Pennsylvania Child Protective Services Laws (CPSL) was enacted in 1975, and has had numerous updates over the years. The goal was to protect children from abuse and thereby allowing the opportunity for the healthy growth and development of children and whenever possible, preserve the stability of the family. Act 33 of 2014 amended title 23 (Domestic Relations) known as the Child Protective Services Law which was effective December 31, 2014 (Pennsylvania General Assembly, 2014).

OVERVIEW OF CHILD WELFARE IN PENNSYLVANIA

To help families achieve positive outcomes, child welfare systems throughout the country, including Pennsylvania, have strengthened their approaches to practice. Practice models guide the work of those involved with the child welfare system, enabling them to work together to improve outcomes for children, youth, and families. In the Commonwealth of Pennsylvania, child welfare is state supervised, and county administered (Pennsylvania Department of Human Services Annual Child Abuse Report, 2018).

The Pennsylvania General Assembly created the Task Force on Child Protection in 2011. The objective was to conduct a thorough review of the law and its procedures for reporting child abuse while protecting children. As a result of this law many pieces of legislation have been enacted by the Pennsylvania General Assembly (Pennsylvania Department of Human Services Annual Child Abuse Report, 2018).

THE CHILD PROTECTIVE SERVICES LAW (CPSL)

This law was enacted to protect children from abuse; allow the opportunity for healthy growth and development; and, whenever possible, preserve and stabilize the family (Pennsylvania General Assembly, n.d.-a).

The CPSL ensures that each county establishes a protective services program to protect children locally (Pennsylvania General Assembly, n.d.-a). Section 6302(b) of the CPSL states its purpose as follows:

> *Establish in each county protective services for the purpose of investigating the reports swiftly and competently, providing protection for children from further abuse and providing rehabilitative services for children and parents involved so as to ensure the child's well-being and to preserve, stabilize and protect the integrity of family life wherever appropriate or to provide another alternative permanent family when the unity of the family cannot be maintained (Pennsylvania General Assembly, n.d.-a).*

CHILD PROTECTIVE SERVICES VERSES GENERAL PROTECTIVE SERVICES

Children, Youth and Families agencies have two essential functions: Child Protective Services (CPS) and General Protective Services (GPS).When a case is reported, trained professionals categorize the report as either a CPS case or GPS case. Although it's important to understand the distinction between the 2 services, mandated reporters do not have to determine which service it is when contacting ChildLine (Pennsylvania Department of Human Services Annual Child Abuse Report, 2018).

Child Protective Services (CPS)

Cases that are identified as CPS require abuse investigations because the alleged act or failure to act has been identified as one of the 10 categories of child abuse per the Child Protective Services Law (CPSL) (Pennsylvania Department of Human Services Annual Child Abuse Report, 2018).

Examples of CPS 10 categories of child abuse:

1. Causing bodily injury to a child through any recent act or failure to act.
2. Fabricating, feigning or intentionally exaggerating or inducing medical symptoms or disease which results in potentially harmful medical evaluation or treatment to the child through any recent act.
3. Causing or substantially contributing to serious mental injury to a child through any act or failure to act or a serious of such acts or failures to act.
4. Causing sexual abuse or exploitation of a child through any act or failure to act.
5. Creating a reasonable likelihood of bodily injury to a child through act recent act or failure to act.
6. Creating a likelihood of sexual abuse or exploitation of a child through any recent act or failure to act.
7. Causing serious neglect of a child.
8. Engaging in the following recent per se acts.
9. Causing the death of the child through any act or failure to act.
10. Engaging a child in a severe form of trafficking in persons or sex trafficking, as those terms are defined under section 103 of the Trafficking Victims Protection Act of 2000.

General Protective Services (GPS)

General Protective Services are defined in section 6303 of the CPSL as: Those services and activities provided by each county agency for cases requiring protective services, as defined by the department in regulations (Pennsylvania General Assembly, n.d.-a).

Cases that are identified as GPS require an assessment for services and support. In these cases, the act or failure to act is detrimental to a child but do not fall under the 10 categories of child abuse per the CPSL. These services can assist parents in being able to recognize and correct conditions that are harmful to their children (Pennsylvania Department of Human Services Annual Child Abuse Report, 2018).

Examples of GPS services

To prevent the potential for harm to a child who meets one of the following conditions:

- Is without proper parental care or control, subsistence, education as required by law, or other care or control necessary for his physical, mental, or emotional health, or morals.
- Has been placed for care or adoption in violation of law.
- Has been abandoned by his parents, guardian or other custodian.
- Is without a parent, guardian or legal custodian.
- Is habitually and without justification truant from school while subject to compulsory school attendance.
- Has committed a specific act of habitual disobedience of the reasonable and lawful commands of his parent, guardian or other custodian and who is ungovernable and found to be in need of care, treatment or supervision.
- Is under 10 years of age and has committed a delinquent act.
- Has been formerly adjudicated dependent under section 6341 of the Juvenile Act (relating to adjudication), and is under the jurisdiction of the court, subject to its conditions or placements and who commits an act.
- Has been referred under section 6323 of the Juvenile Act (relating to informal adjustment), and who commits an act which is defined as ungovernable.

(Pennsylvania General Assembly, n.d.-a)

DEFINITIONS RELATED TO THE CHILD PROTECTIVE SERVICES LAW

Child

A *child* is defined as an individual under the age of 18 (Pennsylvania General Assembly, n.d.-a).

Child abuse

The term "child abuse" shall mean intentionally, knowingly or recklessly doing any of the following:

- Causing bodily injury to a child through any recent act or failure to act.
- Fabricating, feigning or intentionally exaggerating or inducing a medical symptom or disease which results in a potentially harmful medical evaluation or treatment to the child through any recent act.
- Causing or substantially contributing to serious mental injury to a child through any act or failure to act or a series of such acts or failures to act.
- Causing sexual abuse or exploitation of a child through any act or failure to act.
- Creating a reasonable likelihood of bodily injury to a child through any recent act or failure to act.
- Creating a likelihood of sexual abuse or exploitation of a child through any recent act or failure to act.
- Causing serious physical neglect of a child.
- Engaging in any of the following recent acts:
    - Kicking, biting, throwing, burning, stabbing or cutting a child in a manner that endangers the child.
    - Unreasonably restraining or confining a child, based on consideration of the method, location or the duration of the restraint or confinement.
    - Forcefully shaking a child under on-year of age.
    - Forcefully slapping or otherwise striking a child under one year of age.
    - Interfering with the breathing of a child.
    - Causing a child to be present at a location while a violation of 18 Pa.C.S. § 7508.2 (relating to operation of methamphetamine laboratory) is occurring, provided that the violation is being investigated by law enforcement.
    - Leaving a child unsupervised with an individual, other than the child's parent, who the actor knows or reasonably should have known:
        - Is required to register as a Tier II or Tier III sexual offender under 42 Pa.C.S. Ch. 97 Subch. H (relating to registration of sexual offenders), where the victim of the sexual offense was under 18 years of age when the crime was committed.
        - Has been determined to be a sexually violent predator under 42 Pa.C.S. § 9799.24 (relating to assessments) or any of its predecessors.
        - Has been determined to be a sexually violent delinquent child as defined in 42 Pa.C.S. § 9799.12 (relating to definitions).
    - Causing the death of the child through any act or failure to act.
    - Engaging a child in a severe form of trafficking in persons or sex trafficking, as those terms are defined under section 103 of the Trafficking Victims Protection Act of 2000.

(Pennsylvania General Assembly, n.d.-a)

Sexual abuse or exploitation (any of the following)

The employment, use, persuasion, inducement, enticement or coercion of a child to engage in or assist another individual to engage in sexually explicit conduct, which includes, but is not limited to, the following:

- Looking at the sexual or other intimate parts of a child or another individual for the purpose of arousing or gratifying sexual desire in any individual.
- Participating in sexually explicit conversation either in person, by telephone, by computer or by a computer-aided device for the purpose of sexual stimulation or gratification of any individual.
- Actual or simulated sexual activity or nudity for the purpose of sexual stimulation or gratification of any individual.
- Actual or simulated sexual activity for the purpose of producing visual depiction, including photographing, videotaping, computer depicting or filming.
- This paragraph does not include consensual activities between a child who is 14 years of age or older and another person who is 14 years of age or older and whose age is within four years of the child's age.
- Any of the following offenses committed against a child:
    - *Rape* as defined in 18 Pa.C.S. § 3121 (relating to rape).
    - *Statutory sexual assault* as defined in 18 Pa.C.S. § 3122.1 (relating to statutory sexual assault).
    - *Involuntary deviate sexual intercourse* as defined in 18 Pa.C.S. § 3123 (relating to involuntary deviate sexual intercourse).
    - *Sexual assault* as defined in 18 Pa.C.S. § 3124.1 (relating to sexual assault).
    - *Institutional sexual assault* as defined in 18 Pa.C.S. § 3124.2 (relating to institutional sexual assault).
    - *Aggravated indecent assault* as defined in 18 Pa.C.S. § 3125 (relating to aggravated indecent assault).
    - *Indecent assault* as defined in 18 Pa.C.S. § 3126 (relating to indecent assault).
    - *Indecent exposure* as defined in 18 Pa.C.S. § 3127 (relating to indecent exposure).
    - *Incest* as defined in 18 Pa.C.S. § 4302 (relating to incest).
    - *Prostitution* as defined in 18 Pa.C.S. § 5902 (relating to prostitution and related offenses).
    - *Sexual abuse* as defined in 18 Pa.C.S. § 6312 (relating to sexual abuse of children).
    - *Unlawful contact with a minor* as defined in 18 Pa.C.S. § 6318 (relating to unlawful contact with minor).
    - *Sexual exploitation* as defined in 18 Pa.C.S. § 6320 (relating to sexual exploitation of children).

Bodily injury

Impairment of physical condition or substantial pain. (Pennsylvania General Assembly, n.d.-a).

Serious mental injury

A serious mental injury is defines as psychological condition, as diagnosed by a physician or licensed psychologist, including the refusal of appropriate treatment, that:

- Renders a child chronically and severely anxious, agitated, depressed, socially withdrawn, psychotic or in reasonable fear that the child's life or safety is threatened.
- Seriously interferes with a child's ability to accomplish age-appropriate developmental and social tasks.

Serious physical neglect

Serious physical neglect is defined as any of the following when committed by a perpetrator that endangers a child's life or health, threatens a child's well-being, causes bodily injury or impairs a child's health, development or functioning:

- A repeated, prolonged or egregious failure to supervise a child in a manner that is appropriate considering the child's developmental age and abilities.
- The failure to provide a child with adequate essentials of life, including food, shelter or medical care.

(Pennsylvania General Assembly, n.d.-a)

Act or failure to act

Recent act or failure to act. Any act or failure to act committed within two years of the date of the report to the department or county agency:

- **Act**: Something that is done to harm or cause potential harm to a child.
- **Failure to act**: Something that is NOT done to prevent harm or potential harm to a child (Pennsylvania General Assembly, n.d.-a).

CHILD ABUSE INDICATORS

The following are possible indicators of child abuse. (Child Welfare, 2019).

Bodily injury

Physical indicators:

- Unexplained injuries.
- Unbelievable or inconsistent explanations of injuries.
- Multiple bruises in various stages of healing.
- Bruises located on faces, ears, necks, buttocks, backs, chests, thighs, back of legs, and genitalia.
- Bruises that resemble objects such as a hand, fist, belt buckle, or rope.
- Injuries that are inconsistent with a child's age/developmental level.
- Burns.

Behavioral indicators:

- Fear of going home.
- Extreme apprehensiveness/vigilance.
- Pronounced aggression or passivity.
- Flinches easily or avoids being touched.
- Play includes abusive behavior or talk.
- Unable to recall how injuries occurred or account of injuries is inconsistent with the nature of the injuries.
- Fear of parent or caregiver.

Sexual abuse or exploitation

Physical indicators:

- Seep disturbances.
- Bedwetting.
- Pain or irritation in genital/anal area.
- Difficulty walking or sitting.
- Difficultly urinating.
- Pregnancy.
- Positive testing for sexually transmitted disease or HIV.
- Excessive or injurious masturbation.

Health care provider consideration
A mandated reporter does not have to determine whether the person meets the definition of *perpetrator* to report suspected abuse (Pennsylvania Department of Human Services, 2019).

Perpetrator

Perpetrator is defined in section 6303 of the CPSL as a person who has committed child abuse The following shall apply:

- The term includes only the following:
  - A parent of the child.
  - A spouse or former spouse of the child's parent.
  - A paramour or former paramour of the child's parent.
  - A person 14 years of age or older and responsible for the child's welfare or having direct contact with children as an employee of a child-care services, a school or through a program, activity or service.
  - An individual 14 years of age or older who resides in the same home as the child.
  - An individual 18 years of age or older who does not reside in the same home as the child but is related within the third degree of consanguinity or affinity by birth or adoption to the child.
  - An individual 18 years of age or older who engages a child in severe forms of trafficking in persons or sex trafficking, as those terms are defined under section 103 of the Trafficking Victims Protection Act of 2000 (114 Stat. 1466, 22 U.S.C §7102).
- Only the following may be considered a perpetrator for failing to act, as provided in this section:
  - A parent of the child.
  - A spouse or former spouse of the child's parent.
  - A paramour or former paramour of the child's parent.
  - A person 18 years of age or older and responsible for the child's welfare.
  - School employee:
    - An individual who is employed by a school or who provides a program, activity or service sponsored by a school. The term does not apply to administrative or other support personnel unless the administrative or other support personnel have direct contact with the children. Prior to December 31, 2014, only incidents of sexual abuse or exploitation and serious bodily injury by a school employee were considered child abuse under the CPSL. There was a separate reporting and investigation process in place for other types of abuse. Now the current law allows for school employees to be considered perpetrators under the definition provided for "person responsible for the child's welfare" or person "having direct contact with children." § 630.

Person responsible for the child's welfare

A person who provides permanent or temporary care, supervision, mental health diagnosis or treatment, training or control of a child in lieu of parental care, supervision, and control.

Direct contact

- The care, supervision, guidance or control of children OR routine interaction with children.
- A person 18 years of age or older who resides in the same home as the child. (Pennsylvania General Assembly, n.d.-a)

CASE STUDY

Mary is a thin, speech and language impaired, multiracial second grader at your elementary school. Her teacher, Mrs. Anderson, is in your office to discuss the concerns that she has with regards to Mary's peer relationships. The father will not allow her or her 10 year old brother to participate in the after-school tutoring program on the school campus. Mrs. Anderson has made several attempts to get the parents in for a conference.

After going to the nurse, it was found that she had old bruises on the knuckles of both hands as well as her legs. When asked how she got them, Mary replied: "My Dad, he has me boxing 'cause I gotta get tough and shape up." According to her, Dad says her weight is getting out of control and that's why she doesn't eat lunch some days. When questioned about the old bruises on her legs, Mary said she fell. Mary asked if she could go back to class, and asked that the nurse not call her dad.

Self-Assessment Quiz Question #1

According to the CPSL all of the following individuals can be defined as a *perpetrator* in Mary's case except?

a. Her 10 year old brother.
b. Her parents.
c. Any teacher.
d. All are correct.

Self-Assessment Quiz Question #2

Which of the following of Mary's issues (if diagnosed by a licensed psychologist or physician)may fit the CPSL definition of *serious mental injury*?

a. Bruises that are not consistently explained.
b. Speech and language impaired.
c. Failing in school.
d. Thin and not eating much.

Self-Assessment Quiz Question #3

Mary's bruises may be a result of which of the following types of child abuse?
a. Bodily injury.
b. Serious mental injury.
c. Serious physical neglect
d. Sexual abuse or exploitation.

Self-Assessment Quiz Question #4

Which of the following are true regarding possible physical indicators of sexual abuse or exploitation in children:
a. Self-injury.
b. Fire setting.
c. Anxiousness.
d. Bedwetting.

LEGISLATIVE UPDATES TO THE CPSL

The following list does not include all legislative bills but rather highlights some of the recent changes in legislation impacting mandated reporters and the process of recognizing and reporting suspected child abuse.

- **In 2014, Pennsylvania passed Act 105:** Pennsylvania's antihuman trafficking law, which defined *human trafficking* to include both sex trafficking and labor trafficking (PCAR, 2018a). The Pennsylvania Legislature then enacted Act 115 of 2016, which amended Title 23 (Domestic Relations) and 42 (Judiciary and Judicial Procedure) of the Pennsylvania Consolidated Statutes to include human trafficking (PCAR, 2018a).
- **In 2016, Pennsylvania passed Act 115:** This Act added engaging a child in a severe form of trafficking in persons or sex trafficking as a form of child abuse. This type of child abuse includes both sex trafficking and labor trafficking of children:
    - **Child sex trafficking:** Any child under the age of 18 who is induced to engage in commercial sex is a victim of sex trafficking. Examples of sex trafficking of children includes prostitution, pornography, and sex tourism (PCAR, n.d.).
    - **Child labor trafficking:** The use of force, fraud, or coercion for the purpose of subjection in involuntary servitude, peonage, debt bondage, or slavery. Examples of labor trafficking include agricultural or domestic service workers who are underpaid or not paid at all, physically abusive traveling sales crews that force children to sell legal items (e.g., magazines) or illegal items (e.g., drugs) or to beg, and workers in restaurants and hair and nail salons who are abused, confined, and/or not paid (PCAR, n.d.).

HUMAN TRAFFICKING

Human trafficking is defined as the recruitment, harboring, transportation, provision, or obtaining of a child for labor or services through use of force, fraud, or coercion (Keep Kids Safe, 2019b). Under federal law, sex trafficking such as prostitution, pornography, and exotic dancing does not require there be force, fraud, or coercion if the victim is under 18 (Keep Kids Safe, 2019b).

Types of human trafficking

- **Labor or services trafficking:** May include the recruitment, harboring, transportation, provision, or obtaining a person for labor or services (Human Trafficking Hotline, n.d.-b). There may be use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage (paying off a debt through work), debt bondage (debt slavery, bonded labor or services for a debt or other obligation), or slavery (a condition compared to that of a slave in respect of exhausting labor or restricted freedom) (Human Trafficking Hotline, n.d.-b).
- **Sex trafficking:** When a child under 18 years of age is recruited and harbored for the purposes of sex, prostitution, pornography, or exotic dancing, and is forced to work for little or no pay, it is considered sex trafficking (Human Trafficking Hotline, n.d.-a). The victim is often threatened with serious harm, physical restraint, or abuse of legal process if the child does comply with the wishes of the perpetrator (Human Trafficking Hotline, n.d.-a).
- **Commercial sex trafficking:** Commercial sex trafficking may include the recruitment, harboring, transportation, provision, or obtaining a person for sexual services (Human Trafficking Hotline, n.d.-a). This type of trafficking involves a commercial sex act that is induced by force, fraud, or coercion or in which the person under the age of 18 years of age is induced to perform such an act (Human Trafficking Hotline, n.d.-a). Commercial sex act is any sex act when anything of value is given to or received by any person (Human Trafficking Hotline, n.d.-a).

Youth at risk for human trafficking

Although human trafficking victims may be of any age, younger and older teens are at highest risk, including the following youth:
- Youth in the foster care system.
- Youth who identify as lesbian, gay, bisexual, transgender, queer/questioning, intersex, asexual (LGBTQIA).
- Youth who are homeless or runaways.
- Youth with intellectual or physical disabilities.
- Youth with mental health or substance abuse disorders.
- Youth with a history of sexual abuse.
- Youth with a history of being involved in the welfare system.
- Youth who identify as native or aboriginal.
- Youth with family dysfunction.

(Keep Kids Safe, n.d.-b)

Victim identification in human trafficking

Identifying victims of human trafficking is a complex and difficult task. There is often fear for victim safety or loyalty to the perpetrator (Keep Kids Safe, n.d.-b). This may result in little cooperation from the victim when trying to validate or verify clinical findings (Keep Kids Safe, n.d.-b).

Victim warning signs include the following:
- A youth that has been verified to be under 18 years of age and is involved in the commercial sex industry or has a record of prior arrest for prostitution or related charges.
- Has an explicitly sexual online profile.
- Frequents internet chat rooms or classified sites.
- Depicts elements of sexual exploitation in drawing, poetry, or other modes of creative expression.
- Frequent or multiple sexually transmitted diseases or pregnancies.
- Lying about or not being aware of their true age.
- Having no knowledge of personal data such as age, name, or date of birth.
- Having no identification.
- Wearing sexually provocative clothing.
- Wearing new clothes of any style, getting hair or nails done with no financial means.

- Secrecy about whereabouts.
- Having late nights or unusual hours.
- Having a tattoo that she is reluctant to explain.
- Being in a controlling or dominating relationship.
- Not having control of own finances.
- Exhibits hypervigilance or paranoid behaviors.
- Expresses interest in or in relationship with adults or much older men or women.

(Keep Kids Safe, n.d.-b)

IN 2018, PENNSYLVANIA PASSED FOUR LEGISLATIVE ACTS

Act 10

States that Pennsylvania's sexual offender registration applies only to individuals who have committed a sexually violent offense on or after December 20, 2012 (Pennsylvania General Assembly, 2018).

Act 29

Expanded Pennsylvania's definition of *child abuse* to include when a person leaves a child unsupervised with an individual, other than the parent, whom she knows to be a sexually violent predator (Pennsylvania General Assembly, 2018).

Act 54

Required the following: all schools to display a child abuse informational poster on premises. It also states that reports shall be maintained for a period of [five] ten years[.] or until the youngest child identified in the most recent general protective services report attains 23 years of age, whichever occurs first (Pennsylvania Department of Human Services Annual Child Abuse Report, 2018).

Act 54 update

Mandatory notification of substance exposed infants by health care providers

A health care provider shall immediately give notice or cause notice to be given to the Department if the provider is involved in the delivery or care of a child under one year of age and the health care provider has determined, based on standards of professional practice, the child was born affected by:

- Substance use or withdrawal symptoms resulting from prenatal drug exposure.
- A Fetal Alcohol Spectrum Disorder.

Notification to the Department can be made to ChildLine, electronically through the Child Welfare Portal or at 1-800-932-0313.This notification is for the purpose of assessing a child and the child's family for a Plan of Safe Care and shall not constitute a child abuse report. (Pennsylvania General Assembly, 2018).

Plan of Safe Care

After notification of a child born affected by substance use or withdrawal symptoms resulting from prenatal drug exposure or a fetal alcohol spectrum disorder:

- A multidisciplinary team meeting must be held prior to the child's discharge from the health care facility.
- The meeting will inform an assessment of the needs of the child and the child's parents and immediate caregivers to determine the most appropriate lead agency for developing, implementing, and monitoring a Plan of Safe Care.
- The child's parents and immediate caregivers must be engaged to identify the need for access to treatment for any substance use disorder or other physical or behavioral health condition that may impact the safety, early childhood development and well-being of the child.
- Depending upon the needs of the child and parent(s)/ caregiver(s), ongoing involvement of the county agency may not be required.
- Multidisciplinary Team – for the purpose of informing the Plan of Safe Care may include:
    - Public health agencies.
    - Maternal and child health agencies.
    - Home visitation program.
    - Substance use disorder prevention and treatment providers.
    - Mental health providers.
    - Public and private children and youth agencies.
    - Early intervention and developmental services.
    - Courts.
    - Local education agencies.
    - Managed care organizations and private insurers.
    - Hospitals and medical providers.

Act 88

Act 88 of 2018 allows the court to appoint a family member temporary guardianship in 90-day increments up to one year when the child's parent enters a rehabilitation facility for drug or alcohol treatment (Pennsylvania General Assembly, 2018).

Act 88 2019 update

Act 88 Legislative 2019 Update: CPSL (23 Pa. C.S. § 6319)

Clarified penalties for failure to report child abuse (Pennsylvania General Assembly, n.d.-a) § 6319.Penalties. A mandated reporter who willfully fails to report suspected child abuse or to make a referral to the appropriate authorities, commits an offense.

The offense is a felony of the third degree if:

- The person or official willfully fails to report.
- The child abuse constitutes a felony of the first degree or higher.
- The person or official has direct knowledge of the nature of the abuse.
- An offense not otherwise specified previously is a misdemeanor of the second degree.

If a mandated reporter makes a report to law enforcement or the appropriate county agency in lieu of reporting to ChildLine, this is not an offense for failure to report, as long as the report was made in a good faith effort to comply with the requirements to report.

EXCLUSIONS FROM CHILD ABUSE PER THE CPSL

Exclusion is when substantiating a report not when making a report. Pennsylvania has identified scenarios that should not be considered child abuse. Pennsylvania statute § 6304 (exclusions from child abuse) details the following scenarios that have been excused from such a determination.

Environmental factors

No child shall be deemed to be physically or mentally abused based on injuries that result solely from environmental factors, such as inadequate housing, furnishings, income, clothing and medical care, that are beyond the control of the parent or person responsible for the child's welfare with whom the child resides. This subsection shall not apply to any child-care service as defined in this chapter, excluding an adoptive parent.

Example: *If a family lives at the poverty level through no fault of the parents, it is not considered child abuse.*

Practice of religious beliefs

If, upon investigation, the county agency determines that a child has not been provided needed medical or surgical care because of sincerely held religious beliefs of the child's parents or relative within the third degree of consanguinity and with whom the child resides, which beliefs are consistent with those of a bona fide religion, the child shall not be deemed to be physically or mentally abused. In such cases the following shall apply:

1. The county agency shall closely monitor the child and the child's family and shall seek court-ordered medical intervention when the lack of medical or surgical care threatens the child's life or long-term health.
2. All correspondence with a subject of the report and the records of the department and the county agency shall not reference child abuse and shall acknowledge the religious basis for the child's condition.
3. The family shall be referred for general protective services, if appropriate.
4. This subsection shall not apply if the failure to provide needed medical or surgical care causes the death of the child.
5. This subsection shall not apply to any child-care service as defined in this chapter, excluding an adoptive parent.

Example: *If an individual's religion does not believe in seeking medical attention for his child who has an upper respiratory infection. This is not considered child abuse unless it results in the death of a child.*

Use of force for supervision

Use of control and safety purposes. Subject to subsection (d), the use of reasonable force on or against a child by the child's own parent or person responsible for the child's welfare shall not be considered child abuse if any of the following conditions apply:

1. The use of reasonable force constitutes incidental, minor or reasonable physical contact with the child or other actions that are designed to maintain order and control.
2. The use of reasonable force is necessary:
   a. To quell a disturbance or remove the child from the scene of a disturbance that threatens physical injury to persons or damage to property.
   b. To prevent the child from self-inflicted physical harm.
   c. For self-defense or the defense of another individual.
   d. To obtain possession of weapons or other dangerous objects or controlled substances or e. paraphernalia that are on the child or within the control of the child.

Example: *In the grocery store, you witness a woman (parent) who is upset with her child for climbing on a half-empty shelf. The parent grabs the child's arm, pulls the child down, and the child falls to the floor and sprains his ankle. This is not child abuse, as the parent or caregiver is using reasonable force to prevent the child from several actions, including the self-inflicted harm of the child falling.*

Rights of parents

Nothing in this chapter shall be construed to restrict the generally recognized existing rights of parents to use reasonable force on or against their children for the purposes of supervision, control and discipline of their children. Such reasonable force shall not constitute child abuse. (Pennsylvania General Assembly n.d.)

Example: *Spanking a child is a perfect example of parental rights. Many people do not believe in spanking their child or any type physical discipline. It was not long ago when spanking was a generally accepted method of discipline and parents believed a little spanking goes a long way in reprimanding their child. Today not all parents agree on this issue, but Pennsylvania believes in the rights of parents to use reasonable force on or against their child in order to maintain control, to supervise, and to discipline. There is a fine line between corporal punishment and child abuse, and each case should be looked at individually on a case by case format. Corporal punishment can be referred to ChildLine and it will be reviewed. A parent may claim it is corporal punishment, but that doesn't mean it will be not be deemed child abuse.*

It's important to consider the following circumstances:

- Was the parent mad when they gave the consequence?
- What part of the body did the spanking occur?
- Did the parent use and object or a hand?
- Was an open or closed fist used?
- Did this leave any bodily marks after the event?
- If so, how long did this occur?
- Did it impede the child in any way either short or long term?

Participation in events that involve physical contact with child

An individual participating in a practice or competition in an interscholastic sport, physical education, a recreational activity or an extracurricular activity that involves physical contact with a child does not, in itself, constitute contact that is subject to the reporting requirements of this chapter.

Example: *A 12-year-old plays basketball with his team members at church. These members are of all ages (adults and children). The 12-year-old is hit by an adult and ends up with a broken nose. The individual who hit him did not abuse the 12-year-old; he was playing a game that involves expected physical contact.*

Child-on-child contact

Harm or injury to a child that results from the act of another child shall not constitute child abuse unless the child who caused the harm or injury is a perpetrator.

Notwithstanding paragraph (1), the following shall apply:

- Acts constituting any of the following crimes against a child shall be subject to the reporting requirements of this chapter:
  - *Rape* as defined in 18 Pa.C.S. § 3121 (relating to rape).
  - *Involuntary deviate sexual intercourse* as defined in 18 Pa.C.S. § 3123 (relating to involuntary deviate sexual intercourse).
  - *Sexual assault* as defined in 18 Pa.C.S. § 3124.1 (relating to sexual assault).
  - *Aggravated indecent assault* as defined in 18 Pa.C.S. § 3125 (relating to aggravated indecent assault);.
  - *Indecent assault* as defined in 18 Pa.C.S. § 3126 (relating to indecent assault).
  - *Indecent exposure* as defined in 18 Pa.C.S. § 3127 (relating to indecent exposure).
  - No child shall be deemed to be a perpetrator of child abuse based solely on physical or mental injuries caused to another child in the course of a dispute, fight or scuffle entered into by mutual consent.
  - A law enforcement official who receives a report of suspected child abuse is not required to make a report to the department under section 6334(a) (relating to disposition of complaints received), if the person allegedly responsible for the child abuse is a non-perpetrator child.

Example: *Two boys in a consensual fist fight after school does not deem either one of them a perpetrator.*

Defensive force

Reasonable force for self-defense or the defense of another individual, consistent with the provisions of 18 Pa.C.S. §§ 505 (relating to use of force in self-protection) and 506 (relating to use of force for the protection of other persons), shall not be considered child abuse. (Dec. 18, 2013, P.L.1170, No.108,eff. Dec. 31, 2014) (Pennsylvania General Assembly, 2018).

RESPONSIBILITIES FOR REPORTING SUSPECTED CHILD ABUSE

There are two types of reporters: Mandated Reporters and Permissive Reporters (Keep Kids Safe, n.d.-c; Pennsylvania Department of Human Services, n.d.-b).

Mandated reporters

A person who is required by this chapter to make a report of suspected child abuse. According to the CPSL, a mandated reporter enumerated in subsection:

(a) The following adults shall make a report of suspected child abuse or cause a report to be made in accordance with section 6313 (relating to reporting procedure), if the mandated reporter has reasonable cause to suspect that a child is a victim of child abuse under any of the following circumstances:

- A person licensed or certified to practice in any health-related field under the jurisdiction of the Department of State.
- A medical examiner, coroner or funeral director.
- An employee of a health care facility or provider licensed by the Department of Health, who is engaged in the admission, examination, care or treatment of individuals.
- A school employee.
- An employee of a child-care service who has direct contact with children in the course of employment.
- A clergyman, priest, rabbi, minister, Christian Science practitioner, religious healer or spiritual leader of any regularly established church or other religious organization.
- An individual paid or unpaid, who, on the basis of the individual's role as an integral part of a regularly scheduled program, activity or service, is a person responsible for the child's welfare or has direct contact with children.
- An employee of a social services agency who has direct contact with children in the course of employment.
- A peace officer or law enforcement official.
- An emergency medical services provider certified by the Department of Health.
- An employee of a public library who has direct contact with children in the course of employment.
- An individual supervised or managed by a person listed under paragraphs (1), (2), (3), (4), (5), (6), (7), (8), (9), (10), (11), and (13), who has direct contact with children in the course of employment.
- An independent contractor.
- An attorney affiliated with an agency, institution, organization or other entity, including a school or regularly established religious organization that is responsible for the care, supervision, guidance or control of children.
- A foster parent.

An adult family member who is a person responsible for the child's welfare and provides services to a child in a family living home, community home for individuals with an intellectual disability or host home for children which are subject to supervision or licensure by the department under Articles IX and X of the act of June 13, 1967 (P.L. 31, No. 21), known as the Public Welfare Code.

Permissive reporters

Are encouraged, but not required, to report child abuse. Permissive reporters are not required to give their name, but it may be released to law enforcement officials or the district attorney's office if necessary. They may make an oral or written report of suspected child abuse, or cause a report of suspected child abuse to be made to the department, county agency or law enforcement, if that person has reasonable cause to suspect that a child(ren) is a victim of child abuse. *Note that because permissive reporters are unable to access the electronic /CWIS system, written reports in this section refers to hand written letters, emails or typed correspondence, etc* (Pennsylvania General Assembly, n.d.-a).

Basis to report

A mandated reporter enumerated in subsection (a) shall make a report of suspected child abuse in accordance with section 6313 (relating to reporting procedure), if the mandated reporter has reasonable cause to suspect that a child is a victim of child abuse under any of the following circumstances:

1. The mandated reporter comes into contact with the child in the course of employment, occupation and practice of a profession or through a regularly scheduled program, activity or service.
2. The mandated reporter is directly responsible for the care, supervision, guidance or training of the child, or is affiliated with an agency, institution, organization, school, regularly established church or religious organization or other entity that is directly responsible for the care, supervision, guidance or training of the child.
3. A person makes a specific disclosure to the mandated reporter that an identifiable child is the victim of child abuse. This means that the mandated reporter is required to make the referral whether they are "on or off the clock". Please remember that there are many ways to identify a child or family, it is not only limited to knowing the names.
4. An individual 14 years of age or older makes a specific disclosure to the mandated reporter that the individual has committed child abuse.
   a. Nothing in this section shall require a child to come before the mandated reporter in order for the mandated reporter to make a report of suspected child abuse.
   b. Nothing in this section shall require the mandated reporter to identify the person responsible for the child abuse to make a report of suspected child abuse. It is not the responsibility of a reporter to determine if the person who allegedly committed child abuse or harm to a child is a perpetrator.

It is NOT a reporter's responsibility to determine if the person who allegedly committed child abuse or harm to a child is a perpetrator (Pennsylvania General Assembly, 2018).

Staff members of institutions, etc.

Whenever a person is required to report under subsection in the capacity as a member of the staff of a medical or other public or private institution, school, facility or agency, that person shall report immediately in accordance with section 6313 and shall immediately thereafter notify the person in charge of the institution, school, facility or agency or the designated agent of the person in charge. Upon notification, the person in charge or the designated agent, if any, shall facilitate the cooperation of the institution, school, facility or agency with the investigation of the report. Any intimidation, retaliation or obstruction in the

investigation of the report is subject to the provisions of 18 Pa.C.S. § 4958 (relating to intimidation, retaliation or obstruction in child abuse cases). This chapter does not require more than one report from any such institution, school, facility or agency (Pennsylvania General Assembly, 2018).

Health care professional consideration: A mandated reporter does not have to determine whether the person meets the definition of *perpetrator* to report suspected abuse (Pennsylvania Child Welfare Information Solution, n.d.).

REPORTING PROCESS

The law requires that the mandated (www.KeepKidsSafe.pa.gov) reporter identify themselves and where they can be reached. They must leave their full name and contact information. This information is helpful so that if clarification on the situation or additional information is needed, the Children & Youth caseworker can contact the reporter. This reporting process was created with the mandated reporter in mind:

(1) A mandated reporter shall immediately make an oral report of suspected child abuse to the department via the Statewide toll-free telephone number under section 6332 (relating to establishment of Statewide toll-free telephone number) or a written report using electronic technologies under section 6305 (relating to electronic reporting).

(2) A mandated reporter making an oral report under paragraph (1) of suspected child abuse shall also make a written report, which may be submitted electronically, within 48 hours to the department or county agency assigned to the case in a manner and format prescribed by the department.

(3) The failure of the mandated reporter to file the report under paragraph (2) shall not relieve the county agency from any duty under this chapter, and the county agency shall proceed as though the mandated reporter complied with paragraph (2). (Pennsylvania General Assembly, 2018).

Immediate reporting

Reports should be made immediately either orally to ChildLine (1-800-932-0313) or through the electronic submission through the Child Welfare portal at www.compass.state.pa.us/cwis. Oral reports are then required to be followed up within 48 hours with a written report that is sent to the investigating agency. The approved written form can be found at www.keepkidssafe.pa.gov. The form is under the forms tab (located on the left-hand side of the main page). The form is Report of Suspected Child Abuse (CY47). This is ONLY required if the report is completed orally and not done via electronic submission. If a reporter completes the electronic submission through the portal they have completed their mandated requirement without completing any other forms or notifications (Pennsylvania General Assembly, 2018).

Mandated reporters right-to know

§6368 Notice to mandated reporter

If a report was made by a mandated reporter under section 6313 (relating to reporting procedure), the department shall notify the mandated reporter who made the report of suspected child abuse of all of the following within three business days of the department's receipt of the results of the investigation:

(1) Whether the child abuse report is founded, indicated or unfounded.

(2) Any services provided, arranged for or to be provided by the county agency to protect the child (Pennsylvania General Assembly, 2018).

Confidential/privileged communications

Section 6311.1 of the CPSL (a) General rule-Subject to subsection (b) the privileged communications between a mandated reported and a patient or client of the mandated reporter shall not:

- Apply to a situation involving child abuse.
- Relieve the mandated reporter of the duty to make a report of suspected child abuse.

(Pennsylvania General Assembly, n.d.-b)

Confidential communications

The following protections shall apply:

- As per the Child Protective Services Law §6311.1 (b.1), confidential communication made to the member of the clergy are protected under 42 Pa. C.S. §5943. This portion of the Pennsylvania Statute states, No clergyman, priest, rabbi or minister of the gospel of any regularly established church or religious organization, except clergymen or ministers, who are self-ordained or who are members of religious organizations in which members other than the leader thereof are deemed clergymen or ministers, who while in the course of his duties has acquired information from any person secretly and in confidence shall be compelled, or allowed without consent of such person, to disclose that information in any legal proceeding, trial or investigation before any government unit." If an individual has come to the clergy because of their religious role and affiliation in confidence, wanting forgiveness or absolution of their act or failure to act of child abuse; then the information is considered privileged. If an individual has relayed information regarding the act or failure to act in any other setting, the information is no longer privileged and the clergy is mandated to report.
- Confidential communications made to an attorney are protected so long as they are within the scope of 42 Pa.C.S. §§ 5916 (relating to confidential communications to attorney) and 5928 (relating to confidential communications to attorney), the attorney work product doctrine or the rules of professional conduct for attorneys.

(Apr. 15, 2014, P.L.414, No.32, eff. 60 days) (Pennsylvania General Assembly n.d.).

PENALTIES FOR FAILURE TO REPORT OR REFER

1. A person or official required by this chapter to report a case of suspected child abuse or to make a referral to the appropriate authorities commits an offense if the person or official willfully fails to do so.
2. An offense under this section is a felony of the third degree if:
   a. The person or official willfully fails to report.
   b. The child abuse constitutes a felony of the first degree or higher.
   c. The person or official has direct knowledge of the nature of the abuse.
3. An offense not otherwise specified in paragraph (2) is a misdemeanor of the second degree.
4. A report of suspected child abuse to law enforcement or the appropriate county agency by a mandated reporter, made in lieu of a report to the department, shall not constitute an offense under this subsection, provided that the report was made in a good faith effort to comply with the requirements of this chapter.

Continuing course of action

If a person's willful failure under subsection (a) continues while the person knows or has reasonable cause to believe the child is actively being subjected to child abuse, the person commits a misdemeanor of the first degree, except that if the child abuse constitutes a felony of the first degree or higher, the person commits a felony of the third degree.

Multiple offenses

A person who commits a second or subsequent offense under subsection (a) commits a felony of the third degree, except that if the child abuse constitutes a felony of the first degree or higher, the penalty for the second or subsequent offenses is a felony of the second degree.

Statute of limitations

The statute of limitations for an offense under subsection (a) shall be either the statute of limitations for the crime committed against the minor child or five years, whichever is greater. (Nov. 29, 2006, P.L.1581, No.179, eff. 180 days; Apr. 15, 2014, P.L.41, No.32, eff. 60 days) (Pennsylvania General Assembly, 2019).

After the report is made

ChildLine receives the report and determines who is to respond to the report, dependent upon the information reported, such as the identity, if known, of the person who allegedly acted to abuse or harm a child.

ChildLine will immediately transmit oral or electronic reports they receive to the appropriate county agency and/or law enforcement official:

- If a person identified falls under the definition of *perpetrator*, ChildLine will refer the report to the appropriate county agency for an investigation.
- If the person identified is not a perpetrator and the behavior reported includes a violation of a crime, ChildLine will refer the report to law enforcement officials.
- If a person identified falls under the definition of *perpetrator* and the behavior reported includes a criminal violation, ChildLine will refer the report to the appropriate county agency and law enforcement officials.

If a report indicates that a child may be in need of other protective services, ChildLine will refer the report to the proper county agency to assess the needs of the child and provide services, when appropriate.

Protection for reporters

§ 6318.Immunity from Liability

General rule: A person, hospital, institution, school, facility, agency or agency employee acting in good faith shall have immunity from civil and criminal liability that might otherwise result from any of the following:

- Making a report of suspected child abuse or making a referral for general protective services, regardless of whether the report is required to be made under this chapter.
- Cooperating or consulting with an investigation under this chapter, including providing information to a child fatality or near-fatality review team.
- Testifying in a proceeding arising out of an instance of suspected child abuse or general protective services.
- Engaging in any action authorized under section 6314 (relating to photographs, medical tests and X-rays of child subject to report), 6315 (relating to taking child into protective custody), 6316 (relating to admission to private and public hospitals) or 6317 (relating to mandatory reporting and postmortem investigation of deaths.

Departmental and county agency immunity

An official or employee of the department or county agency who refers a report of suspected child abuse for general protective services to law enforcement authorities or provides services as authorized by this chapter shall have immunity from civil and criminal liability that might otherwise result from the action.

Presumption of good faith

For the purpose of any civil or criminal proceeding, the good faith of a person required to report pursuant to section 6311 (relating to persons required to report suspected child abuse) and of any person required to make a referral to law enforcement officers under this chapter shall be presumed. (Dec. 16, 1994, P.L.1292, No.151, eff. July 1, 1995; Nov. 29, 2006, P.L.1581, No.179, eff. 60 days; July 3, 2008, P.L.276, No.33, eff. 180 days; Dec. 18, 2013, P.L.1201, No.119, eff. July 1, 2014) (Pennsylvania General Assembly n.d.).

Conclusion

This course provided the details of the identification, assessment, and reporting of child abuse and reviews Pennsylvania state laws regarding child abuse. It introduced and discussed definitions and historic and recent legislation pertaining to the Child Protective Services Law (CPSL). Types and indicators of child abuse were presented as well as how and when to report child abuse and laws that either protect or penalize mandated reporters. Definitions surrounding abuse, abusers, victims, reporters and procedures from the CSPSL were also listed with examples. Exceptions to reporting were also discussed including protection for reporters and confidentiality. Penalties for failure to report were introduced with examples of each. Lastly, when to make a child abuse report and what happens after the report were also presented.

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PENNSYLVANIA MANDATORY CHILD ABUSE RECOGNITION AND REPORTING (RENEWAL LICENSURE)

Self-Assessment Answers and Rationales

1. The correct answer is A.
Rationale: According to the CPSL, parents and teachers are all examples of perpetrators. An individual less than14 years of age who resides in the same home as the child, can not be a perpetrator. Mary's brother who resides with her is 10 years old.

2. The correct answer is B.
Rationale: A serious metal injury is a psychological condition, as diagnosed by a physician or licensed psychologist, including the refusal of appropriate treatment, that: interferes with a child's ability to accomplish age-appropriate developmental and social tasks. Mary does not have age appropriate speech, and her language is impaired. She will require a formal evaluation and diagnosis forserious mental injury.

3. The correct answer is A.
Rationale: Mary's bruises, with a conflicting explanation at to what happened is a sign of being a victim of bodily injury.

4. The correct answer is D.
Rationale: One of the physical indicators of sexual abuse or exploitation includes bedwetting. Behavioral indicators include fire setting and being anxious.

PENNSYLVANIA MANDATORY CHILD ABUSE RECOGNITION AND REPORTING (RENEWAL LICENSURE)

Final Examination Questions

Select the best answer for each question and mark your answers on page 146, or for faster service complete your test online at **EliteLearning.com/Book**

1. According to CPSL, child abuse occurs if it is done:
   a. Recklessly.
   b. Knowingly.
   c. Intentionally.
   d. All are correct.

2. Which of following is an examples of a General Protective Services cases (GPS)?
   a. The child has just sustained a skull fracture after being pushed by parents.
   b. The child is placed for adoption in violation of the law.
   c. The child's weight is significantly lower than the expected parameters.
   d. All are correct.

3. _____ is defined in section 6303 of the Child Protective Services Law as a person who has committed child abuse.
   a. Abuser.
   b. Perpetrator.
   c. Offender.
   d. Violator.

4. According to section 6303 of the Child Protective Services Law, a person who is required to make a report of child abuse is called:
   a. Permissive reporter.
   b. Guardian ad litem.
   c. Mandated reporter.
   d. Child welfare advocate.

5. If they suspect abuse, mandated reporters are required to immediately report the abuse to ChildLine electronically or by telephone. Written reports must be made within how long after the oral report is made by telephone:
   a. 48 hours.
   b. 72 hours.
   c. 24 hours.
   d. 1 week.

6. According to section 6313 of the Child Protective Services Law, a child does not have to come before the mandated reporter in order for the mandatory reporter to make a child abuse report:
   a. True.
   b. False.

7. If the person who reports the crime is not the perpetrator and the behavior includes a violation of a crime, ChildLine will refer the report to:
   a. The county agency.
   b. The Child Welfare Agency.
   c. The state agency.
   d. The law enforcement officials.

8. According to section 6318 of the Child Protective Services Law, which of the following shall have immunity from liability when acting in good faith:
   a. A hospital.
   b. A school.
   c. A person.
   d. All are correct.

9. According to Act 88, 2019 Update: If a mandated reporter willfully fails to report suspected child abuse they could be charged with up to:
   a. First-degree felony.
   b. Second-degree felony.
   c. Third-degree felony.
   d. Third-degree misdemeanor.

10. At risk youth for human trafficking include all but the following:
    a. Poor school performance.
    b. Identify as LGBTQ.
    c. Have family dysfunction.
    d. Identify as native or aboriginal.

Course Code: ANCCPA02CA22

Asthma Management and Patient Education

2 Contact Hours

Release Date: February 2, 2022

Expiration Date: January 31, 2025

Faculty

Author:
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 of 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. Dr. Quaranta has also authored manuscripts for numerous 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, as well authored chapters in textbooks 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.

Peer Reviewer:
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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.

How to receive credit

- Read the entire course online or in print which requires a 2-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.

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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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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.

Learning objectives

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

- Examine national goals for education about asthma and current gaps in reaching those goals.
- Evaluate approaches to asthma education.
- Examine the elements of culturally competent asthma education.
- Apply behavior change theory in providing asthma education.
- Compare and contrast evaluation methods for asthma management education.

INTRODUCTION

This course focuses on the content and process of individual- and family-centered asthma education. Asthma is a disease that can be controlled and managed but doing so requires involvement by the person with asthma and their family. By nature, asthma is a variable disease. Symptoms are constantly changing in response to the weather, exposure to environmental and other triggers, and changes in the individual. This variability demands frequent adjustments in the treatment plan. Recognition of early warning signs and prompt treatment are key aspects of asthma control. Optimal control can only be achieved if the person with asthma and their family are educated to make sound management decisions. Suboptimal control results in excessive and costly healthcare utilization and poor quality of life for individuals with asthma. Self-management education reduces asthma morbidity in both adults and children (Global Initiative for Asthma [GINA], 2021).

Because education is critical to optimal asthma outcomes, experts agree that healthcare providers should include education in every treatment plan. The Expert Panel Report 3 (EPR3) of the National Heart, Lung, and Blood Institute (NHLBI, 2007), the 2020 Focused Updates to the Asthma Management Guidelines, and the GINA (2021) place a high priority on asthma education through their recommendations to include education at every interaction with the individual with asthma. It should be noted that asthma education (including inhaler technique) and assessment tools for asthma control, adherence, and other factors were not included in the 2020 Focused Updates to the Asthma Management Guidelines (2020) because of lack of time, lack of resources, and, for some topics, insufficient new evidence.

Despite efforts to promote asthma education, many primary care providers fail to incorporate the guidelines into practice, which can have detrimental outcomes for the person with asthma.

In an analysis by Akinbami and colleagues (2020) examining adherence to asthma guidelines, data highlighting the need for asthma management education was revealed. Healthcare providers reported patient misunderstanding, concerns, and confusion about key areas for asthma self-management. Pediatricians reported patient/parental concern about long-term side effects of inhaled corticosteroids. More than half of surveyed family/general medicine practitioners, pediatricians, and Community Health Center advanced practice providers reported that patients/parents were often or almost always confused about differences between rescue and control medications.

Yildirim and colleagues (2021) looked at the impact of asthma self-management education on healthcare utilization and expenditures for Medicaid-enrolled children with asthma in New York and Michigan. Children who received asthma self-management education demonstrated a significant reduction in emergency department (ED) use. For those children who received self-management education, the probability of utilizing the ED decreased by 13.4% in Michigan and 6% in New York. Additionally, inpatient admissions decreased by 2.2% in Michigan and 3.5% in New York. Healthcare costs were also found to decrease by 16.9% in New York and 64.6% in Michigan, associated with decreased need for rescue inhalers related to improved adherence with controller medications, which resulted in better asthma outcomes.

GOALS OF ASTHMA EDUCATION

The aim of asthma education is to empower individuals with asthma and their families to manage their chronic condition. Asthma self-management education is essential to achieve the goals of asthma management as set forth in the GINA (2021), the EPR-3 (NHLBI, 2007) and the 2020 focused updates for the EPR3. These goals include symptom control and maintenance of normal activity levels and reducing future risk of asthma-related morbidity and mortality, exacerbations, persistent airflow

limitation, and side effects of treatment. It is essential that the person's own goals regarding their asthma and its treatment are considered (GINA, 2021). The person with asthma needs to have a clear understanding of how asthma impacts the body, be able to recognize signs and symptoms that occur when their asthma is no longer in control, understand and be able to correctly administer medications, and recognize and avoid asthma triggers. Knowing when to call a healthcare professional and when emergency care is needed is essential (American Lung Association, 2021). Effective asthma education that enhances asthma self-management behaviors improves quality of life; improves asthma symptoms; results in fewer activity limitations, urgent care visits, and hospitalizations; improves medication adherence; and reduces asthma-related healthcare costs. Providing this education needs to be a collaborative partnership between the person with asthma and their healthcare professional, establishing open communication and a shared responsibility and decision making (Apter, 2021). Persons with asthma should be encouraged to participate in decisions about their treatment and be given the opportunity to express expectations and concerns. This partnership needs to be individualized for each person with asthma, considering influences of culture and ethnicity, literacy, beliefs about asthma and medications, and a desire for autonomy (GINA, 2021).

Unfortunately, asthma management currently falls short of national and international asthma management goals. Akinbami and colleagues (2020) examined adherence to the EPR-3 guidelines among internists, family/general medicine practitioners, pediatricians, and Community Health Center advanced practice providers, which included patient education. Their results found that pediatricians were more likely to provide asthma action/treatment plans than family/general medicine practitioners and internists. The researchers overall found low adherence for patient education among providers. Caminati and colleagues (2021) report poor physicians' adherence to asthma guidelines is a known risk factor for suboptimal disease management. Cloutier and colleagues (2020) conducted a survey investigating self-reported guideline agreement and adherence among a sample of allergists and pulmonologists; they found an adherence rate below 50% regarding specific guideline recommendations in providing patients with an asthma action plan and regularly assessing inhaler technique.

Pudasainee-Kapri (2021) examined adherence to asthma guidelines in pediatric primary care. Quality outcome measures based on NHLBI EPR3 asthma guidelines included prescriptions for rescue and controller medications; asthma control assessment; asthma medication adherence assessment; medication delivery technique assessment; use of asthma action plans; addressing environmental triggers, allergies, and irritants; and recommendations for follow-up visits and referral to specialty care as needed. Although most patients were prescribed rescue and controller medications, 22.5% of the providers neglected to assess for patient use of rescue medications, and 80% failed to assess adherence for controller medications. No teaching on medication delivery techniques and no spacer orders were found with 41.5% of the providers. Only 5% of the providers used asthma action plans, and only 15% assessed for environmental and other triggers. More than 50% of the providers neglected to schedule follow-up visits or refer to specialists when indicated.

Evidence-based practice! Based on the findings discussed above, Pudasainee-Kapri (2021) conducted a multi-component intervention to increase adherence to asthma guidelines. This included provider education, asthma management practice guidelines, and evidence-based asthma resources. Providers received face-to-face educational sessions, individual asthma pocket guides and copies of the PowerPoint slides used during the education session. The pediatric version of asthma management practice guidelines and evidence-based asthma resources were developed and provided to the practice champion. Evidence-based asthma resources included flowsheets for asthma referral and follow-up recommendations, flowsheets for initial and follow-up visit protocol, color-coded pictures of inhaler sheets, and inhaler teaching sheets. Demo inhalers, spacers, and spacers with face masks were made available to demonstrate proper inhaler technique to patients/families as needed. Although results demonstrated an increase in adherence with many of the guidelines, the only statistically significant increase found was in environmental trigger assessment.

Caminati and colleagues (2021) conducted a review to highlight unmet asthma needs and the potential determinants of poor asthma control. The main issue related to the overall unsatisfactory control in individuals with mild to moderate asthma was identified as adherence to prescribed inhaled therapies. Nonadherence may be related to the person's evaluation of the advantages and disadvantages of the prescribed treatment or to poor awareness and low perception of disease severity. These behaviors can be influenced by the information given to the individual, emphasizing the need for asthma management education. Active involvement of the person with asthma in the management of their disease plays a pivotal role. The selection of the most appropriate treatment should be a shared approach between the person with asthma and the provider. When possible, discussing different options in terms of devices, medications, or dosing, or treatment schedule and exploring preferences and expectations, may increase engagement in asthma management for the person with asthma.

Healthcare Professional Consideration: Parents of children with poorly controlled asthma may have disparate perceptions of their child's level of asthma control, which may be attributed, in part, to ineffective parent-child communication. Islamovic and colleagues (2019) compared parent and child reports of asthma symptoms with exercise, worries about developing an asthma attack, and confidence in disease management in 105 children ages 7 to 10 years with asthma and their parents. They found that children were more likely than their parents to report ever having an exercise-induced asthma attack and that they worry about developing an asthma attack during exercise. Children felt more confident about using an inhaler correctly than their parents and were more likely to report having an inhaler available in case of an attack. These findings highlight the need to include the child during history taking to identify children in need of enhanced asthma management.

Self-Assessment Quiz Question #1

The most frequent unmet asthma need indicating the need for healthcare provider asthma management education is:

a. Trigger avoidance.
b. Inhaler technique.
c. Asthma diagnosis.
d. Symptom severity.

APPROACHES TO ASTHMA EDUCATION

The EPR3 (NHLBI, 2007) guidelines clearly establish that asthma education begins at the time of diagnosis and is reinforced at every opportunity. GINA (2021) emphasizes that review at regular intervals by a healthcare professional is a component of effective asthma self-management education. Any questions or concerns from the person with asthma should be solicited,

asthma control should be assessed, and any treatment issues should be addressed (GINA, 2021). Content to be included in asthma education is delineated in both the EPR3 (NHLBI, 2007) and GINA (2021) guidelines. Asthma education needs to include skills training on the correct use of inhaler devices, encouragement for adherence to medications (including role of medications) and appointments, and trigger awareness and avoidance. Content needs to include information about asthma, rationale for treatment including the difference between reliever and controller medications, potential medication side effects, prevention of symptoms and flare-ups, how to recognize worsening asthma and what actions to take, when and how to seek medical attention, and management of comorbidities.

A stepwise approach to asthma education

Asthma is a complex topic. Providing all of the necessary education during one visit can easily overwhelm the individual and family. The EPR3 (NHLBI, 2007) and GINA (2021) guidelines delineate approaches for providing asthma education in a stepwise approach. Individuals with asthma need information about the diagnosis, simple information about available treatments, and explanations of the recommended treatments at the initial visit. Additionally, asthma education needs to reflect the current status of the person with asthma, necessitating a stepwise approach for treatment decisions based on a cycle of assessment, adjustment of treatment, and review of the response (GINA, 2021). In addition to content, the EPR-3 recommends an assessment of psychological factors, including stress. Effective teaching is always based on assessment. Assessment enables the educator to adjust the information to the needs, concerns, and education level of each individual. Content adjusted to these needs is more meaningful to the individual and is retained longer. Assessment is also conducted in a stepwise approach, with the initial focus on worries, concerns, and expectations and the later focus on issues or concerns about implementing the treatment plan.

Healthcare Professional Consideration: Assessment questions should be asked at each visit to determine the asthma management education needed. With the initial visit for an asthma diagnosis, focus should be on the person's concerns, quality of life, expectations, and goals of treatment. Sample questions include "What worries you most about your asthma?", "What do you want to be able to do that you can't do now?", and "What do you expect from treatment?" Recommendations for the first follow-up visit have the same focus as the initial visit. Questions include medication use assessment and any problems with the medications, as well as assessment of inhaler technique. The focus for the second follow-up visit includes quality of life, goals of treatment, medications, and expectations of the visit. Questions include trigger assessment, knowing when to seek care, understanding the asthma action plan, and any medication issues. The focus for all subsequent visits is the same as the second visit. Assessment questions include trigger avoidance and demonstration of inhaler technique (NHLBI, 2007).

Teachable moments

A teachable moment is that point in time when a learner is most receptive to a teaching situation (Bastable, 2021). The nurse educator must understand and identify learning needs as they arise and provide teaching experiences often enough to benefit learners to assist them in their journey from dependency to independence in managing their asthma. Providing education at the right time facilitates the transfer of learning from the nurse to the person with asthma, resulting in an enhanced ability to self-manage asthma, as well as fewer avoidable ED visits and hospitalizations. Impact DC, a pediatric asthma program focused on improving asthma care, awareness, and outcomes, uses teachable moments that naturally occur after an asthma exacerbation. The use of teachable moments resulted in an increase in controller medication use of more than 100%, a reduction in subsequent ED visits of nearly 50%, and improved quality of life (Children's National, n.d.).

Evidence-based practice! Unplanned hospital admissions for a child's asthma exacerbation provide teachable moments for the parents caring for the child. Samedy and colleagues (2019) evaluated inhaler technique in pediatric patients hospitalized with an asthma exacerbation and identified risk factors for improper use. Of 113 participants enrolled, 55% had uncontrolled asthma, and 42% missed a critical step in inhaler technique. More patients missed a critical step when they used a spacer with mouthpiece instead of a spacer with mask. Hospital-based education may provide teachable moments to address poor proficiency.

Self-Assessment Quiz Question #2

A teachable moment occurs when a patient:

a. Sees the healthcare provider for a routine follow-up appointment.
b. Refills a prescription for their asthma inhaler.
c. Experiences an asthma exacerbation.
d. Is referred to a specialist for asthma care.

Asthma education: when and where

Asthma education can be provided anywhere there is contact with the person with asthma. The most obvious place for this education is in the healthcare provider's office. However, as noted previously, many barriers exist that preclude the ability for this education to take place in this setting. For the child with asthma, a school-based setting is optimal because children spend almost one third of their time at school. Home-based programs are recommended as well.

Home-based programs allow the asthma educator to assess the living environment and provide the opportunity for real-time intervention with trigger exposure for the person with asthma.

Additionally, providing education in the individual's home allows for a greater sense of control and autonomy for the person receiving the education.

Methods of teaching

The healthcare provider needs to consider individual characteristics when developing the teaching plan for the person with asthma. A person's developmental level influences the ability to learn and how one is best able to learn. Physical, cognitive, and psychosocial factors need to be taken into account. Learning progresses from dependence to independence to interdependence (Bastable, 2021). The healthcare provider needs to introduce content at appropriate stages of development and should build on the individual's previous knowledge and experience. The GINA (2021) guidelines

describe guided asthma self-management. This method involves varying degrees of independence, ranging from patient-directed self-management to doctor-directed self-management. Deciding on the best way to provide asthma education is dependent on a thorough assessment of the learner, including learner preference and ability.

Children

The school-aged child understands cause and effect but has not yet developed abstract thought. Information should be concrete. This age group can use deductive and inductive reasoning and can understand the seriousness and consequences of actions. Success is important to this age group. Independence and active participation should guide the teaching strategies. Role models are important to this age group, with children of this age wanting to please adults. Analogies assist in making invisible processes real. Drawings, models, and videos are beneficial (Bastable, 2021).

Adolescents

Adolescence is a time of great change and inner turmoil, with transition into the adult role. Peer acceptance is extremely important to this age group, and a sense of feeling "different" because of asthma may compromise these relationships. Adolescents are capable of abstract thought and hypothetical thinking, can build on previous experiences, and can reason using logic and scientific principles. Characteristics of this age group include a preoccupation with body image and functioning and the perceived importance of peer acceptance; they may view health recommendations as a threat to their autonomy and sense of control (Bastable, 2021). These attributes need to be taken into account when providing asthma education to this age group. They may ignore their symptoms if they interfere with activities they want to do. They may neglect to use their rescue inhaler if they are with friends to avoid feeling different. However, they are also able to relate past exacerbations to cause and effect and to be cognizant of what to do to avoid future problems. These attributes help explain the findings of Mammen and colleagues (2017), who looked at how teens self-manage asthma. They found that teens considered their asthma as normal despite having uncontrolled asthma per symptom report. Teens with uncontrolled asthma were also more likely to delay using medication. This study shows the importance of changing the perception of asthma control among teens to improve asthma outcomes.

Recommended teaching strategies for this age group include one-to-one instruction, peer-group discussion, role-playing, and gaming. Use of technology assists with the educational process. Shared decision making should be incorporated into the teaching plan to allow for a sense of control. Additionally, including the teen in the creation of the asthma action plan and allowing options will also contribute to a sense of autonomy and control. Teaching needs to be respectful; their sense of invincibility needs to be integrated, and their sense of self-integrity needs to be maintained (Bastable, 2021).

Adults

Adults have the ability for abstract thought. Motivation to learn is intrinsic. Personal past experiences may enhance or impair the current knowledge acquisition. Decisions take into account personal, occupational, and social roles. Teaching should be problem-centered, immediate, and meaningful.

Teaching strategies are similar to those used with adolescents: one-to-one instruction, group discussion, and role-playing. Shared decision making should be incorporated into the teaching plan (Bastable, 2021).

Partnering with individuals

Healthcare professionals should involve individuals in decisions about the type of self-monitoring asthma control they will do. An effective partnership between the person with asthma and the healthcare professional enables the person with asthma to gain knowledge and skills necessary to reduce the adverse outcomes associated with uncontrolled asthma. Research findings suggest that asthma education, reinforced in the context of a therapeutic partnership between the healthcare provider and the individual with asthma, is valuable (GINA, 2021; NHLBI, 2007). Young and colleagues (2017) looked at communication between the healthcare provider and the individual with asthma and its impact on medication adherence in 452 adults with an asthma diagnosis. Medication adherence was greater in those persons with asthma who perceived their healthcare provider as trusting and motivating.

Shared decision making, discussed previously, is a unique approach to asthma care in that it identifies the individual's goals and preferences and negotiates a treatment plan to best accommodate those goals and preferences. When the provider partners with the individual with asthma to make treatment decisions, it opens communication, identifies individual and family concerns, identifies treatment barriers, and encourages active self-assessment and self-management (GINA, 2021).

Asthma educator certification

To address the need for asthma educators to deliver evidence-based asthma education to individuals, the National Asthma Educator Certification Board (NAECB) was formed in 1999 and held its first board meeting in 2000. The NAECB is the only organization in the United States with a national certification process for asthma educators. The NAECB represents an interdisciplinary team of asthma experts with the aim of addressing the need for a standardized process for asthma certification. The first national certification examination was offered in 2002 (NAECB, n.d.b). Currently, there are 2,989 certified asthma educators (AE-Cs) in the United States (NAECB, 2021).

The mission of the NAECB is to promote optimal asthma management and quality of life among individuals with asthma, their families, and communities by advancing excellence in asthma education through the certified asthma educator (AE-C) process (NAECB, 2021). The goals of the NAECB are to standardize the certification process, evaluate the effectiveness of certified educators in disease management, and investigate third-party reimbursement for asthma education.

An asthma educator is considered an expert in teaching, educating, and counseling individuals with asthma and their families in the knowledge and skills necessary to minimize the impact of asthma on their quality of life.

Initial certification is through a comprehensive examination focusing on asthma pathophysiology and factors that contribute to acute and chronic asthma; assessment of an individual with asthma and their family; medications and delivery devices, behavioral and environmental modifications, and asthma self-management plans; organizational issues; and professional partnerships. Initial certification is valid for 5 years. Once certification is achieved, the certified asthma educator may recertify either through re-examination or continuing education credits (NAECB, n.d.a).

The Association of Asthma Educators (AAE) is an organization dedicated to raising the standard of asthma education and promoting consistency with national guidelines. The AAE provides evidence-based asthma education, advocates for patients with asthma and their families, advocates for underserved and minority populations, addresses disparities in asthma outcomes, and improves asthma management and

education outcomes. Membership includes nurses, nurse practitioners, respiratory therapists, pharmacists, doctors, physician assistants, community health workers, case managers, and social workers (Association of Asthma Educators, n.d.).

CULTURALLY COMPETENT ASTHMA EDUCATION

An asthma healthcare disparity exists among ethnic populations in the United States, which compounds the higher asthma prevalence that exists in many minority populations. Puerto Ricans have the highest rate of asthma prevalence compared with any other racial or ethnic group 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. Deaths because of asthma, although decreasing overall, are far more frequent in the African American population than in the white population. Asthma-related ED visits are nearly five times as high for African American patients compared with white patients. Increased ED visits are indicative of poor asthma control. Although asthma-related data for American Indian and Alaska Native populations is limited, regional data shows American Indian and Alaska Native individuals are twice as likely to experience asthma symptoms every day (Asthma and Allergy Foundation of America, 2020). Strategies to improve asthma control in disparate populations include incorporating shared decision making into practice. The need to identify and remedy specific problem areas in patient-provider communication is imperative. Training programs for healthcare professionals to identify patients with asthma with social determinants of health-related issues should be implemented, and community partnerships to match patients with local resources should be established. Personalized, culturally appropriate asthma action plans using the patient's and caregivers' language and wording should be provided (Asthma and Allergy Foundation of America, 2020).

Illiteracy and poor English skills are high among these groups and complicate healthcare delivery. However, when culturally competent care and education are provided, health outcomes among minority groups improve. The challenge for the healthcare professional is to understand culturally competent education and integrate cultural concepts into practice. Culturally (and linguistically) appropriate services are respectful of and responsive to the health beliefs, practices, and needs of diverse individuals. The percentage of Americans who are racial and ethnic minorities and who speak a primary language other than English continues to grow rapidly. Individualizing services to culture and language preference allows health professionals to facilitate positive health outcomes for diverse populations (Office of Minority Health, 2021).

Culturally oriented beliefs

Individuals' beliefs about asthma and asthma treatment must be considered for successful educational outcomes. Cultural groups vary in their health beliefs, and these variations may conflict with traditional medical beliefs. Culture can be described as the combination of a body of knowledge, a body of belief, and a body of behavior. It involves several elements that may be specific to ethnic, racial, religious, geographic, or social groups. This includes personal identification, language, thoughts, communications, actions, customs, beliefs, values, and institutions. These elements influence beliefs and belief systems surrounding health, healing, wellness, illness, disease, and delivery of health services (National Institutes of Health, 2021a). Health behaviors are learned within this context and must be taken into account when providing asthma education. Failure to recognize these differences leads to distrust and creates distance between individuals and healthcare providers.

Race, ethnicity, and culture influence health and treatment-seeking behaviors. Some of the perspectives will be presented here. It is important to point out that these are generalizations and may not be representative of all the members of a specific group. However, these commonalities are based on research and should be considered when working with peoples from various cultures (Rose, 2018).

Evidence-based practice! Tackett and colleagues (2021) examined asthma management and medication beliefs among 92 non-Hispanic/Latinx White (40%), Black/African American (25%), and Hispanic/Latinx (35%) families. Significant differences were found for poverty status. More Hispanic/Latinx families were at or below the poverty line (75% compared with non-Hispanic/Latinx White (22%) and Black/African American (39%) families. Significantly higher rates were found for non-Hispanic/Latinx White compared with Black/African American families in these areas: adherence to controller medications and access and/or use of quick-relief medications when needed, knowledge about the family's/child's basic understanding of asthma and about prescribed asthma medications, and symptom assessment of parent/child awareness of early warning signs, symptom patterns, and levels of symptom urgency. Collaboration involving the family's relationship with their healthcare provider, including communication and agreement regarding treatment, was significantly higher among non-Hispanic/Latinx White and Hispanic/Latinx families. As medication concerns increased, medication adherence decreased for non-Hispanic/Latinx White and Hispanic/Latinx families. Regardless of racial/ethnic group, most families indicated difficulties in attending medical visits and buying prescription medications. No differences were observed for any healthcare utilization through doctor visits, ED visits, and hospitalizations.

Healthcare Professional Consideration: Cultural respect is critical to reducing health disparities by improving access to high-quality healthcare that is respectful of and responsive to the needs of diverse patients. When developed and implemented as a framework, cultural respect enables systems, agencies, and groups of professionals to function effectively to understand the needs of groups accessing health information and healthcare. This is critical to reducing health disparities. Cultural respect enables systems, agencies, and groups of professionals to function effectively to understand the needs of groups accessing health information and healthcare, and communities, and supports positive health outcomes. Cultural respect is also critical for achieving accuracy in medical research. Poor planning in medical research, which does not consider principles of cultural respect, may yield inaccurate results (National Institutes of Health, 2021a).

Healthcare Professional Consideration: It is important that any cultural or religious practices be incorporated into the traditional medical plan for the person with asthma. Using a holistic approach that is accepting and nonjudgmental will result in a better relationship between the healthcare provider and the individual with asthma and better asthma outcomes.

Health beliefs and impact on adherence to treatment

One's culture can influence beliefs about disease, self-management approaches, and medication use. Individual beliefs about the necessity of a medication and the level of concern about taking daily medications differ among cultural groups, making medication beliefs an important point to consider when addressing health disparities. Personal beliefs may affect timing and acceptance of medication use, such as attempting natural remedies before progressing to prescribed medications. The Asthma and Allergy Foundation of America (2020) reports numerous study findings. For parents of African American and Hispanic children with asthma, concerns about medication more frequently outweighed belief in the necessity of medication, which was associated with lower self-reported medication adherence. Negative medication beliefs and minority status were found to be associated with nonadherence to inhaled corticosteroids. Miles and colleagues (2017) report that fear and mistrust about inhaled corticosteroids can lead to a trial-and-error approach with asthma medicines, only sometimes with the treating physician's knowledge.

Distrust in the healthcare system related to historical failures and experiences with unfair treatment have led many African Americans and other people of color to believe the healthcare system cannot be relied upon (Asthma and Allergy Foundation of America, 2020). A general sense of unease in healthcare settings, particularly when it comes to experiencing or reacting to implicit and explicit bias in care, compounds this lack of trust. The impact of the Tuskegee Study, which unethically experimented on African American men in the Southern United States with untreated syphilis, is still felt today. National Public Radio, the Robert Wood Johnson Foundation, and Harvard's T. H. Chan School of Public Health (2017) conducted a study that revealed that at least one third of African Americans say they have experienced racial bias in healthcare settings, and one in five avoid medical care because of discrimination concerns. During the COVID-19 pandemic, a lawsuit was brought against the Centers for Disease Control and Prevention to release racial and ethnic data of how U.S. populations of color were affected. Much of the information was incomplete, which may further reinforce distrust among people of color regarding the medical establishment (Oppel et al., 2020).

Self-Assessment Quiz Question #3

Which of the following statements is NOT TRUE regarding distrust in the healthcare system?

a. Implicit bias frequently occurs in healthcare settings.
b. The impact of the Tuskegee Study on syphilis is still felt today in the African American community.
c. The Centers for Disease Control and Prevention released comprehensive data about healthcare disparities during the COVID-19 pandemic.
d. One in five African Americans avoid medical care because of discrimination concerns.

Language

Linguistic competence involves understanding that many people in the United States do not speak English or have limited English proficiency. These individuals usually seek healthcare where their predominant language is not spoken, thus setting up the potential for ineffective communication (Rose, 2018). Language barriers and the inability to read or understand health information can pose serious health risks to individuals with limited English proficiency. There are several challenges to removing language barriers. Often, there is no right or wrong in translating certain concepts and words. Some words and ideas, especially complex or technical ones, are not easily translated, making comprehension difficult. Additionally, there is great diversity and variation in the language skills and abilities of individuals, including translators and interpreters. Geographic and cultural context are often the most important components in health communication (National Institutes of Health, 2021b).

Whenever possible, healthcare professionals should ensure that asthma education is provided in the person's native language by someone fluent in the language. Using family members as translators may result in inaccurate translation or block communication by disrupting the power structure in the family. Errors may occur if the family member is not fluent in the native language, or family members may choose to omit content they feel is unacceptable. Additionally, use of a family member as a translator might be a violation of privacy and confidentiality rights (Bastable, 2021). Healthcare professionals who are not fluent in the individual's language can build rapport by making an effort to communicate in the individual's language by using familiar phrases.

Verbal instruction should be reinforced with written material in the individual's native language. Some institutions use certified translators who are fluent in the predominant dialect of the area served by the institution, although translation issues may still arise because of different dialects. A second certified translator should review translated educational materials to confirm their accuracy (Bastable, 2021).

For those persons with asthma who are partially fluent in English, there are some strategies that may assist in providing asthma education. Speaking slowly and distinctly, with simple sentences devoid of technical terms, may help with understanding. The information should be organized in the order in which the plan of action will be carried out. The healthcare provider should verify the individual's understanding by asking the person with asthma to repeat the content or demonstrate any skills taught (Bastable, 2021).

Literacy

According to the National Library of Medicine (2021), nearly 9 out of 10 adults experience issues with health literacy. There are many aspects of health literacy, including personal health literacy, digital health literacy, and numeracy. Personal health literacy is the degree to which individuals have the ability to find, understand, and use information and services to inform health-related decisions and actions for themselves and others. Examples include understanding prescription drug instructions, understanding doctor's directions and consent forms, and the ability to navigate the complex healthcare system (National Library of Medicine, 2021).

Digital health literacy is the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem. Examples include accessing electronic health records, communicating electronically with the healthcare team, ability to discern reliable online health information, and using health and wellness applications (National Library of Medicine, 2021). Numeracy, or quantitative literacy, refers to mathematical and problem-solving skills. Examples include taking correct dosage of medication, evaluating treatment benefits and risks, and

understanding insurance costs and coverage (National Library of Medicine, 2021).

Addressing health literacy is crucial for good health outcomes, especially for those with asthma. People with limited health literacy skills are less able to effectively manage chronic health conditions, resulting in increased preventable ED visits, hospitalizations, and healthcare costs, as well as poorer reported health status (National Library of Medicine, 2021). Children with asthma who had parents with low health literacy had poor asthma control, greater incidence of ED visits and hospitalizations, and more missed school days (Tzeng et al., 2018). Stormacq and colleagues (2020) found that interventions that include cultural appropriateness, tailoring (creating communications in which information about a given individual is used to determine what specific content they will receive, the contexts or frames surrounding the content, by whom it will be presented, and through which channels it will be delivered), skills building, goal setting, and active discussions increased health literacy skills and health-related outcomes.

Abrams (2020) conducted an integrative review for the impact of caregiver health literacy on pediatric asthma. Lower health literacy is associated with poorer asthma outcomes, including decreased quality of life, worse asthma control, and more ED visits for asthma. Unfortunately, there is no uniform strategy that is successful in the management of health literacy. Asthma action plans that incorporate picture-based written plans may be more suitable for caregivers with poor health literacy. Verbal communication strategies include using patient-centered language, speaking slowly, and repeating and confirming understanding of key points.

Evidence-based practice! Health literacy is an important determinant of asthma management. Van der Heide and colleagues (2021) investigated patient and healthcare provider perspectives on factors affecting health literacy with asthma management. The researchers conducted semi-structured focus groups with patients and interviews with healthcare providers, researchers, and policymakers. Topics addressed included perspectives on accessing, understanding, evaluating, communicating, and using health-related information in relation to disease self-management practices. Barriers impacting health literacy were identified. Lack of time, inconsistent messaging from different healthcare providers, use of technical language, failure to account for cultural differences, and reduced health literacy related to written communication were common themes.

USING BEHAVIORAL CHANGE THEORY TO ENSURE SUCCESS

Understanding what factors influence health behaviors can help the healthcare professional design interventions with a greater likelihood of achieving success. The Health Belief Model and the Transtheoretical Model of Change are two theories that are useful in promoting behavior change in persons with asthma.

The Health Belief Model states that unless a person sees some value in making a behavior change, there will be no reason to consider the change. For individuals to engage in health-seeking or health-promoting behaviors, they must (a) believe that they are susceptible to a health condition, (b) understand the health condition would have serious consequences, (c) perceive that the benefits of performing the behavior outweigh the barriers surrounding that behavior, and (d) be self-efficacious (i.e., they must believe that they are capable of doing the behavior). These perceptions are influenced by several factors, including developmental level, past experiences, and knowledge (Washburn, 2020).

Another useful model is the Transtheoretical Model for Change (LaMorte, 2019). The premise of this model states that people are in various stages of change, which are fluid. Assessing where the person is concerning their likelihood to perform a health behavior allows the healthcare professional to implement interventions that are more likely to be effective. The stages in this model are as follows:

1. **Precontemplation:** At this stage, the person has no intention of changing their behavior. Increasing awareness about the problem and its consequences for the individual (consciousness raising), increasing awareness of the impact that doing or not doing the behavior has on those in the person's social environment (environmental reevaluation), and increasing emotional experiences associated with not doing the behavior (dramatic relief) are interventions that might move someone to the next stage.
2. **Contemplation:** At this stage, the person is considering making a change but has taken no action yet. The interventions mentioned for the first stage can also be used for this stage. Additionally, self-reevaluation can also be used. This intervention changes how one views oneself in relation to doing healthy behavior. These interventions should move the person to the next stage.
3. **Preparation:** At this stage, the person is getting ready to make the change. Assisting the person in the belief that they can change their health behaviors (self-liberation) is the intervention that can facilitate movement to the next stage
4. **Action:** At this stage, the person is doing the behavior. Providing social support (helping relationships) and substituting healthy behaviors for unhealthy ones (counterconditioning) are some interventions that can support the health behaviors and help the person achieve maintenance.
5. **Maintenance:** This stage occurs when the person has been doing the behavior for 6 months.

These models are useful in planning individualized educational interventions for the person with asthma. A visit to the ED for an asthma exacerbation provides the emotional arousal to move from precontemplation to initiating behavior change. This experience increases the perception of the severity of asthma and of being susceptible to having uncontrolled asthma with dire outcomes. The healthcare professional needs to make sure that all barriers to access to care are removed, including access to medications. When the healthcare provider ensures that the person with asthma understands asthma, knows how to administer medications appropriately, and knows how to avoid asthma triggers, self-efficacy is heightened. The benefits of having asthma controlled and being symptom-free must outweigh the barriers. However, it would be better to intervene before the person with asthma ends up needing emergency care. Staging where the person is in terms of willingness to change asthma-related behaviors is imperative to providing teaching that will be accepted by and integrated into the actions of the person with asthma.

Self-Assessment Quiz Question #4

Which intervention would NOT be effective for convincing a patient with asthma symptoms that taking a daily controller inhaler can improve or help prevent asthma symptoms?

a. Consciousness raising.
b. Environmental reevaluation.
c. Self-liberation.
d. Dramatic relief.

EVALUATION METHODS FOR CLINICAL TEACHING

Evaluation is defined as a systematic and continuous process by which the significance of something is judged. It is the process of collecting and using information to determine what has been accomplished and how well it has been accomplished (Bastable, 2021). Each follow-up clinic visit provides the asthma educator with the opportunity to evaluate the effectiveness of individual and family education. Most of the evaluation data is obtained through subjective reports from the individual and family. Each individual should be assessed for urgent acute care visits, ED visits, hospitalizations, activity intolerance, and missed work or

school days since the last visit. Improvements in these outcomes are linked to effective education. According to the Agency for Healthcare Research and Quality (AHRQ, 2020), 40% to 80% of medical information taught during office visits is forgotten immediately, and nearly half of the information retained is incorrect.

GINA (2021) and AHRQ (2020) recommend using the teach-back method. Teach-back is an educational method in which the patient explains, in their own words, the healthcare provider's instructions. The provider can then determine the patient's level of understanding and clarify the instructions if necessary (Pendergrass, 2021). The related show-me method, or return demonstration, is also included in teach-back. These methods improve patient understanding and adherence, decrease callbacks and canceled appointments, and improve patient satisfaction and outcomes (AHRQ, 2020).

As previously stated, national guidelines recommend that all patients be assessed and taught during healthcare encounters. Explaining new health information for a new asthma diagnosis, providing advice, or changing the current asthma self-management steps initiates the process. The healthcare provider then assesses patient recall and comprehension, allowing for further clarification of the information that is tailored to the person's level of understanding. Recall and comprehension are then reassessed, which results in adherence with the new management behaviors or the need to continue teaching. One essential implementation of this methodology is for asthma medication delivery. Watching individuals with asthma actually use their medication administration devices allows the healthcare professional to determine if learning occurred or if further instruction is needed. Using the teach-back method allows the provider to observe inhaler technique and provide feedback to confirm or improve comprehension (Myers & Murray, 2019).

Teach-to-goal, another method to improve inhaler technique, is an in-person educational strategy that uses repeated rounds of assessment and education to allow the patient to develop mastery of inhaler technique. Although the teach-to-goal method appears to be more effective, it takes more time than the teach-back method to implement. Using a computer-based approach, virtual teach-to-goal, reduces the time constraints. Virtual teach-to-goal uses adaptive learning technology to provide an inhaler skill training module on any desktop or handheld device and has been shown to improve most participants' technique to an acceptable level (Myers & Murray, 2019).

Self-Assessment Quiz Question #5

The teach-to-goal method:

a. Is more time efficient than the teach-back method.
b. Uses repeated rounds of assessment and education.
c. Uses a handheld device that has been shown to be ineffective in improving inhaler technique.
d. Uses a written exam to test understanding of inhaler technique.

Evidence-based practice! Ulrich and colleagues (2021) established a standard asthma teaching protocol with respiratory therapists utilizing the teach-back method. Patients and/or their caregivers were asked to demonstrate proper use of their prescribed inhaler and spacer devices. The teach-back method was continued until the patient could demonstrate good understanding of proper device use. On average the teach-back sessions took 7 to 8 min to complete for each patient. Over the 3-year project, the percentage of asthma clinic visits receiving the standardized respiratory therapist-driven teach-back asthma education increased to 82.3% from a baseline of 42.7%. An estimated 70% of patients and/or their caregivers were able to demonstrate proper inhaler and spacer technique initially in the clinic, improving to 100% at the end of each clinic visit after the teach-back method education was provided. Over the same time period, there was a 10.05% decrease in ED visits per 1,000 patients in the same asthma clinic population.

Physical findings are commonly misleading, but improvement in pulmonary function is a reliable objective indicator of asthma control. In addition to these measures, some practices ask individuals to complete standardized questionnaires that measure different aspects of asthma management, including asthma knowledge, asthma attitude, asthma self-efficacy, asthma control, and asthma-related quality of life. These tools have been tested to be valid and reliable, meaning that they accurately test what they purport to test. Commonly used validated tools include the Asthma Control Test, the Childhood Asthma Control Test, and the Asthma Control Questionnaire. The Asthma Control Test contains five items with a recall window of 4 weeks. The Childhood Asthma Control Test is for use in children 4 to 11 years of age and consists of four pictorial items scored by children and three verbal items scored by parents. The Asthma Control Questionnaire contains six items with a recall window of 1 week, supplemented by percentage of predicted forced expiratory volume in 1 s. The Test for Respiratory and Asthma Control in Kids 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, 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). Tools must be administered as written and cannot be altered, and they must be used for the age group and population for which they were validated (Bastable, 2021). Any alterations change the meaning of the results, and they may no longer be an accurate measurement.

A caution needs to be presented here. The purpose of evaluation is not only to determine if the person with asthma is able to improve their asthma management skills. The healthcare professional also needs to evaluate their teaching style and process. If the outcomes sought are not achieved, it is imperative that the method of teaching be reviewed and changed as necessary.

SUMMARY

Education is an essential component of asthma management. Despite clear guidelines, management goals are not meeting current national standards. Key asthma education concepts include the basic pathophysiology of asthma, the roles of medication, proper medication administration skills, environmental control measures, and when and how to respond to changes in asthma severity. Asthma education should be presented in a stepwise fashion.

Various teaching methods are appropriate to use, but no strategy replaces individual provider consultation with the individual and family. Effective asthma education is based on assessment of the learner, the theory of behavior change, cultural sensitivity, and evaluation of outcomes. Asthma education results in improved asthma control, decreased costs of healthcare, and individual and family satisfaction. Healthcare professionals are in ideal positions to advocate for the individual and family by providing asthma education that is consistent with national guidelines and tailored to individual needs.

Case study

A 42-year-old female patient from Mexico with an asthma diagnosis comes to the health clinic for a persistent nocturnal cough and frequent episodes of wheezing. The patient was diagnosed with asthma at age 4 but states that she "grew out" of her asthma when she was 15 years old, even though a rescue and controller inhaler are used. The patient does not believe she is at risk for any adverse outcomes and states that she does not need to manage a disease that she no longer has.

Questions

1. What assessment issues should the asthma educator focus on for this visit?

2. What cultural assessments should the healthcare professional complete?
3. What are the priority teaching concepts for this visit?
4. How would you apply the Health Belief Model to help you understand this patient's willingness to manage her asthma?
5. How would you stage your educational intervention for this patient? Which intervention might be the most helpful?

Responses

1. The healthcare professional should recognize that too much information presented at one time can be overwhelming, so the focus should be on the patient's worries and concerns and the goals and expectations of treatment. It is also important to assess literacy and language issues.
2. It is vital to establish a nonjudgmental approach with the patient to foster trust and the development of a collaborative partnership. The healthcare professional should ask what the patient believes is the cause of the symptoms. It is important for the healthcare provider to explain the disease process in asthma. It is important to determine the need for interpretation services. It is also important that all printed information be given in Spanish.
3. The priority teaching concepts for this visit are to provide a basic understanding of asthma as a disease that does not go away, airway swelling, airway tightening, and the basic purpose and action of long-term daily control and quick-relief medications as needed. The patient needs to understand early warning signs of asthma exacerbations and when to call the provider for medical advice. This information needs to be kept at a basic level and reinforced and expanded at future visits. The teach-back method needs to be used to ensure correct inhaler technique.
4. The Health Belief Model contains the major constructs of perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. From talking with the patient, it is apparent that she does not think she is susceptible to having an asthma exacerbation because she believes she has outgrown her asthma and no longer has it. You need to explain asthma is a lifelong condition but that individuals with asthma can have intermittent symptoms and can have long periods of being symptom-free. You could also have her complete the Asthma Control Test and explain to her what the score means. Because she is an adult with the ability to use abstract thought, she will be able to equate these findings with the pathophysiologic changes occurring within her respiratory system. Once you change perception of susceptibility, you can continue your teaching to discuss how severe asthma can be and the benefits of managing asthma to become symptom-free. You would also need to assess any barriers to engaging in asthma management strategies, which could include access, affordability, language, literacy, or cultural issues.
5. This patient is in the precontemplation stage according to the Transtheoretical Model of Change. At this point, there is no intention of changing behavior concerning asthma management. To get to the next stage of contemplation, consciousness raising and/or dramatic relief might be viable interventions. You can discuss all the adverse outcomes that can happen without appropriate asthma management. This might increase awareness of the impact of asthma on health, raise emotional concern, and move the patient to the next level.

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Self-Assessment Answers and Rationales

1. The correct answer is B.
Rationale: Caminati and colleagues (2021) conducted a review to highlight unmet asthma needs and the potential determinants of poor asthma control. The main issue related to the overall unsatisfactory control in individuals with mild to moderate asthma was identified as adherence to prescribed inhaled therapies. Nonadherence may be related to the person's evaluation of the advantages and disadvantages of the prescribed treatment or to poor awareness and low perception of disease severity. These behaviors can be influenced by the information given to the individual, emphasizing the need for asthma management education.

2. The correct answer is C.
Rationale: A teachable moment is that point in time when a learner is most receptive to a teaching situation (Bastable, 2021). Providing education at the right time facilitates the transfer of learning from the nurse to the person with asthma, resulting in an enhanced ability to self-manage asthma, as well as fewer avoidable ED visits and hospitalizations. Impact DC, a pediatric asthma program focused on improving asthma care, awareness, and outcomes, uses teachable moments that naturally occur after an asthma exacerbation.

3. The correct answer is C.
Rationale: Experiencing implicit and explicit bias in care leads to lack of trust in the healthcare system. The impact of the Tuskegee Study, which unethically experimented on African American men in the Southern United States with untreated syphilis, is still felt today.

At least one third of African Americans say they have experienced racial bias in healthcare settings, and one in five avoid medical care because of discrimination concerns. During the COVID-19 pandemic, a lawsuit was brought against the Centers for Disease Control and Prevention to release racial and ethnic data of how U.S. populations of color were affected. Much of the information was incomplete, which may further reinforce distrust among people of color regarding the medical establishment.

4. The correct answer is C.
Rationale: In the precontemplation stage, the person has no intention of changing their behavior. Increasing awareness about the problem and its consequences for the individual (consciousness raising), increasing awareness of the impact that doing or not doing the behavior has on those in the person's social environment (environmental reevaluation), and increasing emotional experiences associated with not doing the behavior (dramatic relief) are interventions that might move someone to the next stage.

5. The correct answer is B.
Rationale: Teach-to-goal, another method to improve inhaler technique, is an in-person educational strategy that uses repeated rounds of assessment and education to allow the patient to develop mastery of inhaler technique. Although the teach-to-goal method appears to be more effective, it takes more time than the teach-back method to implement. Using a computer-based approach, virtual teach-to-goal, reduces the time constraints. Virtual teach-to-goal uses adaptive learning technology to provide an inhaler skill training module on any desktop or handheld device and has been shown to improve most participants' technique to an acceptable level.

Crisis Resource Management for the 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
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.

Sponsorship/commercial support and non-endorsement
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

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 THE 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: ANCCPA03CR

Cultural Humility for Healthcare Professionals

3 Contact Hours

Release Date: October 27, 2021

Expiration Date: October 27, 2024

Faculty

Adrianne E. Avillion, D.Ed, RN, is an accomplished nursing professional development specialist and healthcare author. She earned a doctoral degree in adult education and an MS in nursing from Penn State University, and a BSN from Bloomsburg University. Dr. Avillion has held a variety of nursing positions as a staff nurse in critical care, physical medicine, and rehabilitation settings, as well as numerous leadership roles in professional development. She has published extensively and is a frequent presenter at conferences and conventions devoted to the specialty of continuing education and nursing professional development. Dr. Avillion owns and is the CEO of Strategic Nursing Professional Development, a business that specializes in continuing education for healthcare professionals and consulting services in nursing professional development.

Adrianne E. Avillion has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Content Reviewer: Mary C. Ross, PhD, RN, is an experienced nursing educator with extensive clinical experience in multiple areas of nursing including community and mental health. She is a retired Air Force flight nurse and previous chair of a national Veterans Administration advisory council. She has extensive experience living and working in foreign countries and with diverse patient populations.

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

Course overview

The purpose of this education program is to present an introduction to cultural humility and offers tools for healthcare professionals to use when working with diverse patients in a culturally humble manner.

Learning objectives

Upon completion of this course, the learner should be able to:

- Define cultural humility.
- Describe dimensions of diversity in the United States.
- Identify factors that can interfere in the healthcare professional/patient relationship with patients of diverse cultural backgrounds.
- Explain cultural humility from the perspectives of oppression, privilege, and marginalization.
- Describe the process of providing patient care with cultural humility.
- Differentiate between multicultural competency and cultural humility.

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.

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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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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.

DEFINITION OF CULTURAL HUMILITY

In the context of healthcare services cultural humility is defined as "a process of being aware of how people's culture can impact their health behaviors and, in turn, using this awareness to cultivate sensitive approaches in treating patients" (Prasad et al., 2016). In contrast, cultural competency is described as ensuring that healthcare professionals learn a quantifiable set of attitudes that allow them to work effectively within the cultural context of each patient. There is an end point to cultural competency. It ends with the termination of the healthcare professional-patient relationship. On the other hand, cultural humility is an ongoing process, which requires continual self-reflection and self-critique. Cultural humility is a prerequisite to cultural competency. It forms a basis for effective, harmonious healthcare professional-patient relationships (Prasad, 2016).

Cultural humility involves entering into a professional relationship with a patient by honoring the patient's beliefs, customs, and values. Cultural competency is described as a skill that can be taught, trained, and achieved. This approach is based on the concept that the greater the knowledge a healthcare professional has about another culture, the greater the competence in practice. Cultural humility de-emphasizes cultural knowledge and competency and focuses on lifelong nurturing of self-reflection and self-critique, promotion of interpersonal sensitivity, addressing power imbalances, and promoting the appreciation of intracultural variation and individuality (Stubbe, 2020). This humility exemplifies respect for human dignity.

An important part of cultural humility is identifying one's own biases, self-understanding, and interpersonal sensitivity. It is important that healthcare professionals nurture an appreciation for the many facets of each patient, including culture, gender, race, ethnicity, religion, sexual identity, and lifestyle. According to Yancu (2017), healthcare professionals need both process (cultural humility) and product (cultural competence) to effectively provide care and interact with a culturally diverse society.

Healthcare Professional Consideration: A culturally humble healthcare professional needs to be able to provide services that transcend culture, ability, LGBTQ status, and class, as well as integrate healthcare professional-stated cultural and other considerations into treatment. Moreover, the healthcare professional must recognize the roles that power, privilege, and oppression play in both the counseling relationship and the experiences of patients (Sue & Sue, 2021).

Self-Assessment Quiz Question #1

Which of the following statements pertains to the definition of cultural humility?

a. Healthcare professionals must learn a quantifiable set of attitudes.
b. Cultural humility is an ongoing process.
c. Cultural humility is a skill that can be taught.
d. Healthcare professionals know that there is an end point to cultural humility.

DIMENSIONS OF DIVERSITY IN THE UNITED STATES

Definitions

Diversity is a multidimensional concept that refers to many aspects of an individual that combine to comprise an overall sense of self. Moreover, diversity occurs within a cultural and social context where variances within the general population are treated differentially based on the social, political, and cultural constructs existing within a society. Some dimensions of diversity include race, socioeconomic class, gender, sexual orientation (i.e., identifying as lesbian, gay, bisexual, queer/questioning [LGBQ]), gender identification (i.e., identifying as transgender), and disability. Although this is not an exhaustive list of all elements of individual diversity, it does address many prominent dimensions of diversity an individual may have as well as determine where that individual falls within the societal hierarchy. Dimensions of diversity also serve to privilege and empower some members of society while oppressing and marginalizing other members of society (Sue & Sue, 2021).

Intersectionality is a concept that is used to describe how these various dimensions come together to privilege or oppress individuals and groups of individuals. Intersectionality is defined as "multiple, intersecting identities and ascribed social positions (e.g., race, gender, sexual identity, class) along with associated power dynamics, as people are at the same time members of many different social groups and have unique experiences with privilege and disadvantage because of those intersections" (Rosenthal, 2016, p. 475).

Each individual has a multitude of diverse identities; some are visible and some are not readily identifiable. Each of the identities intersects with the other identities. The multiple intersections

can serve to provide for further oppression and marginalization or further power and privilege, and/or they could mitigate one another, providing some facets of privilege and others of oppression. For example, an African American college professor who is a heterosexual woman with a doctoral degree is often oppressed and marginalized because of her race and gender; however, as a highly educated academic who is not gay, she experiences power and privilege, particularly in the academic classroom setting as the course professor. Another example is a female student who has experienced poverty on and off throughout her life cycle and identifies as biracial and gay; she may experience multiple identities that compound her oppression and marginalization (i.e., female, poor, gay, biracial). The concept of intersectionality provides a useful framework for healthcare professionals, as it helps them to understand the complexity of patients' diverse identities. Further, it provides a structure for understanding the multitude of factors that may cause a patient to be oppressed and/or privileged within the context of American society. In this same manner, it is important to recognize that culture is best described as fluid and subjective, as will be discussed in greater detail with respect to providing patient care with cultural humility.

Race, ethnicity, and immigration

The United States (US) is a nation of immigrants. The racial, ethnic, and immigrant diversity within American society is often cited as one of its greatest strengths. However, it has also been a challenge for America and for Americans in terms of fully accepting and embracing the broad array of immigrant groups that have become American. Historically, every new immigrant group has experienced various degrees of prejudicial and discriminatory treatment and exclusion from mainstream society. However, the experience of many European (e.g., Irish, Italian, German) immigrants was one of initial discrimination followed by swift acculturation and assimilation, likely aided by the physical appearance and language similarities to those of earlier settlers. Asian and Latina/o immigrants have experienced prejudicial treatment, possibly because of readily identifiable physical and language differences. Historical evidence of mistreatment is well documented, with perhaps one of the most egregious examples being the internment of Japanese Americans during World War II (Nagata et al., 2015).

Although Americans often think of the journey of voluntary immigration of the many ethnic groups that come to America to build a "better" life, the legacy of the forced immigration of African American slaves is often overlooked. African Americans endured 250 years of enslavement followed by 60 years of a status of "separate but equal" as well as continuing racist practices in education, housing, health, and criminal justice system. The systemic and continuous oppression of African Americans is a direct legacy of this forced immigration and has resulted in enduring educational, health, and wealth disparities (Bunch, 2016).

"New" immigrants from Afghanistan, Haiti, and other war-torn or environmentally impacted countries are experiencing prejudicial treatment in society and healthcare. The economic and social burden
of caring for these immigrants, in addition to the typical flow of immigrant populations, has aroused discriminatory attitudes in society and even in healthcare professionals that may already be stressed by COVID patient care.

Healthcare professionals' understanding of the differential treatment of current and past immigrant groups based upon ethnic, racial, religious, and linguistic background is paramount to their understanding of their patients. The way in which individuals and groups are treated from a sociopolitical (macro) level and from a daily individual interactional level (micro) necessarily affects their views and understanding of the world in which they live. From a person in environment perspective, individuals act upon the environment and the environment acts and reacts to the individual. Thus, while individuals help shape the environment around them, the environment also shapes the individual (Hutchison, 2021).

A demographic breakdown of the diversity in the US is provided in Tables 1 and 2. This breakdown may help healthcare professionals better conceptualize the potential diversity of experiences among their patients.

Demographics

The US has more immigrants than any other country in the world. Currently, more than 40 million people living in the US were born in another country. This figure represents one-fifth of the world's immigrants. Nearly every country in the world is represented among US immigrants (Pew Research Center, 2020b).

In 2018, there were a record 44.8 million immigrants living in the US. This figure represents 13.7% of the nation's population. Since 1965, the number of immigrants living in the US has more than quadrupled. Since 1970, the number of immigrants has nearly tripled (Pew Research Center, 2020a). Table 1 provides a breakdown of the US foreign-born population by national origin.

Table 1: Foreign-Born Population by Place of Birth 2018

Region	Number of People	Percentage
Mexico	11,182,111	25%
East and Southeast Asia	8,648,525	19.3%
Europe	4,848,270	10.8%
Caribbean	4,463,891	10%
South America	3,304,380	7.4%
Central America	3,590,330	8%
South Asia	3,668	8.2%
Sub-Saharan Africa	2,032,470	4.5%
Middle East-North Africa	1,784,898	4%
Canada and Other North America	827,093	1.8%
Oceania	246,371	0.6%
Central Asia	131,854	0.3%
Total	44,760,622	100%

(Based on data from the Pew Research Center [2020a]).

Tables 2-4 provides a breakdown of the US population by race.

Evidence-based practice! Data show that the population varies significantly by place of birth and race. Healthcare professionals must be aware of the populations they serve to practice cultural humility.

Table 2: Population by Race Self-Identification 2018

Race	Number of People	Percentage
White	236,102,692	72.2%
Black or African American	41,683,829	12.7%
Asian	18,449,856	5.6%
Some Other Race	16,273,008	5%
Two or More Races	11,224,731	3.4%
Native American Indian and Alaska Native	2,826,336	0.9%
Native Hawaiian and other Pacific Islander	606,987	0.2%

(Pew Research Center, 2020a)

Table 3: Population by Race Self-Identification US Born		
Race	Number of People	Percentage
White	215,726,882	76.4%
Black or African American	37,413,425	13.2%
Two or More Races	10,169,825	3.6%
Some Other Race	9,655,701	3.4%
Asian	2,627,659	2.2%
Native American Indian and Alaska Native	2,627,659	0.9%
Native Hawaiian and other Pacific Islander	460,543	0.2%
(Pew Research Center, 2020a)		

Table 4: Population by Race Self-Identification Foreign Born		
Race	Number of People	Percentage
White	20,375,810	45.5%
Asian	12,097,155	27%
Some Other Race	6,617,226	14.8%
Black or African American	4,270,404	9.5%
Native American Indian and Alaska Native	198,677	0.4%
Native Hawaiian and Other Pacific Islander	146,444	0.3%
Two or More Races	460,543	0.2%
(Pew Research Center, 2020a)		

Self-Assessment Quiz Question #2

In 2018, from which country/region did the highest number of foreign-born people residing in the US come from by place of birth?

a. South America.
b. East and Southeast Asia.
c. Mexico.
d. Sub-Saharan Africa.

Healthcare professionals must be careful not to make sweeping generalizations regarding characteristics or needs of any population. Further, patients are influenced by a variety of factors including level of acculturation (to be discussed later), immigration experience, experiences with discrimination, and ability to speak English. Therefore, it is imperative for healthcare professionals to ask patients about their personal experiences and important events in their lives. Some cultural generalizations may help clinicians increase their knowledge of specific cultures and enhance their understanding of a portion of patients' differing experiences. However, this is not intended to shift the healthcare professionals focus away from developing a better understanding of the dynamics of race, immigration, and other facets of diversity within the current social, economic, and political environment of the United States. Healthcare professionals are better prepared to both understand and help their patients if they are able to understand the cultural climate in which their diverse patients live and that climate's role in accommodating or marginalizing them. Moreover, healthcare professionals will provide better care for their patients if they develop a better understanding of how they personally are accommodated and marginalized by American culture. Race, ethnicity, and immigration status are only a few of the facets of diversity that affect patients. Other facets of diversity include socioeconomic status, disability, sexual orientation, religion, and gender identification. These facets of diversity can serve as dimensions that marginalize and/or oppress patients as well.

Poverty

Poverty is often a consequence of immigrants who have fled war zones, disaster areas, and regions of extreme high unemployment. The official poverty rate in 2020 was 11.4%, up 1% from 2019. This is the first increase in poverty after five consecutive annual declines. In 2020, there were 37.2 million people in poverty, about 3.3 million more than in 2019 (U.S. Census Bureau, 2020).

Evidence-based practice! Research shows that the poverty rate in the US is increasing. Healthcare professionals must be aware of data relating to poverty and work to decrease the growing problem of poverty.

Key points of the 2020 income and poverty in the US include the following (U.S. Census Bureau, 2020):

- Between 2019 and 2020, the poverty rate increased for non-Hispanic Whites and Hispanics. Among non-Hispanic Whites, 8.2% were in poverty in 2020, while Hispanics had a poverty rate of 17.0%. Among the major racial groups examined in this report, Blacks had the highest poverty rate (19.5%) but did not experience a significant change from 2019. The poverty rate for Asians (8.1%) in 2020 was not statistically different from 2019.
- Poverty rates for people under the age of 18 increased from 14.4% in 2019 to 16.1% in 2020. Poverty rates also increased for people aged 18 to 64 from 9.4% in 2019 to 10.4% in 2020. The poverty rate for people aged 65 and older was 9.0% in 2020, not statistically different from 2019.
- Between 2019 and 2020, poverty rates increased for married-couple families and families with a female householder. The poverty rate for married-couple families increased from 4.0% in 2019 to 4.7% in 2020. For families with a female householder, the poverty rate increased from 22.2% to 23.4%. The poverty rate for families with a male householder was 11.4% in 2020, not statistically different from 2019.

Income data from this report include the following information (U.S. Census Bureau, 2020):

- Median household income was $67,521 in 2020, a decrease of 2.9% from the 2019 median of $69,560. This is the first statistically significant decline in median household income since 2011.
- The 2020 real median incomes of family households and nonfamily households decreased 3.2% and 3.1% from their respective 2019 estimates.
- The 2020 real median household incomes of non-Hispanic Whites, Asians, and Hispanics decreased from their 2019 medians, while the changes for Black households were not statistically different.
- In 2020, real median household incomes decreased 3.2% in the Midwest and 2.3% in the South and the West from their 2019 medians. The change for the Northeast was not statistically significant.

Women in Poverty

More women than men are living in poverty in the US. Men who have migrated for employment or to avoid conscripted military work often have left women behind. Migrating across hundreds of miles and difficult terrain is not feasible for women and children. Basic information about women in poverty includes the following (Bleiweis et al., 2020):

- Of the 38.1 million people living in poverty in 2018, 56%, or 21.4 million, were women.
- Nearly 10 million women live in deep poverty defined as falling below 50% of the federal poverty line.

- The highest rates of poverty are experienced by Native American Indian or Alaska Native (AIAN) women, Black women, and Latinas. About one in four AIAN women live in poverty. This is the highest rate of poverty among women or men of any racial or ethnic group.
- Unmarried mothers have higher rates of poverty then married women, with or without children, and unmarried women without children. Nearly 25% of unmarried mothers live below the poverty line.
- In 2018, 11.9 million children under the age of 18 lived in poverty. This accounts for 31.1% of those living in poverty.
- Poverty rates for women and men are almost even throughout childhood. However, the gap grows significantly for women ages 18 to 44 (during prime childbearing years) and again for women age 75 and older.
- Women with disabilities are more likely to live in poverty than both men with disabilities and persons without disabilities. Women with disabilities have a poverty rate of 22.9%, compared to 17.9% for men with disabilities and 11.4% for women without disabilities.
- LGBTQ women experience higher rates of poverty than cisgender (sense of personal identity and gender correspond with their birth sex) straight women and men because of the intersections of discrimination based on gender, sexual orientation, and gender identity or expression.

Reasons why women live in poverty

The impact of sexism and racism on society limit the employment opportunities available to women. Some of the causes of poverty in women include the following issues.

Wage Gap

Based on 2018 data, women working full-time, year-round earn on average 82 cents for every dollar earned by their male counterparts. This gap continues throughout the lifespan, leaving women with fewer resources and savings than men (Bleiweis et al., 2020).

Occupational Segregation into Low-Paying Jobs

Women are disproportionately represented in certain occupations, especially low-paying jobs. This is due, in part, to the perception of gender roles that assume women's work is low skilled and undervalued. This is especially true for women of color (Bleiweis et al., 2020).

Lack of Work-Family Policies

Issues such as insufficient paid family and medical leave and earned paid sick leave impact a woman's ability to manage work and caregiving. Childcare is expensive and sometimes hard to access. These issues further compound problems associated with work-family challenges. The coronavirus has exacerbated the caregiving burden on women because of essential school and childcare provider closures, which contributes to higher job loss among women (Bleiweis et al., 2020).

Disability

Disability may cause, as well as be a consequence of; poverty. People with disabilities must deal with barriers to employment as well as lower earnings. Only 16.4% of women who have disabilities were employed in 2018, compared with 60.2% without a disability (Bleiweis et al., 2020).

Domestic Violence

In the US, domestic violence is the cause of women's losing an average of eight million days of paid work per year. The Violence Against Women Act (VAWA) has led to lowered rates of gender-based violence in the US thanks to its programs and services. Unfortunately, the programs and services of the VAWA are not able to meet ongoing needs of domestic violence survivors without more funding and expansion of resources (Bleiweis et al., 2020).

Self-Assessment Quiz Question #3

Which of the following persons is most likely to live in poverty?

a. A woman who self-identifies as Alaska Native.
b. A man who is 45 years of age.
c. A married man with two children.
d. An unmarried woman without children.

Disability

Physical, intellectual, mental health, and other long-term disabilities constitute another facet of diversity within the United States. According to the Centers for Disease Control and Prevention (CDC; 2020), 61 million adults (26% of adults) in the US live with a disability.

According to the Equal Employment Opportunity Commission's (EEOC; 2021) Enforcement and Litigation Statistics and Agency Financial Report for Fiscal Year (FY) 2020, retaliation was the most frequently alleged discriminatory claim, accounting for 55.8% of all charges. Disability (36.1%) was the next most alleged category of discrimination, followed by race and sex. The percentage of each category decreased or remained stable compared to FY 2019 except for claims of retaliation, disability, color, and genetic information (EEOC, 2021).

Table 5 shows the percentage of adults with specific categories of disability in the US.

Evidence-based practice! Research shows that adults living with disabilities are more likely to smoke, have obesity, have heart disease, and/or diabetes (CDC, 2020). Healthcare professionals must be alert to the diseases linked to disability. These diseases can compound the challenges that people with disabilities face.

Table 5: Percentage of Adults with Functional Disability Types in the US

Functional Disability	Description	Percentage
Mobility	Serious difficulty walking or climbing stairs.	13.7%.
Cognition	Serious difficulty concentrating, remembering, or making decisions.	10.8%.
Independent Living	Difficulty doing errands alone.	6.8%.
Hearing	Deafness or serious difficulty hearing.	5.9%.
Vision	Blindness or serious difficulty seeing.	4.6%.
Self-Care	Difficulty bathing or dressing.	3.7%.
(CDC, 2020)		

The CDC (2020) points out that:

- Two in five adults age 65 years of age and older have a disability.
- One in four women have a disability.
- Two in five non-Hispanic, Native American Indians/Alaska Natives have a disability.

People with disabilities face several barriers to accessing healthcare. These include the following (CDC, 2020):

- One in three persons does not have a primary healthcare provider. (Age group: 18-44 years.)
- One in three people has an unmet healthcare need because of cost in the past year. (Age group: 18-44 years.)
- One in four people did not have a routine check-up in the past year. (Age group: 45-64 years.)

Disability often compounds issues of poverty and access that can lead to an array of health consequences such as substance abuse, domestic violence, malnutrition, and even chronic mental health conditions.

Lesbian, gay, bisexual, transgender, queer/questioning population (LGBTQ)

The LGBTQ population is another historically oppressed group in the US. Until the 2015 Supreme Court decision legalizing same-sex marriage, LGBTQ individuals were not able to marry in most states.

There are more than 5.5 million LGBTQ individuals living in the US. The LGBT community face barriers to fair and equal access to employment, housing, healthcare, and public accommodation. There are several nondiscrimination laws on federal, state, and local levels that protect people from discrimination based on such factors as age, sex, and national origin. However, until 2020, federal law did not protect individuals from discrimination based on sexual orientation or gender identity (Roebig, 2020).

The Center for American Progress conducted a national public opinion study on the state of the LGBTQ community in 2020. The survey included interviews with 1,528 self-identified LGBTQ adults ages
18 and older. The project was funded and operated by the National Opinion Research Center (NORC) at the University of Chicago (Gruberg et al., 2020).

Major findings from the survey include the following (Gruberg et al., 2020):

- More than one in three LGBTQ Americans faced discrimination of some kind in the past year.
- More than three in five transgender Americans faced discrimination of some kind in the past year.
- Discrimination adversely impacted the mental and economic well-being of many LGBTQ Americans, including one in two participants who reported moderate or significant negative psychological impacts.
- More than half of LGBTQ Americans reported hiding a personal relationship to avoid experiencing discrimination.
- An estimated 3 in 10 LGBT Americans faced difficulties accessing necessary medical care because of cost issues.
- Fifteen percent of LGBTQ Americans reported postponing or avoiding medical treatment because of discrimination.
- Transgender individuals faced unique obstacles to accessing healthcare, including one in three who had to teach their physicians about transgender people.
- LGBTQ Americans may have also experienced significant mental health issues that are related to the COVID-19 pandemic.

Self-Assessment Quiz Question #4

All the following statements are accurate EXCEPT:

a. In the US 61 million adults live with a disability.
b. The type of functional disability that has the highest percentage is that of cognition.
c. More than half of LGBTQ Americans report hiding a personal relationship.
d. Transgender individuals face unique obstacles to accessing healthcare.

The complexity of individual diversity is inclusive of not just of racial and ethnic identity but also of variables such as socioeconomic class, disability, and LGBTQ status. While these facets of diversity are not exhaustive, they do represent some important categories of diversity. Healthcare professionals must consider the unique array of diverse identities that are represented within each individual encountered in each therapeutic relationship. The complexity embodied within each patient affects the way that the patient understands and views the healthcare professional and the professional relationship, just as the complexity of the healthcare provider's diversity dimensions affects the way that the healthcare professional understands and views each patient. It is impossible to provide information that allows healthcare professionals to gain knowledge about categories of people and how they behave or view the world, because not only is the variation within individual ethnicities and races endless, but the variation within each individual also is endless. Instead, healthcare professionals should aim to understand the societal landscape that privileges and oppresses individuals. The experiences of oppression experienced by various diverse groups are likely to provide them with a unique perspective on both the larger society and on the relationship with healthcare professionals.

OPPRESSION, PRIVILEGE, AND MARGINALIZATION

Understanding the concepts of oppression, privilege, and marginalization is essential for practicing with cultural humility. There are various aspects of individual identities that oppress or privilege people and their marginalization or empowerment.

Oppression can be defined as "unjust or cruel exercise of authority or power" (Merriam-Webster, 2021). A person or group that knowingly or unknowingly abuses a specific group. Oppression is a pervasive system. It has its foundation in history and is maintained via individual and institutional systematic discrimination, personal bias, bigotry, and social prejudice. Oppression leads to a condition of privilege for the person or the group that is the oppressor(s). National Conference for Community and Justice (NCCJ; 2021).

Privilege is a central concept within the healthcare professions. The concept of White privilege and male privilege was clearly articulated and widely disseminated through McIntosh's work in the 1980s. McIntosh articulated White male privilege as "an invisible package of unearned assets which he can count on cashing in each day, but about which he was 'meant' to remain oblivious. White privilege is like an invisible weightless knapsack of special provisions, assurance, tools, maps, guides, codebooks, passports, visas, clothes, compass, emergency gear, and blank checks" (McIntosh, 1998, p. 1). Privileging is "a process where chances or odds of being offered an opportunity are altered or skewed to the advantage of members of certain groups" (Minarik, 2017, p. 55). Essentially, privilege functions by providing some groups of individuals (e.g., White, male, heterosexual, abled, middle class) with preferred treatment in the form of special opportunities and advantages, while withholding that preference from other individuals (e.g., African American, female, LGBTQ, disabled). Privilege can include many advantages including being given the benefit of the doubt and feeling a sense of belongingness (Minarik, 2017). Individuals who are not privileged experience the opposite – such as being an automatic suspect or having to prove belonging (Minarik, 2017). Privilege is not a guarantee of success for those groups who receive it; however, it is an advantage that other groups do not receive and allows for opportunities that others are denied (Minarik, 2017). A final key aspect regarding privilege is that it is not necessarily visible to those who receive it. The invisibility of privilege is the key component that allows it to continue. More simply, when those who receive privilege do not recognize it, they are unable to take actions to change it. Once people become aware of privilege, they choose to use the benefits of privilege to advocate for marginalized populations.

Self-Assessment Quiz Question #5

When discussing oppression and privilege, healthcare professionals should know that:

a. Privilege is the commission of an unjust or cruel exercise of authority or power.
b. Privilege is a guarantee of success for groups receiving it.
c. Oppression's foundation is in the "me too" movement.
d. Oppression leads to a condition of privilege for the person or the group that is the oppressor(s).

Marginalization is an important concept in the delivery of patient care. Marginalization is the "act of placing a person or group in positions of lesser importance, influence, or power" (Dictionary.com., 2021). Examples of groups that have been, and are being, marginalized include ethnic and racial minorities, immigrants, the LGBTQ population, persons who are disabled, and the economically disadvantaged.

Some experts have identified the following three themes of marginalization (Baah et al., 2019):

1. Creation of Margins: Margins act as barriers and connections between a person and the environment. Margins construct physical, emotional, and psychological boundaries that people experience during interactions with society. Enforcement and maintenance of boundaries divide the political and socioeconomic resources in an uneven fashion. This also facilitates the unbalanced distribution of critical resources such as healthcare (Baah et al., 2019). This illustrates the concept of social determinants of health (SDH), which is defined as "the circumstances in which people are born, live, work and age and the systems put in place to deal with illness" (World Health Organization [WHO], 2010).
2. Living between Cultures: Living between cultures is another factor that links marginalization to SDH. Although the boundary or margin separates the dominant and peripheralized group, incomplete integration leads to a person or group that lives between cultures. Incomplete integration creates a situation where a person or group relinquishes characteristics of the marginalized group in order to bond with the dominant society, but is unable to do so. Examples of living between cultures are the ways of life of most immigrants, migrant farm workers, and other vulnerable groups. People living between cultures tend to live in areas characterized by limited employment and educational opportunities (Baah et al., 2019).
3. Creation of Vulnerabilities: Creation of vulnerabilities are created by the cumulative impact of the creation margins and living between cultures. Vulnerability is defined as a state of being exposed to and unprotected from health-damaging environments (Baah et al., 2019.

Marginalized groups often do not receive the same access to societal resources such as high-quality education, healthcare, housing, or equal access to voting as those groups that are not marginalized. The marginalization of oppressed groups prevents them from having a voice and helps to sustain the status quo in the United States in which White, economically well-off, and able-bodied individuals control access to social, economic, and political power.

Healthcare Professional Consideration: Healthcare professionals should recognize the power imbalances that result from oppression, privilege, and marginalization and work to correct the imbalances within the delivery of healthcare services and within the broader institutional and societal context.

Self-Assessment Quiz Question #6

When discussing themes related to marginalization, the concept of being exposed to and unprotected from health-damaging environments is referred to as:

a. Creation of margins.
b. Living between cultures.
c. Vulnerability.
d. Boundaries.

PROVIDING PATIENT CARE WITH CULTURAL HUMILITY

The concept of cultural humility was first discussed in the medical world to better understand and address health inequities and disparities (Tervalon & Murray-García, 1998). The concept has evolved to include ideas related to the creation of a broader and more inclusive society. Unlike the concepts of cultural competency and multicultural competency, which focus on gaining knowledge about cultural groups differing from the individual's own with the hopes of better understanding those cultures and thus better meeting the needs of different groups who enter counseling, cultural humility focuses on the cultural context within America that marginalizes and oppresses some groups of people, while privileging and empowering other groups of people (Foronda et al., 2016).

Attending to diversity

Critical Thinking Exercise

Trinh, a 17-year-old first-generation American of Hmong decent, is graduating first in her high school class. Her school counselor has encouraged her to apply to top-level colleges, several of which are hours from home. When Trinh asks about some nearby colleges, the counselor simply tells her that they are "well below her abilities," even though one is highly regarded. She is accepted by the top-level colleges to which she applied, including two Ivy League schools. Despite generous financial aid packages, Trinh does not accept offers from any of these schools. Past the deadline to apply to the local 4-year colleges, Trinh decides to go to the local community college and live at home. Her counselor tries to persuade Trinh to reconsider one of the Ivy League schools. Trinh tells the counselor that she needs to stay home to help care for younger siblings and translate for her parents during doctors' visits. The counselor engages Trinh in a role play to help her tell her parents that she needs to make her own decisions and go away to college.

Although school counselors do want their students to succeed, what underlying values might have clouded the counselor's judgment in working with Trinh? Trinh had given the counselor signals that she was not ready to move hours away when she asked about local colleges. Perhaps the counselor, working from a belief that individualism is preferred, ignored these clues, hoping not to play into Trinh's "separation anxiety." If the counselor had viewed her client as being both Trinh and her family, rather than only a young woman needing to be more independent, she could have worked with the family to make a decision that addressed both Trinh's needs and those of her family. By ignoring Trinh's cultural background and her sense of responsibility to the family, the counselor could not help in an informed way.

Given the vast diversity within the United States, both healthcare professionals and counselors must develop cultural humility as they work with individuals whose life experiences vary in myriad ways based on many intersecting dimensions of diversity. A primary component of cultural humility is self-awareness. As a healthcare professional, completely exploring one's own identity is of extreme importance. It is through knowing and understanding oneself that counselors and healthcare professionals can uncover their beliefs, values, and, moreover, their implicit biases.

Implicit bias is defined as an unconscious and unintentional bias (van Nunspeet et al., 2015). Individuals may not be aware of their implicit biases (Byrne & Tanesini, 2015). These biases are the result of combinations of factors including an individual's early experiences and learned cultural biases. Thus, ongoing critical self-reflection that understands the existence of implicit biases within everyone is necessary. Repeated and evolving processes of self-reflection make healthcare professionals' implicit biases

explicit and, therefore, subject to examination and change (Byrne & Tanesini, 2015). In addition to understanding their own implicit biases, healthcare professionals, especially those from dominant societal groups (e.g., White, heterosexual, male), need to explore their own racial, ethnic, sexual, and class identity. Individuals from dominant cultural paradigms often consider themselves without racial, ethnic, sexual, or class identity as they have privilege; their identities are considered the norm. However, without deep exploration of intersecting aspects of personal diversity, it is difficult to understand oneself and where biases might insert themselves into healthcare professional relationships (Fisher-Borne et al., 2015).

Self-reflection and self-critique

Self-reflection and self-critique are ongoing, lifelong processes that allow healthcare professionals to continually refine their understanding of themselves and their actions and reactions within counseling contexts and to continually broaden and deepen their cultural understanding through introspection (Foronda et al., 2016). Through ongoing self-reflection and critique, the healthcare professional develops a better understanding of the dynamics within and outside the healthcare arena and of the ways these dynamics affect the patient's life, the healthcare professional's life, and the interactions between healthcare professional and patient.

Self-reflection is defined as deliberately paying attention to one's own thoughts, emotions, decisions, and behaviors. It is important for healthcare professionals to be able to self-reflect in "real time" as they deal with the variety of situations encountered in an ever-changing healthcare environment (Wignall, 2019).

Self-critique is the process of critically examining oneself to continually refine their understanding of themselves and their actions and reactions and to continually broaden and deepen their cultural understanding through introspection. Self-reflection and self-critique are best incorporated into practice on a reflexive basis. That is, the ongoing process of self-reflection should result in an automatic process or reflection as an integral part of practice. (Foronda et al., 2016).

Respectful partnerships

Developing respectful partnerships is key to providing healthcare services with cultural humility and, more generally, to developing a relationship within the counseling setting that allows work to begin and to continue in a productive fashion. Respectful partnerships include discussing and addressing such difficult topics and issues as race, socioeconomic class, gender, sexual identity, and disability. These discussions are uncomfortable for many; they bring up feelings, often passionate, associated with "isms," group identification, prejudice, quotas, and affirmative action. Yet these differences between healthcare professional and patient are a presence in the room and, when ignored, have the potential to interfere with an honest and open exchange (Minarik, 2017).

Healthcare professionals often attempt to take the emphasis off race, class, gender, and other areas of difference by denying the effect these aspects of diversity have on patients (e.g., "The only race I know is the human race"), or by trying to show that they understand the patient's experience because they, too, are a member of an oppressed group. For example, the African American patient may not feel that the healthcare professional, as a bisexual Jewish woman, understands subtle racial insults from personal experiences. Some healthcare professionals imply that because they personally do not discriminate against oppressed groups, no personal or societal problems exist associated with race, class, LGBTQ status, or disability; this attitude negates the experience the patients may have in the larger society, where they experience various degrees of marginalization based on their intersecting identities (Minarik, 2017).

Respectful partnerships are developed when the healthcare professional facilitates a dialogue that illustrates an understanding of and attends to the complex dynamics related to privilege, oppression, and marginalization present within the patient/healthcare professional relationship and embedded within the larger society. The healthcare professional levels the playing field by conveying a respect for the patient and the patient's lived reality while inviting the patient to enter an equal partnership with the healthcare professional.

Healthcare Professional Consideration: The development of respectful partnerships is ongoing and acknowledges that the healthcare professional does not know what the patient's identity, life, or struggles look like but is eager to learn from the patient. Further, healthcare professionals who are developing respectful partnerships recognize that they may make mistakes and are open to patient feedback regarding those mistakes.

Self-Assessment Quiz Question #7

All the following statements concerning self-reflection, self-critique, and respectful partnerships are true EXCEPT:

a. Discussing and addressing topics and issues such as race and sexual identify may be uncomfortable for many people.
b. Healthcare professionals seldom attempt to take emphasis off race, gender, and other areas of differences.
c. Self-reflection and self-critique are ongoing, lifelong processes.
d. Self-reflection should result in an automatic process as an integral part of practice.

Lifelong learning

The commitment to lifelong learning within the ethical standards requires healthcare professionals to participate in activities that keep them current on issues and interventions within healthcare and that allow them to provide patients with the most appropriate care and service. Lifelong learning in the context of cultural humility emphasizes the importance of current issues inclusive of a multicultural perspective that encompass aspects of critical self-reflection and advocacy involving continued growth and learning. According to Fisher-Borne and colleagues (2015), "Cultural humility considers the fluidity and subjectivity of culture and challenges both individuals and institutions to address inequalities.

Cultural humility requires self-reflection and taking risks, discovering new information, and using patients and others as resources (Obiakor & Algozzine, 2016). Culturally humble learners understand that they will both make mistakes and learn from those mistakes because, as healthcare professionals, they are in a constant state of becoming. Lifelong learning allows the healthcare professional to integrate shifting paradigms and embark on continual reflection and reeducation regarding dominant perspectives on marginalized populations and communities (Obiakor & Algozzine, 2016). Finally, it requires that healthcare professionals separate themselves from thinking about patients from a deficit perspective and instead think of patients as fellow humans with rich intellectual, cultural, ethnic, and class backgrounds and with a myriad of strengths (Obiakor & Algozzine, 2016). Recognizing and reflecting on one's own possible biases, religious values, and family values may help to limit the influence of those biases on their patient interactions.

White identity

White identity theory was first developed by Helms in the 1980s and 1990s as a tool for White healthcare professionals to "create meaning about their identities as Caucasians, particularly in terms of how they think about, respond to, react to and interact with patients from different racial/ethnic groups" (Chung & Bemak, 2012, p. 67). In other words, the theory's formation was based on the idea that White people are so immersed in the dominant culture that they are unaware of the influence of the dominant culture's ethnocentric images and ideals. Being White makes it easier to assimilate into the dominant culture and to partake in unearned privileges many White people enjoy but do not acknowledge. Most White people perceive themselves as unbiased, but such self-perception may truly impede one from taking responsibility for one's own prejudices (Sue & Sue, 2016). White healthcare professionals have a special responsibility to understand their own privileges, biases, racism, and discrimination so that they may develop a positive relationship within counseling sessions.

Healthcare Professional Consideration: National surveys do not have a historical track record of asking White people meaningful questions about their racial identity (Schildkraut, 2017). Healthcare professionals should promote research that includes questions about racial identity.

Self-Assessment Quiz Question #8

When exploring one's own beliefs about White identify, it is important to acknowledge that:

a. Most White people perceive themselves as biased.
b. White identity theory was first developed to discount the idea that White identity exists.
c. National surveys often ask White people questions about their racial identity.
d. Being White makes it easier to assimilate into the dominant culture.

Assessment and treatment

It is important for healthcare professionals to approach every individual patient with a cognizance of the possible various intersecting identities within the patient, but without a stereotype of the patient based on preconceived notions of these intersecting identities (e.g., race, ethnicity, LGBTQ status). Implementing the practice of cultural humility may flummox healthcare professionals as they approach patients in a clinical setting (Schildkraut, 2017).

The following example from Wyatt (n.d.) illuminates some key elements of providing patient care with cultural humility. An interracial couple, an African American father and a White mother, come into therapy because their child was kicked out of school for fighting and the father was called into child protective services for spanking his child. When they entered the office, the father was very angry and the mother was getting extremely upset, trying to calm him down. The White therapist suggested meeting with the father alone first. When he met with the father, rather than trying to silence his rage, he joined with him by stating, "It sounds like you're furious with the situation that's happened; you're tired of it." The father was able to calm down at that point, as the White therapist was allowing him to be angry in his presence and was acknowledging that there might be a reason for anger. The therapist then asked the father if his disciplining method had anything to do with wanting to protect his child. The father responded that, yes, he was afraid his child, "a Black kid," was at risk of going to prison if he was fighting at school. The father did not want that for his child and was frightened. By providing room for the father to express his rage and his fear, the therapist was able to make the clinical session more meaningful.

Healthcare professionals who practice cultural humility also recognize that assessment tools and treatment protocols may not be appropriate for all patients. Historically, many therapeutic strategies employed in patient care were developed without empirically supported research with ethnic minorities (Sue & Sue, 2016). However, healthcare professionals should not rely solely on manualized treatment protocols to guide their interventions, as such an approach can fail to appreciate patients' unique experiences and the effect of differing social environments. Rather, when employing a research-based therapeutic practice, healthcare professionals should adapt the approach in accordance with the patients' values, experiences, and preferences while understanding the influence of the broader societal context (Jackson, 2015). Through facilitating a respectful partnership that allows patients to take the lead in narrating their experiences and in identifying personal treatment goals, healthcare professionals can create an environment that appreciates patients' perspectives. Table 6 outlines the important aspects of the multicultural perspective in clinical settings.

The considerations outlined in Table 6 require healthcare professionals to balance many different facets of patients and their lived experiences. It is especially important in treatment to adhere to these guidelines, as it sets up a therapeutic environment in which healthcare professional and patients are equal, while forcing healthcare professionals to consider the validity of various worldviews and the structural inequities that contribute to the problems and issues patients bring into therapeutic relationships.

Table 6: Multicultural Perspectives in Providing Healthcare

1. Provides the opportunity for two persons – from different cultural perspectives – to disagree without one being right and the other wrong.
2. Tolerates and encourages a diverse and complex perspective.
3. Allows for more than one answer to a problem and for more than one way to arrive at a solution.
4. Recognizes that a failure to understand or accept another worldview can have detrimental consequences.
5. Takes a broad view of culture by recognizing the following variables: ethnographic (ethnicity, race, nationality, religion, language usage, ability, LGBTQ status); demographic (age, gender, gender identity, place of residence); status (social, economic, educational factors); affiliations (formal memberships, informal networks).
6. Conceives of culture as complex when we count the hundreds or perhaps even thousands of culturally learned identities and affiliations that people assume at one time or another.
7. Conceives of culture as dynamic as one of such culturally learned identities replaces another in salience.
8. Uses methods and strategies and defines goals constituent with life expectations and values.
9. Views behaviors as meaningful when they are linked to culturally-learned expectations and values.
10. Acknowledges as significant within-group differences for any particular ethnic or nationality group.
11. Recognizes that no one style of counseling – theory of school – is appropriate for all populations and situations.
12. Recognizes the part that societal structures play in patient's lives.

Note. Adapted in part from Gonzale et al., 1994.

Self-Assessment Quiz Question #9

Multicultural perspectives in providing healthcare include all the following EXCEPT:

a. Provides opportunities for two persons from the same cultural perspective to disagree.
b. Takes a broad view of culture by recognizing variables.
c. Uses methods and strategies and defines goals constituent with life expectations.
d. Views behaviors as meaningful when they are linked to culturally learned values.

Healthcare professional roles

Culturally humble healthcare professionals need to work toward understanding themselves and their patients within the context of privilege, oppression, and marginalization. A healthcare professional's work engages patients as equal partners and addresses social inequalities and injustices on institutional and societal levels. The culturally humble healthcare professional sees their role in the provision of "therapeutic interventions" and addresses systems that serve to oppress marginalized communities to promote optimal well-being for patients, communities, and society. The healthcare professional can fulfill many roles. Because multicultural patient care is closely linked to the values of social justice, the need for a social justice orientation in patient care is apparent (Sue & Sue, 2016).

Social justice counseling is defined as "an active philosophy and approach aimed at producing conditions that allow for equal access and opportunity; reducing or eliminating disparities in education, health care, employment, and other areas that lower the quality of life for affected populations; encouraging the healthcare professional to consider micro, mezzo, and macro levels in the assessment, diagnosis, and treatment of patient and patient systems; and broadening the role of the helping professional to include not only caregiver/patient therapist but advocate, consultant, psycho-educator, change agent, community worker, and so on" (Sue & Sue, 2016, p. 134). The social justice perspective requires healthcare professionals to assess and intervene with a perspective that balances the individual patient and the system(s) in which the patient is experiencing difficulties (Sue & Sue, 2016).

The healthcare professional can act as advocate and actively speak with and, when necessary, for members of populations who are oppressed by the dominant society. These populations are confronted with institutional and societal oppression. Healthcare professionals can also be effective as "change agents" working to transform oppressive features of the institutional and societal environments. Rather than attributing patient problems to individual deficits, the healthcare professional works with the patient to identify external contributors to the problem and to remediate the consequences of oppression.

Further, critical self-reflection in the context of cultural humility includes analysis of power differentials and how those differentials may play out on both individual and institutional levels (Fisher-Borne et al., 2015). Practicing with cultural humility suggests that healthcare professionals go beyond the confines of their offices to address differences in power and privilege that affect patients in very tangible ways.

Healthcare professionals need to be self-aware and realize that patients react positively to healthcare professionals who display personal warmth, authenticity, credibility, and respect and who strive for human connectedness. Practicing with cultural humility provides the following:

> *A promising alternative to cultural competence … as it makes explicit the interaction between the institution and the individual and the presence of systemic power imbalances. It further calls upon practitioners to confront imbalances rather than just acknowledge they exist. Cultural humility challenges us to ask difficult questions instead of reducing our clients to a set of norms we have learned in a training or course about "difference." We believe that asking critical questions … challenge our own practice as well as our organizations and institutions and will provide a deeper well from which to approach individual and community change and effective long-term practice (Fisher-Borne et al., 2015, p. 177).*

Institutional and societal accountable: Social justice

Healthcare delivery takes place within and reflects the larger culture. Although healthcare delivery can certainly aid in the wellness of patients, it does not occur in a vacuum. Wellness cannot be achieved when social injustice is present.

Traditionally some healthcare professionals may consider issues of social justice outside the realm of their practice; however, if social justice is relegated to a select few, oppression will flourish and efforts to heal communities will be blocked. The healthcare professional practicing within a social justice framework would not locate the problem within the individual but would look to the environmental factors that contribute to the actions and reactions of the individual (Sue & Sue, 2016).

Social justice is the view that everyone deserves equal economic, political, and social rights and opportunities. Social justice depends on economic justice. Proponents of social justice explain that there must be fair and compassionate distribution of economic growth. Social justice requires that all persons be provided with access to what is good for the person and in associations with others. According to the principles of social justice, all people have a personal responsibility to work with others to design and continually perfect societal institutions for both personal and social development (San Diego Foundation, 2016).

Although there are variations among the definitions of social justice, there are three factors that are part of all definitions. These are (San Diego Foundation, 2016):

- Equal rights.
- Equal opportunity.
- Equal treatment.

In other words, social justice mandates equal rights and equal opportunities for everyone.

It is imperative that healthcare professionals ask themselves key questions that facilitate the acquisition of social justice. Examples of such questions include the following:

- How do my behaviors within patient interactions actively challenge any power imbalances and involve communities experiencing marginalization?
- How, as healthcare professionals, do we address in-equalities?
- How am I extending my responsibility beyond individual patients?
- How am I advocating for policy and practice changes at institutional, community, state, and national levels?
- What institutional structures are in place that address inequalities?
- What training and professional development activities are offered at our institution or in our community that address inequalities?
- How can we engage our community to make sure its voice is heard in this work?

(Adapted and updated from Fisher-Borne et al., 2015, p. 176).

These types of questions can provide a starting point for healthcare professionals to address social injustices. Healthcare professionals can use their positions to advocate for changes in society to promote social justice. Working toward social justice, patients are empowered and can help create an environment in which equal rights, treatment, and opportunity are available to all.

Self-Assessment Quiz Question #10

The factors that are common to all definitions of social justice include:

a. White identity.
b. Equal opportunity.
c. Equal incomes.
d. Diversity in all groups.

DIFFERENCES BETWEEN MULTICULTURAL COMPETENCY AND CULTURAL HUMILITY

Cultural humility is a conceptual framework that was first developed and utilized in the field of medicine and nursing in the 1990s. Since that time, it has become more widely applied to all helping professions. The framework is intended to address some of the shortcomings within the cultural competency and multicultural counseling frameworks. The approach of cultural humility differs from the multicultural competency approach in that it recognizes that knowledge of different cultural backgrounds is not sufficient to develop an effective patient/healthcare professional relationship with each individual. The cultural competency and multicultural counseling frameworks are most often criticized for creating a model that serves to "other" ethnic, racial, and various minority groups (Carten, 2016, p. xlii) while not acknowledging "Whiteness" as an identity and as a culture. "Othering" is the term used for the "biased assumptions about populations viewed as 'the other' at various times in the country's history" as well as in the present (Carten, 2016, p. xlii).

Othering assumes that various oppressed and marginalized populations are different from the American "norm," commonly understood as a White, middle class, able-bodied, straight, male, and individually responsible for any difficulties they may experience. Multicultural patient care delivery and cultural competency frameworks commonly assume that the healthcare professional is White and that patients are the "other" and set out to describe what various racial and ethnic groups believe and how they act as a group. On the other hand, a cultural humility framework emphasizes self-understanding as primary to understanding others. To facilitate self-understanding, cultural humility encourages ongoing critical self-reflection, asking the healthcare professionals to delve into their cultural identity and its effect on the delivery of patient care. Cultural humility makes no assumption regarding the healthcare professional's identity and especially challenges White practitioners to explore and understand their "White identity" (Carten, 2016). Table 7 illustrates the differences between (multi)cultural competence and cultural humility frameworks.

Table 7: (Multi) Cultural Competence and Cultural Humility

	(Multi) Cultural Competence	Cultural Humility
Perspectives on Culture	• Acknowledges layers of cultural identity. • Recognizes danger of stereotyping.	• Acknowledges layers of cultural identity. • Understands that working with cultural differences is an ongoing, lifelong process • Emphasizes understanding self as well as understanding patients..
Assumptions	• Assumes the problem is a lack of knowledge, awareness, and skills to work across lines of difference. • Individuals and organizations develop the values, knowledge, and skills to work across lines of difference.	• Assumes an understanding of self, communities, and colleagues is needed to understand patients. • Requires humility and a recognition and understanding of power imbalances within the patient-healthcare professionals' relationship and in society.
Components	• Knowledge. • Skills. • Values. • Behaviors.	• Ongoing critical self-reflection. • Lifelong learning. • Institutional accountability and change. • Addressing and challenging power imbalances.
Stakeholders	• Practitioner.	• Patient. • Practitioner. • Institution. • Larger community.
Critiques	• Suggests an end point. • Can lead to stereotyping. • Applied universally rather than based on a specific client's experience(s). • Issues of social justice not adequately addressed. • Focus on gaining knowledge about specific cultures.	• A "young concept". • Empirical data in early stages of development. • Conceptual framework still being developed.

Note. Adapted from Fisher-Borne, M., Cain, J. M., & Martin, S. L. (2015). From mastery to accountability: Cultural humility as an alternative to cultural competence. Social Work Education, 34, 165-181.

Although the intent to understand the diversity within the United States is meant to be helpful to healthcare professionals, it often leads to strengthening the status quo (i.e., "White" as the norm and all other racial and ethnic groups as outside that norm). Because of the desire to describe various racial and ethnic norms, multicultural patient care delivery and cultural competency frameworks tend to overlook the diversity within ethnic and racial minority groups and within "White" groups (Carten, 2016; Fisher-Borne, 2015).

The multicultural counseling and cultural competency frameworks also tend to neglect the intersecting dimensions of diversity. By focusing on ethnic and racial groups, these models neglect the complexity of group and individual identity. Complex identities include a multitude of dimensions of diversity, such as race, ethnicity, socioeconomic class, LGBTQ status, dis/ability, religion, regionality (e.g., southern, northern, western, eastern regions of the United States), age, gender, religion, etc. These dimensions of diversity intersect in many ways. The intersectionality of a multitude of dimensions that are oppressed or marginalized identities within one individual may result in experiencing much discrimination (Rosenthal, 2016). On the other hand, the intersection of a multitude of dimensions that are privileged within one individual may result in experiencing much opportunity. Moreover, the intersectionality of dimensions of diversity results in an infinite number of individual identities that are difficult, if not impossible, to categorize (Rosenthal, 2016).

Multicultural counseling and cultural competency frameworks have been further criticized for focusing on having healthcare professionals gain knowledge regarding differing racial and ethnic groups and assuming that there is an end point in cultural training, where the healthcare professionals' competency is deemed competent (Fisher-Borne et al., 2015). However, culture is fluid and ever-changing, with a complex array of interacting dimensions. Thus, it is not possible to reach an end point and to be deemed competent.

The final major criticism of multicultural patient care delivery and cultural competency frameworks is that they do not present a social change/social justice perspective (Fisher-Borne et al., 2015). These frameworks assume that the lack of knowledge and understanding of oppressed and marginalized groups

is commonly responsible for inadequate and/or ineffective healthcare delivery. The frameworks fail to address the power imbalances present in society and its institutions that are integral to many challenges and/or issues that patients bring to healthcare interactions. Cultural humility requires patient care professionals to recognize the power imbalances within the healthcare community and in society. Moreover, cultural humility demands that practitioners hold institutions accountable and asks that healthcare professionals work to right social injustices on community and national levels to achieve wellness for patients that can only be realized through working toward a more equitable society (Foronda et al., 2016).

It is important to note that the healthcare professions are committed to cultural competency and increasingly understand the need to adopt a cultural humility framework as well. Healthcare professions incorporate cultural competency and cultural humility within their ethical and educational guidelines for competent practice (APA, 2017; ASCA, 2016; NASW, 2021). The professions share some commonalities within their guidelines for culturally sensitive practice. There is a need to continually develop an understanding of the diversity of patients and to commit to lifelong learning.

Case study: James Choi

James Choi is a 25-year-old Korean American, a new college graduate who recently accepted a job as a fund-raiser at the Humane Society. He was adopted when he was 8 months old into a middle-class White family. He seeks therapy because he feels that he is not achieving as much as he would like with his career. James is feeling anxious and has some symptoms of depression. His family physician has prescribed an antidepressant and encourages James to participate in mental health therapy. He is seeing Denise, a clinical psychologist who works in a large mental health counseling practice. Denise is a 30-year-old White woman. She is a recent graduate who has learned a bit about Asian American culture in her graduate coursework. On James's first visit, Denise asks him what brings him to counseling. James explains that he is disappointed in himself for not achieving more in his career. He explains that he has been feeling anxious and depressed and identifies the antidepressant that he is taking. Denise nods in understanding and remembers that Asian American families often have high academic standards and family members have a difficult time seeking therapy, concerned about losing face. As a result, Denise compliments James on being brave enough to seek therapy. James seems confused by Denise's response but manages to say thank you. James then proceeds to tell Denise that his parents encouraged him to seek therapy, as they thought that he was showing signs of depression. Denise is surprised that an Asian family would encourage their son to seek counseling but knows that she may have been stereotyping based on his ethnicity. Denise continues with the questions, as she does want to know more about his feelings regarding not achieving as much as he would like in his career as well as his symptoms of anxiety and depression. She asks James why he is feeling that he is not achieving as much as he should be. James shrugs and says he thought he would be at a higher position after completing college. Denise knows that Asian Americans often expect high achievement from their children, so she asks James how his parents feel about his success thus far. James surprises her again when he says his parents are extremely proud of him and think he has landed a great first job. Denise is baffled and asks James to share more about his disappointment given his parents' support and his success at both graduating from college and getting a job so quickly. She remembers again to be careful not to stereotype. When the session concludes, she asks James to schedule another session so they can explore his concerns further. James says he will on his way out and thanks Denise for her help. Yet, he never returns to counseling.

Questions

1. What are some of the reasons James might not have pursued further therapy with Denise?
2. How could Denise have prepared differently for her session with James?
3. How might she have applied some of the facets of cultural humility in her counseling?
4. How do you think James thinks the healthcare professional perceives him? Is it helpful to the therapeutic relationship?

This case illustrates how unintentional stereotyping can hinder the development of a therapeutic relationship. Denise is aware that she may be stereotyping but is having difficulty changing her thinking about Asian Americans. James's experiences in life are vastly different from what Denise imagines they are, and thus he feels as if he is not being understood or helped by Denise. Denise might be helped by engaging in critical self-reflection after her session with James. She might ask herself what went wrong. She might further explore her stereotypical reaction to James and how that might have alienated him rather than engaged him in working with her. Denise might have had more success if she had questioned him more about his background and his family and had engaged him as an expert on his own life as she forged a respectful partnership with him. It seems as if Denise felt she had to be the expert and display cultural competency, which may have prevented her from being able to listen to James and discover the unique diversity in his life.

Case study: Linda Rogers

Linda Rogers is a 28-year-old White woman who has two children, ages seven and three. She and her fiancé live in a trailer park in a rural area. She comes into the county mental health clinic because she is experiencing headaches and dizziness and often has severe stomachaches. The clinic physician suggested Linda make an appointment because, upon examination, she could not find a physical reason for Linda's headaches and stomach problems. During the intake, Linda reports that she often skips meals or eats something from the vending machine at work for lunch; she also admits to smoking. Linda also reports that she typically feels fine and tries to limit her visits to the clinic. When Janine, the African American, upper-middle-class mental health nurse practitioner, asks Linda what she feels her stomachaches are caused by, Linda seems unsure and on the verge of tears. Janine compliments Linda for coming to therapy and asks her to discuss her problems more fully. Linda states that she has a lot of stress in her life as she has two minimum-wage jobs and two kids. She states that her fiancé is supportive, but he experiences a great deal of stress, too. Janine is empathetic and agrees that there is a lot of stress in Linda's life. Janine asks Linda what she does to reduce stress. Linda states that her breaks at work give her the opportunity to smoke and that smoking temporarily relieves her stress and her physical symptoms. Janine feels strongly that smoking is a bad habit, and although it might temporarily relieve stress, Linda should attempt healthy stress relief techniques. Linda nods in agreement but acknowledges it has been difficult to quit smoking. Janine asks what Linda likes to do in her free time. Linda states that she does not have much free time between work and her kids. Janine asks Linda if she would like information about a smoking-cessation class offered at the clinic to help her stop smoking. Linda nods and accepts the pamphlet Janine offers. They spend the rest of the session brainstorming about other ways to reduce the stress in Linda's life. Linda is engaged in the brainstorming and agrees to try to use her work breaks to walk off her stress. At the end of the session, Janine again affirms Linda, telling her she is glad that she came in and that it is wonderful she will begin smoking-cessation classes and use her work breaks to decrease her stress by taking a short walk.

Linda misses the next several sessions with Janine. She shows up for a session with Janine several months later. Janine greets Linda warmly and says she has missed her at her previously scheduled sessions. Janine then asks Linda about her stress and her headaches and stomachaches. Linda says she is still very stressed and continues to experience headaches and stomachaches. Janine gently asks whether she attended any smoking-cessation sessions. Linda states that she doesn't have the time or energy to

attend the classes. Janine asks whether Linda has been walking during work breaks. Linda looks abashed but admits that she is still using breaks to smoke. Janine is a bit frustrated and asks Linda what she thinks they should work on in session today to reduce stress. Linda doesn't seem to know what to do, so Janine suggests they try other options to reduce stress. Linda agrees. The rest of the session is spent coming up with a detailed plan to reduce stress through breathing exercises and a plan to try to attend smoking-cessation sessions.

When Linda returns to counseling several weeks later, she again admits to not following through on Janine's suggestions. She is still stressed. Janine is frustrated at the lack of progress but continues to try to help Linda with her stress through offering a variety of self-care options. Linda continues to agree to try a variety of techniques and agrees to continue to meet, but with little enthusiasm.

Questions

1. What cultural forces might have affected Linda and Janine's interactions?
2. How might Janine have explored Linda's stress more comprehensively?
3. How did the therapy techniques reflect a middle-class perspective?
4. If you were the nurse practitioner, what would you do? Why?

It is not surprising that Linda sought help from the clinic doctor first because her poverty likely afforded her little opportunity to seek therapy. Fortunately, the clinic she went to had counseling services available and Linda was able to meet with a therapist. Although Janine is empathetic and caring, she fails to make headway with Linda's stress and is frustrated by Linda's lack of follow-through. Janine neglects to thoroughly explore the role that poverty plays, both in Linda's stress response and in her ability to pursue stress reduction in the way that someone with more resources might be able to. Linda does not have the luxury of time, and smoking provides her quick relief. Although Linda may want to stop smoking, it is unlikely that she has the time to devote to smoking-cessation classes. Janine might have wanted to work with Linda on some of the stressors in her life that require advocacy outside the office. For example, Linda's inadequate diet may be the result of not being able to afford enough food. Janine could have explored this with Linda and helped Linda access various governmental and nonprofit programs to help her obtain sufficient food. Although Linda agreed to continue to work with Janine, she may have done so because she does not feel that she had an option.

Conclusion

When working with patients from diverse backgrounds, healthcare professionals must be willing to continuously look at personal dimensions of diversity and at how those dimensions affect their worldview and their view of their patients. Thus, healthcare professionals enter the professional relationship with a solid base of self-knowledge and a continuous commitment to critical self-reflection. Healthcare professionals also enter into patient interactions with an open mind and curiosity regarding patient's lived experience. Healthcare professionals do not pretend to know or understand each patient's unique combination of facets of diversity and do not assume that the patient will behave or believe in any way based on those facets of diversity. In fact, the culturally humble healthcare professional "cultivate(s) openness to the other person by regulating one's natural tendency to view one's beliefs, values, and worldview as superior, indeed, the culturally humble healthcare professional strives to cultivate a growing awareness that one is inevitably limited in knowledge and understanding of patients' backgrounds" (Hook et al., 2016, p. 152).

This stance of openness and equality provides an environment for healthcare professionals to enter respectful and equitable partnerships with patients. Moreover, the culturally humble healthcare professional considers how the societal structures in the United States serve to oppress some individuals and groups while empowering other individuals and groups. Patients are affected by the inequality within the United States. They are affected by living in a society where racism, sexism, classism, homophobia, and discrimination based on a variety of other diverse identities, including disability and gender identity, are expressed in a multitude of ways; this discrimination obstructs access to resources and opportunities and impedes interpersonal relationships. The power imbalances within society and institutions and as experienced by patients require the culturally humble healthcare professional to take an active role in righting those imbalances. Cultural humility challenges healthcare professionals to ask difficult questions and encourages them not to reduce patients to a preconceived set of cultural norms that have been learned in trainings about diversity and difference (Foronda et al., 2016). Finally, the culturally humble healthcare professional will engage in lifelong learning that supports effective practice.

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CULTURAL HUMILITY FOR HEALTHCARE PROFESSIONALS

Self-Assessment Answers and Rationales

1. The correct answer is B.
Rationale: Cultural humility is an ongoing process, which requires continual self-reflection and self-critique. Cultural humility is a prerequisite to cultural competency.

2. The correct answer is C.
Rationale: The highest number of foreign-born people came from Mexico. They represented 25% of the population of foreign-born people by country of birth residing in the US. There were 11,182,111 people belonging to this group.

3. The correct answer is A.
Rationale: The highest poverty rates are experienced by Native American Indians, Alaska Natives, Black women, and Latinas. About one in four Alaska Native women live in poverty.

4. The correct answer is B.
Rationale: The type of functional disability that has the highest percentage is mobility. The percentage of people with mobility disability is 13.7%.

5. The correct answer is D.
Rationale: Oppression is a pervasive system. It has its foundation in history and is maintained via individual and institutional systematic discrimination, personal bias, bigotry, and social prejudice. Oppression leads to a condition of privilege for the person or the group that is the oppressor(s).

6. The correct answer is C.
Rationale: Creation of vulnerabilities are created by the cumulative impact of the creation margins and living between cultures. Vulnerability is defined as a state of being exposed to and unprotected from health-damaging environments.

7. The correct answer is B.
Rationale: Healthcare professionals often attempt to take the emphasis off race, class, gender, and other areas of difference by denying the effect these aspects of diversity have on patients' (e.g., "The only race I know is the human race"), or by trying to show that they understand the patient's experience because they, too, are a member of an oppressed group.

8. The correct answer is D.
Rationale: Being White makes it easier to assimilate into the dominant culture and to partake in unearned privileges many White people enjoy but do not acknowledge.

9. The correct answer is A.
Rationale: Multicultural perspectives provide the opportunity for two persons – from different cultural perspectives – to disagree without one being right and the other wrong.

10. The correct answer is B.
Rationale: Although there are variations among the definitions of social justice, there are three factors that are part of all definitions. These are equal rights, equal opportunity, and equal treatment. In other words, social justice mandates equal rights and equal opportunities for all.

Diabetes Prevention and Management for Healthcare Professionals

5 Contact Hours

Release Date: November 16, 2021 **Expiration Date:** November 16, 2024

Faculty

Adrianne Avillion, D.Ed, RN, is an accomplished nursing professional development specialist and healthcare author. She earned a doctoral degree in adult education, an MS in nursing from Penn State University, and a BSN from Bloomsburg University. Dr. Avillion has held a variety of nursing positions as a staff nurse in critical care and physical medicine and rehabilitation settings, as well as numerous leadership roles in professional development. She has published extensively and is a frequent presenter at conferences and conventions devoted to the specialty of continuing education and nursing professional development. Dr. Avillion owns and is the CEO of Strategic Nursing Professional Development, a business that specializes in continuing education for healthcare professionals and consulting services in nursing professional development.

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

Reviewer: Mary C. Ross, Ph.D., RN, is an experienced nursing clinician and educator. She has clinical expertise in nursing and various medical-surgical areas. Dr. Ross has had numerous research grants, and multiple publications and presentations. In addition to a BSN and an MSN, she has a doctorate in nursing.

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

Course overview

Diabetes is a significant health problem in the United States and throughout the world. It is imperative that the healthcare community take aggressive steps to reduce the number of Americans who have the disease and to promote more effective treatment so that persons with diabetes can enjoy their maximum quality of life. This education program presents information on both the impact of the disease and how to provide effective healthcare professional interventions to those affected.

Learning objectives

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

- Discuss the incidence and prevalence of diabetes mellitus.
- Explain the financial and societal impact of diabetes mellitus.
- Describe the normal anatomy and physiology of the pancreas.
- Differentiate among the different types of diabetes mellitus.
- Discuss the pathologies of the different types of diabetes mellitus.
- Explain the screening guidelines for diabetes mellitus.
- Identify risk factors for the development of diabetes mellitus.
- Describe the presenting clinical manifestations of each type of diabetes mellitus.
- Explain the process of diagnosing diabetes mellitus.
- Describe strategies for the management of diabetes mellitus.
- Identify the potential complications of diabetes mellitus.
- Describe healthcare professional interventions when caring for persons with diabetes mellitus.
- Discuss the educational needs of diabetic patients and their families.

How to receive credit

- Read the entire course online or in print which requires a 5-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

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.

Sponsorship/commercial support and non-endorsement
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

According to the National Diabetes Statics Report, 2020, 34.2 million Americans, just over 1 in 10, have diabetes. Of these 34.2 million people, 7.3 million, or 21.4%, are undiagnosed (Centers for Disease Control and Prevention (CDC), 2020c; 2020d). The World Health Organization (WHO) reports that in 2019 an estimated 1.5 million deaths were directly caused by diabetes (WHO, 2021). The numbers of people who have diabetes continue to increase at alarming rates. It is critical that healthcare professionals aggressively pursue identification of persons who have, and who are at risk for, developing diabetes, and intervene to facilitate not only treatment, but prevention efforts (CDC, 2020c; 2020d).

INCIDENCE AND PREVALENCE OF DIABETES MELLITUS

Diabetes mellitus (DM) is a chronic endocrine disease characterized by impaired glucose regulation that occurs when the pancreas fails to produce adequate amounts of insulin or when the patient's body is unable to effectively utilize the insulin that is produced (Ignatavicius et al., 2018; WHO, 2021).

Approximately 304.2 million Americans have diabetes. Data indicate that (CDC, 2020c; 2020d):

- An estimated 10.5% of the United States (US) population are dealing with diabetes.
- About 26.9 million people have been diagnosed. This figure includes 26.8 million adults.
- A significant number of these people, 7.3 million or 21.4%, are undiagnosed.
- A total of 88 million people 18 years of age and older have prediabetes. This figure represents 34.5% of the adult US population.
- For persons 65 years of age and older, 24.2 million people have prediabetes.

- **Healthcare Professionals Consideration:** An estimated 1.5 million world-wide deaths were directly caused by diabetes in 2019 (WHO, 2021). Healthcare professionals must increase their efforts in the recognition, treatment, and prevention of diabetes mellitus.

Diabetes is also a leading cause of death in the United States. According to the most recent data available on the CDC website (2021d), the following are the leading causes of death in the United States.

1. Heart disease: 659,041
2. Cancer: 599,601
3. Accidents (unintentional injuries): 173,040
4. Chronic lower respiratory diseases: 156,979
5. Stroke (cerebrovascular diseases): 150,005
6. Alzheimer's disease: 121,499
7. Diabetes: 87,647
8. Nephritis, nephrotic syndrome, and nephrosis: 51,565
9. Influenza and pneumonia: 49,783
10. Intentional self-harm (suicide): 47,511

Key findings of the National Diabetes Statistics Report 2020 regarding incidence and prevalence include (CDC, 2020d ;2020e; 200f):

- 34.2 million Americans—just over 1 in 10—have diabetes.
- 88 million American adults—approximately 1 in 3—have prediabetes.
- New diabetes cases were higher among non-Hispanic blacks and people of Hispanic origin than non-Hispanic Asians and non-Hispanic whites.
- For adults diagnosed with diabetes:
  - New cases significantly decreased from 2008 through 2018.
  - The percentage of existing cases was highest among American Indians/Alaska Natives.
  - 15% were smokers, 89% were overweight, and 38% were physically inactive.
  - 37% had chronic kidney disease (stages 1 through 4); and fewer than 25% with moderate to severe chronic kidney disease (stage 3 or 4) were aware of their condition.
- New diagnosed cases of type 1 and type 2 diabetes have significantly increased among US youth.
- For ages 10 to 19 years, incidence of type 2 diabetes remained stable among non-Hispanic whites and increased for all others, especially non-Hispanic blacks.
- The percentage of adults with prediabetes who were aware they had the condition doubled between 2005 and 2016, but most continue to be unaware.

More people are developing type 1 and type 2 diabetes during youth, and racial and ethnic minorities continue to develop type 2 diabetes at higher rates. Likewise, the proportion of older people in our nation is increasing, and older people are more likely to have a chronic disease like diabetes. By addressing diabetes, many other related health problems can be prevented or delayed.

Prevalence and incidence according to age, race, and ethnicity

Age

According to the National Diabetes Statistics Report 2020, (CDC, 2020c; 2020d;2020e):

- About 34.2 million people of all ages had diabetes mellitus.
- The percentage of adults (18 years of age or older) with diabetes increased with age.
- About 34.1 million adults 18 years of age or older) had diabetes.
- The highest percentage was 26.8% among persons 65 years of age or older.
- An estimated 4.9 million adults between the ages of 18 and 44 had diabetes.
- An estimated 14.8 million people between the ages of 45 and 64 had diabetes.
- An estimated 14.3 million people over the age of 65 had diabetes.

Incidence and Trends among Children and Adolescents.

According to the National Diabetes Statistics Report 2020 (CDC, 2020c; 2020d; 2020e):

- 18,291 children and adolescents younger than age 20 years with type 1 diabetes.
- 5,758 children and adolescents age 10 to 19 years with type 2 diabetes.
- During 2011–2015, non-Hispanic Asian and Pacific Islander children and youth had the largest significant increases in incidence of type 1 diabetes.
- During 2011–2015, non-Hispanic Asian and Pacific Islander children and youth had the largest significant increases in incidence of type 1 diabetes.
- Among US children and adolescents aged 10 to 19 years (CDC, 2020c; 2020d; 2020e):
- For the entire period 2002–2015, overall incidence of type 2 diabetes significantly increased.
- During the 2002–2010 and 2011–2015 periods, changes in incidence of type 2 diabetes were consistent across race/ethnic groups. Specifically, incidence of type 2 diabetes remained stable among non-Hispanic whites and significantly increased for all others, especially non-Hispanic blacks.

Evidence-based practice! Research data shows that the number of younger people with diabetes is significant and continues to increase (CDC, 2020c; 2020d; 2020e). It is therefore essential that nurses identify those at risk and provide patient/family education regarding risk factors for the disease and how to modify these risk factors as appropriate.

Racial and ethnic differences (Prevalence of diagnosed diabetes)

Among the US population overall, crude estimates for 2018 were (CDC, 2020c; 2020d; 2020e):

- 26.9 million people of all ages—or 8.2% of the US population—had diagnosed diabetes.
- 210,000 children and adolescents younger than age 20 years—or 25 per 10,000 US youths— had diagnosed diabetes. This includes 187,000 with type 1 diabetes.
- 1.4 million adults aged 20 years or older—or 5.2% of all US adults with diagnosed diabetes—reported both having type 1 diabetes and using insulin.
- 2.9 million adults aged 20 years or older—or 10.9% of all US adults with diagnosed diabetes—started using insulin within a year of their diagnosis.

Among US adults aged 18 years or older, age-adjusted data for 2017–2018 indicated the following (CDC, 2020c; 2020d; 2020f):

- Prevalence of diagnosed diabetes was highest among American Indians/Alaska Natives (14.7%), people of Hispanic origin (12.5%), and non-Hispanic blacks (11.7%), followed by non-Hispanic Asians (9.2%) and non-Hispanic whites (7.5%).
- American Indians/Alaska Natives had the highest prevalence of diagnosed diabetes for women (14.8%).
- American Indian/Alaska Native men had a significantly higher prevalence of diagnosed diabetes (14.5%) than non-Hispanic black (11.4%), non-Hispanic Asian (10.0%), and non-Hispanic white (8.6%) men.
- Among adults of Hispanic origin, Mexicans (14.4%) and Puerto Ricans (12.4%) had the highest prevalence, followed by Central/South Americans (8.3%) and Cubans (6.5%).
- Among non-Hispanic Asians, Asian Indians (12.6%) and Filipinos (10.4%) had the highest prevalence, followed by Chinese (5.6%). Other Asian groups had a prevalence of 9.9%.
- Among adults, prevalence varied significantly by education level, which is an indicator of socioeconomic status. Specifically, 13.3% of adults with less than a high school education had diagnosed diabetes versus 9.7% of those with a high school education and 7.5% of those with more than a high school education.

Prevalence of Prediabetes in Adults

Data regarding prediabetes in adults show that (CDC, 2020c; 2020d; 2020e):

- An estimated 88 million adults aged 18 years or older had prediabetes in 2018.
- Among US adults aged 18 years or older, crude estimates for 2013–2016 were: 34.5% of all US adults had prediabetes, based on their fasting glucose or A1C level (Table 3).
- 10.5% of adults had prediabetes based on both elevated fasting plasma glucose and A1C levels.
- 15.3% of adults with prediabetes reported being told by a health professional that they had this condition.
- Among US adults aged 18 years or older, age-adjusted data for 2013–2016 indicated:
- A higher percentage of men (37.4%) than women (29.2%) had prediabetes.
- Prevalence of prediabetes was similar among all racial/ethnic groups and education levels.

Incidence of Newly Diagnosed Diabetes in Adults

Among US adults aged 18 years or older, crude estimates for 2018 were (CDC, 2020c; 2020d; 2020e):

- 1.5 million new cases of diabetes—or 6.9 per 1,000 persons—were diagnosed.
- Compared to adults aged 18 to 44 years, incidence rates of diagnosed diabetes were higher among adults aged 45 to 64 years and those aged 65 years and older.
- Among US adults aged 18 years or older, age-adjusted data for 2017–2018 indicated that non-Hispanic blacks (8.2 per 1,000 persons) and people of Hispanic origin (9.7 per 1,000 persons) had a higher incidence compared to non-Hispanic whites (5.0 per 1,000 persons).

Evidence-based practice! The rate of new cases of diabetes in youths younger than 20 years of age increased in the US between 2002 and 2015, with a 4.8% increase per year for type 2 diabetes and a 1.9% increase per year for type 1 diabetes (CDC, 2020g). These findings indicate that education regarding prevention and recognition of diabetes in youth must be provided with increased effectiveness, as well as aggressive efforts to prevent development whenever possible.

Self-Assessment Quiz Question #1

Among U. S. adults 18 years of age and older indicated that prevalence of diagnosed diabetes was highest among:

a. American Indians/Alaska Natives.
b. People of Hispanic origin.
c. Non-Hispanic blacks.
d. Non-Hispanic Asians.

FINANCIAL AND SOCIETAL IMPACT OF DIABETES MELLITUS

The momentous financial and societal impact of diabetes continues to increase at an alarming rate. Federal, state, and local governments (and ultimately the US taxpayer) bear the brunt of costs related to diabetes. The American Diabetes Association (ADA) gives as an example that Medicare's diabetes-related burden increased as the prevalence of diabetes increased (O'Connell & Manson, 2019).

According to the CDC, diabetes is the most expensive chronic condition in the US. A summary of these expenses includes (CDC, 2021c):

- The total annual cost of diabetes is $327 billion. An additional $90 billion is spent on reduced productivity.
- One dollar out of every four dollars in US healthcare costs is spent on caring for people with diabetes.
- The total economic cost of diabetes rose 60% from 2007 to 2017.
- Sixty-one percent of diabetes costs are for people 65 years of age or older. These costs are mainly paid by Medicare.
- An estimated 48% to 64% of lifetime medical costs for a person with diabetes are for complications related to diabetes, such as heart disease and stroke.

Medical costs are not the only costs related to diabetes. The stress of chronic illness can impact interpersonal relationships. It can impact the person's ability to work, which may have significant economic impact on the family income. Financial burdens are inter-related with psychological issues that impact persons dealing with diabetes. Medical bills, loss of work time, and inability to actively participate in work and social activities can all have s significant adverse impact on patients, their families, and their employers. Dealing with a chronic illness can lead to significant stress, which can adversely impact ability to function effectively at work, home, and school and interfere with interpersonal relationships. Therefore, the costs of diabetes include monetary, societal, and interpersonal factors. The impact on society includes overextended health services, increased public assistance programs for financially stressed families, and the societal burden of mental health care and rehabilitation for those with complications resulting from diabetes (CDC, 2021c; O'Connell, 2019).

The cost of medications used in the treatment of diabetes continues to increase at alarming rates. The price of insulin, for example, has increased 1,200% since 1996 (Kumok, 2021).

The estimated economic cost of glucose-lowering drugs is $57.6 billion per year in the U.S. in 2015–2017 (15–20% of the estimated annual cost for all prescription drugs in the U.S.). The cost of such drugs can cause a financial burden and have a devastating impact on people without health insurance and people whose insurance imposes high deductibles—the people least able to afford the high cost of diabetes drugs. This means that the high cost of diabetes drugs has important implications for both public policy and social justice (Taylor, 2020a).

Members of an Insulin Access and Affordability Working Group (Cefalu, (2018) made the following recommendations to help lower the cost of insulin. These recommendations may also be applied to other drugs used in the treatment of diabetes. Examples include (Cefalu, (2018):

- Providers, pharmacies, and insurers should discuss the cost of insulin preparations (and other drugs) with patients to help them understand the advantages, disadvantages, and financial impact of potential insulin preparations and those of other diabetes medications.
- Providers should prescribe the lowest-priced medications that effectively and safely achieve treatment goals.
- Researchers should study the comparative effectiveness and cost-effectiveness of the various insulins.
- Organizations such as the (ADA) should:
    - Advocate for access to affordable medications for all people who have diabetes.
    - Develop and regularly update clinical guidelines or standards of care based on scientific evidence for prescribing medications.
    - Make information about the advantages, disadvantages, and financial implications of medications easily available to people with diabetes.

NORMAL ANATOMY AND PHYSIOLOGY OF THE PANCREAS

It is not possible to comprehend the pathophysiology of diabetes without an understanding of normal pancreatic functioning. The pancreas is a triangular shaped organ, about six to 10 inches long, located in the curve of the duodenum (the first portion of the small intestine from the stomach to the jejunum). The pancreas plays critical roles in both the digestive process and the process that regulates blood sugar (The Pancreas Center, n.d.; Willis, 2018).

The pancreas is surrounded by various other organs: the small intestine, liver, and spleen. It has three sections. The wide part, referred to as the head of the pancreas, is positioned toward the center of the abdomen. The middle section is called the neck and the body of the pancreas. The thin end of the organ is referred to as the tail and extends to the left side (Johns Hopkins Medicine, n.d.; The Pancreas Center, n.d.; Willis, 2018).

The pancreas is surrounded by several major blood vessels: the superior mesenteric artery, the superior mesenteric vein, the portal vein, and the celiac axis, which supply blood to the pancreas and many other abdominal organs (The Pancreas Center, n.d.).

Exocrine function of the pancreas

The pancreas contains exocrine glands, which produce enzymes that are essential to the process of digestion (The Pancreas Center, n.d.). Acinar cells make up most of the pancreas and are responsible for the regulation of the exocrine functions of the gland (Willis, 2018).

Below is a summary of the exocrine function of the pancreas (The Pancreas Center, n.d.):

- Food enters the stomach.
- Pancreatic juices flow into a system of ducts that terminate in the primary pancreatic duct.
- The pancreatic duct joins with the common bile duct to form the ampulla of Vater located in the duodenum.
- The common bile duct produces bile. Pancreatic juices and bile flow into the duodenum and facilitate the digestion of fats, carbohydrates, and proteins.

Endocrine function of the pancreas

The endocrine function of the pancreas focuses on hormone secretion. The endocrine cells of the pancreas are islet cells, or islets of Langerhans. These islet cells exist as clusters of cells that are scattered among the acinar cells. They consist of alpha, beta, and delta cells, which produce the following essential hormones (Johns Hopkins Medicine, n.d.a.; The Pancreas Center, n.d.; Willis, 2018):

- Glucagon: Glucagon is produced by the alpha cells. It raises blood glucose levels by causing the breakdown of glycogen to glucose.
- Insulin: Insulin is produced by beta cells. Insulin's primary function is to reduce blood glucose levels by triggering the conversion of glucose to glycogen.
- Somatostatin: Delta cells are responsible for the production of somatostatin. Somatostatin inhibits the release of growth hormone (GH), corticotrophin, and some other hormones.

Under normal conditions, a small amount of insulin is constantly secreted by the pancreas. Insulin secretion increases in response to increases in blood glucose levels. Insulin triggers the conversion of glucose to glycogen. Glycogen is stored primarily in the liver and in skeletal muscle (Johns Hopkins Medicine, n.d.; The Pancreas Center, n.d.; Willis, 2018).

When blood glucose levels are low such as between meals or during or immediately following exercise, alpha cells are stimulated to release glucagon. Glucagon causes the liver to release glycogen, which is then converted to glucose. Glucose travels through the blood stream to the cells of the body where it is converted to energy to maintain body functioning (Johns Hopkins Medicine, n.d.a.; The Pancreas Center, n.d.; Willis, 2018).

Maintaining normal blood glucose levels is essential to the ability of key organs—including the brain, liver, and kidneys—to function properly (Johns Hopkins Medicine, n.d; The Pancreas Center,

n.d.; Willis, 2018). However, the normal blood glucose range is rather narrow. Blood glucose levels are regulated by an internal feedback mechanism that involves the pancreas and the liver (Willis, 2018).

The following blood glucose test results indicate normal findings (Pagana et al., 2019).

From the ages of two to adulthood:
- Fasting (no caloric intake for at least eight hours): 70 to 110 mg/dL or <6.1 mmol/L.
- Casual (any time of day regardless of food intake): <200 mg/dL (11.1 mmol/L).

Children <2 years of age:
- 60 to 100 mg/dL or 3.3 to 5.5 mmol/L.

When normal blood glucose levels are not maintained, the impact can be devastating on an individual's health and wellness.

To effectively provide healthcare services for persons who have diabetes, healthcare professionals must understand both normal pancreatic functioning and the pathophysiology associated with the disease. To do this, it is essential to differentiate among the different types of diabetes, all of which have different pathologies.

Self-Assessment Quiz Question #2

The endocrine function of the pancreas focuses on:

a. The production of enzymes essential to the process of digestion.
b. The production of bile.
c. Hormone secretion.
d. Alpha cell production of insulin.

THE DIFFERENT TYPES OF DIABETES MELLITUS

Health care professionals and health care consumers are arguably most familiar with type 1 and type 2 diabetes. But there are other types of diabetes with which nurses must be familiar (Rebar et al., 2019).
- Type 1: The body is unable to produce adequate amounts of insulin.
- Type 2: There is resistance to insulin or abnormal insulin secretion.
- Secondary diabetes: This form of diabetes develops because of, or secondary to, another disease or condition.
- Gestational diabetes: This occurs in pregnant women who have never had diabetes.

The primary focus of this educational program is on type 1 and type 2 diabetes, but the issue of other types of diabetes is also quite important. Therefore, it will be discussed before delving into type 1 and type 2 diabetes.

The term secondary diabetes refers to specific types of diabetes because of other causes (ADA, 2021b). Some of the most common causes of secondary diabetes include (Khardori, 2021c; Rebar et al., 2019):
- Physical or emotional stress, which may cause prolonged increases in levels of the stress hormone cortisol, epinephrine, glucagon, and growth hormone (GH). These increases, in turn, raise the blood glucose level and place more demands on the pancreas.
- Use of adrenal corticosteroids, hormonal contraceptives, and other types of drugs that antagonize the effects of insulin.
- Diseases of the pancreas that destroy pancreatic beta cells, such as pancreatic cancer, pancreatitis, and cystic fibrosis.
- Hormonal syndromes that interfere with the secretion of insulin, such as pheochromocytoma.
- Hormonal syndromes that cause peripheral insulin resistance, such as Cushing syndrome.
- Some medications, such as estrogens, phenytoin, and glucocorticoids.

Gestational diabetes

Gestational diabetes occurs in women who have never had diabetes mellitus but have high blood glucose levels during pregnancy (Mayo Clinic, 2020c). This condition develops in a fairly high number of women. In the US, an estimated 10% of women who are pregnant develop gestational diabetes (Dansinger, 2019a). Healthcare professionals are becoming increasingly concerned about the occurrence of gestational diabetes. Thus, the following more detailed information is provided.

Etiology of Gestational Diabetes

As a result of hormonal changes associated with pregnancy, nearly all women experience some amount of impaired glucose intolerance. Although blood sugar may be higher than normal, it is not high enough to be diagnosed as diabetes mellitus. During the third trimester of pregnancy, these hormonal changes put women at higher risk for gestational diabetes. Hormonal changes can interfere with the appropriate action of insulin, which leads to insulin resistance (American Diabetes Association, 2021d; Dansinger, 2019a).

During pregnancy, certain placental hormones help to shift nutrients from the mother to the fetus. Other placental hormones help prevent hypoglycemia in the pregnant woman. As pregnancy advances, such hormones can lead to progressive impaired glucose intolerance (elevated blood glucose levels). Usually, the woman's pancreas is able to compensate for these elevated levels by producing about three times the normal amount of insulin. If the pancreas is not able to produce adequate amounts of insulin, blood glucose levels rise, and gestational diabetes occurs (Dansinger, 2019a).

Risk Factors for Development of Gestational Diabetes

Several factors increase the risk for the development of gestational diabetes (Dansinger, 2019a; Mayo Clinic, 2020c):
- Being overweight or obese
- Being a member of a high-risk ethnic group such as Hispanic, Black, Native American, African American, Pacific Islander, Alaska native, Native American, or Asian
- Being older than 25 years of age
- Having impaired glucose tolerance or impaired fasting blood glucose levels. This means that blood glucose levels are high but not high enough to be diagnosed as diabetes mellitus.
- Having gestational diabetes during a previous pregnancy
- Having a family history of gestational diabetes
- Having polycystic ovary syndrome or other condition that is associated with insulin abnormalities
- Previously giving birth to a baby that weighed over 9 pounds
- Previously giving birth to a stillborn baby or one that had birth defects
- Having had a miscarriage
- Having hypertension, elevated cholesterol, or heart disease

Complications

Gestational diabetes may increase the risk of (Mayo Clinic, 2020c):
- Hypertension
- Preeclampsia
- Development of diabetes in the future
- Need for a surgical delivery (C-section)

Diagnosis of Gestational Diabetes

The ADA (2021b) has published the following recommendations for gestational diabetes mellitus screening.
- Test for undiagnosed prediabetes and diabetes at the first prenatal visit in those with risk factors using standard diagnostic criteria.
- Test for gestational diabetes mellitus at 24-28 weeks of gestation in pregnant women not previously found to have diabetes.
- Test women with gestational diabetes mellitus for prediabetes or diabetes at 4-12 weeks postpartum, using the 75-g oral glucose tolerance test and clinically appropriate nonpregnancy diagnostic criteria.
- Women with a history of gestational diabetes mellitus should have lifelong screening for the development of diabetes or prediabetes at least every three years.
- Women with a history of gestational diabetes mellitus found to have prediabetes should receive intensive lifestyle interventions and/or metformin to prevent diabetes.

The steps of an oral glucose tolerance include (Pagana et al., 2018):

1. Obtain fasting blood and urine specimens. The patient should fast for 12 hours before the test.
2. Administer a prescribed oral glucose solution of 75-100 g for pregnant women. Note that the ADA recommends using 75 g solution.
3. Instruct patient to drink the entire glucose solution.
4. Instruct patient not to eat or drink anything except water during the testing period.
5. Obtain a venous blood sample at 30 and 60 minutes and then hourly.
6. Collect urine specimens hourly.
7. Monitor the patient for dizziness, sweating, and weakness.

Screening tests may vary slightly depending on the patient's healthcare provider. General results include (Mayo Clinic, 2020c; Pagana et al., 2019):

- Initial glucose challenge test: This challenge test is done first. It is a one-hour test that involves drinking a glucose solution and having blood glucose levels assessed. A blood sugar level of 10 mg per deciliter (mg/dL) or 10.6 millimoles per liter indicates gestational diabetes. A blood glucose level below 140 mg/dL is usually considered normal. A higher-than-normal blood glucose level means that the glucose tolerance test should be performed.
- Follow-up glucose tolerance testing: If at least two of the blood glucose readings are higher than normal, a diagnosis of gestational diabetes is made.

Management of Gestational Diabetes

The goal of treatment for gestational diabetes is to keep blood glucose levels equal to those of pregnant women who do not have gestational diabetes (ADA, 2021d).

Management of gestational diabetes includes the following initiatives (ADA,2021d; Dansinger, 2019a; Mayo Clinic, 2020c; WebMD, 2017a):

- Teach patients and family members (as appropriate) how to monitor blood glucose levels. Monitoring should be done four times per day, before breakfast and two hours after meals. Some patients require checking glucose levels before meals as well.
- Teach patients and family members (as appropriate) how to monitor urine for ketones.
- Initiate a dietary consultation for the development of an appropriate diet. Explain to patients and family members the importance of following prescribed dietary plans. A healthy diet focuses on fruits, vegetables, whole grains, and lean proteins.
- Help patients to develop medically approved exercise regimens.
- Teach patients to monitor their weight.
- If needed, teach patients about any hypoglycemic medications, including insulin, that are prescribed.
- Monitor blood pressure and initiate prescribed actions such as exercise and reduction of salt intake. As appropriate, teach patient and family members how to monitor blood pressure.
- Teach patients to keep a careful written record of their blood glucose levels and results of urine monitoring—including the time readings were obtained and how readings relate to dietary intake, exercise, and stress—and blood pressure readings if monitoring blood pressure at home. Instruct patients to bring a copy of these written records with them to all health care appointments.
- Teach patients stress reduction techniques such as meditation and deep breathing exercise as appropriate.

Most pregnant women are concerned about the possible effects of gestational diabetes on their unborn children. Fortunately, gestational diabetes affects the mother relatively late in her pregnancy, when the majority of the baby's organs have been formed, but while the baby is still growing. Gestational diabetes is not associated with the types of birth defects in infants whose mothers had diabetes mellitus before pregnancy (Dansinger, 2019a; Mayo Clinic, 2020c).

Unfortunately, untreated, or inadequately controlled gestational diabetes can harm the fetus. The pancreas works "overtime" to produce insulin in the presence of gestational diabetes, but the insulin does not reduce blood glucose levels. Insulin does not cross the placenta, but glucose does. Thus, the unborn child is exposed to high blood glucose levels. In response to these elevated levels, the unborn baby produces additional insulin, receives more energy, and stores the "extra" energy as fat. Additional stores of fat can lead to macrosomia, a condition in which the baby is abnormally large before birth. Adverse effects of macrosomia include damage to the baby's shoulders during birth, low blood glucose levels because of the extra insulin production, respiratory distress, and jaundice. These infants are also at higher risk for obesity as children and at risk for type 2 diabetes as adults. Thus, it is essential that all pregnant women be screened for gestational diabetes and, if a diagnosis of diabetes is found, treated appropriately and promptly (Dansinger, 2019a; Mayo Clinic, 2020c).

About six weeks after delivery, the mother's blood glucose levels usually return to normal because the placenta, which was responsible for producing the hormones that led to insulin resistance, is no longer in the body. Blood glucose levels will be monitored to ensure that they have returned to normal. Some health care providers recommend an oral glucose tolerance test 6 to 12 weeks after delivery to screen for diabetes mellitus (Dansinger, 2019a; Mayo Clinic, 2020c).

Evidence-based practice! Women who have had gestational diabetes have a 50% chance of developing type 2 diabetes within 10 to 20 years of delivery (Dansinger, 2019a). Therefore, they should work to reduce this risk by maintaining an ideal body weight, following a healthy diet, and exercising regularly.

Self-Assessment Quiz Question #3

ADA recommendations for gestational diabetes screening include all of the following EXCEPT:

a. Pregnant women not previously found to have diabetes should be screened for gestational diabetes at the first prenatal visit.
b. Women with a history of gestational diabetes mellitus should have lifelong screening for the development of diabetes at least every three years.
c. A blood glucose level of 140 mg/dL is considered normal.
d. The initial glucose challenge test is done before the glucose tolerance test.

TYPE 1 DIABETES: ETIOLOGY AND PATHOPHYSIOLOGY

Type 1 diabetes occurs when the beta cells of the pancreas are destroyed or suppressed. This results in failure of the pancreas to release insulin and inadequate transport of glucose (Rebar et al., 2019). The prevalence of diagnosed type 1 diabetes in 2016 was 0.55%, or 1.3 million adults. This is significantly less than the prevalence of diagnosed type 2 diabetes, which was 8.6%, or 21.0 million adults (Morr, 2018). Immune mediated types of type 1 diabetes, an autoimmune attack on beta cells occurs. This results in an inflammatory response in the pancreas (insulitis). Antibodies may be present for considerable time before the development of symptoms. In fact, by the time the disease is symptomatic, 80% of the beta cells are deactivated. Some experts believe that the beta cells are not destroyed, but instead they are disabled and may be able to be reactivated (Rebar et al., 2019).

Healthcare Professional Consideration: Type 1 diabetes is divided into idiopathic and immune-mediated types. In idiopathic diabetes (referred to as type 1b diabetes) there is nearly complete insulin deficiency. There is no evidence of autoimmunity (Kalyani, 2017; Rebar et al., 2019). Healthcare professionals must be aware of the various types of diabetes to recognize them and to provide safe and appropriate care. Screening and patient education are critical elements of care. Clinical Practice Guidelines are constantly being updated and should be followed for effective care. The Centers for Medicare & Medicaid Services (CMS) sets reimbursement rates for Medicare providers and generally pays them according to approved guidelines.

Latent autoimmune diabetes (LADA)

Latent autoimmune diabetes in adults (LADA) is characterized by a slow progression of autoimmune reaction against the pancreas. Some experts recognize LADA as a form of type 1 diabetes, while others do not. LADA occurs because of an inadequate production of insulin. However, LADA does not require insulin administration for several months up to years after diagnosis is made (Castro, 2021).

Following are characteristics of LADA (Castro, 2021):

- People are usually over the age of 30 when the disease is diagnosed.
- The pancreas produces some insulin initially
- LADA is often misdiagnosed with type 2 diabetes because the patients are older at diagnosis and some insulin production is still evident.
- Initially, LADA is managed with diet, weight reduction as needed, exercise, and oral medications as needed. But insulin is eventually needed because the pancreas gradually loses its ability to produce insulin.

Research is underway regarding LADA and the best way to manage treatment. Health care providers with expertise in all forms of diabetes should direct treatment initiatives (Castro, 2021).

TYPE 2 DIABETES: PATHOPHYSIOLOGY AND ETIOLOGY

Type 2 diabetes is an impairment of the way the glucose is regulated and used by the body. A chronic condition, type 2 diabetes can lead to disorders of the circulatory, nervous, and immune system (Mayo Clinic, 2021g). The following are general characteristics of type 2 diabetes (Mayo Clinic, 2021g Santos-Longhurst, 2020):

- The disease is caused by a combination of insulin resistance and insulin deficiency. Some people develop the disease predominantly because of insulin resistance, whereas others are affected predominantly by deficient insulin secretion but have little insulin resistance.
- About 90% to 95% of people with diabetes have type 2 diabetes.
- Type 2 diabetes has a strong hereditary component.
- Its onset is typically slow and insidious
- Type 2 diabetes is significantly less common in children and young adults than in older adults. But the number of children with type 2 diabetes is increasing because of the prevalence of overweight children.
- Although some people with this type of diabetes may need insulin, they are still categorized as having type 2 diabetes.

Pathophysiology

Under normal conditions, insulin molecules bind to body cell preceptors. Insulin activates cell portals to open allowing glucose to enter the cells where it is then converted to energy. Insulin decreases the amount of glucose in the blood. As the blood glucose level decreases, so does the amount of insulin secreted by the pancreas (Mayo Clinic, 2021g).

In type 2 diabetes, the cells develop a resistance to insulin. This inhibits the ability of glucose to enter the cells. If glucose cannot enter the cells, the cells fail to receive enough energy. Blood glucose levels increase, and organs are damaged throughout the body (Mayo Clinic, 2021g).

Etiology

Type 2 diabetes is mainly the result of two interrelated issues (Mayo Clinic, 2021g):

- Muscle, fat, and hepatic cells become insulin-resistant and are unable to function efficiently.
- The pancreas is not able to manufacture adequate amounts of insulin to appropriately manage blood glucose levels.

Several environmental and lifestyle factors play a role in the development of type 2 diabetes. The aging process, alcohol consumption, smoking, lack of exercise, and obesity have all been found to be related to the development of diabetes (Mayo Clinic, 2021g). Obesity seems to have an impact on disease development. Obesity, especially visceral fat obesity, leads to a decrease in muscle mass and an increase in insulin resistance (Mayo Clinic, 2021g; Taylor, 2020b).

Research has shown that a number of factors contribute to an increase in the amount of visceral fat in the body (Mayo Clinic, 2021g; Taylor, 2020b):

- Disorders of the nervous or endocrine systems that lead to an increase in cortisol and abnormalities in the secretion of sex hormones.
- Smoking
- Increased intake of alcohol
- Overeating, particularly an excessive intake of simple sugars
- Decreased energy consumption because of insufficient exercise
- Genetic influences
- The aging process

PREDIABETES

Prediabetes is sometimes referred to as a "wake-up call" that the development of diabetes may be imminent. About 84 million Americans over the age of 20 have prediabetes, but 90% of these people do not know that they have it. (Dansinger, 2019b; Mayo Clinic, 2020d). Lifestyle modifications—including weight loss, implementing an exercise regimen, and following a healthy diet—are strongly recommended to prevent prediabetes from progressing to type 2 diabetes (Dansinger, 2019b; Mayo Clinic, 2020d).

With a diagnosis of prediabetes, patients must be counseled regarding diet, exercise, and weight loss. Patients may also need antidiabetic agents (Mayo Clinic, 2020d).

Healthcare Professional Consideration: Prediabetes is a significant risk factor for developing type 2 diabetes and cardiovascular disease (Dansinger, 2019b; Mayo Clinic, 2020d). Risk factors for the risk of developing prediabetes are the same as for type 2 diabetes, which will be discussed later in this education program.

SCREENING GUIDELINES

Type 1 diabetes

At this time, there is a deficit of accepted and clinically validated screening programs outside of research settings. The ADA recommends considering referring relatives of those with type 1 diabetes for islet autoantibody testing for risk assessment in the setting of a clinical research study. (ADA, 2021b).

Current ADA (2021b) recommendations include:

- Screening for type 1 diabetes risk with a panel of islet autoantibodies is currently recommended in the setting of a research trial or can be offered as an option for firs-degree family members of a proband with type 1 diabetes. The proband is the first individual to be studied in a family.
- Persistence of autoantibodies is a risk factor for clinical diabetes and may serve as an indication for intervention in the setting of a clinical trial.

Prediabetes and type 2 diabetes

The 2021 ADA screening guidelines list the same recommendations for both prediabetes and type 2 diabetes. These include (ADA, 2021b):

- Screening for prediabetes and type 2 diabetes with an informal assessment of risk factors or validated tools should be considered in asymptomatic adults.
- Testing for prediabetes and/or type 2 diabetes in asymptomatic people should be considered in adults of any age with overweight or obesity (BMI ≥25 kg/m2 or ≥23 kg/m2 in Asian Americans) and who have one or more additional risk factors for diabetes
- Testing for prediabetes and/or type 2 diabetes should be considered in women with overweight or obesity planning pregnancy and/or who have one or more additional risk factor for diabetes.
- For all people, testing should begin at age 45 years.
- If tests are normal, repeat testing carried out at a minimum of 3-year intervals is reasonable, sooner with symptoms.
- To test for prediabetes and type 2 diabetes, fasting plasma glucose, 2-h plasma glucose during 75-g oral glucose tolerance test, and A1C are equally appropriate.
- In patients with prediabetes and type 2 diabetes, identify and treat other cardiovascular disease risk factors.
- Risk-based screening for prediabetes and/or type 2 diabetes should be considered after the onset of puberty or after 10 years of age, whichever occurs earlier, in children and adolescents with overweight (BMI ≥85th percentile) or obesity (BMI ≥95th percentile) and who have one or more risk factor for diabetes.
- Patients with HIV should be screened for diabetes and prediabetes with a fasting glucose test before starting antiretroviral therapy, at the time of switching antiretroviral therapy, and three to six months after starting or switching antiretroviral therapy. If initial screening results are normal, fasting glucose should be checked annually.

RISK FACTORS

Risk factors for the development of type 1 diabetes

A number of risk factors are associated with the development of type 1 diabetes (American Heart Association, 2021; Mayo Clinic, 2020a):

- Family history
- Exposure to a viral illness
- Presence of autoantibodies
- Geography (Some countries, including Finland and Sweden, have higher rates of type 1 diabetes)

Risk factors for the development of type 2 diabetes

There are several risk factors related to the development of type 2 diabetes mellitus. These risk factors are classified as nonmodifiable and modifiable.

Nonmodifiable risk factors

The following risk factors are nonmodifiable; in other words, they cannot be changed (American Heart Association, 2021; CDC, 2021b; Mayo Clinic, 2020a):

- Age: Risk increases with age. This increase seems to begin at the age of 40
- Race and ethnicity: Some racial and ethnic groups have a higher incidence of type 2 diabetes than others. These include:
  - African Americans
  - Asian-Americans
  - Latino/Hispanic-Americans
  - Native Americans
  - Pacific Islander descent
- Family history: A person's chances of developing type 2 diabetes increases if immediate or even extended family members have the disease.
- History of gestational diabetes: Women who have gestational diabetes have a greater risk of developing prediabetes and type 2 diabetes. Having given birth to a baby that weighs more than 9 pounds also increases risk.

Healthcare Professional Consideration: Although research has shown that certain risk factors cannot be modified, healthcare professionals must still include them in patient/family education and be aware of such factors that increase the risk for development of diabetes.

Modifiable risk factors

The following risk factors are those that can be modified or changed to decrease risk of developing type 2 diabetes.

Overweight/Obesity

Being obese or overweight is one of the greatest risk factors for type 2 diabetes. Because obesity is increasing among children and adolescents, type 2 diabetes is affecting more and more young people (American Heart Association, 2021; Taylor, 2020b).

The body mass index, or BMI, is the standard to determine overweight and obesity. BMI is a person's weight in kilograms divided by the square of height in meters. According to CDC, the following BMI measures indicate underweight, normal, overweight, and obesity (CDC, 2021a):

- Underweight: BMI is < 18.5
- Normal: BMI is 18.5 to <25
- Overweight: BMI is 25.0 to <30
- Obese: BMI is 30.0 or higher

Fortunately, even a small loss of weight can have a significant impact on health and longevity. Lifestyle modifications to achieve weight loss include the following:

- Reduction in caloric intake: Patients should work with their health care providers, including a clinical dietician as necessary, to implement a well-balanced diet that will facilitate weight loss (Ignatavicius et al., 2018).
- Increase in physical activity: The American Heart Association (2021) and CDC, 2020a) publishes the following physical activity guidelines for adult Americans:
  - Two hours and 30 minutes (150 minutes) of moderate-intensity aerobic activity every week and muscle strengthening activities that work all major muscle groups two or more days a week OR
  - Seventy-five minutes of vigorous-intensity aerobic activity every week and muscle strengthening activities that work all major muscle groups two or more days a week.

Moderate-intensity aerobic activity is defined as exercising hard enough to increase heart rate and break a sweat. Examples include walking fast, water aerobics, riding a bicycle on level ground, and pushing a lawn mower. Vigorous-intensity aerobic activity is defined as exercising hard enough to breathe hard and fast and increase heart rate significantly. Examples include jogging, running, swimming laps, riding a bicycle rapidly or on hills, and playing basketball. Physical activity can be spread out so that it is not done all at once. However, physical activity should be sustained for at least 10 minutes at a time (American Heart Association, 2021; CDC, 2021b).

Elevated Blood Glucose

An elevated blood glucose level significantly increases the risk of diabetes as well as for cardiovascular disease and stroke. The American Diabetes Association recommends using one of three testing methods (American Diabetes Association, 2021b; National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), 2018e):

1. A1C test
2. Fasting plasma glucose (FPG)
3. Oral glucose tolerance test (OGTT)

Hypertension

Hypertension is a modifiable risk factor for diabetes as well as for cardiovascular disease and stroke. Hypertension is defined as a consistent systolic pressure of 130 mmHg or higher or diastolic pressure of 80 mmHg or higher. For persons who do not have diabetes, blood pressure should be evaluated at each regular health care provider visit or at least once every two years if it is less than 120/80 mmHg. For patients who have diabetes, blood pressure should be measured at each regular health care provider visit or as often as needed (CDC, 2020b; Ignatavicius et al., 2018).

Abnormal Lipid Metabolism
Abnormalities in cholesterol levels can contribute not only to cardiovascular disease but also to the development of diabetes mellitus. The desired goals of cholesterol levels for adults are as follows (Mayo Clinic, 2021a):

- LDL: below 70 mg/dL for people who have heart disease or diabetes; below 100 mg/dL for people at risk of heart disease; and 100 to 129 mg/dL near optimal if there is no heart disease but high if there is heart disease.
- HDL: greater than 60 mg/dL
- Triglycerides: less than 150 mg/dL
- Total cholesterol: less than 200 mg/dL

Physical Inactivity
Physical inactivity contributes to overweight and obesity, cardiovascular disease, malignancies, diabetes, and many other adverse medical conditions. Participating in a regular physical exercise routine can increase insulin sensitivity, improve lipid levels, reduce blood pressure, reduce weight, lower the risk of cardiovascular disease, and improve blood glucose management in type 2 diabetes (Ignatavicius et al., 2018).

Smoking
Smoking is a significant risk factor for the development of type 2 diabetes and makes the disease harder to control after its development. Smokers are 30% to 40% more likely to develop type 2 diabetes than nonsmokers. People who smoke are more likely than nonsmokers to have trouble managing the disease (CDC, 2021e).

Medications
Such medications as glucocorticoids, thiazide diuretics, and atypical antipsychotics increase the risk of diabetes (American Diabetes Association, 2021b).

Healthcare Professional Consideration: Healthcare professionals need to be aware of the significance of metabolic syndrome. Metabolic syndrome is a group of conditions (hypertension, elevated blood glucose levels, excess amounts of body fat around the waist, and abnormal cholesterol level) that exist in conjunction with one another and increase the risk of cardiac disease, stroke, and diabetes. Taking steps to alter the impact of modifiable risk factors for diabetes can delay or possibly prevent the occurrence of serious health conditions (Mayo Clinic, 2020a). Assessing diabetic patients should include indicators for metabolic syndrome. Cholesterol level and blood pressure should be monitored at least yearly for obese patients at risk of diabetes.

Self-Assessment Quiz Question #4

When counseling patients about modifiable risk factors for diabetes, it is important to explain that:

a. A person is considered overweight of the BMI is 18.5 to <25.
b. Adults should engage in 60 minutes of moderate-intensity aerobic activity every week.
c. The desired HDL is less than 150 mg/dL.
d. Smokers are 30% to 40% more likely to develop type 2 diabetes than non-smokers.

PRESENTING CLINICAL SIGNS AND SYMPTOMS OF DIABETES MELLITUS

Many of the signs and symptoms of type 1 and type 2 diabetes are the same. There are, however, some differences. It is important for healthcare professionals to recognize all clinical manifestations of the disease and to know which of those signs and symptoms are more prevalent in one of the two types.

Clinical manifestations of type 1 diabetes mellitus

Type 1 diabetes is found most often in children. But the disease can also develop in adults. Patients with type 1 diabetes generally report an abrupt onset of symptoms. Following are the classic symptoms of type 1 diabetes (Khardori, 2021a; 2021b):

- Polyuria: production of abnormally large amounts of urine that is dilute
- Polydipsia: abnormally great thirst
- Polyphagia: excessive appetite or excessive feelings of hunger
- Unexplained weight loss

Polyuria is caused by osmotic diuresis secondary to hyperglycemia. Severe nocturnal enuresis (bedwetting) secondary to polyuria suggests type 1 diabetes in young children. Polyphagia develops to dehydration and hyperosmolar status (Khardori, 2021a; 2021b).

Following are other clinical manifestations of type 1 diabetes mellitus (Khardori, 2021a; 2021b):

- Weight loss occurs despite experiencing excessive appetite and hunger. This is caused by water depletion and a catabolic state with reduction in glycogen, proteins, and triglycerides.
- Fatigue and weakness may occur secondary to muscle wasting caused by a catabolic state of insulin deficiency, hypovolemia, and hypokalemia.
- Muscle cramping is caused by electrolyte imbalance.
- Blurred vision is a result of osmotic swelling of the lens, which alters its normal focal length.

Type 1 diabetes may also cause gastrointestinal (GI) disturbances (Khardori, 2021a; 2021b):

- Nausea, abdominal pain, and changes in bowel movements: these signs and symptoms may accompany acute diabetic ketoacidosis.
- Right upper quadrant pain because of acute fatty liver.
- Persistent GI disturbances, which may be caused by abdominal causes of diabetic ketoacidosis.

The onset of symptomatic type 1 diabetes may be abrupt. The first evidence of the disease may be the occurrence of ketoacidosis (Khardori, 2021a; 2021b).

Diabetic ketoacidosis (DKA)

DKA occurs most often in patients with type 1 diabetes and/or those less than 65 years of age, although it can occur with type 2 diabetes as well. DKA is an acute complication of hyperglycemic crisis. DKA is precipitated by acute insulin deficiency. Such deficiency can be caused by illness; stress; infection; and, in insulin-dependent patients, failure to take insulin (Ignatavicius et al., 2018; Mayo Clinic, 2020b; Rebar et al., 2019).

Without adequate amounts of insulin, which allow the cells to take in glucose to convert it to energy, glucose accumulates in the blood. The body begins to break down fat as an alternative fuel. When this happens, toxic acids known as ketones build up in the blood. Without treatment, DKA can result in coma or death (Ignatavicius et al, 2018; Mayo Clinic, 2020b).

The signs and symptoms of DKA usually develop rapidly, often within 24 hours. Patients experience polyuria, polydipsia, nausea, vomiting, abdominal pain, weakness or unusual fatigue, shortness of breath, fruity-scented breath, and confusion. Blood testing shows hyperglycemia and high levels of ketones in the urine (Mayo Clinic, 2020b; Rebar et al., 2019).

Because untreated DKA can be fatal, patients experiencing the signs and symptoms should seek emergency medical help. Emergency treatment usually includes insulin therapy, electrolyte

replacement because inadequate amounts of insulin can reduce various electrolyte levels, and fluid replacement to correct dehydration (Mayo Clinic, 2020b).

Risk factors for DKA include having type 1 diabetes and frequently missing insulin doses. (Mayo Clinic, 2018g).

Persons with diabetes mellitus, especially those with type 1 diabetes, should work with their health care providers to manage conditions that trigger DKA. Following are examples of such conditions (Mayo Clinic, 2020b):

- Infections and illnesses: Infections and illnesses can cause the body to produce higher levels of adrenaline or cortisol, both of which are antagonistic to insulin. Common conditions that trigger DKA are pneumonia and urinary tract infections.
- Inadequate insulin therapy: Missing insulin treatments or taking inadequate amounts of insulin can trigger DKA.
- Miscellaneous problems: High fever, surgery, physical or emotional trauma, or alcohol or drug abuse, especially cocaine, can trigger DKA.

Healthcare Professional Consideration: It is imperative that healthcare professionals assess the knowledge of patients and families regarding the signs and symptoms of DKA, what causes it, and what to do about it. Parents may want to discuss the symptoms of DKA with their diabetic child's teachers, especially if the child participates in sports.

Self-Assessment Quiz Question #5

A patient is at risk for developing DKA if which of the following problems exist:

a. Excessive insulin.
b. Hypothermia.
c. Prediabetes.
d. Urinary tract infection.

CLINICAL MANIFESTATIONS OF TYPE 2 DIABETES MELLITUS

Until recently, it was believed that if diabetes occurred in childhood, it was type 1 diabetes. Now it is known that children also develop type 2 diabetes. As obesity in children increases, so does the incidence of type 2 diabetes in that population (Dansinger, 2021a). Therefore, it is important to identify risk factors and work with patients of all ages to reduce the risk of developing type 2 diabetes. It is also important to be alert to the clinical manifestations of the disease realizing that it can affect all age groups.

It can take years for the signs and symptoms of type 2 diabetes to become evident. Following are clinical manifestations of untreated diabetes (Ignatavicius et al., 2021; Mayo Clinic, 2021g):

- Polyuria and polydipsia: Excessive buildup of glucose in the blood stream causes fluid to move from the cells into the bloodstream to maintain homeostasis. This increases thirst and fluid intake casing an increase in dilute urine production.
- Polyphagia: When cells fail to receive adequate amounts of glucose for energy production, muscles, and organs experience energy depletion. This triggers intense hunger as the body attempts to obtain nourishment and energy.
- Weight loss: Even though patients may be eating more because of intense hunger, weight loss can occur. This is because the body is using alternative fuel sources in muscle and fat because it cannot metabolize glucose. Calories are lost as glucose is excreted in urine.
- Blurred vision: As glucose levels increase in the blood stream, fluid may be pulled from the lenses of the eyes to restore homeostasis. This can interfere with the ability of the eyes to focus, thus causing blurred vision.
- Fatigue: When cells are deprived of glucose and the ability to create energy, weakness, fatigue, and irritability can occur.
- Slow-healing cuts, lacerations or wounds, or frequent infections: Type 2 diabetes interferes with the body's ability to heal and to resist infections.
- Areas of darkened skin: Areas of darkened skin, called acanthosis nigricans, are dark velvety patches of skin in the folds and creases of the body. They are usually noted in the neck and axilla.

Healthcare Professional Consideration: Thirst mechanisms function less efficiently in elderly persons. So older adults may not report polydipsia when relaying signs and symptoms (Ignatavicius et al., 2018).

Diabetic hyperglycemic hyperosmolar syndrome (HHS) is a complication of type 2 diabetes. HHS is characterized by extremely high blood glucose levels without the presence of ketones, extreme dehydration, and decreased levels of consciousness. The kidneys attempt to rid the body of excess amounts of glucose in the blood by increasing urinary output. Without adequate fluid replacement, dehydration occurs. Additionally, dehydration makes the blood more concentrated with sodium, glucose, and other substances. This condition is known as hyperosmolarity and causes the body to withdraw fluid from other body organs (including the brain) to restore balance. Electrolyte balances are disturbed as well. If blood glucose levels are not returned to normal, an ongoing cycle of hyperglycemia and dehydration occurs that can lead to coma and even death (Ignatavicius et al. 2018; MedlinePlus, 2021a).

The goals of treatment are to correct dehydration, restore fluid and electrolyte balance, and control blood glucose levels. Intravenous fluids containing appropriate amounts of various electrolytes are administered as well as insulin via the venous route. Untreated, HHS may lead to shock, thrombosis formation, cerebral edema, and lactic acidosis (Ignatavicius, Workman, & Rebar, 2018; MedlinePlus, 2021a).

DIAGNOSIS OF DIABETES MELLITUS

Diabetes may be diagnosed based on plasma glucose criteria, either the fasting plasma glucose (FPG) value or the 2-hour plasma glucose (2-hour PG) value during a 75-g oral glucose tolerance test (OGTT), or A1C criteria (ADA, 2021b).

The ADA (2021b) diagnostic criteria include:

- A fasting plasma glucose (FPG) level >126 ng.dL (7.0 mmol/L), or
- A 2-hour plasma glucose level >200 mg/dL (11.1 mmol/L) during a 75-g oral glucose tolerance test (OGTT) or
- A random plasma glucose > 200 mg/dL (11.1 mmol/L) in a patient with classic symptoms of hyperglycemia or hyperglycemic crisis.

Details about the various tests used in the diagnostic process follow.

Random (casual) plasma glucose test

This test can be performed at any time of day when severe diabetic symptoms develop. Diabetes is diagnosed when the blood glucose is >200 mg/dL (ADA,2021n).

Fasting plasma glucose (FPG)

FPG assesses fasting blood glucose levels. Fasting is defined as not have anything to eat or drink except water for at least eight hours before the test. The test is typically performed first thing in the morning before breakfast. (ADA, 2021n).

FPG results are (ADA, 2021n):

- Normal: Less than 100 mg/dL
- Prediabetes: 100 mg/dL to 125 mg/dL
- Diabetes: 126 mg/dL or higher

Oral glucose tolerance test (OGTT)

An OGTT is performed to assess insulin response to glucose loading. A fasting blood sugar is obtained before the ingestion of an oral glucose solution, and blood samples are drawn at specifically timed intervals. The oral glucose solution should contain the equivalent of 75 g anhydrous glucose dissolved in water (ADA, 2021a; Pagana et al., 2019).

Results from the OGTT are (ADA, 2021a):
- Normal: less than 140 mg/dL.
- Prediabetes: 140 mg/dL to 199 mg/dL
- Diabetes: 200 mg/dL or higher

Patient care considerations and patient teaching include the following important factors (Pagana et al., 2019; Rebar et al, 2019):
- The patient should follow their usual diet and exercise regimen for three days before the test.
- The patient must be instructed to fast for 12 hours before the OGTT.
- Certain drugs may be withheld before testing based on the recommendations of the patient's health care provider. Examples of drugs that can interfere with test results are hormonal contraceptives, salicylates, diuretics, phenytoin, and nicotinic acid.
- Fasting blood and urine specimens are obtained.
- An oral glucose solution is administered that consists of 75 g of glucose or dextrose for patients who are not pregnant or 100 g for pregnant patients. The patient must drink the entire glucose solution. The amount of glucose in solution is based on body weight for pediatric patients.
- During the OGTT, the patient must not use tobacco or ingest coffee or tea because these substances cause physiological stimulation. They must be told not to eat or drink anything during the testing period except for the oral glucose solution provided by the test administrator—except for water, which the patient is encouraged to drink.
- A venous blood sample is collected at 30- and 60-minutes post-ingestion of the glucose solution and at hourly intervals thereafter.
- Urine samples are collected at hourly intervals.
- During the period of testing, the patient should be monitored for dizziness, sweating, weakness, and giddiness, which are usually transient and self-limiting.

A1C test

The A1C test is a blood test used to obtain information about a patient's average blood glucose over the past three months. The A1C is used in the diagnosis of type 2 diabetes and prediabetes and is the primary test used for diabetes management (NIDDK, 2018e).

The A1C test does not require fasting. Blood can be drawn at any time of day, thus making it more convenient than some other testing options. The test may also be used during the first health care pregnancy visit to determine if the woman had undiagnosed diabetes before becoming pregnant. After that, the oral glucose tolerance test (OGTT) or the glucose challenge test is used to test for gestational diabetes (NIDDK, 2018e; Pagana et al., 2019).

The A1C test is based on attachment of glucose to hemoglobin in red blood cells. Although red blood cells are continually forming and dying, they typically live for approximately three months. The A1C can reflect blood glucose levels over the previous three months. Reported as a percentage, the higher the percentage, the higher the blood glucose levels have been (NIDDK, 2018e).

Results of the A1C are (2021n):
- Normal: Less than 5.7%
- Prediabetes: 5.7 to 6.4%
- Diabetes: 6.5% or higher

Recommendations from the ADA include (2021n):
- Assess glycemic status (A1C or other glycemic measurement) at least two times a year in patients who are meeting treatment goals (and who have stable glycemic control).
- Assess glycemic status at least quarterly, and as needed, in patients whose therapy has recently changed and/or who are not meeting glycemic goals.

Healthcare Professional Consideration: Because A1C reflects average glucose status over several months, it has significant predictive value for diabetes complications. A1C testing should be performed routinely in all patients who have diabetes (ADA, 2021e).

Following are the A1C-range recommended goals (ADA, 2021e):
- An A1C goal for many nonpregnant adults of <7% (53 mmol/mol) without significant hypoglycemia is appropriate.
- If using ambulatory glucose profile/glucose management indicator to assess glycemia, a parallel goal is a time in range of >70% with time below range <4%.
- Based on provider judgment and patient preference, achievement of lower A1C levels than the goal of 7% may be acceptable, and even beneficial, if it can be achieved safely without significant hypoglycemia or other adverse effects of treatment.
- Less stringent A1C goals (such as <8% [64 mmol/mol]) may be appropriate for patients with limited life expectancy, or where the harms of treatment are greater than the benefits.
- Reassess glycemic targets over time based on the criteria specific to various age groups.

Table 1. Explanation of Results of Diabetes Screenings

Test	Normal	Prediabetes	Diabetes
A1C	Less than 5.7%	5.7% to 6.4%	6.5% or higher
Fasting plasma glucose	Less than 100 mg/dL	100 mg/dL to 125 mg/dL	126 mg/dL or higher
Oral glucose tolerance test	Less than 140 mg/dL	140 mg/dL to 199 mg/dL	200 mg/dL or higher

Compiled from: (ADA, 2021b; 2021e; 2021n)

Self-Assessment Quiz Question #6

When teaching a patient about the random plasma glucose test, it is important to explain that:

a. The test should be performed first thing in the morning.
b. The random plasma glucose test requires that the patient fast for 8 hours before the test.
c. The test is performed when severe diabetic symptoms develop.
d. Diabetes is diagnosed when the blood glucose is > 150 mg/dL.

MANAGEMENT OF DIABETES MELLITUS

Management of diabetes mellitus focuses on glycemic control and prevention and reduction of complications. Successful management depends on a team approach that involves physicians, nurse practitioners, nurses, dieticians, pharmacists, and mental health professionals who have expertise in diabetes mellitus management. The most critical members of the team are patients and families who are ultimately responsible for adhering, or helping loved ones to adhere to, the treatment regimen (ADA, 2021l).

Glycemic control

Glycemic control is assessed by the A1C measurement, continuous glucose monitoring (CGM), and self-monitoring of blood glucose (SMBG). Rationale for these tests includes (ADA, 2021e; 2021m):

- A1C reflects average glycemia over about a period of three months. This test is the primary test for the assessment of glycemic control and has strong predictive value for diabetic complications.
- CGM: CGM plays an important role in the assessment of the effectiveness and safety of treatment in many patients with type1 diabetes, including the prevention of hypoglycemia and in selected patients with type 2 diabetes.
- SMBG: SMBG can be used with self-management and medication adjustment, especially in persons who are taking insulin.

Recommendations for glycemic assessment are (ADA, 2021e):
- Assess glycemic status (A1C or other glycemic measurement) at least two times a year in patients who are meeting treatment goals (and who have stable glycemic control).
- Assess glycemic status at least quarterly, and as needed, in patients whose therapy has recently changed and/or who are not meeting glycemic goals.

Self-monitoring blood glucose (SMBG)

SMBG is essential to effective diabetes management. Individual patients' needs and goals guide SMBG frequency and timing. Research findings have shown that in patients who have type 1 diabetes, there is a correlation between greater SMBG frequency and lower A1C (American Diabetes Association, 2021e).

Continuous glucose monitoring (CGM)

Most of the people who use CGM have type1 diabetes. Research is now underway to learn how CGM might help people who have type 2 diabetes. A healthcare provider's prescription is needed to obtain CGM systems (NIDDK, 2021f).

CGMs are approved for use by adults and children. Some models may be used for children as young as two years of age. CGM may be recommended if the patient (NIDDK, 2021f):
- Is on intensive insulin therapy (also referred to as tight blood sugar control)
- Has hypoglycemia unawareness (Hypoglycemia unawareness occurs when the patient does not feel or recognize the signs or symptoms of hypoglycemia; patients who have frequent episodes of hypoglycemia may no longer experience hypoglycemia's usual warning symptoms).
- Often experiences episodes of elevated or low blood glucose

CGM has evolved swiftly in terms of both accuracy and affordability. This means that many patients have data available to assist with both self-management and assessment by healthcare providers (ADA, 2021e).

The ADA (2021e) makes the following recommendations for glucose assessment by continuous glucose monitoring.
- Standardized, single-page glucose reports from continuous glucose monitoring (CGM) devices with visual cues, such as the ambulatory glucose profile (AGP), should be considered as a standard printout for all CGM devices.
- Time in range (TIR) is associated with the risk of microvascular complications, should be an acceptable end point for clinical trials moving forward, and can be used for assessment of glycemic control. Additionally, time below target (,70 and ,54 mg/dL [3.9 and 3.0 mmol/L]) and time above target (.180 mg/dL [10.0 mmol/L]) are useful parameters for reevaluation of the treatment regimen.

CGM systems use a tiny sensor that is inserted under the skin to check glucose levels in tissue fluid. The sensor remains in place for several days to a week and then is replaced. A transmitter relays information about glucose levels via radio waves from the sensor to a wireless monitor (NIDDK, 2021f).

Advantages of a CGM system include (NIDDK, 2021f):
- An alarm can sound when glucose levels are too high or too low
- Meals, physical activity, and medicines can be noted in a CGM device, as well as glucose levels
- Data can be downloaded to a computer or smart device to improve visibility of glucose trends
- CGM systems offer better management of daily glucose levels
- There are fewer hypoglycemic emergencies with the use of a CGM
- With a CGM, fewer finger sticks are needed

CGM has limitations, as well as advantages. These limitations include (NIDDK, 2021f):
- Most CGM models cannot be used to make treatment decisions unless the CGM reading is confirmed by doing a finger-stick glucose test.
- A CGM is more expensive than using a standard glucose meter. Patients should check their insurance plans or Medicare to see what costs are covered.

Insulin Pumps

Most people with type 1 diabetes should be treated with multiple daily injections of prandial insulin and basal insulin or continuous subcutaneous insulin infusion. Most people with type 1 diabetes should use rapid-acting insulin analogs to reduce hypoglycemia risk (ADA 2021k).

Patient/family education regarding pharmacological management with insulin should include matching prandial insulin doses to carbohydrate intake, premeal blood glucose levels, and anticipated physical activity. Individuals with type 1 diabetes who have been successfully using continuous subcutaneous insulin infusion should have continued access to this therapy after they turn 65 years of age (ADA, 2021k).

Hundreds of thousands of people of all ages throughout the world are using an insulin pump for diabetes mellitus management. First used by patients with type 1 diabetes, some persons with type 2 diabetes use them as well. (Stoppler, 2018).

Insulin pumps are about the size of a small cell phone and are computerized. Insulin pumps provide a constant stream of insulin so that fewer needle sticks are required. Pumps are a good option for children or anyone else who has trouble remembering to administer their insulin injections (Cleveland Clinic, 2021).

Insulin pumps may be especially useful for people who (Cleveland Clinic, 2021):
- Experience delays in the absorption of food
- Are active and may want to pause insulin doses when exercising
- Have severe reactions to hypoglycemia
- Have diabetes and are planning a pregnancy

Traditional insulin pumps transport insulin from a chamber within the pump via tubing to a site on the skin that is connected to a smaller flexible plastic cannula. The cannula is a few millimeters long and delivers the insulin underneath the skin (Cleveland Clinic, 2021).

Insulin patch pumps also use a cannula beneath the skin. However, the insulin delivery chamber and the cannula are part of one pod that "sits" in the skin with an adhesive patch. The patch can be directly placed on the stomach or arm. There is no external tubing, and it is controlled wirelessly via a handheld controller (Cleveland, Clinic, 2021).

There are both advantages and disadvantages of insulin pumps. Advantages include:
- Consistent, adjustable insulin delivery
- Fewer insulin injections
- Flexibility and privacy
- Improved blood glucose levels
- Improved lifestyle freedom and flexibility

Risks or complications of insulin pumps include (Cleveland Clinic, 20210:
- Setting up the pump incorrectly

- Costing more than injections
- Problems hiding the tubing or pump with non-patch styles (Cleveland, Clinic, 2021)

Artificial Pancreas Device System

The Artificial Pancreas Device System is a system of devises that closely mimics the functioning of a healthy pancreas. Most of these systems consist of a continuous glucose monitoring system, and an insulin infusion pump. A blood glucose device is used to calibrate CGM. A computer-controlled algorithm connects the CGM and insulin pump to facilitate ongoing communication between the two devices (Food and Drug Administration (FDA), 2018).

An artificial pancreas device system replaces manual blood glucose testing and the use of insulin injections. The system monitors blood glucose levels 24-hours a day. The system can be monitored remotely (e.g., by parents or healthcare professionals) (NIDDK, 2021f).

There are three categories of artificial pancreas device systems. These include:

1. Threshold suspend device systems (also called low glucose suspend systems): This type of system temporarily suspends insulin delivery when the glucose level falls to or approaches a low glucose threshold. Its purpose is to reduce the severity of or reverse hypoglycemia.
2. Insulin-only system: This system "achieves a target glucose level by automatically increasing or decreasing the amount of insulin infused based on the CGM values.
3. Bi-hormonal control system: This device "achieves a target glucose level by using two algorithms to instruct an infusion pump to deliver two different hormones—one hormone (insulin) to lower glucose levels and another (such as glucagon) to increase blood glucose levels. The bi-hormonal system mimics the glucose-regulating function of a healthy pancreas more closely than an insulin-only system (FDA, 2017).

Research continues regarding the development of artificial pancreas device systems. To date, the FDA has approved two systems. These are (Tenderich, 2020).

- Medtronic MiniMed 670G: This is a hybrid closed-loop system.
- Control-IQ from Tandem Diabetes Care: This system combines Tandem's touchscreen insulin pump with the Dexcom CGM and a smart algorithm for the purpose of auto-adjusts for high and low blood glucose levels and automatic corrections for unexpected highs.

Insulin

Typical blood glucose levels targets are to keep daytime blood glucose levels before meals between 80 and 130 mg/dL (4.44 to 7.2 mmol/L) and after meal results to no higher than 180 mg/dL (10 mmol/L), two hours after eating (Mayo Clinic, 2021f).

Persons with type 1 diabetes typically need lifelong insulin therapy. There are many types of insulin therapy and include:

- Short-acting (regular) insulin
- Rapid acting insulin
- Intermediate-acting (NPH) insulin.
- Long-acting insulin (Mayo Clinic, 2021f)

Examples of the various types of insulin include (Mayo Clinic, 2021f):

- Short-acting: Humulin R and Novolin R
- Rapid-acting: Glulisine (Apidra), insulin lispro (Humanlog), and insulin aspart (Novolog)
- Intermediate-acting: Insulin NPH (Novolin N, Humulin N0
- Long-acting: Insulin glargine (Lantus, Toujeo Solostar), insulin detemir (Levemir), and insulin degludec (Tresiba)

Inhaled insulin is available as a rapid-acting insulin. Inhaled insulin is contraindicated in patients with chronic lung disease and is not recommended in patients who smoke or who recently stopped smoking. All patients require spirometry evaluation to identify potential lung disease before and after starting inhaled insulin therapy (ADA, 2021k).

Self-Assessment Quiz Question #7

Pharmacological therapy for the treatment of diabetes includes which of the following interventions?

a. Administration of inhaled insulin is contraindicated in patients who smoke.
b. Administration of Lantus is the preferred initial pharmacological agent for patients with type 2 diabetes.
c. Incorporating manual blood glucose testing in conjunction with an artificial pancreas system.
d. Using inhaled insulin is available as a long-acting insulin.

Pharmacologic therapy for type 2 diabetes

The FDA (2021k) makes the following recommendations for pharmacologic therapy for type 2 diabetes.

- Metformin is the preferred initial pharmacologic agent for the treatment of type 2 diabetes.
- Once initiated, metformin should be continued as long as it is tolerated and not contraindicated; other agents, including insulin, should be added to metformin.
- Early combination therapy can be considered in some patients at treatment initiation to extend the time to treatment failure.
- The early introduction of insulin should be considered if there is evidence of ongoing catabolism (weight loss), if symptoms of hyperglycemia are present, or when A1C levels (>10% [86 mmol/mol]) or blood glucose levels (≥300 mg/dL [16.7 mmol/L]) are very high.
- A patient-centered approach should be used to guide the choice of pharmacologic agents. Considerations include effect on cardiovascular and renal comorbidities, efficacy, hypoglycemia risk, impact on weight, cost, risk for side effects, and patient preferences.
- Among patients with type 2 diabetes who have established atherosclerotic cardiovascular disease or indicators of high risk, established kidney disease, or heart failure, a sodium–glucose cotransporter 2 inhibitor or glucagon-like peptide 1 receptor agonist with demonstrated cardiovascular disease benefit is recommended as part of the glucose-lowering regimen independent of A1C and in consideration of patient-specific factors.
- In patients with type 2 diabetes, a glucagon-like peptide 1 receptor agonist is preferred to insulin when possible.
- Recommendation for treatment intensification for patients not meeting treatment goals should not be delayed.
- The medication regimen and medication-taking behavior should be reevaluated at regular intervals (every 3–6 months) and adjusted as needed to incorporate specific factors that impact choice of treatment.
- Clinicians should be aware of the potential for over-basalization with insulin therapy. Over-basalization is titration of basal insulin beyond an appropriate dose to achieve glycemic targets. Clinical signals that may prompt evaluation of over-basalization include basal dose more than ⍰0.5 IU/kg, high bedtime-morning or post-preprandial glucose differential, hypoglycemia (aware or unaware), and high variability. Indication of over-basalization should prompt reevaluation to further individualize therapy.

Non-pharmacologic diabetes management

Nutrition

Nutrition therapy is recommended for all patients with type 1 and type 2 diabetes. For those patients who are overweight or obese, modest weight loss may provide significant clinical benefits such as improved glucose control and lipid levels and reduction in

blood pressure, especially early in the course of the disease (ADA, 2021h).

Evidence-based practice! Research suggests that there is a benefit to eating protein or protein and vegetables before eating the carbohydrate portion of a meal (ADA, 2021h). healthcare professionals should collaborate to ensure patients and families have access to planning the best meal options for persons with diabetes.

The goal of a good nutrition plan is to get the nutrients needed while keeping blood glucose levels within target range. The patient's goals, tastes, preferences, lifestyle, and medications should be considered when meal planning (CDC, 2021f).

According to the CDC (2021f) a good meal plan will:

- Include more non-starchy vegetables, such as broccoli, spinach, and green beans.
- Include fewer added sugars and refined grains such as white bread, rice, and pasta with less than two grams of fiber per serving.
- Focus on whole foods instead of highly processed foods as much as possible.

The CDC (2021f) recommends using a plate method as part of the meal planning process. Patients should consider a nine-inch dinner plate and:

- Fill half of the plate with non-starchy vegetables, such as salad, green beans, broccoli, cauliflower, cabbage, and carrots.
- Fill one-quarter of the plate with a lean protein, such as chicken, turkey, beans, tofu, or eggs.
- Fill one-quarter of the plate with carb foods such as grains, starchy vegetables (peas, potatoes), rice, pasta, fruit, and yogurt. A cup of milk counts as a carb food.
- Choose water or a low-calorie drink such as unsweetened tea to go with a meal.

Many people appreciate having a guide as to what constitutes a "portion" of a particular nutrient. The CDC (2021f) offers the following suggestions for estimating portion size.

- Three ounces of meat, fish, or poultry: Palm of hand (no fingers)
- One ounce of meat or cheese: Thumb tip to base
- One cup or one medium fruit: Fist
- One to two ounces of nuts or pretzels: Cupped hand
- One Tablespoon: Thumb tip (tip to first joint)
- One teaspoon: Fingertip (tip to first joint)

Physical activity

Being overweight or obese is linked to a vast number of medical problems, including heart disease and cancer. Proper nutritional intake and physical activity not only help patients to achieve weight goals but also have a positive impact on diabetes. Exercise may also have a positive effect for depression associated with the consequences of the need for diabetes management.

As previously noted, the American Heart Association (2021) recommends:

- At least 150 minutes per week of moderate-intensity aerobic physical activity;
- Or 75 minutes per week of vigorous-intensity aerobic physical activity (or a combination of the two);
- And muscle-strengthening exercises at least two days per week.

People who have diabetes must monitor their physical activity in relation to their glycemic levels. For example, exercise can lead to hyperglycemia or hypoglycemia depending on its intensity, timing, duration, and type of physical activity (ADA 2021h).

People who take insulin or oral pharmacological agents are at risk for hypoglycemia if insulin dose or carbohydrate intake is not adjusted with exercise. Exercise regimens should be planned with the healthcare team. The ADA (n.d.) recommends following the 15-15 rule:

- Check blood sugar
- If the reading is 100mg/dL or lower have 15-20 grams of carbohydrate. Examples include four glucose tablets, one glucose gel tube, four ounces of juice ore regular soda, or one tablespoon of sugar or honey.
- Check blood sugar again after 15 minutes. If it is still below 100 mg/dL another servicing of 15 grams of carbohydrate is needed.
- Repeat these steps every 15 minutes until blood sugar is at least 100 mg/dL.

Smoking cessation

All patients should be advised not to use any tobacco products or e-cigarettes. Nonsmokers should be advised not to use e-cigarettes. Smoking cessation should be a routine part of diabetes management (American Heart Association, 2021).

Psychosocial care

Mental health and well-being are important to general health and wellness and can impact the patient's or family's ability to implement diabetes treatment. The physical and emotional stress that can accompany a chronic health problem can put the patient and her family at risk for mental health problems (ADA, 2021o; Grygotis, 2016).

Psychosocial screening and follow-up treatment include attitudes about illness; expectations for management and outcomes; affect/mood; quality of life experiences and expectations; financial, social, and emotional resources; and psychiatric history. Patients should also be routinely screened for such issues as depression and diabetes-related distress, anxiety, eating disorders, and impairment of cognitive functioning (ADA, 2021o; Grygotis, 2016).

Support groups for diabetics may offer some therapeutic value. In addition, group exercise such as yoga, workout groups, or swimming exercise classes can provide both psychosocial support and a physical benefit for weight loss and improved cardiovascular condition. Meditation, pet therapy, behavioral therapy, and religious support may be of interest to some patients. Antidepressant medication may be considered if needed (ADA, 2021o; Grygotis, 2016).

Hypoglycemia prevention

Hypoglycemia is the primary factor limiting the glycemic management of type 1 and insulin-treated type 2 diabetes. It is imperative that nurses and other members of the health care team instruct patients and families how to recognize signs and symptoms of hypoglycemia, identify situations that increase their risk for hypoglycemia such as fasting, during or after intense exercise, and during sleep. They must be taught to balance insulin use, carbohydrate intake, and exercise to prevent and reduce hypoglycemic episodes (ADA, 2021e).

Immunizations

There are several recommendations for adults who have diabetes mellitus (ADA, 2021c).

- Provide routinely recommended vaccinations for adults with diabetes by age. Children should also receive routine vaccinations by age.
- Administer Hepatitis B vaccine for persons less than 60 years of age. For persons over 60 healthcare providers should be consulted.
- Administer HPV vaccine to persons 26 years old and under. Persons between the ages of 27-45 years may also be vaccinated after consulting with their healthcare providers.

- Administer influenza vaccine to all patients annually. All patients should be advised not to receive live attenuated influenza vaccine.
- Administer pneumonia PPSV23 pneumovax to persons 19-64 years of age. Persons 65 and older should receive a second dose at least five years from prior pneumovax vaccine.
- There are no recommendations for the administration of pneumonia (PCV13 Prevnar) to persons 19-64 years of age. For persons 65 and older who are not immunocompromised, have a cochlear implant, or cerebrospinal fluid leak, decisions must made in conjunction with their healthcare providers.
- Administer tetanus, diphtheria, pertussis (TDAP) to all adults with a booster every 10 years. All adult pregnant women should have an extra dose of this vaccine.
- Administer Zoster vaccine to all persons 50 years of age or older (two-dose Shingrix even if previously vaccinated).
- COVID vaccinations for all patients, as permitted by age.

Obesity management

Overweight and obesity contribute to a myriad of health problems. There is significant evidence that managing obesity can delay the progression from prediabetes to type 2 diabetes and may contribute to successful management of type 2 diabetes (ADA, 2021j).

The ADA (2021j) recommends that BMI be calculated and documented at all patient visits. Additional recommendations state that overweight and obese patients should participate in a regimen of diet, physical activity, and behavioral therapy to achieve >5% weight loss. Furthermore, such interventions should be individualized to the patient. After weight loss goals have been achieved, diet, physical activity, and behavioral therapy should be continued to maintain weight loss and achieve treatment goals.

Healthcare Professional Consideration: It is important that patients' medication regimens be evaluated for their impact on weight. This evaluation should include all the medications the patient takes: prescription drugs, over-the-counter supplements, and herbal preparations. If necessary, weight loss medications may be prescribed to help lose weight. Potential benefits of these medications should be weighed against potential risks and side effects (ADA, 2021j). Patients should be cautioned not to take any weight loss products without prior consultation with their health care providers.

Metabolic surgery

Metabolic surgery is the phrase used to describe surgery and procedures that treat metabolic diseases, especially type 2 diabetes (ADA, 2021j). Bariatric surgery that aims to treat comorbid conditions, such as diabetes mellitus associated with obesity, is called as metabolic surgery. Metabolic surgery is usually limited to patients with a body mass index (BMI) >35. The surgeon typically connects one end of the stomach to an opening in the new stomach pouch. After this surgery, when you eat, food bypasses most of the stomach and the first part of the small intestines. That makes this surgery both restrictive and malabsorptive.

Following are recommendations and suggestions for metabolic surgery (ADA, 2021j).

- Recommend metabolic surgery as an option for the treatment of type 2 diabetes in appropriate surgical candidates with BMI > 40 kg/m2 (BMI >37.5 kg/m2 in Asian Americans and in adults with BMI 35.0-39.9 kg/m2 (32.5-37.4 kg/m2 in Asian Americans.
- Suggest metabolic surgery as an option for adults with type 2 diabetes and BMI 30.0 to 34.9 kg/m2, (27.5 to 32.4 kg/m2 in Asian Americans, if hyperglycemia is inadequately controlled despite appropriate medical intervention.
- Metabolic surgery should be done in health care facilities that perform high-volume numbers of such surgeries and where multidisciplinary teams experienced in metabolic surgery work.
- Provide long-term support and monitoring of patients who have undergone metabolic surgery according to national and international standards.
- Perform a comprehensive mental health evaluation before surgery.
- Postpone surgery in patients with histories of alcohol abuse, substance abuse, depression, suicidal ideation, and other mental health concerns until these issues have been adequately addressed.
- Evaluate the need for ongoing mental health services to help with medical and psychosocial changes post-surgery.

Research has shown that metabolic surgery leads to "superior glycemic control and reduction of cardiovascular risk factors in obese patients with type 2 diabetes compared with various lifestyle/medical interventions" (ADA, 2021j).

Pancreas transplant

A pancreas transplant is performed to implant a healthy pancreas from a deceased donor into a patient with diabetes. Almost all pancreas transplants are done to treat cases of type 1 diabetes and are usually reserved for those patients with serious diabetes complications because side effects of transplantation are significant. The pancreas must be meticulously matched to the recipient and is transported in a cooled solution that preserves the organ for up to approximately 15 to 20 hours. Once a pancreas becomes available, it must be transplanted into a recipient within 18-24 hours. Pancreas transplant is often done in conjunction with a kidney transplant or after successful kidney transplantation in persons whose kidneys have been damaged by diabetes. The average waiting time for a pancreas transplant is about 23 months. The average wait for a simultaneous kidney-pancreas transplant is about 13 months (Mayo Clinic, 2019; MedlinePlus, 20121b).

Candidates for a pancreas transplant typically have type 1 diabetes, along with kidney damage, nerve damage, or eye problems, or other complications. Transplant candidates usually have diabetes that is out of control despite medical treatment. Some people who have type 2 diabetes may be candidates for transplant if they have both low insulin resistance and low insulin production (Johns Hopkins Medicine, 2021).

About 10% of all pancreas transplants are performed in people with type 2 diabetes. This is generally because of the patients' having both low insulin resistance and low insulin production (Mayo Clinic, 2019).

Surgical pancreatic transplant takes about three hours. If done in conjunction with a kidney transplant, the combined surgery takes about six hours. The patient's diseased pancreas is not removed during the surgery. The donor pancreas is usually placed in the right lower part of the abdomen, and blood vessels from the new pancreas are attached to the patient's blood vessels. The donor duodenum is attached to the patient's intestine or bladder (MedlinePlus, 2019).

- The following are complications associated with the transplant surgery (Mayo Clinic, 2019).
- Hemorrhage
- Blood clots
- Infection
- Hyperglycemia
- Urinary tract infections
- Failure of the donated pancreas
- Rejection of the donated pancreas

Following a pancreas transplant the patient must take medications for the rest of his life to help prevent rejection of the donor pancreas. Such medications have several side effects (Mayo Clinic, 2019):

- Thinning of bones
- Elevated cholesterol
- Hypertension
- Skin sensitivity
- Fluid retention

- Weight gain
- Swollen gums
- Acne
- Excessive hair growth

Before transplantation, patients are evaluated both physically and mentally. Patients must be able to cope with and adhere to lifelong medical follow-up, the need to take medications to help prevent organ rejection for the rest of their lives, and the ability to cope with side effects of medications needed after transplantation (Mayo Clinic, 2019; MedlinePlus, 2021b18b).

Self-Assessment Quiz Question #8

All of the following immunization recommendations for adults who have diabetes mellitus are accurate EXCEPT:

a. Administer influenza vaccine to all patients annually.
b. The TDAP vaccine should not be administered to pregnant women.
c. All persons 50 years of age or older should receive the two-dose Shingrix vaccine.
d. The HPV vaccine should be given to persons 26 years old and under.

Case study: Jeremy Wilson

Jeremy is a 16-year-old high-school student who has a history of hard-to-control type1 diabetes. Jeremy is struggling to live what he calls "a normal life like my friends." Because of the seriousness of his condition he, his parents, and his healthcare providers agree that he is a candidate for pancreas transplant.

Question 1: How long will it take to obtain a pancreas for transplantation?

Discussion:
The average wait time for a pancreas transplant is about 23 months. The pancreas must be meticulously matched to the recipient and is transported in a cooled solution that preserves the organ for up to approximately 15 to 20 hours. Once a pancreas becomes available, it must be transplanted into a recipient within 18-24 hours. Jeremy needs to know about the waiting period for a pancreas. It may be a difficult waiting period as he is anxious to live "a normal life." Jeremy, and his family, may benefit from counseling as they wait and in preparation for undergoing, and living with, transplantation.

Question 2: What happens during the transplant procedure?

Discussion
Surgical pancreatic transplant takes about three hours. If done in conjunction with a kidney transplant, the combined surgery takes about six hours. The patient's diseased pancreas is not removed during the surgery. The donor pancreas is usually placed in the right lower part of the abdomen, and blood vessels from the new pancreas are attached to the patient's blood vessels. The donor duodenum is attached to the patient's intestine or bladder

Question 3: Why is a mental health examination needed before transplant surgery?

Discussion
Before transplantation, patients are evaluated both physically and mentally. Patients must be able to cope with and adhere to lifelong medical follow-up, the need to take medications to help prevent organ rejection for the rest of their lives, and the ability to cope with side effects of medications needed after transplantation

PREVENTION AND MANAGEMENT OF COMPLICATIONS OF DIABETES

The possibility of complications must be addressed with patients and families. Healthcare professionals must not only monitor patients but also teach patients and families to recognize signs and symptoms of complications and how to adhere to treatment regimens for complications if they occur.

The CDC identifies the following risk factors for diabetes-related complications (CDC, 2020c):

Smoking

- 21.6% were tobacco users based on self-report or levels of serum cotinine.
- 15.0% reported current cigarette smoking.
- 36.4% had quit smoking but had a history of smoking at least 100 cigarettes in their lifetime.

Overweight and obesity

- 89.0% were overweight or had obesity, defined as a body mass index (BMI) of 25 kg/m2 or higher.

Specifically:
- 27.6% were overweight (BMI of 25.0 to 29.9 kg/m2)
- 45.8% had obesity (BMI of 30.0 to 39.9 kg/m2)
- 15.5% had extreme obesity (BMI of 40.0 kg/m2 or higher)

Physical inactivity

• 38.0% were physically inactive, defined as getting less than 10 minutes a week of moderate or vigorous activity in each physical activity category of work, leisure time, and transportation.

A1C

- 50.0% had an A1C value of 7.0% or higher

Specifically:
- 22.3% had an A1C value of 7.0% to 7.9%
- 13.2% had an A1C value of 8.0% to 9.0%
- 14.6% had an A1C value higher than 9.0%
- 16.3% of adults aged 18–44 years had A1C levels of 10% or higher, compared to 12.7% of those aged 45–64 years and 4.3% of those aged 65 years or older.

High blood pressure

- 68.4% had a systolic blood pressure of 140 mmHg or higher or diastolic blood pressure of 90 mmHg or higher or were on prescription medication for their high blood pressure.

High cholesterol

- 43.5% had a non-HDL level of 130 mg/dL or higher

Specifically:
- 22.4% had a non-HDL level of 130 to 159 mg/dL
- 11.2% had a non-HDL level of 160 to 189 mg/dL
- 9.9% had a non-HDL level of 190 mg/dL or higher

Cardiovascular disease

Prevention and management of complications of diabetes are important strategies for the promotion of health and wellness among those persons with diabetes mellitus. Cardiovascular disease (CVD) is the major cause of morbidity and mortality for persons who have diabetes as well as the largest contributor to both direct and indirect costs of diabetes. Research has shown that controlling individual cardiovascular risk factors helps prevent or slow CVD development in people with diabetes (ADA, 2021a).

Hypertension

Hypertension is a significant problem among people with diabetes and is a major risk factor for cardiovascular disease. There are generally three categories of blood pressure (CDC, 2020b):

1. Normal: systolic is less than 120 mmHg; diastolic is less than 80 mmHg.
2. Prehypertension: systolic is 120 to 139 mmHg; diastolic is 80 to 89 mmHg.
3. Hypertension: systolic is 140 mmHg or higher; diastolic is 90 mmHg or higher.

Persons who have elevated blood pressure should have blood pressure confirmed by using multiple readings and on separate days to diagnose hypertension. Additionally, all patients with hypertension and diabetes should monitor their blood pressure at home (American Diabetes Association, 2021a).

In pregnant patients with diabetes and pre-existing hypertension, blood pressure targets of 110-135/85 mmHg are suggested (ADA, 2021a).

The ADA (2021a) Standards of Medical Care in Diabetes recommends the following treatment initiatives for blood pressure control in persons with diabetes (American Diabetes Association, 2021a):

- Blood pressure should be measured at every routine clinical visit. Patients found to have elevated blood pressure (≥140/90 mmHg) should have blood pressure confirmed using multiple readings, including measurements on a separate day, to diagnose hypertension.
- All hypertensive patients with diabetes should monitor their blood pressure at home.
- For patients with diabetes and hypertension, blood pressure targets should be individualized through a shared decision-making process that addresses cardiovascular risk, potential adverse effects of antihypertensive medications, and patient preferences.
- For individuals with diabetes and hypertension at higher cardiovascular risk (existing atherosclerotic cardiovascular disease [ASCVD] or 10-year ASCVD risk ≥15%), a blood pressure target of <130/80 mmHg may be appropriate if it can be safely attained.
- For individuals with diabetes and hypertension at lower risk for cardiovascular disease (10-year atherosclerotic cardiovascular disease risk <15%), treat to a blood pressure target of <140/90 mmHg.
- In pregnant patients with diabetes and preexisting hypertension, a blood pressure target of 110–135/85 mmHg is suggested in the interest of reducing the risk for accelerated maternal hypertension and minimizing impaired fetal growth.
- For patients with blood pressure >120/80 mmHg, lifestyle intervention consists of weight loss when indicated, a Dietary Approaches to Stop Hypertension (DASH)-style eating pattern including reducing sodium and increasing potassium intake, moderation of alcohol intake, and increased physical activity.
- Patients with confirmed office-based blood pressure ≥140/90 mmHg should, in addition to lifestyle therapy, have prompt initiation and timely titration of pharmacologic therapy to achieve blood pressure goals.
- Patients with confirmed office-based blood pressure ≥160/100 mmHg should, in addition to lifestyle therapy, have prompt initiation and timely titration of two drugs or a single-pill combination of drugs demonstrated to reduce cardiovascular events in patients with diabetes.
- Treatment for hypertension should include drug classes demonstrated to reduce cardiovascular events in patients with diabetes. ACE inhibitors or angiotensin receptor blockers are recommended first-line therapy for hypertension in people with diabetes and coronary artery disease.
- Combination drug therapy is generally required to achieve blood pressure targets. However, combinations of ACE inhibitors and angiotensin receptor blockers and combinations of ACE inhibitors or angiotensin receptor blockers with direct renin inhibitors should not be used. These combinations increase the risk of hypotension, hyperkalemia, and renal impairment.
- An ACE inhibitor or angiotensin receptor blocker, at the maximum tolerated dose indicated for blood pressure treatment, is the recommended first-line treatment for hypertension in patients with diabetes and urinary albumin-to-creatinine ratio ≥300 mg/g creatinine or 30–299 mg/g creatinine. If one class is not tolerated, the other should be substituted.
- For patients treated with an ACE inhibitor, angiotensin receptor blocker, or diuretic, serum creatinine/estimated glomerular filtration rate and serum potassium levels should be monitored at least annually.
- Patients with hypertension who are not meeting blood pressure targets on three classes of antihypertensive medications (including a diuretic) should be considered for mineralocorticoid receptor antagonist therapy.

The DASH (Dietary Approaches to Stop Hypertension) diet focuses on fruits, vegetables, whole grains, and other foods that are deemed to be heart healthy and low in fat, cholesterol, and sodium. DASH also emphasizes intake of fat-free or low-fat dairy products, fish, poultry, and nuts. The intake of red meats, sweets, added sugars, and sugar-containing beverages is reduced. DASH is rich in nutrients, protein, and fiber (Mayo Clinic, 2020e; 2021c). This diet has been shown to help diabetic patients lose weight and maintain a more stable blood sugar.

Salt should be limited. Foods that are low in sodium and contain no added salt should be chosen. Salt should not be on the table during meals. No more than one teaspoon of salt per day should be consumed (Mayo Clinic, 2020e; 2021c).

Patients who smoke should be referred to smoking cessation programs. Smoking constricts and damages blood vessels and increases hypertension risk (Mayo Clinic, 2021c).

Finally, patients must be instructed in stress management techniques. Relaxation training, deep breathing exercises, guided imagery, and exercise all have been shown to facilitate stress reduction. Equally important is to help patients identify stressors in their lives and how to deal with them. For example, financial issues may prove to be significant stressors. The costs of a chronic illness, even with insurance coverage, can place a financial burden on patients and families. Relaxation techniques may be helpful, but patients may also need referral to financial counseling or resources that may be able to help defray the cost of medications and other treatments (Mayo Clinic, 2021c).

Lipid management

Lifestyle modifications that focus on weight loss if needed, dietary changes as needed (reduce intake of saturated fat, trans fat, and cholesterol; increase intake of n-3 fatty acids, fiber, and plant stanols/sterols), and glycemic control are central to lipid management (American Diabetes Association, 2021a).

The American Diabetes Association (2021a) offers the following recommendations for lipid management:

- For adults not taking lipid-lowering therapy, obtain a lipid profile at the time of diabetes diagnosis, at an initial medical evaluation, and every 5 years thereafter if younger than 40 years of age. Testing may be done more frequently as needed.
- A lipid profile should be obtained at the start of lipid-lowering therapy 4 to 12 weeks after starting therapy or when there is a change in dosage and annually thereafter.

- In adults not taking statins or other lipid-lowering therapy, it is reasonable to obtain a lipid profile at the time of diabetes diagnosis, at an initial medical evaluation, and every five years thereafter if under the age of 40 years, or more frequently if indicated.
- For patients with diabetes aged 40–75 years without atherosclerotic cardiovascular disease, use moderate-intensity statin therapy in addition to lifestyle therapy.
- For patients with diabetes aged 20–39 years with additional atherosclerotic cardiovascular disease risk factors, it may be reasonable to initiate statin therapy in addition to lifestyle therapy.
- In patients with diabetes at higher risk, especially those with multiple atherosclerotic cardiovascular disease risk factors or aged 50–70 years, it is reasonable to use high-intensity statin therapy.
- In adults with diabetes and 10-year atherosclerotic cardiovascular disease risk of 20% or higher, it may be reasonable to add ezetimibe to maximally tolerated statin therapy to reduce LDL cholesterol levels by 50% or more.
- For patients of all ages with diabetes and atherosclerotic cardiovascular disease, high-intensity statin therapy should be added to lifestyle therapy.
- For patients with diabetes and atherosclerotic cardiovascular disease considered very high risk using specific criteria, if LDL cholesterol is ≥70 mg/dL on maximally tolerated statin dose, consider adding additional LDL-lowering therapy (such as ezetimibe or PCSK9 inhibitor). Ezetimibe may be preferred because of lower cost.
- For patients who do not tolerate the intended intensity, the maximally tolerated statin dose should be used.
- In adults with diabetes aged >75 years already on statin therapy, it is reasonable to continue statin treatment.
- In adults with diabetes aged >75 years, it may be reasonable to initiate statin therapy after discussion of potential benefits and risks.
- Statin therapy is contraindicated in pregnancy.
- For patients with fasting triglyceride levels ≥500 mg/dL, evaluate for secondary causes of hypertriglyceridemia and consider medical therapy to reduce the risk of pancreatitis.
- In adults with moderate hyper-triglyceridemia (fasting or non-fasting triglycerides 175–499 mg/dL), clinicians should address and treat lifestyle factors (obesity and metabolic syndrome), secondary factors (diabetes, chronic liver or kidney disease and/or nephrotic syndrome, hypothyroidism), and medications that raise triglycerides.
- In patients with atherosclerotic cardiovascular disease or other cardiovascular risk factors on a statin with controlled LDL cholesterol but elevated triglycerides (135–499 mg/dL), the addition of icosapent ethyl can be considered to reduce cardiovascular risk.
- Statin plus fibrate combination therapy has not been shown to improve atherosclerotic cardiovascular disease outcomes and is generally not recommended.
- Statin plus niacin combination therapy has not been shown to provide additional cardiovascular benefit above statin therapy alone, may increase the risk of stroke with additional side effects, and is generally not recommended.

Antiplatelet agents for the management of CVD

Research findings indicate that aspirin has been shown to help reduce cardiovascular morbidity and mortality in patients who are high risk and who have had previous heart attack or stroke. However, its overall benefit in primary prevention among adults with no previous cardiovascular events (heart attack or stroke) is controversial for patients with or without a history of diabetes. Aspirin is not recommended for persons at low risk of ASCVD (men and women younger than 50 years of age with no other major ASCVD risk factors). This is because the low potential benefit is outweighed by the risks for bleeding (American Diabetes Association, 2021a).

Following are recommendations regarding aspirin therapy (American Diabetes Association, 2018j):

- Use aspirin therapy (75 to 162 mg/day) as a secondary prevention strategy for persons with diabetes and a history of ASCVD.
- Use clopidogrel (75 mg/day) for those patients with ASCVD and documented aspirin allergy.
- The use of dual antiplatelet therapy (low-dose aspirin and a P2Y12 inhibitor) is deemed reasonable for a year after an acute coronary syndrome and may have benefits beyond one year.
- Long-term treatment with dual antiplatelet therapy should be considered for patients with prior coronary intervention, high ischemic risk, and low bleeding risk to prevent major adverse cardiovascular events.
- Combination therapy with aspirin plus low-dose rivaroxaban should be considered for patients with stable coronary and/or peripheral artery disease and low bleeding risk to prevent major adverse limb and cardiovascular events.
- Aspirin therapy (75 to 162 mg/day) may be considered as a primary prevention strategy for those patients with type 1 or type 2 diabetes who have increased cardiovascular risk.

Screening and treatment recommendations for cardiovascular disease

The American Diabetes Association (2021a) does not recommend routine screening for coronary artery disease in asymptomatic patients if ASCVD risk factors are treated. Investigations for coronary artery disease should be considered if any of the following is present:

- Unexplained dyspnea
- Chest discomfort
- Carotid bruits
- Transient ischemic attack
- Stroke
- Claudication
- Peripheral arterial disease
- Electrocardiogram abnormalities

Following are recommendations for treatment of coronary heart disease for patients with diabetes (American Diabetes Association, 2021a):

- Among patients with type 2 diabetes who have established atherosclerotic cardiovascular disease or established kidney disease, a sodium–glucose cotransporter 2 inhibitor or glucagon-like peptide 1 receptor agonist with demonstrated cardiovascular disease benefit is recommended as part of the comprehensive cardiovascular risk reduction and/or glucose-lowering regimens.
- In patients with type 2 diabetes and established atherosclerotic cardiovascular disease, multiple atherosclerotic cardiovascular disease risk factors, or diabetic kidney disease, a sodium–glucose cotransporter 2 inhibitor with demonstrated cardiovascular benefit is recommended to reduce the risk of major adverse cardiovascular events and/or heart failure hospitalization.
- In patients with type 2 diabetes and established atherosclerotic cardiovascular disease or multiple risk factors for atherosclerotic cardiovascular disease, a glucagon-like peptide 1 receptor agonist with demonstrated cardiovascular benefit is recommended to reduce the risk of major adverse cardiovascular events.
- In patients with type 2 diabetes and established heart failure with reduced ejection fraction, a sodium–glucose cotransporter 2 inhibitor with proven benefit in this patient population is recommended to reduce risk of worsening heart failure and cardiovascular death.
- In patients with known atherosclerotic cardiovascular disease, particularly coronary artery disease, ACE inhibitor or angiotensin receptor blocker therapy is recommended to reduce the risk of cardiovascular events.
- In patients with prior myocardial infarction, β-blockers should be continued for 3 years after the event.
- Treatment of patients with heart failure with reduced ejection fraction should include a β-blocker with proven cardiovascular outcomes benefit, unless otherwise contraindicated.
- In patients with type 2 diabetes with stable heart failure, metformin may be continued for glucose lowering if estimated glomerular filtration rate remains >30 mL/min/1.73 m2 but should be avoided in unstable or hospitalized patients with heart failure.

Diabetic neuropathy

Diabetic neuropathy is a group of nerve disorders caused by diabetes mellitus. Over the course of time, nerve damage can occur throughout the body. Some persons have no symptoms of nerve damage, but others may feel pain, tingling, or numbness in the hands, arms, feet, and legs. Neuropathy can occur in every organ system throughout the body (NIDDK, n.d).

The following persons are at highest risk for diabetic neuropathy (Mayo Clinic, 2021b):

- Those who are overweight
- Those who are hypertensive
- Those who have elevated cholesterol
- Those who have advanced renal disease
- Those who drink large amounts of alcohol
- Those who smoke

The American Diabetes Association (2021i) advocates the following screenings and treatments:

- Assess all patients for diabetic peripheral neuropathy beginning at diagnosis of type 2 diabetes and five years after the diagnosis of type 1 diabetes. After these initial assessments, patients should be evaluated at least annually.
- Include a careful history and assessment of either temperature or pinprick sensation as part of the assessment for distal symmetric polyneuropathy.
- Assess for signs and symptoms of autonomic neuropathy in patients who have microvascular complications.
- Optimize glucose control to prevent or delay the development of neuropathy or to slow its progression.
- Assess and treat patients to reduce pain related to diabetic peripheral neuropathy and symptoms of autonomic neuropathy.
- Prescribe either pregabalin or duloxetine as initial pharmacologic treatments for neuropathic pain in diabetes.

There are four types of diabetic neuropathy (NIDDK, n.d.):

1. Peripheral
2. Autonomic
3. Proximal
4. Focal

Peripheral Diabetic Neuropathy

Peripheral neuropathy is the most common type of diabetic neuropathy. The areas of the body most affected are the feet and legs. Rarely, other areas of the body—the arms, abdomen, and back—may be affected by peripheral neuropathy. Nerve damage can lead to a loss of sensation in the feet and legs placing the patient at significant risk for foot problems. Injuries, lesions, blisters, and sores on the feet may go unnoticed because of a lack of sensation. Infection can easily occur, and if not treated promptly, the infection can spread to the bone. Such infections may lead to amputation of toes, feet, and lower limbs. Many amputations can be prevented with meticulous skin care and swift recognition and treatment of infections (Dansinger, 2021b; Mayo Clinic, 2021e; NIDDK, 2018).

Common symptoms of diabetic peripheral neuropathy are tingling (resembling a "pins and needles" sensation), numbness (which can become permanent), burning (especially in the evening), and pain. Discomfort related to these symptoms may be reduced or controlled when blood glucose levels are under control (NIDDK, 2018c).

Painful diabetic neuropathy may be treated with oral medications (NIDDK, 2018c):

- Tricyclic antidepressants and other types of antidepressants as appropriate
- Anticonvulsants
- Skin creams, patches, or sprays (e.g., lidocaine)

Healthcare professionals must instruct patients and families in skin care, especially the care of the feet, because the nerves to the feet are the longest in the body and are the nerves most often impacted by neuropathy. Education should include the following instructions (Dansinger, 2021b; Mayo Clinic, 2021e):

- Clean the feet daily using warm, not hot, water and a mild soap. Do not soak the feet. Dry the feet gently but thoroughly with a soft towel, paying special attention to the skin between the toes.
- Apply gentle, non-perfumed lotion to the feet if they are dry. Do not put lotion between the toes.
- Inspect the feet and toes every day for cuts, blisters, redness, sores, calluses, or other problems. Use a mirror to check the bottom of the feet. If any abnormalities are noted, notify a health care provider immediately. Rigorous attention to leg and foot ulcers may include debridement, hyperbaric oxygen therapy, or intensive would care.
- Go to a podiatrist, if possible, to avoid injuring the toes when toenails need to be trimmed.
- Never go barefoot. Wear properly fitting shoes or slippers at all times to protect the feet from injuries. Shoes should not be tight; the toes should be able to move when wearing them. New shoes should be broken in gradually by wearing them for only an hour at a time initially.
- Examine shoes and slippers before putting them on, including feeling the insides. This is done to be sure that shoes and slippers are free from tears, sharp edges, or objects that might damage the feet.
- Participate in regular, gentle exercise. Routines such as yoga and tai chi might be of benefit.
- Stop smoking.
- Eat healthy meals.
- Avoid excessive amounts of alcohol.
- Monitor blood glucose levels per health care provider instructions.

Autonomic diabetic neuropathy

Autonomic neuropathy is damage to the nerves that are responsible for the control of the internal organs. Autonomic neuropathy can lead to problems in the cardiovascular, digestive, and renal systems. It can also cause sexual dysfunction, vision problems, and alterations in the function of the sweat glands (NIDDK, 2018a).

Heart and Blood Vessel Impact of Autonomic Neuropathy

Damage to the nerves of the cardiovascular system adversely affects the body's ability to adjust blood pressure and heart rate. This can lead to orthostatic hypotension, dizziness, lightheadedness, or fainting. Damage to the nerves that control heart rate can lead to tachycardia instead of normal increases and decreases in heart rate in response to body functions, stress, and physical activity (NIDDK, 2018a).

Patients must be taught to avoid changing position too quickly, especially from a lying to a sitting or standing position. Wearing elastic stockings may be helpful, and physical therapy can be useful when dealing with muscle weakness or loss of coordination. Heart healthy interventions such as smoking cessation, lipid management, blood pressure control, exercise, and diet may help to decrease the development or progression of heart and blood vessel autonomic neuropathy (NIDDK, 2018a).

Digestive System Autonomic Neuropathy.

Following are common symptoms of digestive autonomic neuropathy (NIDDK, 2018a):

- Bloating
- Diarrhea
- Constipation
- Difficulty swallowing
- Feeling full after eating only a small amount of food
- Loss of appetite
- Nausea
- Vomiting
- Fecal incontinence

Treatments include dietary changes and medications to treat symptoms of constipation, diarrhea, fecal incontinence, and gastroesophageal reflux (NIDDK, 2018a).

Urinary Tract Involvement

Nerve damage can cause incomplete emptying of the bladder and increase the likelihood of urinary tract infections. Patients may also experience incontinence and increased urination at night (NIDDK, 2018a).

Patients are encouraged to drink plenty of fluids to help prevent infections. Because they may not be able to sense when their bladders are full, patients may implement a regular schedule of voiding such as every four hours (NIDDK, 2018a).

Sexual Organs Involvement
Autonomic neuropathy can gradually decrease sexual response in men and women even though sex drive may be unchanged. Men may be unable to have or unable to maintain an erection or have dry or reduced ejaculations. Women may have difficulty becoming aroused or achieving orgasm or experience a decrease in vaginal lubrication that can lead to painful intercourse (NIDDK, 2018a).

Treatment of erectile dysfunction in men begins with testing to rule out hormonal causes. To treat erectile dysfunction caused by neuropathy, medications that increase blood flow to the penis may be prescribed. Some medications are oral; others are injected into the penis or inserted into the urethra at the tip of the penis. Other interventions include the use of mechanical vacuum devices to increase blood flow to the penis or surgical implantation of an inflatable or semirigid device in the penis (Dansinger, 2021b; Ignatavicius et al., 2018; NIDDK, 2018a).

For women, the use of vaginal lubricants, estrogen creams, suppositories, and rings or medications to help reduce symptoms and facilitate arousal may be prescribed (Dansinger, 2021b; Ignatavicius et al., 2018; NIDDK, 2018a).

Self-Assessment Quiz Question #9

When counseling patients about autonomic diabetic neuropathy, healthcare professionals must know that:

a. The impact on heart and blood vessels can lead to orthostatic hypotension or fainting.
b. This type of neuropathy has no impact on sexual functioning.
c. It is important to limit fluid intake.
d. The use of elastic stockings is contraindicated.

Focal diabetic neuropathy

Focal diabetic neuropathy can appear suddenly. It affects specific nerves most often in the head, torso, or leg (NIDDK, 2018b).

Focal diabetic neuropathy may cause the following problems (NIDDK, 2018b):

- Double vision
- Aching behind one eye
- Bell's palsy (paralysis on one side of the face)
- Difficulty focusing the eyes

Focal diabetic neuropathy is unpredictable as well as being painful and is seen most often in older patients with focal neuropathy who tend to develop nerve compressions, also called entrapment syndromes. Carpal tunnel syndrome, which causes numbness and tingling of the hand and sometimes muscle weakness and pain, is a common example of such compression. Other nerves that are vulnerable to entrapment may cause pain on the outside of the shin or the inside of the foot (NIDDK, 2018b).

Diabetic retinopathy

Diabetic retinopathy is the most common diabetic eye disease and a leading cause of blindness in American adults. Initially, diabetic retinopathy may not cause any symptoms or only mild vision disturbances. However, the complication can eventually result in blindness (Mayo Clinic, 2021b; National Eye Institute, 2019).

The American Diabetes Association (2021i) recommends that to slow progression of diabetic retinopathy, patients should optimize glycemic control, blood pressure, and serum lipid control.

Diabetic retinopathy has four stages (Dansinger, 2021c):

1. Mild non-proliferative retinopathy: Microaneurysms occur, which are small areas of balloon-like swelling in the blood vessels of the retina.
2. Moderate non-proliferative retinopathy: Some blood vessels that provide nourishment to the retina are blocked.
3. Severe non-proliferative retinopathy: More and more blood vessels are blocked. Several areas of the retina are deprived of their blood supply, and they transmit messages to the body to grow new, additional blood vessels to supply nourishment.
4. Proliferative retinopathy: New blood vessels grow in an attempt to nourish the retina. This condition is referred to as proliferative retinopathy. These new blood vessels are fragile and abnormal and grow along the retina and along the surface of the clear vitreous gel that fills the inside of the eye. Because the walls of the abnormal vessels are so thin and fragile, they leak blood causing severe vision loss and even blindness.

It is rare to have signs and symptoms of the disease during early stages of diabetic retinopathy. However, as the disease progresses, symptoms may include the following Mayo Clinic, 2021b; National Eye Institute, 2019):

- Spots or dark strings floating in the visual field (commonly referred to as floaters)
- Blurred vision
- Dark or empty areas in vision
- Vision loss
- Problems with color perception

The American Diabetes Association (2021i) recommends that adults with type 1 diabetes have their first eye exam within five years of diagnosis. Persons with type 2 diabetes should get the initial eye exam soon after receiving a diagnosis. After the initial exam. The ADA recommends that all people with diabetes get an annual eye exam. Patients who have no evidence of retinopathy for one or more annual eye exams and glycemia is well controlled, then screening every one to two years may be considered.

The early stage of diabetic retinopathy may not require treatment. However, as the disease progresses, treatment is generally needed. Proliferative diabetic retinopathy requires prompt treatment (Mayo Clinic, 2021b).

Focal Laser Treatment
Also known as photocoagulation, focal laser treatment can stop or slow the leakage of blood or fluid in the eye. This procedure is performed in the office setting or at an eye clinic and is generally done in a single session. Vision may be blurry for a day after the procedure, and the patients may see small spots in their visual field for several weeks (University of Michigan Health, 2020).

Scatter Laser Treatment
Also known as panretinal photocoagulation, this treatment can shrink abnormal blood vessels. Also performed in an office or eye clinic setting, this procedure involves treating affected areas with scattered laser burns. The burns cause the abnormal blood vessels to shrink and scar. Scatter laser treatment is usually done in two or more sessions and causes blurred vision for about a day after the procedure. Some loss of peripheral vision or night vision after undergoing the procedure is possible (University of Michigan Health, 2020).

Vitrectomy
A vitrectomy is performed to remove blood from the middle of the eye (vitreous) as well as any scar tissue that is pulling on the retina. A vitrectomy is performed in a surgical center or hospital using local or general anesthesia. A tiny incision is made in the eye through which scar tissue and blood are removed and replaced with a saline solution to maintain the normal shape of the eye. A gas bubble may be placed in the cavity of the eye to help reattach the retina. If so, the patient may need to remain prone (face down) for several days until the gas bubble dissipates. An eye patch is worn, and medicated eye drops instilled for a few days or weeks. Vitrectomy may be followed or accompanied by laser treatment (Johns Hopkins Medicine, n.d.b).

Nursing Considerations: Patients treated with Scatter Laser procedures or vitrectomy may be extremely anxious for the fear of both pain and the possible complete loss of vision. Coaching, information about the procedures, and possible pre-mediation for anxiety should be considered. Patients required to remain prone for extended periods may also present nursing care challenges for eating and elimination.

Diabetic nephropathy

Diabetic nephropathy refers to damage to the kidneys caused by diabetes. Not all diabetics develop diabetic nephropathy. Diabetics who are at higher risk for its development include persons with hypertension, elevated cholesterol, smoking history, and uncontrolled blood glucose (ADA, 2021i).

Diabetic nephropathy does not produce symptoms in its early stages. Therefore, testing urine for the presence of albumin is very important so that kidney damage can be detected as soon as possible. Early kidney damage may be reversed (ADA, 2021g; 2021i).

Symptoms, when they appear, are not particularly specific. Fluid retention and edema, loss of sleep, loss of appetite, nausea and vomiting, weakness, and trouble concentrating are reported (ADA, 2020g; 2021i).

The primary treatment for diabetic nephropathy is to lower blood pressure. ACE inhibitors are recommended for most people who have hypertension, diabetes, and renal disease. Cholesterol and triglyceride levels must also be controlled; statins are generally prescribed (ADA, 2021g; 2021i).

As with most complications, the best way to prevent diabetic nephropathy is to control blood glucose levels. Blood pressure management, a healthy diet, regular physical exercise, and adhering to prescribed medication schedules are all extremely important. A low protein diet may be recommended (ADA, 2021g; 2021i).

Self-Assessment Quiz Question #10

All of the following statements pertaining to diabetic nephropathy are true EXCEPT:

a. Risk factors for the development of diabetic nephropathy include hypertension, smoking, and elevated cholesterol.
b. Diabetic nephropathy produces symptoms even in its early stages.
c. Symptoms of diabetic nephropathy are not particularly specific.
d. The primary treatment for diabetic nephropathy is to lower blood pressure.

Resources

There are a number of resources that may be helpful for patients, families, and healthcare professionals.

- American Association of Diabetes Educators https://journals.lww.com/nursing/Fulltext/2019/11000/Online_resources_for_patients_with_diabetes.19.aspx
- American Diabetes Association https://www.diabetes.org/resources
- Association of Diabetes Care & Education Specialists https://www.diabeteseducator.org/living-with-diabetes
- Centers for Disease Control and Prevention https://www.cdc.gov/diabetes/professional-info/index.html
- DiabetesCare.net http://www.diabetescare.net/resources
- Johns Hopkins Medicine https://www.hopkinsmedicine.org/gim/faculty-resources/core_resources/Patient%20Handouts/

Conclusion

Diabetes mellitus is a chronic disease that affects millions of people of all ages in the United States and around the world. It has the potential to cause complications that can affect all facets of a person's life as well as placing significant financial burden on patients, families, and society. But by adhering to individualized treatment regimens that rely on pharmacological therapy, diet, exercise, and healthy lifestyle habits, persons with diabetes can lead long, productive lives.

It is important to note that patients and families need a significant amount of education to carry out prescribed management interventions. They also need emotional support and referrals to mental health professionals as needed. The health care community must remember that dealing with a chronic illness places a great deal of stress not only on patients and loved ones but also on society as a whole. The costs of a chronic disease can be overwhelming. Sick time away from work can impact employers and work colleagues.

Effective management of diabetes also helps to prevent or reduce the occurrence of complications associated with the disease. Complications can range from mild inconveniences to serious consequences, including kidney failure, vision loss, and cardiovascular disease. The importance of taking every possible step to control blood glucose levels cannot be overemphasized.

But achieving and maintaining such control can be a challenge. The constant need to monitor blood glucose levels, exercise, monitor one's weight, and adhere to dietary mandates can be frustrating. The realization that such lifestyle mandates are lifelong can make some people disregard treatment recommendations. Thus, it is important that ongoing support and encouragement are provided by the health care team.

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DIABETES PREVENTION AND MANAGEMENT FOR HEALTHCARE PROFESSIONALS

Self-Assessment Answers and Rationales

1. The correct answer is A.
Rationale: Prevalence of diagnosed diabetes was highest among American Indians/Alaska Natives (14.7%), people of Hispanic origin (12.5%), and non-Hispanic blacks (11.7%), followed by non-Hispanic Asians (9.2%) and non-Hispanic whites (7.5%).

2. The correct answer is C.
Rationale: The endocrine function of the pancreas focuses on hormone secretion. The endocrine cells of the pancreas are islet cells, or islets of Langerhans. These islet cells exist as clusters of cells that are scattered among the acinar cells. They consist of alpha, beta, and delta cells.

3. The correct answer is A.
Rationale: Pregnant women not previously found to have diabetes should be tested for gestational diabetes mellitus at 24-28 weeks of gestation.

4. The correct answer is D.
Rationale: Smoking is a significant risk factor for the development of type 2 diabetes and makes the disease harder to control after its development. Smokers are 30% to 40% more likely to develop type 2 diabetes than nonsmokers. People who smoke are more likely than nonsmokers to have trouble managing the disease.

5. The correct answer is D.
Rationale: Infections and illnesses can cause the body to produce higher levels of adrenaline or cortisol, both of which are antagonistic to insulin. Common conditions that trigger DKA are pneumonia and urinary tract infections.

6. The correct answer is C.
Rationale: This test can be performed at any time of day when severe diabetic symptoms develop. Diabetes is diagnosed when the blood glucose is >200 mg/dL.

7. The correct answer is A.
Rationale: Inhaled insulin is contraindicated in patients with chronic lung disease and is not recommended in patients who smoke or who recently stopped smoking.

8. The correct answer is B.
Rationale: Administer tetanus, diphtheria, pertussis (TDAP) to all adults with a booster every 10 years. All adult pregnant women should have an extra dose of this vaccine.

9. The correct answer is A.
Rationale: Damage to the nerves of the cardiovascular system adversely affects the body's ability to adjust blood pressure and heart rate. This can lead to orthostatic hypotension, dizziness, lightheadedness, or fainting.

10. The correct answer is B.
Rationale: Diabetic nephropathy does not produce symptoms in its early stages. Therefore, testing urine for the presence of albumin is very important so that kidney damage can be detected as soon as possible. Early kidney damage may be reversed

Course Code: ANCCPA05DM

Ethical and Legal Issues in Nursing Practice

7 Contact Hours

Release Date: September 2, 2022

Expiration Date: September 2, 2025

Faculty

Margaret-Ann Carno, PhD, MBA, MJ, PNP-AC/PC, ATSF, FAANDr, is an educator, practitioner, and researcher. Her passions are healthcare law, regulations, and research regulations. She obtained a master's in jurisprudence from Loyola University Chicago, School of Law, with a concentration in Health Law. She regularly teaches on these subjects.

Margaret-Ann Carno has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Peer reviewer:
James Stowe, JD, RN, is both a nurse and attorney, obtaining his Nursing degree from Auburn University and Juris Doctor from Samford University, Cumberland School of Law. He practiced in the legal field, concentrating in part on medical claims, before returning to hospital administration. He is currently the director of a large emergency department.

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

Course overview

Legal issues in nursing are based on legislation, practice standards, and licensure. Ethical issues, on the other hand, are often based on subjective values of "right" and "wrong." The purpose of this course is to help nurses deal with many of the ethical issues they face in their professional practice, as well as legal considerations that may impact ethical issues of patient care.

***Author's Note**: This education program is not a substitute for, nor is it intended to be, legal/ethical counseling or legal/ethical advice. For specific legal/ethical advice pertaining to you and your practice, consult appropriate legal authorities or ethical experts.*

Learning objectives

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

- Describe how nursing scope of practice and standards of professional nursing practice govern nursing.
- Explain how state nurse practice acts define and describe nursing practice.
- Describe how the act of delegation is encompassed in the nurse practice act.
- Correlate nursing professional boundaries with appropriate nursing practice.
- Discuss legal and ethical implications of nursing practice.
- Describe professional guidelines for use of social media.
- Discuss how a just culture impacts nursing.

How to receive credit

- Read the entire course online or in print which requires a 7-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
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.

Sponsorship/commercial support and non-endorsement
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

Nursing practice is guided by three major pillars: ethical concepts, professional standards, and laws/regulation to ensure safe and professional nursing practice. A nurse must know and understand all three of these guiding pillars. A nurse will be held to these guiding pillars and lack of knowledge or understanding will not be an excuse if something happens to a patient. This course will first describe ethical concepts that influence nursing practice, then examine professional standards, most of which are based on specific ethical concepts. Finally, laws and regulations will be discussed. By the end of the course the nurse will have a better understanding of the three pillars that guide nursing practice.

BASIC ETHICAL CONCEPTS FOR NURSES

Ethics can be defined as the philosophic area of study of values, actions, and choices to determine what is right and wrong. It is a system of value actions and involves reasoning, analysis, questions, and judgments to help differentiate between right and wrong. Beliefs about what constitutes ethical behavior vary widely among healthcare professionals (Wacko Guido, 2020). In nursing there are ethical concepts to understand. While there are several concepts and theories, the main concepts for nurses to understand are: 1) autonomy, 2) beneficence, 3) nonmaleficence, 4) informed consent (which will be discussed later in the course), 5) veracity, and 6) justice.

Autonomy

The first ethical concept for nurses to know is autonomy. This is in relation to the patient's decision making over their own body. Although this seems easy enough, underlying autonomy are the additional components of agency, self-determination, independence, and liberty (Wacko Guido, 2020). Agency can be thought of as the ability to take responsibility for one's actions, which includes the ability to critique one's actions. This also ties into self-determination, meaning that a person must be able to access the information, understand the information, and then act upon the information. Agency and self-determination can require a high cognitive level of function, which may or may not be present in an ill patient. When a patient is ill, the ability to exert independence may be compromised as the usual supports and familiar environment are not available. Independence is the ability to follow one's own values. Finally, liberty is the ability to make choices without coercion or manipulation from others. When nurses are caring for patients, liberty can be impacted. For example, the patient may not want to disagree with the providers or family may be impressing their wishes on the patient. Given all these separate components of autonomy, it is up to the nurse to ensure to the best of their ability that the patient is truly autonomous (Wacko Guido, 2020).

Beneficence

The ethical concept of beneficence is not just to prevent or to do no harm (which will be discussed in nonmaleficence), but to actually act in a way that provides benefit to the patient (Varkey, 2021). Beneficence can be considered the basis of healthcare (Wacko Guido, 2020). The act of "doing good" can be many different acts. This includes providing care (even if painful and extensive, if the expected outcome will improve quality and potentially quantity of a patient's life) and not providing "extraordinary care" (such as when a patient wishes to die without advanced life support' Wacko Guido, 2020). Defining what is "good" is the main stumbling block with this concept (Wacko Guido, 2020). What one patient or nurse would define as beneficence, another patient or nurse may not.

Nonmaleficence

The term nonmaleficence means to do no harm, which includes not causing pain or suffering, not depriving others of life, and not incapacitating (Varkey, 2021). The meaning also includes not imposing harm to a patient. With most care a detriment (risk)/ benefit analysis is conducted, even if it is only in the mind of the nurse/ healthcare provider (Wacko Guido, 2020). An example of this would be wound care. Wound care can be painful (immediate harm/risk), however, by caring for the wound, the patient will have a better outcome (benefit). Thus, the immediate

"harm" (pain) is outweighed by the long-term outcome of improved healing of the wound.

Veracity
Veracity means to tell the truth (Wacko Guido, 2020). A nurse is obligated to provide truthful answers to patients and families' questions in an understandable manner. Also, a nurse is obligated to inform the patients and families what is not known at this time related to the care received. Veracity can be violated in a number of ways, two of which are telling of falsehoods and not providing all the information concerning alternatives to treatment. The third way is not usually thought of, but it is the use of medical terms and jargon that the patient or family does not understand. All information provided to patients and caregivers needs to be in a format that is understood. Providing information using more patient-centered language can assist with meeting this ethical principle. Also having the patient and family describe in their own words the information provided can help clarify any misconceptions and misunderstandings that may be present (Wacko Guido, 2020).

Fidelity
Fidelity is the principle of keeping any promises or commitments made to the patient and family (Wacker, 2019). This is one of the core principles of the nurse-patient relationship. Nurses should not make promises they cannot reasonably keep. An example if this would be telling a patient they will be pain free after a procedure, however complications arise that supersede this promise, such as hemodynamic instability or finding the medication regime which will keep the patient pain free when the initial regime is not keeping the patient pain free (Wacko Guido, 2020).

Justice
Treating all patients equally and fairly is the definition of justice (Varkey, 2021). This also includes treating all patients appropriately. All patients should be offered equal access to treatment. Justice recognizes the basic dignity of all patients the nurse provides care for (Wacko Guido, 2020).

Self-Assessment Quiz Question #1

A patient asks a nurse to explain the side effects of a medication. The nurse accurately does this. Which ethical principle is the nurse working under?
a. Veracity.
b. Justice.
c. Autonomy.
d. Nonmaleficence.

Case study 1

Susan is a new RN on an oncology floor. She is caring for an 88-year-old woman who has undergone several tests for night sweats and weight loss. The patient is very alert and mentally intact. The test results have shown that the woman has Acute Myeloid Leukemia (AML), which in adults has a very poor prognosis. Her two adult children do not want their mom to know the diagnosis and want every possible treatment to be given to their mom. They ask Susan not to answer any of their mother's questions about the diagnosis or treatment that she is going to receive. Susan is distressed by this request.

Question:
1. If Susan honors the children's request, which, if any, ethical principles are Susan violating?

Discussion:
1. Susan would be violating 1) autonomy, 2) beneficence, 3) nonmaleficence, and 4) veracity. The patient has the right to determine what will happen to their body (autonomy). The woman has the right to choose if she wants treatment or not, and if she wants treatment, what type. Susan is obligated to "do good for the patient." How could she being doing "good" for the patient (beneficence) if the patient does not know why the treatment is being given. Also, Susan is obligated to do no harm (nonmaleficence). Given the side effects of treatment, Susan could be doing harm that the patient does not want. Finally, Susan will most likely be lying to the patient and violating truth-telling or veracity. Every patient has a right to know what is going on with their medical care and determine what type of medical care to receive.

NURSING CODE OF ETHICS

The American Nurses Association (ANA) has taken these basic ethical concepts and incorporated them in the Code of Ethics for Nurses. The following summary highlights and paraphrases critical points of the ANA's Code of Ethics for Nurses (American Nurses Association, 2015). It is meant to serve as a brief introduction. For detailed information about the code, access the ANA website at https://www.nursingworld.org/coe-view-only.

The code is divided into nine provisions (American Nurses Association, 2015).

1. **The nurse practices with compassion and respect for the inherent dignity, worth, and unique attributes of every person.** Nurses must practice with compassion and respect for all patients regardless of social or economic status, personal attributes, or the nature of health problems. Inherent in this provision is an emphasis on respect for the worth, dignity, and human rights of all persons. A person's worth is not influenced by disease, disability, functional status, or nearness to death. All patients have the moral and legal right to determine their course of care. This is also referred to as self-determination and forms the basis for informed consent in healthcare.
2. **The nurse's primary commitment is to the patient, whether that is defined as an individual, family, group, community, or population**. The primary commitment is to promote the best interests of the patient. Nurses must examine their own beliefs and values to identify any conflicts between their beliefs and values and those of the patient's. Nurses must work to resolve such conflicts in the best interests of the patient.
3. **Nurses must promote, advocate, and work to protect the health, safety, and rights of the patient**. This means that nurses must guard the privacy and confidentiality of the patient as well as protect patients participating in healthcare research. Part of the protection aspect of this provision includes basic education and continuing education standards. For example, nurse educators must ensure that basic competencies are achieved. Nursing professional development specialists, in conjunction with nurses, must work to ensure that continuing education activities are designed and implemented to facilitate ongoing competency of licensed nurses. Nurses must also actively participate in the development of policies and review mechanisms designed to promote patient safety. Finally, nurses must be alert to instances of inappropriate or questionable practice and report such behavior to appropriate higher authorities within the employing institution or agency or to an appropriate external authority.
4. **Nurses are responsible for their individual nursing practices, including the appropriate delegation of tasks, to ensure optimum patient care**. This means that RNs are responsible not only for their own actions but also retain accountability for tasks that are delegated. Nurses should be aware of and adhere to the six "rights" of delegation (this is discussed later in this course).

5. **Nurses owe the same duties to themselves as to others**. They have a responsibility to preserve their integrity and safety, to maintain competence, and to continue their personal and professional growth. Competence includes having knowledge relevant to the current scope and standards of nursing practice, changing issues, concerns, controversies, and ethics. It also requires a commitment to lifelong learning.
6. **Nurses must recognize that the healthcare environment and conditions of employment are essential to optimum patient care and maximal employee performance**. Therefore, nurses must participate in the establishment, maintenance, and improvement of healthcare environments and conditions of employment.
7. **Nurses are obligated to advance the profession of nursing**. They should do so by developing, maintaining, and implementing professional standards in clinical, administrative, and educational practice.
8. **Nurses must collaborate with other healthcare professionals and the public to promote community, national, and international efforts to meet health needs**. As part of this collaborative responsibility, nurses must recognize that this country and the world are filled with cultural diversity and avoid impinging their personal cultural values upon others.
9. **The nursing profession (as represented by professional associations and their members) is responsible for the communication and affirmation of the values of the profession to its members**. This is accomplished by articulating the values of nursing, maintaining the profession's integrity and that of its practice, and shaping social policy.

These ethical provisions must be incorporated into the legal realm of nursing practice. It is important that nurses have knowledge of basic legal principles and how to incorporate those principles into nursing practice.

NURSING SCOPE OF PRACTICE AND STANDARDS OF PROFESSIONAL NURSING PRACTICE

The International Council of Nurses (ICN;2022) defines nursing as encompassing "autonomous and collaborative care of individuals of all ages, families, groups, and communities, sick or well, and in all settings. Nursing includes the promotion of health, prevention of illness, and the care of ill, disabled, and dying people. Advocacy, promotion of a safe environment, research, participation in shaping health policy, in patient and health systems management, and education are also key nursing roles."

The American Nurses Association defines nursing as:

> *"Nursing integrates the art and science of caring and focuses on the protection, promotion, and optimization of health and human functioning; prevention of illness and injury; facilitation of healing; and alleviation of suffering through compassionate presence. Nursing is the diagnosis and treatment of human responses and advocacy in the care of individuals, families, groups, communities, and populations in recognition of the connection of all humanity"* (ANA, p. 9, 2021).

In the United States, there are three levels of nursing practice:
1. Registered nurse (RN).
2. Advanced practice registered nurse (APRN).
3. Licensed practical nurse (LPN).

The ANA describes RNs as forming the backbone of healthcare provision in the United States (American Nurses Association, 2019). The association identifies the following key responsibilities of the RN (American Nurses Association):

- Performs physical exams and obtains health histories before making critical decisions.
- Provides health promotion, counseling, and education.
- Administers medications, provides wound care, and carries out a multitude of personalized interventions.
- Coordinates care in collaboration with a large array of healthcare professionals.

The licensed practical nurse, known as licensed vocational nurse (LVN) in California and Texas, complements the healthcare team by providing basic and routine care consistent with their education and under the supervision of an RN, APRN, or MD (American Nurses Association, 2019).

Key responsibilities of the licensed practical nurse include the following (American Nurses Association, 2019):
- Checks vital signs and looks for signs that health is deteriorating or improving.
- Performs basic nursing functions such as changing bandages and wound dressings.
- Ensures patients are comfortable, well fed, and hydrated.
- Administers medications in some settings.

Self-Assessment Quiz Question #2

Which of the following can be delegated to an LPN?
a. Assessment and physical exam.
b. Initial education on medications.
c. Changing a bandage.
d. Coordinating care.

SCOPE OF PRACTICE

What is scope of practice?
The ANA describes nursing scope of practice as an explanation of the who, what, where, when, why, and how of nursing practice. Furthermore, scope of practice delineates what the law allows based on specific education, training, experience, and licensure (American Nurses Association, 2021).

Nursing consideration: Nurses must know not only their own scope of practice but also the scope of practice of others, such as LPNs and nursing assistants, to whom they delegate tasks. RNs who delegate tasks are still accountable for that delegation in terms of its safety and appropriateness.

Determining the scope of practice

How can nurses determine if an action is within their scope of practice? First, they must review appropriate standards, laws, and rules of nursing practice. They must know the content of their state's nurse practice act and what their licenses allow them to do (American Nurses Association, 2021a; Wacker Guido, 2020).

Step 1
Clarify what skills, education, and training are needed to perform an action. Nurses should ask themselves the following questions:
- Is this action allowable by law according to legal standards and the nurse practice act in my state?
- If so, does the employing healthcare facility have policies and procedures that provide guidance for its performance?
- Do I have the necessary skills, experience, and training to perform this action?
- Am I competent to perform this action? If in doubt, nurses must seek help from a supervisor or peer who is competent in this action. Nurses must remember that once a patient assignment is accepted, they are responsible for fulfilling it safely and competently.

Step 2
Realize that what may be common practice (e.g., "We've always done it this way") may not necessarily be legal or in the best interests of the patient. For example: suppose a highly experienced LPN has been allowed to perform physical assessments independent of, and without collaboration with, an RN. This has been going on for years. However, in some states, this is beyond the legal scope of practice for LPNs. An RN who continues to delegate this action to LPNs is accountable for this illegal practice. Delegating tasks outside the scope of practice can be potential grounds for disciplinary action against both the LPN who performed the assessment and the RN who inappropriately delegated the task. It may also be the basis for a malpractice lawsuit if a patient is harmed as a result of such an action.

Step 3
Determine if the action taken is one that a reasonably prudent nurse with similar education, training, and experience would do; if a valid order for the task has been written by a physician, physician assistant, or APRN; and if the nurse in question has demonstrated competency in the skill and behavior required and has documentation of such competency. For example: Suppose a nurse is asked to counsel a patient regarding pregnancy prevention. This patient has received a diagnosis of schizophrenia and is not currently controlled with antipsychotic medication. The nurse has not worked with patients with schizophrenia and is unsure how to assess comprehension or how to adequately communicate with this patient. Nurse colleagues say, "Just do the best you can."

What should the nurse do?
In this situation, the nurse must seek help from a supervisor or another appropriate source of assistance such as a mental health specialist. Lack of competency in working with mental health patients is as much a concern as if they were asked to perform a specific motor skill procedure with which they are unfamiliar.

Nursing consideration: All nurses must be sure to act within their scope of practice and within their experience and training. If nurses are asked to do something that is within the legal scope of their nursing practice, but their training and experience have not prepared them to perform this action safely and competently, they should not do it (Wacko Guido, 2020). They should seek help from a nurse who can safely and competently perform the action. They also need to seek training opportunities so that they can achieve competency in performing new procedures.

STANDARDS OF PROFESSIONAL NURSING PRACTICE

The standards of professional nursing practice focus on facilitating the delivery of safe and effective nursing care. Most, if not all, state boards of nursing describe standards and scope of practice related to their nurse practice acts.

But what exactly are standards of professional nursing practice? Standards of professional nursing practice consist of the critical thinking model referred to as the nursing process and the ANA's Standards of Professional Performance. The standards for professional nursing practice describe those duties and responsibilities that all RNs must be able to fulfill safely and competently regardless of the setting of their practice or their specialty.

Nursing consideration: Professional nursing associations such as the American Association of Critical Care Nurses have developed scope and standards of practice pertaining to their respective specialties. Such standards generally build upon the ANA's Nursing Scope and Standards of Practice. Nurses must be aware of such scope and standards and practice within their respective specialties.

ANA STANDARDS OF PROFESSIONAL NURSING PRACTICE

The Standards of Professional Nursing Practice are "authoritative statements of duties that all registered nurses, regardless of role, population, or specialty are expected to perform competently." These standards are subject to formal, periodic review and revision. Competencies, which may be evidence of standard compliance, accompany each standard (American Nurses Association, 2021a).

The following is a summary of the highlights of the ANA Standards of Practice (American Nurses Association, 2021). Note that this is only a brief summary. Nurses should access the ANA website for further information on obtaining a copy of Nursing: Scope and Standards of Practice (4th ed.) at http://www.nursingworld.org/

Standard 1: Assessment

"The registered nurse collects pertinent data and information relative to the healthcare consumer's health or the situation." Competencies related to this standard focus on methods of data collection, including the incorporation of physical, psychosocial, environmental, emotional, cognitive, sexual, cultural, age-related, spiritual, and economic factors and engages interprofessional team members in data collection collaboration. The nurse also assesses the impact of family dynamics on the healthcare consumer's health and wellness and identifies enhancements and barriers to effective communication based on personal, cognitive, physiological, psychosocial, literacy, financial, and cultural considerations. The nurse engages the healthcare consumer, family, significant others, and interprofessional team members in holistic, culturally sensitive data collection and integrates knowledge from current local, regional, national, and global health initiatives and environmental factors into the assessment process (ANA, 2021a, Kindle Location 1773-1780).

Standard 2: Diagnosis

"The registered nurse analyzes assessment data to determine actual or potential diagnoses, problems, and issues." The diagnosis standard competencies focus on using assessment data to identify and prioritize nursing diagnoses (not medical diagnoses). The nurse will identify actual or potential risks to the healthcare consumer's health and safety or barriers to health, which may include but are not limited to, interpersonal, systematic, cultural, socioeconomic, or environmental circumstances. The nurse also uses assessment data, standardized classification systems, technology, and clinical decision support tools to articulate actual or potential diagnoses, problems, and issues. They identify the healthcare consumer's strengths and abilities, including but not limited to support systems, health literacy, and engagement in self-care. The nurse then verifies the diagnoses, problems, and issues with the healthcare consumer and interprofessional colleagues and prioritizes diagnoses, problems, and issues based on mutually established goals to meet the needs of the healthcare consumer across the health–illness continuum and the care continuum. Nurses document diagnoses, problems, strengths, and issues in a manner that facilitates the development of the expected outcomes and collaborative plan (ANA, 2021a., Kindle Location 1831-1833).

Standard 3: Outcomes Identification

"The registered nurse identifies expected outcomes for a plan individualized to the healthcare consumer or the situation." Competencies concentrate on engaging the entire healthcare team, including patients and families, in the identification of realistic outcomes. The nurse engages with the healthcare consumer, interprofessional team, and others to identify expected outcomes and collaborates with the healthcare consumer to define expected outcomes, integrating the healthcare consumer's culture, values, and ethical considerations. From this information, the nurse formulates expected outcomes derived from assessments and diagnoses. They then integrate evidence and best practices to identify expected outcomes and develop expected outcomes that facilitate coordination of care. The nurse next identifies a time frame for the attainment of expected outcomes, documents expected outcomes as measurable goals, and identifies the actual outcomes in relation to expected outcomes, safety, and quality standards. If needed, the nurse then modifies expected outcomes based on the evaluation of the status of the healthcare consumer and situation (ANA, 2021a, Kindle Location 1864-1872).

Standard 4: Planning

"The registered nurse develops a plan that prescribes strategies to attain expected, measurable outcomes." Competencies involve developing an individualized, holistic, evidence-based plan of care in partnership with the patient, family, and interprofessional team. The RN develops an individualized, holistic, evidence-based plan in partnership with the healthcare consumer, family, significant others, and interprofessional team And designs innovative nursing practices that can be incorporated into the plan. The RN prioritizes elements of the plan based on the assessment of the healthcare consumer's level of safety needs to include risks, benefits, and alternatives. The RN establishes the plan priorities with the healthcare consumer, family, significant others, and interprofessional team and advocates for compassionate, responsible, and appropriate use of interventions to minimize unwarranted or unwanted treatment, and healthcare consumer suffering, or both. The RN includes strategies designed to address each of the identified diagnoses, health challenges, issues, or opportunities. These strategies may include but are not limited to maintaining health and wellness; promotion of comfort; promotion of wholeness, growth, and development; promotion and restoration of health and wellness; prevention of illness, injury, disease, complications, and trauma; facilitation of healing; alleviation of suffering; supportive care; and mitigation of environmental or occupational risks. The RN incorporates an implementation pathway that describes an overall timeline, steps, and milestones. The RN provides for the coordination and continuity of care and identifies cost and economic implications of the plan. The RN develops a plan that reflects compliance with current statutes, rules and regulations, and standards and modifies the plan according to the ongoing assessment of the healthcare consumer's response and other outcome indicators. The RN documents the plan using standardized language or recognized terminology (ANA, 2021a, Kindle location 1898-1913).

Standard 5: Implementation

"The registered nurse implements the identified plan." Competencies include use of evidence-based practice and partners with the healthcare consumer to implement the plan. Demonstrates caring behaviors to develop therapeutic relationships. Provides care that focuses on the healthcare consumer. Advocates for the needs of diverse populations across the life span. Uses critical thinking and technology solutions to implement the nursing process to collect, measure, record, retrieve, trend, and analyze data and information to enhance healthcare consumer outcomes and nursing practice. Partners with the healthcare consumer to implement the plan in a safe, effective, efficient, timely, and equitable manner. Engages interprofessional team partners in implementation of the plan through collaboration and communication across the continuum of care. Uses evidence-based interventions and strategies to achieve mutually identified goals and outcomes specific to the problem or needs. Delegates according to the health, safety, and welfare of the healthcare consumer. Delegates after considering the circumstance, person, task, direction or communication, supervision, and evaluation, as well as the state nurse practice act (ANA, 2021a; Kindle location 1945-1954).

Standard 5A: Coordination of Care

"The registered nurse coordinates care delivery." Competencies focus on coordinating care with the interprofessional team. "Collaborates with the healthcare consumer and the interprofessional team to help manage healthcare based on mutually agreed-upon outcomes. Organizes the components of the plan with input from the healthcare consumer and other stakeholders. Manages the healthcare consumer's care to reach mutually agreed-upon outcomes. Engages healthcare consumers in self-care to achieve preferred goals for quality of life" (ANA, 2021a, Kindle Location 1993-1997)

Standard 5B: Health Teaching and Health Promotion

"The registered nurse employs strategies to promote health and a safe environment." RN competencies focus on effective patient/family education. Provides opportunities for the healthcare consumer to identify needed health promotion, disease prevention, and self-management topics such as: - Healthy lifestyles - Self-care and risk management - Coping, adaptability, and resiliency. Uses health promotion and health teaching methods in collaboration with the healthcare consumer's values, beliefs, health practices, developmental level, learning needs, readiness and ability to learn, language preference, spirituality, culture, and socioeconomic status. Uses feedback from the healthcare consumer and other assessments to determine the effectiveness of the employed strategies. Uses technologies to communicate health promotion and disease prevention information to the healthcare consumer (ANA, 2021a, Kindle Locations 2031-2038).

Standard 6: Evaluation

"The registered nurse evaluates progress toward attainment of goals and outcomes." Competencies concentrate on conducting ongoing, criterion-based evaluation of patient goals and outcomes. "Uses applicable standards and defined criteria (e.g., Quality and Safety Education for Nurses [QSEN], Quadruple Aim, Institute for Healthcare Improvement [IHI]). Conducts a systematic, ongoing, and criterion-based evaluation of the goals and outcomes in relation to the structure, processes, and timeline prescribed in the plan. Collaborates with the healthcare consumer, stakeholders, interprofessional team, and others involved in the care or situation in the evaluation process. Determines, in partnership with the healthcare consumer and other stakeholders, the person-centeredness, effectiveness, efficiency, safety, timeliness, and equitability of the strategies in relation to the responses to the plan and attainment of outcomes. Uses ongoing assessment data, other data and information resources and benchmarks, research, and meta-analysis for the analytic activities to revise the diagnoses, outcomes, plan, implementation, and evaluation strategies as needed. Documents the results of the evaluation. Reports evaluation data in a timely fashion. Shares evaluation data and conclusions with the healthcare consumer and other stakeholders to promote clarity and transparency in accordance with state, federal, organizational, and professional requirements" (ANA, 2021a, Kindle Location 2066-2077).

Standard 7: Ethics

"The registered nurse practices ethically." Competencies focus on the integration of the Code of Ethics for Nurses and Interpretive Statements (ANA, 2015). "Demonstrates that every person is worthy of nursing care through the provision of respectful, person-centered, compassionate care, regardless of personal history or characteristics. (Beneficence) Advocates for healthcare consumer perspectives, preferences, and rights to informed decision-making and self-determination. (Respect for autonomy) Demonstrates a primary commitment to the recipients of nursing and healthcare services in all settings and situations. (Fidelity) Maintains therapeutic relationships and professional boundaries. Acts to prevent breaches to privacy and confidentiality. Safeguards sensitive information within ethical, legal, and regulatory parameters. (Non-maleficence). Identifies ethics resources within the practice setting to assist and collaborate in addressing ethical issues. Integrates principles of social justice in all aspects of nursing practice. (Justice)" (ANA, 2021a, Kindle Location 2105-2113).

Standard 8: Advocacy

The registered nurse: Champions the voice of the healthcare consumer. Recommends appropriate levels of care, timely and appropriate transitions, and allocation of resources to optimize outcomes. Promotes safe care of healthcare consumers, safe work environments, and sufficient resources. Participates in healthcare initiatives on behalf of the healthcare consumer and the systems(s) where nursing happens. Demonstrates a willingness to address persistent, pervasive systemic issues. Empowers all members of the healthcare team to include the healthcare consumer in care decisions, including limitation of treatment and end of life. Embraces diversity, equity, inclusivity, health promotion, and healthcare for individuals of diverse geographic, cultural, ethnic, racial, gender, and spiritual backgrounds across the life span. Develops policies that improve care delivery and access for underserved and vulnerable populations (ANA, 2021a, Kindle Location 2149-2158).

Standard 9: Respectful and Equitable Practice

"The registered nurse practices with cultural humility and inclusiveness." Competencies include providing care which is respectful, equitable and empathetic. "Demonstrates respect, equity, and empathy in actions and interactions with all healthcare consumers. Respects consumer decisions without bias. Participates in life-long learning to understand cultural preferences, worldviews, choices, and decision-making processes of diverse consumers. Reflects upon personal and cultural values, beliefs, biases, and heritage. Applies knowledge of differences in health beliefs, practices, and communication patterns without assigning value to the differences. Addresses the effects and impact of discrimination and oppression on practice within and among diverse groups. Uses appropriate skills and tools for the culture, literacy, and language of the individuals and population served. Communicates with appropriate language and behaviors, including the use of qualified healthcare interpreters and translators in accordance with consumer needs and preferences" (ANA, 2021a, Kindle location 2198-2206).

Standard 10: Communication

The registered nurse: "Assesses one's own communication skills and effectiveness. Demonstrates cultural humility, professionalism, and respect when communicating. Assesses communication ability, health literacy, resources, and preferences of healthcare consumers to inform the interprofessional team and others. Uses language translation resources to ensure effective communication. Incorporates appropriate alternative strategies to communicate effectively with healthcare consumers who have visual, speech, language, or communication difficulties. Uses communication styles and methods that demonstrate caring, respect, active listening, authenticity, and trust. Conveys accurate information to healthcare consumers, families, community stakeholders, and members of the interprofessional team. Advocates for the healthcare consumer and their preferences and choices when care processes and decisions do not appear to be in the best interest of the healthcare consumer. Maintains communication with interprofessional team members and others to facilitate safe transitions and continuity in care delivery. Confirms the recipient of the communication heard and understands the message. Contributes the nursing perspective in interactions and discussions with the interprofessional team and other stakeholders. Promotes safety in the care or practice environment, disclosing and reporting concerns related to potential or actual hazards or deviations from the standard of care. Demonstrates continuous improvement of communication skills" (ANA, 2021a, Kindle Location 2236-2251).

Standard 11: Collaboration

The registered nurse: "Partners with the healthcare consumer and key stakeholders to advocate for and effect change, leading to positive outcomes and quality care. Treats others with dignity and respect in all interactions. Values the expertise and contribution of other professionals and key stakeholders. Uses the unique and complementary abilities of all members of the interprofessional team to optimize attainment of desired outcomes. Articulates the nurse's role and responsibilities within the interprofessional team. Uses appropriate tools and techniques, including information systems and technologies, to facilitate discussion and team functions in a manner that protects dignity, respect, privacy, and confidentiality. Promotes engagement through consensus building and conflict management. Uses effective group dynamics and strategies to enhance performance of the interprofessional team. Partners with all stakeholders to create, implement, and evaluate plans. Role models the development of shared goals, clear roles, mutual trust, effective communication, efficient processes, and measurable outcomes within the interprofessional team" (ANA, 201a, Kindle location 2273-2284).

Standard 13: Education

The registered nurse: seeks knowledge and competence that reflects current nursing practice and promotes futuristic thinking". Competencies include "Identifies learning needs based on the various roles assumed and associated requisite nursing knowledge. Participates in continuing professional development activities related to nursing and interprofessional knowledge bases and professional topics. Seeks experiences that reflect current practice to maintain and advance knowledge, skills, abilities, and judgment in clinical practice or role performance. Maintains current knowledge and skills relative to the role, population, specialty, setting, and local or global health situation. Commits to lifelong learning through critical thinking, self-reflection, and inquiry for personal growth and learning. Advocates through formal consultations or informal discussions to address issues in nursing practice, demonstrating an application of education and knowledge. Identifies modifications or accommodations needed in the delivery of education based on the learner's needs. Shares educational findings, experiences, and ideas with peers and interprofessional colleagues. Mentors nurses new to their roles for the purpose of ensuring successful

enculturation, orientation, competence, and emotional support. Supports acculturation of nurses new to their roles by role modeling, encouraging, advocating, and sharing pertinent information relative to optimal care delivery. Facilitates a work environment supportive of ongoing education of healthcare professionals and interprofessional colleagues. Maintains a professional portfolio that provides evidence of individual competence and lifelong learning. Seeks professional or specialty certification" (ANA, 201a, Kindle location 2343-2361).

Standard 15: Quality of Practice

"The registered nurse contributes to quality nursing practice." Competencies include nursing practice is safe, effective, efficient, equitable, time, person-centered and includes evidence to improve nursing outcomes. "Ensures that nursing practice is safe, effective, efficient, equitable, timely, and person-centered. Incorporates evidence into nursing practice to improve outcomes. Uses creativity and innovation to enhance nursing care. Recommends strategies to improve nursing care quality. Collects data to monitor the quality of nursing practice. Contributes to efforts to improve healthcare efficiency. Provides critical review and evaluation of policies, procedures, and guidelines to improve the quality of health care" (ANA, 2021a, Kindle Location 2426-2431).

Standard 16: Professional Practice Evaluation

"The registered nurse evaluates one's own and others' nursing practice." Competencies include: "Engages in self-reflection and self-evaluation of nursing practice on a regular basis, identifying areas of strength as well as areas in which professional growth would be beneficial. Adheres to the guidance about professional practice as specified in the Nursing: Scope and Standards of Practice and the Code of Ethics for Nurses with Interpretive Statements. Ensures that nursing practice is consistent with regulatory requirements pertaining to licensure, relevant statutes, rules, and regulations. Influences organizational policies and procedures to promote interprofessional evidence-based practice. Provides evidence for practice decisions and actions as part of the evaluation process. Seeks feedback regarding one's own practice from healthcare consumers, peers, colleagues, supervisors, and others. Provides peers and others with constructive feedback regarding their practice or role performance. Takes action to achieve learning needs and goals identified during the evaluation process. Documents the evaluative process, strategies used, and next steps to enhance one's own practice" (ANA, 2021a, Kindle Location 2475-2486).

ANA RECOGNITION OF A NURSING SPECIALTY

In addition to the ANA's Nursing: Scope and Standards of Practice, many specialty nursing organizations have also developed their own scope and standards of practice. These standards often use the ANA's Nursing: Scope and Standards of Practice as a foundation for the development of specialty standards. Nurses practicing in various specialties—such as critical care, nursing professional development, cardiovascular nursing, psychiatric-mental health, medical-surgical nursing, and many others—need to be aware of these standards as well.

In 2021, the ANA published American Nurses Association Recognition of a Nursing Specialty, Approval of a Specialty Nursing Scope of Practice Statement, Acknowledgment of Specialty Nursing Standards of Practice and Affirmation of Focused Practice Competencies (American Nurses Association, 2021b). This document noted that specialization involves focusing on nursing practice in a specific field and "encompasses a specified area of discrete study, research, and practice as defined and recognized by the profession." It includes criteria for recognition as a nursing specialty and the process for attaining such recognition.

An example of a specialty nursing scope of practice is the American Association of Critical Care Nurses (AACN) "Scope and Standards for Progressive and Critical Care Nursing Practice". The standards state: "Standards of clinical practice describe a competent level of nursing practice, while standards of professional performance address the professional activities and behaviors expected of progressive and critical care RNs. All standards include performance expectations, or competencies, that describe how progressive and critical care nurses may demonstrate competent practice and build on the American Nurses Association's (ANA's) document: Nursing: Scope and Standards of Practice (2015)" (AACN, 2019, p2).

The AACN standards are then broken down into **Practice**:

- Standard1: Assessment.
- Standard 2: Diagnosis.
- Standard 3: Outcomes Identification.
- Standard 4: Planning.
- Standard 5: Implementation.
- Standard 6: Evaluation.

Standards for **Professional Performance**:

- Standard 1 Quality of Practice.
- Standard 2: Professional Practice Evaluation.
- Standard 3: Education.
- Standard 4: Communication.
- Standard 5: Ethics.
- Standard 6: Collaboration.
- Standard 7: Evidence-Based practice/research/clinical inquiry.
- Standard 8: Resource Utilization.
- Standard 9: Leadership.
- Standard 10 Environmental Health (AACN, 2019).

Most other professional nursing organizations also have scope and standards of practice. Some examples are: Emergency Nurses Association, Oncology Nurses Association, and the Academy of Medical-Surgical Nurses. A nurse would be wise to obtain the scope and standard for where they work, in addition to the ANA scope and standard.

NURSE PRACTICE ACTS

Nurse practice acts legally govern nursing practice by establishing and enforcing standards that regulate nursing practice. Each state has its own nurse practice act (NPA) defined by state legislature that defines the scope of nursing within that individual state. Although NPAs have many commonalities, they vary from state to state. The federal government has not established jurisdiction over nursing practice. Therefore, each state has legislated its own NPA and nurses are responsible for adhering to the NPA in the state or states in which they practice (Wacko Guido, 2020).

Nursing consideration: The National Council of State Boards of nursing (NCSBN) is a useful resource for nurses wanting to broaden their understanding of nursing standards and nurse practice acts. NCSBN is a not-for-profit organization whose members include the boards of nursing in the 50 states, the District of Columbia, and 4 US territories. NCSBN is the medium through which boards of nursing act and counsel together to provide regulatory excellence for public health, safety, and welfare. It can be accessed at https://www.ncsbn.org/index.htm

The state nurse practice act is an important piece of legislation affecting nursing practice within each state (Wacko Guido, 2020). Nurses are accountable under the legal provisions of their state's nurse practice act and must adhere to these legal mandates when practicing nursing. All states and territories in the United States have enacted NPAs (Wacko Guido, 2020).

Each nurse practice act is enforced by each state's board of nursing (BON). As noted, the specifics among NPAs vary from state to state, but all NPAs describe the following common items (Wacko Guido, 2020):

- Qualification for licensure.
- Nursing titles that are allowed to be used.
- Scope of practice.
- Actions that can or will happen if the nurse does not follow the nursing law (grounds for disciplinary action).
- Definitions.
- Authority, power, and composition of a BON.

Nursing consideration:
Why are Licenses Important: To quote Dr. Julie Socjalski "You do not become a registered nurse because you pass the NCLEX®. Yes, you need to pass it, but that's because a recognized authority, the state board, has been empowered to determine the qualifications for you to sit for licensure as a registered nurse. Your opportunity to become licensed as a registered nurse is something that has been granted by the public. It is, in fact, an agreement with the public. The public has deemed that the practice of nursing is something of such value, something of such significance, something that embodies such expert knowledge, something where they engage with you in their most vulnerable state, that they have decided to establish an agreement with you, your license, that allows you to minister your best to them. It is not something to take lightly, but rather something that calls you to recognize your practice as a sacred commitment to the public (NCSBN, 2018c).

Here is an example of parts of a nursing practice act from New York State:

§6901. Definitions.
As used in section sixty-nine hundred two:

1. "Diagnosing" in the context of nursing practice means that identification of and discrimination between physical and psychosocial signs and symptoms essential to effective execution and management of the nursing regimen. Such diagnostic privilege is distinct from a medical diagnosis.
2. "Treating" means selection and performance of those therapeutic measures essential to the effective execution and management of the nursing regimen, and execution of any prescribed medical regimen.
3. "Human Responses" means those signs, symptoms and processes which denote the individual's interaction with an actual or potential health problem.

§6902. Definition of practice of nursing.

1. The practice of the profession of nursing as a registered professional nurse is defined as diagnosing and treating human responses to actual or potential health problems through such services as case finding, health teaching, health counseling, and provision of care supportive to or restorative of life and well-being, and executing medical regimens prescribed by a licensed physician, dentist or other licensed health care provider legally authorized under this title and in accordance with the commissioner's regulations. A nursing regimen shall be consistent with and shall not vary any existing medical regimen.
2. The practice of nursing as a licensed practical nurse is defined as performing tasks and responsibilities within the framework of case finding, health teaching, health counseling, and provision of supportive and restorative care under the direction of a registered professional nurse or licensed physician, dentist or other licensed health care provider legally authorized under this title and in accordance with the commissioner's regulations.

§6903. Practice of nursing and use of title "registered professional nurse" or "licensed practical nurse".
Only a person licensed or otherwise authorized under this article shall practice nursing and only a person licensed under section sixty-nine hundred four shall use the title "registered professional nurse" and only a person licensed under section sixty-nine hundred five of this article shall use the title "licensed practical nurse". No person shall use the title "nurse" or any other title or abbreviation that would represent to the public that the person is authorized to practice nursing unless the person is licensed or otherwise authorized under this article.

§6904. State board for nursing.
A state board for nursing shall be appointed by the board of regents on recommendation of the commissioner for the purpose of assisting the board of regents and the department on matters of professional licensing and professional conduct in accordance with section sixty-five hundred eight of this title. The board shall be composed of not less than fifteen members, eleven of whom shall be registered professional nurses and four of whom shall be licensed practical nurses all licensed and practicing in this state for at least five years. An executive secretary to the board shall be appointed by the board of regents on recommendation of the commissioner and shall be a registered professional nurse registered in this state.

§6905. Requirements for a license as a registered professional nurse.
To qualify for a license as a registered professional nurse, an applicant shall fulfill the following requirements:

1. **Application**: file an application with the department.
2. ***Education**: have received an education, and a diploma or degree in professional nursing, in accordance with the commissioner's regulations, and in order to continue to maintain registration as a registered professional nurse in New York state, have attained a baccalaureate degree or higher in nursing within ten years of initial licensure in accordance with the commissioner's regulations. The department, in its discretion, may issue a conditional registration to a licensee who fails to complete the baccalaureate degree but who agrees to meet the additional requirement within one year. The fee for such a conditional registration shall be the same as, and in addition to, the fee for the triennial registration. The duration of such conditional registration shall be for one year and may be extended, with the payment of a fee, for no more than one additional year, unless the applicant can show good cause for non-compliance acceptable to the department. Any licensee who is notified of the denial of a registration for failure to complete the additional educational requirements and who practices as a registered professional nurse without such registration may be subject to disciplinary proceedings pursuant to section sixty-five hundred ten of this title.
   * NB Effective June 18, 2019.
3. **Experience**: meet no requirement as to experience.
4. **Examination**: pass an examination satisfactory to the board and in accordance with the commissioner's regulations.
5. **Age**: be at least eighteen years of age.
6. **Citizenship**: meet no requirement as to United States citizenship.
7. **Character**: be of good moral character as determined by the department.
8. **Fees**: pay a fee of one hundred fifteen dollars to the department for admission to a department conducted examination and for an initial license, a fee of forty-five dollars for each reexamination, a fee of seventy dollars for an initial license for persons not requiring admission to a department conducted examination, and a fee of fifty dollars for each triennial registration period (http://www.op.nysed.gov/prof/nurse/article139.htm).

As one can see, in this example, the term RN is defined, what RNs are allowed to do is detailed, and exactly what constitutes the New York State Board of Nursing and the requirements of education are listed. At the writing of this course, no other state required a bachelor's degree (in this case, 10 years after graduating with an associate degree or a diploma) for the practice of Nursing.

Compare this to California:
ARTICLE 2. Scope of Regulation [2725 - 2742]
(Article 2 added by Stats. 1939, Ch. 807.)

2725.

(a) In amending this section at the 1973–74 session, the Legislature recognizes that nursing is a dynamic field, the practice of which is continually evolving to include more sophisticated patient care activities. It is the intent of the Legislature in amending this section at the 1973–74 session to provide clear legal authority for functions and procedures that have common acceptance and usage. It is the legislative intent also to recognize the existence of overlapping functions between physicians and registered nurses and to permit additional sharing of functions within organized health care systems that provide for collaboration between physicians and registered nurses. These organized health care systems include, but are not limited to, health facilities licensed pursuant to Chapter 2 (commencing with Section 1250) of Division 2 of the Health and Safety Code, clinics, home health agencies, physicians' offices, and public or community health services.

(b) The practice of nursing within the meaning of this chapter means those functions, including basic health care, that help people cope with difficulties in daily living that are associated with their actual or potential health or illness problems or the treatment thereof, and that require a substantial amount of scientific knowledge or technical skill, including all of the following:
  (1) Direct and indirect patient care services that ensure the safety, comfort, personal hygiene, and protection of patients; and the performance of disease prevention and restorative measures.
  (2) Direct and indirect patient care services, including, but not limited to, the administration of medications and therapeutic agents, necessary to implement a treatment, disease prevention, or rehabilitative regimen ordered by and within the scope of licensure of a physician, dentist, podiatrist, or clinical psychologist, as defined by Section 1316.5 of the Health and Safety Code.
  (3) The performance of skin tests, immunization techniques, and the withdrawal of human blood from veins and arteries.
  (4) Observation of signs and symptoms of illness, reactions to treatment, general behavior, or general physical condition, and (A) determination of whether the signs, symptoms, reactions, behavior, or general appearance exhibit abnormal characteristics, and (B) implementation, based on observed abnormalities, of appropriate reporting, or referral, or standardized procedures, or changes in treatment regimen in accordance with standardized procedures, or the initiation of emergency procedures.

(c) "Standardized procedures," as used in this section, means either of the following:
  (1) Policies and protocols developed by a health facility licensed pursuant to Chapter 2 (commencing with Section 1250) of Division 2 of the Health and Safety Code through collaboration among administrators and health professionals including physicians and nurses.
  (2) Policies and protocols developed through collaboration among administrators and health professionals, including physicians and nurses, by an organized health care system which is not a health facility licensed pursuant to Chapter 2 (commencing with Section 1250) of Division 2 of the Health and Safety Code.

  The policies and protocols shall be subject to any guidelines for standardized procedures that the Division of Licensing of the Medical Board of California and the Board of Registered Nursing may jointly promulgate. If promulgated, the guidelines shall be administered by the Board of Registered Nursing.

(d) Nothing in this section shall be construed to require approval of standardized procedures by the Division of Licensing of the Medical Board of California, or by the Board of Registered Nursing.

(e) No state agency other than the board may define or interpret the practice of nursing for those licensed pursuant to the provisions of this chapter or develop standardized procedures or protocols pursuant to this chapter, unless so authorized by this chapter, or specifically required under state or federal statute. "State agency" includes every state office, officer, department, division, bureau, board, authority, and commission.

(Amended by Stats. 2003, Ch. 640, Sec. 5. Effective January 1, 2004.)

2725.1.

(a) Notwithstanding any other provision of law, a registered nurse may dispense drugs or devices upon an order by a licensed physician and surgeon or an order by a certified nurse-midwife, nurse practitioner, or physician assistant issued pursuant to Section 2746.51, 2836.1, or 3502.1, respectively, if the registered nurse is functioning within a licensed primary care clinic as defined in subdivision (a) of Section 1204 of, or within a clinic as defined in subdivision (b), (c), (h), or (j) of Section 1206 of, the Health and Safety Code.

(b) No clinic shall employ a registered nurse to perform dispensing duties exclusively. No registered nurse shall dispense drugs in a pharmacy, keep a pharmacy, open shop, or drugstore for the retailing of drugs or poisons. No registered nurse shall compound drugs. Dispensing of drugs by a registered nurse, except a certified nurse-midwife who functions pursuant to a standardized procedure or protocol described in Section 2746.51 or a nurse practitioner who functions pursuant to a standardized procedure described in Section 2836.1, or protocol, shall not include substances included in the California Uniform Controlled Substances Act (Division 10 (commencing with Section 11000) of the Health and Safety Code). Nothing in this section shall exempt a clinic from the provisions of Article 13 (commencing with Section 4180) of Chapter 9.

(c) Nothing in this section shall be construed to limit any other authority granted to a certified nurse-midwife pursuant to Article 2.5 (commencing with Section 2746), to a nurse practitioner pursuant to Article 8 (commencing with Section 2834), or to a physician assistant pursuant to Chapter 7.7 (commencing with Section 3500).

(d) Nothing in this section shall be construed to affect the sites or types of health care facilities at which drugs or devices are authorized to be dispensed pursuant to Chapter 9 (commencing with Section 4000).

(Amended by Stats. 2012, Ch. 460, Sec. 1. (AB 2348) Effective January 1, 2013.)

2725.2.

(a) Notwithstanding any other provision of law, a registered nurse may dispense self-administered hormonal contraceptives approved by the federal Food and Drug Administration (FDA) and may administer injections of hormonal contraceptives approved by the FDA in strict adherence to standardized procedures developed in compliance with subdivision (c) of Section 2725.

(b) The standardized procedure described in subdivision (a) shall include all of the following:

(1) Which nurse, based on successful completion of training and competency assessment, may dispense or administer the hormonal contraceptives.
(2) Minimum training requirements regarding educating patients on medical standards for ongoing women's preventive health, contraception options education and counseling, properly eliciting, documenting, and assessing patient and family health history, and utilization of the United States Medical Eligibility Criteria for Contraceptive Use.
(3) Demonstration of competency in providing the appropriate prior examination comprised of checking blood pressure, weight, and patient and family health history, including medications taken by the patient.
(4) Which hormonal contraceptives may be dispensed or administered under specified circumstances, utilizing the most recent version of the United States Medical Eligibility Criteria for Contraceptive Use.
(5) Criteria and procedure for identification, documentation, and referral of patients with contraindications for hormonal contraceptives and patients in need of a follow-up visit to a physician and surgeon, nurse practitioner, certified nurse-midwife, or physician assistant.
(6) The extent of physician and surgeon supervision required.
(7) The method of periodic review of the nurse's competence.
(8) The method of periodic review of the standardized procedure, including, but not limited to, the required frequency of review and the person conducting that review.
(9) Adherence to subdivision (a) of Section 2242 in a manner developed through collaboration with health care providers, including physicians and surgeons, certified nurse-midwives, nurse practitioners, physician assistants, and registered nurses. The appropriate prior examination shall be consistent with the evidence-based practice guidelines adopted by the federal Centers for Disease Control and Prevention in conjunction with the United States Medical Eligibility Criteria for Contraceptive Use.
(10) If a patient has been seen exclusively by a registered nurse for three consecutive years, the patient shall be evaluated by a physician and surgeon, nurse practitioner, certified nurse-midwife, or physician assistant prior to continuing the dispensation or administration of hormonal contraceptives.

(c) Nothing in this section shall be construed to affect the sites or types of health care facilities at which drugs or devices are authorized to be dispensed pursuant to Chapter 9 (commencing with Section 4000).

(Added by Stats. 2012, Ch. 460, Sec. 2. (AB 2348) Effective January 1, 2013.)

2725.3.

(a) A health facility licensed pursuant to subdivision (a), (b), or (f), of Section 1250 of the Health and Safety Code shall not assign unlicensed personnel to perform nursing functions in lieu of a registered nurse and may not allow unlicensed personnel to perform functions under the direct clinical supervision of a registered nurse that require a substantial amount of scientific knowledge and technical skills, including, but not limited to, any of the following:
(1) Administration of medication.
(2) Venipuncture or intravenous therapy.
(3) Parenteral or tube feedings.
(4) Invasive procedures including inserting nasogastric tubes, inserting catheters, or tracheal suctioning.
(5) Assessment of patient condition.
(6) Educating patients and their families concerning the patient's health care problems, including post discharge care.
(7) Moderate complexity laboratory tests.

(b) This section shall not preclude any person from performing any act or function that he or she is authorized to perform pursuant to Division 2 (commencing with Section 500) or pursuant to existing statute or regulation as of July 1, 1999.

(Added by Stats. 1999, Ch. 945, Sec. 2. Effective January 1, 2000.)

2725.4.

Notwithstanding any other provision of this chapter, the following shall apply:

(a) In order to perform an abortion by aspiration techniques pursuant to Section 2253, a person with a license or certificate to practice as a nurse practitioner or a certified nurse-midwife shall complete training recognized by the Board of Registered Nursing. Beginning January 1, 2014, and until January 1, 2016, the competency-based training protocols established by Health Workforce Pilot Project (HWPP) No. 171 through the Office of Statewide Health Planning and Development shall be used.

(b) In order to perform an abortion by aspiration techniques pursuant to Section 2253, a person with a license or certificate to practice as a nurse practitioner or a certified nurse-midwife shall adhere to standardized procedures developed in compliance with subdivision (c) of Section 2725 that specify all of the following:
(1) The extent of supervision by a physician and surgeon with relevant training and expertise.
(2) Procedures for transferring patients to the care of the physician and surgeon or a hospital.
(3) Procedures for obtaining assistance and consultation from a physician and surgeon.
(4) Procedures for providing emergency care until physician assistance and consultation are available.
(5) The method of periodic review of the provisions of the standardized procedures.

(c) A nurse practitioner or certified nurse-midwife who has completed training and achieved clinical competency through HWPP No. 171 shall be authorized to perform abortions by aspiration techniques pursuant to Section 2253, in adherence to standardized procedures described in subdivision (b).

(d) It is unprofessional conduct for any nurse practitioner or certified nurse-midwife to perform an abortion by aspiration techniques pursuant to Section 2253 without prior completion of training and validation of clinical competency.

(Added by Stats. 2013, Ch. 662, Sec. 2. (AB 154) Effective January 1, 2014.)

2725.5.

This chapter does not prohibit:

(a) Gratuitous nursing of the sick by friends or members of the family.

(b) Incidental care of the sick by domestic workers or by persons primarily employed as housekeepers as long as they do not practice nursing within the meaning of this chapter.

(c) Domestic administration of family remedies by any person.

(d) Nursing services in case of an emergency. "Emergency," as used in this subdivision includes an epidemic, pandemic, or other public disaster.

(e) The performance by a person of the duties required in the physical care of a patient or carrying out medical orders prescribed by a licensed physician, provided the person shall not in any way assume to practice as a professional, registered, graduate, or trained nurse.

(Amended by Stats. 2021, Ch. 628, Sec. 5. (AB 1532) Effective January 1, 2022.)

2727.5.
A person licensed under this chapter who in good faith renders emergency care at the scene of an emergency which occurs outside both the place and the course of that person's employment shall not be liable for any civil damages as the result of acts or omissions by that person in rendering the emergency care.

This section shall not grant immunity from civil damages when the person is grossly negligent.
(Amended by Stats. 1984, Ch. 1391, Sec. 2.)

2728.
If adequate medical and nursing supervision by a professional nurse or nurses is provided, nursing service may be given by attendants, psychiatric technicians, or psychiatric technician interim permittees in institutions under the jurisdiction of the State Department of State Hospitals or the State Department of Developmental Services or subject to visitation by the State Department of Public Health or the Department of Corrections and Rehabilitation. Services so given by a psychiatric technician shall be limited to services which he or she is authorized to perform by his or her license as a psychiatric technician. Services so given by a psychiatric technician interim permittee shall be limited to skills included in his or her basic course of study and performed under the supervision of a licensed psychiatric technician or registered nurse.

The Director of State Hospitals, the Director of Developmental Services, and the State Public Health Officer shall determine what shall constitute adequate medical and nursing supervision in any institution under the jurisdiction of the State Department of State Hospitals or the State Department of Developmental Services or subject to visitation by the State Department of Public Health.

Notwithstanding any other provision of law, institutions under the jurisdiction of the State Department of State Hospitals or the State Department of Developmental Services may utilize graduates of accredited psychiatric technician training programs who are not licensed psychiatric technicians or psychiatric technician interim permittees to perform skills included in their basic course of study when supervised by a licensed psychiatric technician or registered nurse, for a period not to exceed nine months.
(Amended by Stats. 2012, Ch. 24, Sec. 1. (AB 1470) Effective June 27, 2012.)

2728.5.
Except for those provisions of law relating to directors of nursing services, nothing in this chapter or any other provision of law shall prevent the utilization of a licensed psychiatric technician or psychiatric technician interim permittee in performing services used in the care, treatment, and rehabilitation of mentally ill, emotionally disturbed, or developmentally disabled persons within the scope of practice for which he or she is licensed or authorized in facilities under the jurisdiction of the State Department of State Hospitals or the State Department of Developmental Services or licensed by the State Department of Public Health, that he or she is licensed to perform as a psychiatric technician, or authorized to perform as a psychiatric technician interim permittee including any nursing services under Section 2728, in facilities under the jurisdiction of the State Department of State Hospitals or the State Department of Developmental Services or subject to visitation by the State Department of Public Health.
(Amended by Stats. 2012, Ch. 24, Sec. 2. (AB 1470) Effective June 27, 2012.)

2729.
Nursing services may be rendered by a student when these services are incidental to the course of study of one of the following:
(a) A student enrolled in a board-approved prelicensure program or school of nursing.
(b) A nurse licensed in another state or country taking a board-approved continuing education course or a post-licensure course.
(Amended by Stats. 1978, Ch. 212.)

2730.
If he does not represent or hold himself out as a professional nurse licensed to practice in this State and if he has an engagement, made in another State or country, requiring him to accompany and care for a patient temporarily residing in this State during the period of such engagement, a nurse legally qualified by another State or country may give nursing care to such patient in this State.
(Repealed and added by Stats. 1939, Ch. 807.)

2731.
This chapter does not prohibit nursing or the care of the sick, with or without compensation or personal profit, when done by the adherents of and in connection with the practice of the religious tenets of any well recognized church or denomination, so long as they do not otherwise engage in the practice of nursing.
(Repealed and added by Stats. 1939, Ch. 807.)

2732.
No person shall engage in the practice of nursing, as defined in Section 2725, without holding a license which is in an active status issued under this chapter except as otherwise provided in this act.

Every licensee may be known as a registered nurse and may place the letter "R.N." after his name.
(Amended by Stats. 1976, Ch. 1053.)

2732.05.
(a) Every employer of a registered nurse, every employer of a registered nurse required to hold any board-issued certification, and every person acting as an agent for such a nurse in obtaining employment, shall ascertain that the nurse is currently authorized to practice as a registered nurse or as a registered nurse pursuant to a board-issued certification within the provisions of this chapter. As used in this section, "board-issued certification" includes, but is not limited to, certification as a nurse practitioner, nurse practitioner with a furnishing number, nurse anesthetist, nurse midwife, nurse midwife with a furnishing number, public health nurse, clinical nurse specialist, or board listed psychiatric mental health nurse.
(b) Every employer of a temporary licensee or interim permittee and every person acting as an agent for a temporary licensee or interim permittee in obtaining employment shall ascertain that the person is currently authorized to practice as a temporary licensee or interim permittee.
(c) As used in this section, the term "agent" includes, but is not limited to, a nurses registry and a traveling nurse agency.

Examination by an employer or agent of evidence satisfactory to the board showing the nurse's, licensee's, or permittee's current authority to practice under this chapter, prior to employment, shall constitute a determination of authority to so practice.

Nothing in this section shall apply to a patient, or other person acting for a specific patient, who engages the services of a registered nurse or temporary licensee to provide nursing care to a single patient.
(Amended by Stats. 2007, Ch. 588, Sec. 37. Effective January 1, 2008.)

2732.1.
(a) An applicant for license by examination shall submit a written application in the form prescribed by the board. Upon approval of the application, the board may issue an interim permit authorizing the applicant to practice nursing pending the results of the first licensing examination

following completion of his or her nursing course or for a maximum period of six months, whichever occurs first.

If the applicant passes the examination, the interim permit shall remain in effect until a regular renewable license is issued by the board. If the applicant fails the examination, the interim permit shall terminate upon notice thereof by first-class mail.

(b) The board upon written application may issue a license without examination to any applicant who is licensed or registered as a nurse in a state, district or territory of the United States or Canada having, in the opinion of the board, requirements for licensing or registration equal to or higher than those in California at the time the application is filed with the Board of Registered Nursing, if he or she has passed an examination for the license or registration that is, in the board's opinion, comparable to the board's examination, and if he or she meets all the other requirements set forth in Section 2736.

(c) Each application shall be accompanied by the fee prescribed by this chapter for the filing of an application for a regular renewable license.

The interim permit shall terminate upon notice thereof by first-class mail, if it is issued by mistake or if the application for permanent licensure is denied.

(Amended by Stats. 1994, Ch. 26, Sec. 57.5. Effective March 30, 1994.)

2733.

(a) (1)

(A) Upon approval of an application filed pursuant to subdivision (b) of Section 2732.1, and upon the payment of the fee prescribed by subdivision (k) of Section 2815, the board may issue a temporary license to practice professional nursing, and a temporary certificate to practice as a certified public health nurse for a period of six months from the date of issuance.

(B) Upon approval of an application filed pursuant to subdivision (b) of Section 2732.1, and upon the payment of the fee prescribed by subdivision (d) of Section 2838.2, the board may issue a temporary certificate to practice as a certified clinical nurse specialist for a period of six months from the date of issuance.

(C) Upon approval of an application filed pursuant to subdivision (b) of Section 2732.1, and upon the payment of the fee prescribed by subdivision (e) of Section 2815.5, the board may issue a temporary certificate to practice as a certified nurse-midwife for a period of six months from the date of issuance.

(D) Upon approval of an application filed pursuant to subdivision (b) of Section 2732.1, and upon the payment of the fee prescribed by subdivision (d) of Section 2830.7, the board may issue a temporary certificate to practice as a certified nurse anesthetist for a period of six months from the date of issuance.

(E) Upon approval of an application filed pursuant to subdivision (b) of Section 2732.1, and upon the payment of the fee prescribed by subdivision (p) of Section 2815, the board may issue a temporary certificate to practice as a certified nurse practitioner for a period of six months from the date of issuance.

(2) A temporary license or temporary certificate shall terminate upon notice thereof by certified mail, return receipt requested, if it is issued by mistake or if the application for permanent licensure is denied.

(b) Upon written application, the board may reissue a temporary license or temporary certificate to any person who has applied for a regular renewable license pursuant to subdivision (b) of Section 2732.1 and who, in the judgment of the board has been excusably delayed in completing their application for or the minimum requirements for a regular renewable license, but the board may not reissue a temporary license or temporary certificate more than twice to any one person.

(c) The board shall prominently display on the front page of its website the availability of temporary licenses and certificates pursuant to this section.

(Amended by Stats. 2021, Ch. 628, Sec. 6. (AB 1532) Effective January 1, 2022.)

2734.

Upon application in writing to the board and payment of the biennial renewal fee, a licensee may have his license placed in an inactive status for an indefinite period of time. A licensee whose license is in an inactive status may not practice nursing. However, such a licensee does not have to comply with the continuing education standards of Section 2811.5.

(Added by Stats. 1976, Ch. 1053.)

2736.

(a) An applicant for licensure as a registered nurse shall comply with each of the following:

(1) Have completed such general preliminary education requirements as shall be determined by the board.

(2) Have successfully completed the courses of instruction prescribed by the board for licensure, in a program in this state accredited by the board for training registered nurses, or have successfully completed courses of instruction in a school of nursing outside of this state which, in the opinion of the board at the time the application is filed with the Board of Registered Nursing, are equivalent to the minimum requirements of the board for licensure established for an accredited program in this state.

(3) Not be subject to denial of licensure under Section 480.

(b) An applicant who has received his or her training from a school of nursing in a country outside the United States and who has complied with the provisions of subdivision (a), or has completed training equivalent to that required by subdivision (a), shall qualify for licensure by successfully passing the examination prescribed by the board.

(Amended by Stats. 1992, Ch. 1289, Sec. 21. Effective January 1, 1993.)

2736.1.

(a) The course of instruction for an applicant who matriculates on or after September 1, 1985, shall include training in the detection and treatment of alcohol and chemical substance dependency.

(b) The course of instruction for an applicant who matriculates on or after January 1, 1995, shall include training in the detection and treatment of client abuse, including, but not limited to, spousal or partner abuse. The requirement for coursework in spousal or partner abuse detection and treatment shall be satisfied by, and the board shall accept in satisfaction of the requirement, a certification from the chief academic officer of the educational institution from which the applicant graduated that the required coursework is included within the institution's required curriculum for graduation.

(Amended by Stats. 1993, Ch. 1234, Sec. 5. Effective January 1, 1994.)

2736.5.

(a) (1) The board shall adopt regulations to require that, on and after January 1, 2022, all continuing education courses for licensees under this chapter contain curriculum that includes the understanding of implicit bias.

(2) Beginning January 1, 2023, continuing education providers shall ensure compliance with paragraph (1). Beginning January 1, 2023, the board shall audit continuing education providers, pursuant to Section 2811.5.

(b) Notwithstanding the provisions of subdivision (a), a continuing education course dedicated solely to research or other issues that does not include a direct patient care component is not required to contain curriculum that includes implicit bias in the practice of nursing.
(c) In order to satisfy the requirements of subdivision (a), continuing education courses shall address at least one or a combination of the following:
    (1) Examples of how implicit bias affects perceptions and treatment decisions of licensees, leading to disparities in health outcomes.
    (2) Strategies to address how unintended biases in decision-making may contribute to health care disparities by shaping behavior and producing differences in medical treatment along lines of race, ethnicity, gender identity, sexual orientation, age, socioeconomic status, or other characteristics.

(Added by Stats. 2019, Ch. 417, Sec. 3. (AB 241) Effective January 1, 2020.)

2736.6.
The board shall determine by regulation the additional preparation in nursing, in a school approved by the board, which is required for a vocational nurse, licensed under Chapter 6.5 (commencing with Section 2840) of this division, to be eligible to take the examination for licensure under this chapter as a registered nurse. The board shall not require more than 30 units in nursing and related science subjects to satisfy such preparation.
(Added by Stats. 1969, Ch. 1541.)

2737.
An applicant for a license authorizing him to practice nursing in this State under this chapter, upon the filing of his application shall pay the fee required by this chapter.
(Repealed and added by Stats. 1939, Ch. 807.)

2738.
The board shall hold not less than two examinations each year at such times and places as the board may determine.
(Amended by Stats. 1953, Ch. 1174.)

2740.
Examinations shall be written, but in the discretion of the board may be supplemented by an oral or practical examination in such subjects as the board determines. All examinations shall be conducted by such persons and in such manner and under such rules and regulations as the board may prescribe.

The board shall finally pass or reject all applicants. Its actions shall be final and conclusive and not subject to review by any court or other authority.
(Added by Stats. 1939, Ch. 807.)

2741.
An application for reexamination shall be accompanied by the fees prescribed by this chapter.
(Amended by Stats. 2005, Ch. 621, Sec. 38. Effective January 1, 2006.)

2742.
The board shall issue a license to each applicant who passes the examination and meets all other licensing requirements. The form of the license shall be determined in accordance with Section 164. (California Legislative Information, n.d.)

As one can see, the California Nurse Practice act is much more detailed in describing what a nurse can and cannot do, than the New York State NPA. For example, issues of delegation are contained in the California nurse practice act, whereas in New York state this information is not readily available on the BON and Office of Professions website. On the other hand, New York State protects the title "Registered Professional Nurse", whereas California does not.

Nursing consideration: Ignorance of the law as it relates to the NPA in a nurse's state is never an excuse for failing to follow its mandates. Nurses can find the mandates by logging on to the website of their state board of nursing. The National Council of State Boards of nursing at https://www.ncsbn.org/index.htm has information about how to access all state boards of nursing in the United States.

Self-Assessment Quiz Question #3

Who enforces a nursing practice act?
a. American Nurses Association.
b. Specialty nursing practice groups.
c. International Council of Nurses.
d. Boards of Nursing.

COMMON VIOLATIONS OF NURSE PRACTICE ACTS

The National Council of State Boards of Nursing list the following as Violations of Nurse Practice Acts (NCSB, 2022a). Please note this is not an inclusive list but examples.

Practice Related
- Failure to assess changes in condition.
- Failure to implement appropriate or ordered interventions.
- Failure to accurately document assessment information or nursing care provided.
- Failure to follow the "Five Rights" of drug administration (right patient., right time and frequency, right dose, right route of administrations and right drug.

Drug Related
- Misappropriation of medications intended for clients.
- Failure to document or falsely document that medications were administered to clients.
- Engagement in intemperate use of medications causing impairment.
- Attempting to obtain drugs by communicating or presenting unauthorized prescriptions to pharmacies.

Boundary Violations
- Sharing stories of personal challenges to entice gifts or money from clients.
- Establishing gratifying relationships with current or former clients.
- Sexual misconduct.
- Touching the patient or having the patient touch the nurse in a sexual way.

Abuse
- Hitting, slapping threats and verbal assailments.

Fraud
- Over statement of credentials of experience.
- Claiming unworked hours or visits on payroll.
- Falsely documenting care or procedures when related to payment.
- Submitting inaccurate billing records to defraud insurance companies.

Self-Assessment Quiz Question #4

Which of the following is a violation of a nurse practice act according to NCSBN?
a. Following the Five Rights of Medication Administration.
b. Accurately documenting care.
c. Failure to refuse some cupcakes from a family member when you did not ask.
d. Stating you have a certification when it has just expired.

NURSE LICENSURE COMPACT (NLC)

To be able to provide nursing care where it is needed and to decrease the need for many different state-issued RN licenses, the NCSBN developed the *Nurse Licensure Compact* which began in 2000 (Oyeleve, 2019). Historically, each state had its own rules and regulations for RN practice, and requirements for sitting for licensure exams. For nurses who wanted to work in different states, the nurse had to meet the individual state requirements and apply for a license. This required a lot of time, energy, and money for nurses. This also prevented state BONs from disciplining a nurse who harmed a patient working remotely from another state. Finally, in 1995, the Pew Commission reported all 50 states entry into practice requirements were not standardized (Oyeleve, 2019).

In 2000, the first states to pass legislation and agree to the NLC were Maryland, Texas, Utah and Wisconsin. Not all states and nurses were in agreement with this. There were concerns related to different state regulations for practice (not just licensure), state sovereignty on who could practice in the state, and public safety. Another concern was some inconsistencies between requirements, especially related to past criminal issues, where some states would bar a candidate for license and those listed in the NLC (Oyeleve, 2019).

Even though there were issues and concerns with the NLC, states did join. However, in 2015 when the North Carolina BON and state legislature were thinking about joining, there were ongoing concerns. The NLC did not guarantee competency of the nurses between the different states (Oyeleve, 2019). Given this issue, the Nation Council of State Boards of Nursing examined all the concerns and developed the Enhanced Nursing Licensure Compact (eNLC). The eNLC was designed to replace the NLC with requirements that would address issues raised and improve confidence. The eNLC went into effect in July 2017 with a final implementation date in January, 2018 to allow nurses with NLCs to apply for eNLCs (Oyeleve, 2019).

The eNLC has uniform requirements and federal background checks for any nurse applying for an eNLC if their state is a member. The eNLC also standardized key disciplinary provisions among all the member states and required reporting of all disciplinary actions against a nurse within the eNLC (Oyeleve, 2019).

The following are the uniform requirements:

1. Meets the requirements for licensure in the home state (state of residency).
2. (a) Has graduated from a board-approved education program; or (b) Has graduated from an international education program (approved by the authorized accrediting body in the applicable country and verified by an independent credentials review agency).
3. Has passed an English proficiency examination (applies to graduates of an international education program not taught in English or if English is not the individual's native language).
4. Has passed an NCLEX-RN® or NCLEX-PN® Examination or predecessor exam.
5. Is eligible for or holds an active, unencumbered license (i.e., without active discipline).
6. Has submitted to state and federal fingerprint-based criminal background checks.
7. Has not been convicted or found guilty, or has entered into an agreed disposition, of a felony offense under applicable state or federal criminal law.
8. Has no misdemeanor convictions related to the practice of nursing (determined on a case-by-case basis).
9. Is not currently a participant in an alternative program.
10. Is required to self-disclose current participation in an alternative program.
11. Has a valid United States Social Security number (National Council of State Boards of Nursing, n.d.a).

What does the eNLC mean for RNs? Besides the requirements above, the RN who is applying for an eNLC is also required to do the following:

1. On all application forms for multistate licensure in a party state, an applicant shall declare a primary state of residence.
2. A nurse who changes primary state of residence to another party state shall apply for a license in the new party state when the nurse declares to be a resident of the state and obtains privileges not ordinarily extended to nonresidents of the state.
3. A nurse shall not apply for a single state license in a party state while the nurse holds a multistate license in another party state (National Council of State Boards of Nursing, 2021).

What it *does* allow nurses to do is practice across borders in other eNLC states, practice telenursing in all eNLC states, quickly respond to disasters in all eNLC states, and allow nurse educators with an eNLC to teach via distance education in all eNLC states (National Council of State Boards of Nursing, n.d.b).

THE BON AND DISCIPLINARY CASES

Most nurses are competent individuals whose primary goal is to provide safe, appropriate nursing care that enhances patient outcomes. However, when problems arise with a nurse's performance, a complaint may be filed with the BON, which is responsible for reviews and action regarding complaints. The BON may act only if sufficient evidence exists that the nurse violated state laws or regulations (National Council of State Boards of Nursing, 2022b).

Nursing consideration: In any given year there are over 12,000 nurses with adverse actions against them reported to the National Practitioner Data Bank. The National Practitioner Data Bank is managed by the US department of Health & Human Services (2022).

What types of disciplinary action can be taken by a BON? The BON may act to impose such actions as the following (National Council of State Boards of Nursing, 2022b):

- Fines.
- Civil penalties.
- Public reprimand or censure for minor violations of the NPA.
- Referral to an alternative-to-discipline program for practice monitoring and recovery support. This may be offered to nurses with drug or alcohol dependence, or another type of mental or physical condition.
- Mandated monitoring, remediation, education, or other provisions established to meet the needs of specific situations.
- Limitations on practice such as restricting roles, the practice setting, and/or hours that may be worked.

Nursing consideration: The actions taken by the BON are considered public information. Some BONs, believing that it is in the public interest to publicize actions taken against nurses, communicate actions via such means as newsletters and websites (National Council of State Boards of Nursing, 2022b).

Rules and position statements

Nurses should also be aware of BON rules, regulations, and position statements. BONs have the authority to develop administrative rules to clarify laws. Rules must be consistent with the NPA, but cannot go beyond the law. For example, an NPA may mandate that nurses' practice safely and competently, and a rule related to this mandate may specify a plan for ongoing continuing education so that nurses achieve and maintain their competency.

Position statements are a means of providing direction for nurses on issues relevant to nursing practice and consumer safety. Position statements do not have the force of law, but are designed to act as education resources that help licensed nurses and other interested persons in determining safe, appropriate, and legal practice (Texas Board of Nursing, 2022). Examples of position statements include death pronouncements, carrying out orders from physician assistants, and performance of laser therapy by RNs. Position statements are generally posted on the BON website for review by nurses and the public.

Delegation

Delegating patient-care responsibilities to another RN, LPN/LVN, or unlicensed assistive personnel such as nursing assistants often triggers legal and ethical questions among those nurses doing the delegating. Delegation is an important responsibility. To properly delegate a task, the nurse must know the skills and knowledge level of the delegatee and that the task being delegated falls within the delegatee's scope of practice (National Council of State Board of Nursing and American Nurses Association, 2019.).

Even though the RN may delegate a task, they retain responsibility for the conduct and actions of delegatees. RNs cannot delegate their own accountability. They retain responsibility for the patient care delivered by the LPNs and nursing assistants (National Council of State Board of Nursing and American Nurses Association, 2019).

However, this does not mean that delegatees do not have responsibility and accountability for their own actions. It is important to remember that delegatees still maintain responsibility and accountability for their own actions.

Nursing consideration: It is the RNs responsibility to check the NPA in their states to determine which tasks may and may not be delegated.

The "Rights" of delegation

Safe and appropriate delegation of tasks requires that the RN adhere to "rights" of delegation. The American Nurses Association and the National Council of State Boards of Nursing have published guidelines for delegation (American Nurses Association & National Council of State Boards of Nursing, 2019):

- **Right task**: "The activity falls within the delegatee's job description or is included as part of the established written policies and procedures of the nursing practice setting. The facility needs to ensure the policies and procedures describe the expectations and limits of the activity and provide any necessary competency training."
- **Right circumstance**: "The health condition of the patient must be stable. If the patient's condition changes, the delegatee must communicate this to the licensed nurse, and the licensed nurse must reassess the situation and the appropriateness of the delegation."
- **Right person**: "The licensed nurse, along with the employer and the delegatee, is responsible for ensuring that the delegatee possesses the appropriate skills and knowledge to perform the activity."
- **Right directions and communication**: "Each delegation situation should be specific to the patient, the licensed nurse, and the delegatee. The licensed nurse is expected to communicate specific instructions for the delegated activity to the delegatee; the delegatee, as part of two-way communication, should ask any clarifying questions. This communication includes any data that need to be collected, the method for collecting the data, the time frame for reporting the results to the licensed nurse, and additional information pertinent to the situation. The delegatee must understand the terms of the delegation and must agree to accept the delegated activity. The licensed nurse should ensure that the delegatee understands that she or he cannot make any decisions or modifications in carrying out the activity without first consulting the licensed nurse."
- **Right supervision and evaluation**: "The licensed nurse is responsible for monitoring the delegated activity, following up with the delegatee at the completion of the activity, and evaluating patient outcomes. The delegatee is responsible for communicating patient information to the licensed nurse during the delegation situation. The licensed nurse should be ready and available to intervene as necessary. The licensed nurse should ensure appropriate documentation of the activity is completed."

Case study #2

Charlotte is a newly licensed RN. One of the LPNs under her supervision has many years of nursing experience and is quite resentful: "Why do I have to take orders from this new kid? I've been a nurse longer than she's been alive!" Charlotte does her best to not only be friendly, but also to adhere to the scope and standards of practice for both RNs and LPNs. On one particularly busy day, the LPN insists that she can handle the arrival of a postoperative patient without any help. The patient is young and healthy and underwent surgical intervention for a compound fracture of the left femur. Charlotte knows that it is her responsibility to conduct assessments, but she is especially busy with several patients whose conditions are deteriorating. At the end of their shift, the LPN remarks, "That guy with the compound fracture sure is a whiner. He's complaining about a cough and chest pain. He had a bad cold before surgery, so what does he expect!" Alarmed, Charlotte and the charge nurse for the oncoming shift rush to check on the patient, who is found to be cyanotic and unresponsive. He is rushed to the critical care unit with a diagnosis of fat embolism.

Nursing consideration: Nurses who practice in more than one state should know the scope of practice and the NPA in each state in which they practice or hold licensure.

Questions

1. Who is accountable for this lack of proper patient care?
2. How could this have been avoided?
3. Which of the "rights" of delegation were violated?

Discussion

Both Charlotte and the LPN are accountable for the lack of proper patient care. As the RN, Charlotte is the person who needs to conduct the assessment. If she was "too busy" because her other patients were deteriorating, she should have gone to the charge nurse and either asked for another RN to be assigned to the new patient, or ask the charge nurse to assess the patient, which could have prevented the patient from deteriorating. The LPN, while experienced, does not have the authority to conduct an assessment on a patient. The LPN should have not offered to assess the patient, as she should have known this was not part of her scope of practice. The LPN should have let Charlotte know the patient was experiencing signs and symptoms that were not associated with a normal post-operative course (chest pain and short of breath), no matter who did the assessment. LPNs are required to report to the supervising RN any changes in a patient's vital signs. The principles of delegation that were violated were all of them. Charlotte delegated a task (assessment) that was not in the scope of practice of the LPN. Because of this Charlotte did not know if the patient was stable, and the principles state that only stable patients may be delegated to LPNs. There also seemed to be a breakdown in communication from Charlotte's part in what to delegate. Finally, there was no supervision on Charlotte's part. The LPN also has not followed the rights of delegation. The LPN accepted an assignment for which she may not have been qualified for and

did not alert Charlotte to changes in the patient's status (or out of normal signs and symptoms for postoperative course). Thus, every right of delegation was violated.

INTERNAL POLICIES AND STANDARDS

Each healthcare institution sets the policies and procedures for that particular institution. These polices cannot expand standards of practice as stated in the state's nurse practice act. However, an institution can set narrower limits on practice of the RN. These polices usually include education, experience, and other directives that explain the scope of practice for the RN (Wacko Guido, 2020).

For a nurse to be practicing within their scope of practice, they must be practicing within the ANA code of ethics, ANA scope and standards of nursing practice, the respective state nursing practice act, and the healthcare organization's policies and procedures. Thus, the RN is accountable to a number of scopes of practice.

Case study #3

Shannon is a newly licensed registered nurse. During orientation to her new role as an RN on an oncology unit, Shannon is told that she must become familiar with (and stay familiar with) the scope and standards of nursing practice of the state in which she practices. Shannon has studied, in general terms, scope and standards of nursing practice during her years in a BSN program. However, as she is now a licensed professional, Shannon wants to understand, in more depth, the scope of practice that defines nursing actions.

Questions:

1. Where should Shannon look for her scope of practice?
2. What other information should Shannon review to be within her scope of practice?

Discussion:

Shannon needs to review a number of documents to understand what her scope of practice is. First, she should look at her state's scope of practice for RNs, including what is on the state's BON website. This will provide her with the foundation of what she is allowed to do within the state she is practicing in. The ANA scope and practice standards also need to be reviewed. Shannon should also look at the website for the Oncology Nurses Association to see if there is specialty scope of practice information, she should familiarize herself with. Finally, Shannon needs to review the policies and procedures of both the hospital and unit where she is working.

LEGAL IMPLICATIONS OF NURSING PRACTICE

Ethics and law overlap to a certain extent. Codes of ethics generally describe a vision that exceeds what is expected under prevailing laws. The law says what must be done. Ethical codes provide a picture of what ought to be done. Therefore, ethical conduct means that, at the very least, a nurse or other healthcare professional performs duties legally and acts with integrity and fidelity according to the profession's principles of ethical behavior (Wacko Guido, 2020).

Nurses should be familiar with legal terms that are the basis for safe practice. Below is a list of terms nurses should be familiar with and examples of nursing practice where the term would be applied.

Advocacy

The nurse speaks on behalf of the patient for the patient's right(s) to receive appropriate care, and intervenes on behalf of the patient in situations where there are changes in health status that may or may not affect care (Wacker Guido, 2020).

Assault

Assault is action that placed another person in a position of being touched in a manner that is considered offensive, insulting, or physically injurious without consent (Wacker Guido, 2020). An example of this would be threatening a patient with an injection if the patient does not do something.

Battery

Battery is harmful or unwarranted contact with someone (Wacker Guido, 2020). An example of this would be holding a patient down forcibly to insert an intravenous catheter when a patient has refused the procedure.

Causation

An injury must have occurred that was directly due to the action(s) of the nurse. This can be cause-in-fact or proximate cause (Wacker Guido, 2020). An example of cause-in-fact would be administering an incorrect medication resulting in an adverse effect. An example of a proximate cause would be a patient falling out of bed after being given a narcotic and the bedrails were not in correct position. While cause-in-fact is a direct link, proximate causation has foreseeability connected to the concept (Wacker Guido, 2020).

Duty

Duty refers to a legal duty to the patient - an obligation recognized and enforceable by law. Legal duty to a patient exists as soon as the nurse–patient relationship is established, showing that the patient relies on the nurse for the delivery of safe and competent care. The basis for the element of duty is the professional standards of care that the nurse is responsible for adhering to. As previously noted, the NPA governs nursing practice. Thus, duty to the patient requires that the nurse adhere to the NPA, ANA standards of care and code of ethics, specialty nursing organization standards, and organizational policies and standards (Wacker Guido, 2020).

Breach of duty

Breach of duty is defined as a violation of nursing standards of care. The plaintiff's attorney will provide evidence to support the claim that a breach of duty occurred. Such evidence can be obtained from written documentation on the plaintiff's medical record, diagnostic test results, photos, and testimony from witnesses, including hospital personnel, other nurses, experts in the field, and the plaintiff's family members. Breach of duty may also be claimed if a nurse abandons a patient after assuming a duty to them (Wacker Guido, 2020).

Some states actually define what abandonment is and is not, so nurses should be familiar with any state regulations.

Abandonment

A specific type of breach of duty is Abandonment. For example, New York law prohibits nurses from committing what is commonly referred to as "abandonment" or "patient abandonment". Abandonment typically occurs when:

- A nurse who has accepted a patient care assignment and is responsible for patient care abandons or neglects a patient needing immediate professional care without making reasonable arrangements for the continuation of such care.
- A nurse abandons nursing employment without providing reasonable notice and under circumstances that seriously impair the delivery of professional care to patients.

The New York State Education Department (NYSED) evaluates each complaint of patient abandonment individually, taking into consideration the unique circumstances of each situation. Key considerations for determining whether or not a nurse has "abandoned" a patient include:

- Whether the nurse accepted the patient assignment, which established a nurse-patient relationship.
- Whether the nurse provided reasonable notice when severing the nurse-patient relationship.
- Whether reasonable arrangements were made for the continuation of nursing care by others when proper notification was given.

Some examples of patient abandonment include the following:

- A nurse assigned to provide resident care in a nursing home walks off duty in the middle of the shift without telling anyone and does not return, seriously impairing the delivery of nursing care to the residents.
- A circulating nurse leaves the operating room during a surgical procedure without transferring responsibility for nursing care to another qualified healthcare practitioner, seriously impairing the delivery of surgical care.
- A private RN suddenly stops providing nursing care to a home-bound patient without notifying anyone and without making any arrangements to ensure that the patient will continue to receive needed care.
- A nurse who works on a hospital pediatric unit informs the unit clerk that she must leave work immediately. The nurse immediately leaves the hospital for the day without telling anyone else, even though some of the nurse's patients require immediate nursing care. Since the nurse failed to transfer her responsibility for the nursing care for her patients to another qualified healthcare practitioner by reporting on her patients, other hospital staff were unaware of the immediate care needs of the nurse's patients.

The following situations are **not** usually considered to be patient abandonment:

- A nurse promptly refuses her supervisor's request to float to an unfamiliar hospital unit because she lacks the experience to competently carry out the assignment. The hospital did not provide the nurse with any training or orientation to the hospital unit and does not modify the nursing assignment (so that the nurse who must float provides only services the nurse is competent to perform).
- An LPN immediately refuses their supervisor's request to float to a hospital Emergency Room to perform triage (which is outside the legal scope of practice of an LPN).
- In a non-emergency situation, a nurse promptly refuses their supervisor's request to accept an assignment to work additional hours beyond the posted work schedule (i.e., a double shift).
- In a non-emergency situation, a nurse completes their assigned shift at a nursing home and then notifies their employer that they are quitting, effective immediately.
- The nurse fails to return to work at a nursing home after a scheduled leave of absence and the nursing home is not experiencing staff shortages (NYSED, n.d.).
- A nurse agrees to work 4 hours longer than their scheduled shift because of an emergency. After working overtime, the nurse refuses the supervisor's request to work additional hours because the nurse is too exhausted to continue to practice safely and informs their supervisor that they are too exhausted to work safely.

Contributory negligence
Contributory negligence refers to the patient's acts or omissions that contribute to their claimed injury. Forms of contributory negligence include the patient's failure to take reasonable care or to follow physician or discharge orders to prevent injury. A finding of contributory negligence may prevent the injured party from recovering damages in a lawsuit. An example of contributory negligence includes the patient's right to refuse care (Wacko Guido, 2020).

False imprisonment
False imprisonment means holding a person against their will with an unjustifiable reason (Wacko Guido, 2020). An example of this would be restraining a competent patient against their wishes.

Foreseeability
A concept that certain events may be expected to cause specific results (Wacko Guido, 2020). For example, not providing a patient their insulin foreseeably results in high glucose levels.

Negligence
Negligence is an omission or commission of an act that is a deviation from a standard of care, also equated with carelessness (Wacker Guido, 2020). Malpractice is professional misconduct or negligence, improper discharge of professional duties, or failure to meet the standard of care of a professional that results in emotional, physical, or monetary harm to another in their care (Wacker Guido, 2020).

Respondeat superior
Under respondeat superior, or "let the master answer," the employer is held responsible for the legal consequences of the acts of a nurse or other employee acting within the scope of employment. The basic idea behind this theory comes from the concept that the employer has the right to control the acts of the employee. In other words, the hospital is held responsible for the actions of the nurse, which in turn encourages employers to ensure competencies of their employees. Likewise, the nursing supervisor can be held responsible for staff nurses' actions. Typically, a plaintiff files suit against both the nurse and the institution. The institution is usually named as a defendant because it usually has adequate assets to cover a judgment (Wacker Guido, 2020).

Ordinary negligence
Nurses may be sued personally for matters not involving medical malpractice under ordinary negligence. Under this scenario, the allegedly negligent conduct is compared with the conduct of a reasonably prudent layperson, not a reasonably prudent nurse. Ordinary negligence is conduct that involves undue risk of harm to someone. For example, if an orderly observes water on the floor but fails to clean it, resulting in a patient fall, the orderly may be held responsible for damages suffered by the patient. Professional negligence is different from ordinary negligence because professionals are held to professional standards of care (Wacker Guido, 2020).

Malpractice or professional negligence
Nurses are held liable for malpractice or professional negligence in most settings. Nurses' increased responsibilities and the increased number of nurses carrying personal malpractice insurance makes them financially attractive to plaintiffs. However, a plaintiff's attorney usually does not inquire into the insurance status of a nurse before filing suit. Accordingly, carrying a personal policy does not increase the risk of involvement in a lawsuit. Malpractice law enforces the moral value to do no harm to the patient. The law represents the minimum standard of nursing practice. The standards of good nursing practice include assessment, planning, implementation, and evaluation. In nursing, negligence is the failure to meet accepted standards for nursing competence and nursing scope of practice (Wacker Guido, 2020).

Spoliation
Spoliation is a term used to describe any action, including destruction, alteration, or concealment of records, that deprives the court or patients of evidence. Failure to preserve, or inability to produce, evidence, including medical records, can lead to severe consequences. Although state laws differ, some laws require the court to order an adverse presumption against the party unable to produce the records – that is, the records would have been harmful to the party. Moreover, defending a case is difficult, if not impossible, without the pertinent medical records. If the jury learns of the absence of the records, they may assume that the records contained damaging information that led the healthcare provider to destroy the records (Jun, J. & Ihm, R., 2021).

Informed consent

Informed consent is the voluntary consent a healthcare agency or healthcare provider requires to provide care for the patient. This can be given by the patient themself or a legal representative (Wacko Guido, 2020). One needs to remember that informed consent is not just a piece of paper, but a process. The patient must understand what they are agreeing to. The information needs to be provided in a manner the patient understands. Many factors influence a patient's ability to give informed consent. Mental status, the ability to comprehend information provided that is necessary for informed consent, the ability to understand the terminology used when treatments or procedures are explained, understanding of the language being spoken, and fear and anxiety are just some of the factors that influence informed consent. The nurse has a legal and ethical obligation to facilitate the patient's ability to give consent as well as the same obligation to support a patient's decision to refuse to give such consent.

Sometimes patients sign a blanket consent to treatment form that allows the healthcare team to provide general care. A specific procedure will need another consent form. Examples of this would include invasive procedures (insertion of a central catheter) and surgery. To ensure the patient is actually providing informed consent, the patient should be asked to explain the procedure back to the healthcare provider. Even though a blanket consent form has been granted, the nurse should ask permission before conducting any nursing care such as bathing, turning, and insertion of an intravenous catheter.

Nurses are often asked to witness the written informed consent process. What the nurse is signing to is that the patient's signature was given freely and without coercion. The nurse is not attesting that the patient understands the care provided (Wacko Guido, 2020).

An informed consent must include the following:

1. Brief but complete explanation of the treatment or procedure.
2. Name and qualifications of the person performing the treatment or procedure and any assistants.
3. Explanation of potential risks/harms that may occur, including death if it is a potential outcome.
4. Explanation of alternatives to the therapy or procedure, which should also include the risks of doing nothing.
5. Explanation that the patient can refuse the procedure or therapy without having other therapies or alternatives discontinued.
6. Explanation that the informed consent can be removed, even if the procedure has started (Wacko Giodo, 2020).

Here are key points of the ANA Code of Ethics (American Nurses Association, 2015). The nurse's role in the informed consent process may include the following:

- **Providing patient education**: One of the most important roles of the nurse is that of patient educator. Nurses can facilitate the informed consent process by providing accurate, objective, and supportive patient education. Initiating patient education can trigger important patient questions and concerns, which if addressed appropriately, can facilitate the decision-making process and alleviate some anxiety.
- **Facilitating patient comprehension**: Patients may have difficulty understanding the plethora of information that accompanies diagnostic procedures and treatment options. Nurses can help with comprehension by asking patients to explain what they understand about proposed treatment and procedures. Common issues that require further explanation or information include the disease being treated, coping with anxiety, dealing with pain, and the impact of other treatment measures already in place on proposed treatments and procedures.
- **Reducing fear and anxiety**: Fear and anxiety can significantly interfere with patient comprehension and the informed consent process. The nurse should work to identify and address the source of anxiety and to relieve or reduce it.

The nurse should make sure that all information is provided and documented, including that the patient knows they have the right to withdraw consent at any time without repercussions. Some healthcare providers have a template for certain types of informed consent such as a written explanation of specific chemotherapeutic drugs, their names, doses, how the drugs will be administered, and on what schedule, as well as anticipated adverse effects. It is especially important that patients and families know what to do when adverse effects occur and how to recognize when an adverse effect is typical and when it could lead to a serious complication.

One of the biggest areas of concern in any type of informed consent or patient education process is assessment of the patient's understanding of the information presented. Did the patient acquire the appropriate knowledge to give an informed consent? How was this assessed? How was this documented?

For example: It is not sufficient to simply ask John and his wife, "Do you understand the side effects this chemotherapy can cause?" Questions that can be answered with a yes or no should be avoided. Some people will simply say "yes" because they are nervous and want to move along or because they do not want to admit that they do not understand.

A more appropriate way of assessing knowledge acquisition regarding side effects would be for the healthcare provider to say, "Please tell me the side effects of the drugs you will be receiving and what to do if you experience them." This requires the patient to explain what they know. The healthcare provider can then assess just how much knowledge the patient actually gained and what information needs to be presented again.

The nurse should ensure that the patient's explanation is then documented. For example: "Patient was able to state that the medication (insert the name of the actual medication) typically causes nausea and vomiting the second day after administration. He states that if he is unable to drink and retain fluids for more than 12 hours, he should telephone his physician. He described the signs and symptoms of dehydration: dizziness; hot, dry skin; parched lips; and confusion. He states that if these occur, he or his wife will seek immediate medical assistance."

It is impossible to anticipate all potential problems regarding informed consent. But if appropriate informed consent is obtained and documented, these problems should be reduced in number and desired patient outcomes facilitated.

Implied consent

Implied consent is consent which may be inferred (Wacko Guido, 2020). An example of this would be a nurse letting the patient know an intravenous catheter is needed and the patient extends an arm without comment. Related to this is emergency consent (Wacko Guido, 2020). In this situation the patient is unable to make their wishes known and a delay in care would result in an adverse situation or poor outcome (Wacko Guido, 2020).

Self-Assessment Quiz Question 5#

Which of the following would be a correct question to assess if the patient truly understood the informed consent they are asked to sign?

a. "You understand the risks of the procedure, correct?"
b. "Do you have any questions?"
c. "Please tell me the risks of the procedure in your own words."
d. "Let me know if you have any questions."

There are a number of laws at both the federal and state levels that affect patient care. This list is not meant to be complete, however it presents two of the federal laws that directly affect nurses.

HIPAA

The Health Insurance Portability and Accountability Act (HIPAA) was initially enacted as a means to prevent employers from denying employees health insurance coverage because of pre-existing conditions. In 2003, a privacy rule was published to mandate a consistent level of protection for all health information housed or transmitted electronically that pertains to an individual. This rule applies to "covered entities," including nurses, other employees in healthcare facilities or agencies, health insurance companies, and medical-billing or data-collection companies (Wacko Guido, 2020). Covered entities include nearly all healthcare providers regardless of whether they work in outpatient, inpatient, or residential settings, as well as other persons or organizations that bill or are paid for healthcare (Wacko Guido, 2020).

The HIPAA Privacy Rule is the first comprehensive federal protection initiative to protect the privacy of health (including mental health) information. The purpose of the rule is to provide significant legal protection to ensure the privacy of individual health information without interfering with access to treatment or quality of care (Wacko Guido, 2020).

Basic principles of the HIPAA Privacy Rule

Here is a summary of some of the basic principles of the HIPAA Privacy Rule (Wacko Guido, 2020):

- The privacy rule protects all protected health information (PHI) including any electronic PHI. Protected health information includes "individually identifiable health or mental health information held or transmitted by a covered entity in any format, including electronic, paper, or oral statements." Protected health information includes: name, address (all geographic subdivisions, smaller than state (so street zip code, city or country), all elements of dates, telephone numbers, fax numbers, email addresses, social security numbers, medical record number, health plan beneficiary number, certificate or license number, vehicle identifiers, device identifiers and serial numbers, Wed URL, Internet Protocol (IP) address, finger or voice print, and photographic images (not just face) and other characteristic that could uniquely identify the individual.
- A covered entity, such as a nurse, may not use or disclose PHI information to others except as the privacy rule allows or as authorized by the person or the person's representative who is the subject of the health information.
- A covered entity must provide individuals (or their personal representatives) access to their own PHI unless there are permitted grounds for refusal. The covered entity must provide an accounting of the disclosures of the PHI to others upon request.
- The privacy rule supersedes state law. However, state laws that provide greater privacy protections or give individuals greater access to their own PHI remain in effect.

Disclosures to other persons

Nurses and other healthcare professionals are often in the difficult position of having to refuse to give information to a patient's family, friends, or others involved in the patient's care in order to adhere to confidentiality and privacy mandates. However, under certain circumstances, the privacy rule does allow disclosures to family, friends, and others involved in the patient's care or payment for care (Wacko Guido, 2020).

- Disclosures to family and friends is allowed if the patient is present and has the capacity to make healthcare decisions. A provider may disclose pertinent information to family and friends if the provider does one of the following:
  - Obtains the patient's permission.
  - Gives the patient an opportunity to object and the patient does not object.
  - Decides from the circumstances (based on professional judgment) that the patient does not object.
- Disclosure may be made in person, over the telephone, or in writing if the patient is not present or is incapacitated if, based on professional judgment, the disclosure is in the patient's best interest. Examples of such professional judgment include allowing someone to pick up a filled prescription or other types of similar health information for the patient.
- Disclosures to other persons are allowed if the patient is present and has the capacity to make healthcare decisions if the provider does one of the following:
  - Obtains the patient's permission.
  - Gives the patient an opportunity to object and the patient does not object.
  - Decides from the circumstances (based on professional judgment) that the patient does not object.
- Disclosures to other persons may be made in person, over the telephone, or in writing if the patient is not present or is incapacitated. A provider may disclose relevant information if the provider is reasonably sure that the patient has involved the person in the patient's care and, using professional judgment, the provider believes the disclosure to be in the patient's best interests.

Case study #3

Mrs. Davidson is a 60-year-old investment banker who has been diagnosed with Stage II breast cancer. Her mother and grandmother are breast cancer survivors. Mrs. Davidson has a 35-year-old daughter from whom she is estranged. After undergoing genetic testing, Mrs. Davidson was found to have a genetic mutation that significantly increases the risk of breast cancer. Mrs. Davison has made it clear to her physician and the nursing staff that she will not be sharing the results of the genetic testing with her daughter, Victoria. One of Mrs. Davidson's nurses knows Victoria; they attend the same church.

Questions:

1. Victoria asks the nurse if any test results have come back on her mom. What should the nurse say and why?
2. If she tells Victoria, are there ethical and legal concerns? If so, what are they?
3. If Victoria did not ask the nurse, should the nurse still say anything? Why or why not?

Discussion

The nurse cannot tell Victoria if there were any tests and if there were any results. The nurse would be best saying "I am not allowed to say anything, including if there are test results as your mom's medical information is private." Mrs. Davidson expressed clearly that she did not want her daughter to know. Mrs. Davidson's results are protected under HIPAA; no one has access to the results without Mrs. Davidson's expressed permission. From an ethical point of view, autonomy is not limited to physical autonomy but the autonomy to decide who has access to information. Finally, if Victoria does not ask, the nurse has no obligation for letting her know the results for the reasons above. While some could say, given the nature of the results (genetic), the daughter has a right to know, even genetic results are considered private and require permission from the patient to be disclosed.

Safeguards to protect PHI

The privacy rule requires that reasonable safeguards be used to protect PHI. Such safeguards vary, depending on the organization, the providers involved, the individual patient's condition, and individual healthcare plans. The rule does not mean, however, that safeguards will absolutely guarantee the privacy of PHI. It is expected that all covered entities evaluate the possibility of violations of confidentiality and privacy and work to eliminate them. Nurses must be completely familiar with their organization's policies and procedures pertaining HIPAA and PHI (Wacko Guido, 2020).

Following are examples of reasonable safeguards (Wacko Guido, 2020):

- Mandating the use of secure passwords for computers that contain PHI.
- Speaking quietly when it is necessary to converse in public areas, such as hallways or nursing stations.
- Avoiding discussing patient information in public waiting rooms.

HOSPITAL READMISSIONS REDUCTION PROGRAM (HRRP)

This is a Medicare value-based purchasing program that encourages hospitals to provide improved communications and care coordination around discharges to decrease avoidable readmissions (CMS.gov, 2021). There are six conditions that are monitored for avoidable hospital readmissions within 30 days. The six conditions are: 1) Acute Myocardial Infarction (AMI), 2) Chronic Obstructive Pulmonary Disease (COPD), 3) Heart failure, 4) Pneumonia, 5) Coronary Artery Bypass Graft (CABG) surgery, and finally, 6) elective primary total hip arthroplasty and/or total knee arthroplasty (THA/TKA; CMS.gov, 2021). This program went into effect in 2010 as part of the Patient Protection and Affordable Care Act (Gia and Pachamanova, 2019). In 2019, Gia and Pachamanova reported examining the Medicare AMI readmissions rate and demonstrated a decrease in readmissions with no negative impact on vulnerable populations (Gia and Pachamanova, 2019).

Impact on nurses

Given nurses are on the front-line during patient education and discharge, it is important for nurses to understand the purpose of the HRRP and how nurses contribute to the overall hospital mission to decrease readmission rates. For example, Bahr, et al in 2020 reported a 7.8% decrease in adult readmissions when the patient had the same nurse for 2 consecutive days before discharge. This was independent of other factors historically related to readmissions (Bahr, et.al, 2020).

Self-Assessment Quiz Question 6#

Sue is an RN who works on a busy medical floor. Today is an exceptionally busy day and she needs to discharge a number of patients, some of whom have COPD or heart failure. She decides to skip going over the discharge instructions with her patients and just provide handouts. What could happen to where she works because of this decision?

a. The institution could be charged with a HIPAA violation.
b. The patient could be readmitted within 30 days and the facility could be in violation of HRRP.
c. The patient could feel their PHI is being exposed.
d. There are no issues with what Sue has done.

ISSUES WITH SOCIAL MEDIA, NURSING, AND LEGAL CONCERNS

Social media and nurses

Social media is instantaneous, powerful, and postings are not able to be completely deleted. It has transformed the way people communicate. For nurses, social media can be a useful tool that facilitates professional connections, promotes appropriate and timely communication with patients and family members, and educates and informs both healthcare professionals and healthcare consumers alike.

Using social media is not a problem for nurses or other healthcare professionals as long as they remain aware of the scope, standards, and laws that guide their practice. Patients expect nurses to act in their best interests at all times and to respect their dignity and the dignity of loved ones. Unintentional as well as deliberate breaches of patient confidentiality and privacy can cause harm, destroy the nurse–patient professional relationship, and can even have legal implications for nurses who (willingly or inadvertently) breach duty through the use of social media. Occurrences of inappropriate use of electronic media have been reported to state BONs; reported in the nursing and general public media; and, in some cases, have resulted in severe disciplinary action (National Council of State Boards of Nursing, 2018a).

The NCSBN has published a white paper titled *A Nurse's Guide to the Use of Social Media* (National Council of State Boards of Nursing, 2018a). Although most healthcare organizations have policies that address employee use of social media during work hours, many do not address the use of such media outside of the workplace. When using social media outside the workplace, the nurse is still vulnerable to accusations of professional misconduct such as violations of clients' rights and confidentiality. This white paper attempts to address some of these occurrences.

A nurse's use of social media is still guided by professional, legal, and ethical standards. Client information must be protected regardless of whether the nurse is on or off duty. Privacy refers to the client's expectation and right to be treated with dignity and respect. Federal law reinforces such privacy through HIPAA. Breaches of client confidentiality and privacy can be intentional or accidental and can occur in a multitude of ways. However, even unintentional breaches leave the nurse vulnerable to legal and other forms of disciplinary action. This includes posting information via social media (National Council of State Boards of Nursing, 2018a).

A BON may investigate reports of inappropriate disclosures on social media on the following grounds (National Council of State Boards of Nursing, 2018a):

- Unprofessional or unethical conduct.
- Moral turpitude (actions that are immoral, unethical, or unjust).
- Mismanagement of patient records.
- Revealing privileged communication.
- Breaching confidentiality.

Nursing consideration: Improper use of social media by nurses may violate state or federal laws, thus making the nurse vulnerable to personal liability claims (National Council of State Boards of Nursing, 2018).

Examples of misuse of social media

The following are some examples of misuse of social media that have been, unfortunately, well publicized in various media formats.

A Facebook Photograph. A junior nursing student provided nursing care to a 3-year-old leukemia patient as part of her pediatric clinical rotation. When the child's mother was out of the room, the nursing student took his picture with her cell phone and posted the photo on her Facebook page, commenting about the bravery of the child and how proud she was to be a nurse. The patient's room number was clearly visible in the photo. A nurse from the hospital was browsing Facebook and found the photo. The nurse reported it to hospital authorities. Although the student did not mean to do so, she had violated a client's confidentiality. She was expelled from the nursing program; the nursing program was barred from using the pediatric site for future clinical rotations for their students; and the hospital faced a HIPAA violation (National Council of State Boards of Nursing, 2018).

The nursing student meant no harm, but naively breached confidentiality according to the HIPAA Privacy Rule. Additionally, the nursing program in which the student was enrolled had a clearly stated policy about students not breaching confidentiality and HIPAA (National Council of State Boards of Nursing, 2018).

Another example is Jane, a nurse working at a long-term care facility, who arrived at work one day and found a photo of one of the residents' buttocks on her computer screen. Jane sent the photo to several colleagues who also forwarded the photo. One nurse posted the photo to her Facebook page, saying, "This is what we have to deal with on a daily basis!" By noon, all the nurses and unlicensed personnel were snickering and talking about the photo, and eventually their supervisor was alerted. Being concerned about protecting the residents' rights, the facility began an investigation and alerted the BON. Local media reported on the incident and law enforcement became involved to investigate whether sexual exploitation had been committed. By the end of the day, it made national news and the family threatened a lawsuit. The nurses involved were fired and had to appear before the BON. All of this could have been avoided if Jane, the first nurse, had promptly reported finding the photo to her supervisor and not shared it (NCSBN, 2018c).

A Blog Entry. A nurse blogged on a local newspaper's online chat room about taking care of a client. She referred to the client as her "little handicapper" and mentioned the child's age and using a wheelchair. The description made the client identifiable in the small town in which the nurse worked. A reader of the blog complained to the BON that the nurse had violated privacy laws.

The BON issued a warning to the nurse advising her that further evidence of release of personal information about clients would result in disciplinary action. The nurse could have faced severe disciplinary action and was considerably shaken. She learned a lesson about privacy violations as well as the use of unprofessional language (little handicapper' National Council of State Boards of Nursing, 2018).

Consequences of the misuse of social media

The ease and instant communicability of posting information on social media can lead to serious professional consequences. The NCSBN advises nurses to avoid posting information about patients electronically and on any type of social media. They should be aware of and adhere to all employers' policies regarding social media and promptly report any breach of client confidentiality or privacy.

The following are some possible consequences of misusing social media (National Council of State Boards of Nursing, 2018a):

> Nurses must report any violation of privacy or confidentiality that others make against patients. Failure to do so could result in employer or BON disciplinary action and the filing of civil or criminal penalties against the nurse who failed to report such violations.
>
> - Online posts about coworkers—such as intimidation, threats, or humiliation—could be viewed as lateral violence even if posted from home or other private locations during off-duty hours. Such posts are referred to as cyberbullying.
> - Employers must also be cautious in their use of social media. Posting comments about patients, family, or employees may also result in legal action.
> - Faculty members are another group who must be mindful of how they use social media. Students are more frequently reporting that faculty members are asking for students' social media passwords or to be friended to bypass privacy settings. Students were not comfortable doing this but were also not comfortable refusing the requests. Faculty must not only instruct student about the proper use of social media but also use social media in an appropriate manner themselves.

Nursing consideration: In addition to disciplinary action by employers and BONs, nurses who violate privacy via social media can face civil or criminal penalties that could include monetary fines or imprisonment (National Council of State Boards of Nursing, 2018a).

Myths surrounding social media

Finally, healthcare professionals as well as students can be naïve when it comes to the use of social media. Here are some common myths regarding the use of social media.

Myth*: Communication posted on social media is private and accessible only to the intended recipient.*

> **Reality**: Content, once posted or transmitted, can be sent to others and is usually not under the control of the original writer. Some social media sites even have a very broad waiver of rights to limit use of transmission or posting of content (National Council of State Boards of Nursing, 2018a).

Myth*: Content deleted or removed from a social media site is no longer accessible or recoverable by others.*

> **Reality**: As soon as something is posted, it exists forever and can always be discoverable by a court of law (National Council of State Boards of Nursing, 2018a).

Myth*: It is OK to post private information about patients as long as the communication is accessed only by the intended recipient.*

> **Reality**: Posting such information is still a confidentiality breach. It is also unacceptable and inappropriate for nurses to discuss or refer to patients, even if such patients are not identified by name but referred to by room number, diagnosis, condition, behavior, or even a nickname. This constitutes a breach of confidentiality (National Council of State Boards of Nursing, 2018a).

Self-Assessment Quiz Question #7

Tom, who is an RN, has had a really rough day and feels the need to vent. He states how short the staffing is on his unit, names his unit, uploads a picture of the staffing and states most of his patients were combative on his private Instagram account. Which of the following is one of the issues with his post?

a. Breach of confidentiality.
b. Breach of nurse/nurse patient information.
c. Breach of protected hospital information.
d. Breach of nurse-to-nurse confidentiality.

Impaired nurses

Substance use disorders are still stigmatized for nurses, which could cause them to be hesitant to reach out for help (Webster, 2022). Rates of reported substance abuse are the same as the general population at around 6% to 8%, however, about 18% of

nurses *show signs* of substance abuse at work and many nurses report using substances to cope with stressors (Webster, 2022). Risk factors include family history of substance abuse or past emotional or physical trauma. The vast number of nurses report work stress as the reason for choosing to use drugs or alcohol. The workplace stress includes chronic staff shortages with extra shifts, and excessive workload during shifts (Webster, 2022).

Nursing consideration: Signs of unhealthy substance use in nurses: Changes in work habits, conflicts with patients or patients' families, charting errors or omission, dramatic mood swings, and social/professional isolation. Impaired performance is a clear warning sign; however, symptoms of impairment might be subtle such as being dazed or sleepy (Webster, 2022).

In most states a nurse may enter a non-disciplinary alternative to discipline program (National Council of State Boards of Nursing, 2018b). The sooner the substance abuse is identified and treated, the better the chance the nurse will return to work and patients will be protected (National Council of State Boards of Nursing, 2018b).

Nursing consideration: Recreational marijuana: As more states legalize recreational use of marijuana, nurses may wonder if there are implications for their practice. The answer is in a grey area but can be yes. A nurse can be subjected to random drug testing at work or before obtaining employment. Marijuana can stay in the blood stream for up to 30 days, thus with recreational use, even if it has been a few days, drug screens can be positive. Current recommendation is not to use any products for recreational use that contain marijuana (Brown, 2018).

LAWSUITS

Categories of negligence that often lead to malpractice lawsuits

Nurses can be sued for some of the following reasons (O'Neil, 2022):

1. Medication errors.
2. Failure to follow orders.
3. Practicing outside of one's scope of practice.
4. Failure to recognize an order error.
5. Failure to communicate, report, or notify and provide pertinent information about a patient in a timely and proper manner.
6. Wrongful delegation of a nursing function.
7. Lack of, or poor documentation.

Nursing consideration: In a court of law, the patient is referred to as the plaintiff. The nurse named in the malpractice lawsuit is referred to as the defendant (Wacko Guido, 2020).

Standards of care

Failure to follow established standards of care can change as new treatment interventions are discovered and nursing roles and responsibilities evolve. Policies and procedures often change based on advances in treatment and the need to use new or unfamiliar equipment. Examples of failure to follow standards of care can be as simple as failure to adhere to medication administration procedures; failure to institute necessary protocols such as a fall protocol; or failure to use equipment in a responsible manner. In fact, failure to use equipment safely and accurately is identified as a separate category among the six major categories of negligence that can lead to malpractice lawsuits (Wacko Guido, 2020).

Communication

Failure to communicate is a consideration in most malpractice lawsuits (Wacko Guido, 2020). Because many conversations are not documented, it can be difficult to prove the adequacy of communication between nurses and other healthcare professionals.

Here are some suggestions for ensuring adequate communication (Wacko Guido, 2020):

- Clearly communicate all pertinent patient information to the physician and other healthcare professionals as appropriate.
- Provide all relevant discharge information to the patient.
- Document thoroughly.
- Clearly communicate all assessment findings to the nurse from the oncoming shift.
- Participate in continuing education activities that focus on communication.

Documentation

Failure to document can be summed up in the familiar sentence, "If it isn't documented, it wasn't done." Failure to document can also lead to a specific treatment intervention (e.g., medication administration, dressing change) done more than once. Failure to document can lead to an inadequate plan of care if, for example, new assessment findings are not documented and shared with the appropriate colleagues (Wacko Guido, 2020). A well-documented medical record can provide an accurate reflection of nursing care, improve communication among the interdisciplinary team, demonstrate competency, and may help guard against a lengthy litigation process (NSO, 2020).

Assessments and monitoring

Failure to assess and monitor indicates that the nurse did not assess and monitor the patient appropriately based on the patient's clinical presentation or the facility policy. When evaluating, monitoring, and assessing are reviewed in a court of law, nursing expert opinions are crucial. The nurse expert for the plaintiff would describe what a reasonably careful and prudent nurse would do under the same or similar circumstances (Wacko Guido, 2020).

Elements of malpractice

What evidence must be obtained to prove malpractice? Four elements must be shown before a nurse is said to be liable for malpractice (Wacko Guido, 2020):

1. Duty.
2. Breach of duty.
3. Harm or damages.
4. Causation.

Nursing consideration: Remember that once duty is established, the nurse cannot abandon the patient. For example, when a nurse accepts an assignment, the nurse cannot stop caring for the patient without insuring there is another nurse to care for the patient (Wacko, Guido, 2020)

In a malpractice action, the plaintiff (the patient) must prove that the nurse's actions, or failure to act, violated a standard of care, thereby breaching the duty to the patient. Attorneys for the plaintiff will present testimony concerning the nurse's failure to competently provide safe and appropriate nursing care (Wacko Guido, 2020).

What types of evidence will the plaintiff's attorneys use to show breach of duty? Evidence is gathered to show that there was a violation of the standard of care. Sources of such evidence include the following (Wacko Guido, 2020):

- The patient's medical record.
- Photographs.
- X-rays.
- Results of diagnostic (including imaging) studies.
- Testimony from witnesses such as other nurses, nurse managers, the patient, the patient's family members, and other visitors.

Another way the attorneys may seek to prove a breach of duty is to call on an expert witness to give testimony. A nurse expert witness must meet the following criteria to provide testimony (Wacko Guido, 2020):

- Be currently licensed to practice nursing.
- Have credentials that match or exceed the defendant's credentials.
- Be without bias.
- Not have any professional or personal relationship with any of the persons involved in the lawsuit.
- Be able to describe the relevant standard of care.
- Be able to describe how the nurse (defendant) failed to meet the standard of care and how that failure caused or contributed to patient injury.

Harm

For a nurse to be held liable for malpractice, the plaintiff (patient) must prove that actual harm resulted from the nurse's breach of duty (Wacko Guido, 2020). For example, suppose a nurse administered a dose of ampicillin to the wrong patient because they did not verify the patient's identity. The patient was not allergic to the medication and had no adverse effects from receiving this medication in error. Although the nurse failed to adhere to an accepted standard of care, no harm was done to the patient. Therefore, the "harm" element of malpractice has not been met.

***Now consider this example**: A patient is to ambulate for the first-time following surgery. The RN had not assessed this patient before ambulation. Instead, they delegated the responsibility for ambulating the patient to a nursing assistant. As the nursing assistant helped the patient to stand, the patient complained of feeling dizzy and fell to the floor, fracturing their hip. The nurse was found to have breached their duty to the patient because they failed to assess the patient before ambulation and delegated a task to a nursing assistant who was not qualified to assess the patient's postoperative condition. The patient was harmed; therefore, the first three elements of malpractice has been met.*

Causation

Causation is the fourth element of malpractice. The plaintiff must prove not only that the nurse breached their duty and the patient suffered harm, but also that the nurse's breach of duty specifically caused the patient's harm. In other words, there must be a causal link between the failure to meet the standard of care and the harm the patient suffered (Wacko Guido, 2020).

Nursing consideration: The plaintiff's attorney must prove that "but for" the nurse's negligence, the patient would not have suffered harm (Wacko Guido, 2020).

***For example:** Consider the patient who received the ampicillin by mistake in the earlier scenario. Suppose that Monica, an RN, administered the ampicillin around 9 a.m. At 6 p.m., the patient told a nursing assistant that he was having aching pain in his left calf. The nursing assistant reported the complaint to Sharon, the RN accountable for providing nursing care to the patient that evening. Sharon told the nursing assistant to keep an eye on the patient but did not assess them herself. The pain became worse, and ultimately the patient suffered a pulmonary embolism caused by phlebitis in the left calf. They later died in the intensive care unit. The patient's family sued both Monica and Sharon for malpractice. Upon review, it was determined that, although Monica did administer the ampicillin to the patient in error, this medication incident did not cause the harm suffered as a result of the pulmonary embolism. Sharon, however, was held liable for the patient's death because she failed to adhere to the standard of care and the NPA by inappropriately delegating assessment to a nursing assistant.*

Damages

Once malpractice has been proven, the plaintiff's damages are determined. Damages refers to the monetary value of the harm that occurred (Wacko Guido, 2020).

Nursing consideration: Damages usually include out-of-pocket medical and related expenses resulting from the occurrence of malpractice. Examples of expenses include lost wages, costs of medical treatment, and pain and suffering experienced by the patient as the result of the harm caused by malpractice (Wacko Guido, 2020).

For the patient/plaintiff to win a malpractice lawsuit, all elements of malpractice must be proven. The burden of responsibility for proving malpractice remains with the patient/plaintiff. The nurse/defendant does not have to prove that their actions were not negligent. The patient/plaintiff's attorney must prove that malpractice occurred and will attempt to convince the judge or jury that each element of malpractice has been proven (Wacko Guido, 2020).

Case study #5

Carol is one of several nurses named in a malpractice lawsuit. A patient had been receiving antibiotic therapy for an infection. The infection grew steadily worse, and the patient had to have his leg surgically amputated as a result of the infectious process. There is no documentation that Carol evaluated the effectiveness of the antibiotic therapy, as evidenced by documenting and monitoring the appearance of the wound when she and her colleagues changed the dressing.

Questions:

1. What element of the ANA scope of practice was violated here?
2. Has the plaintiff proven malpractice?

Discussion:

Assessment and documentation have been violated. Given there was no assessment data concerning the wound in the chart, it would be hard to say during dressing changes that anyone actually examined the wound. For malpractice the following must be met: duty, breach of duty, harm or damages, and causation. Yes, Carol had a duty to the patient to care for the wound. There was a breach of duty as there was no documentation of assessment that the infection was getting worse (and notification of the provider of this). There was harm to the patient as the patient needed an amputation because of the uncontrolled infection. There was causation in this case. Carol and the other nurses' lack of documentation did not give the provider an opportunity to change the antibiotics for the wound, thereby potentially preventing the amputation.

Nursing consideration: Failure to maintain minimum standards of nursing practice accounts for 58.9% of scope of practice license protection matters (NSO, 2020). An example of this is the following. "An RN working at a medical center failed to follow policies and procedures related to proper patient identification of two patients and to review relevant laboratory results. As a result of bypassing these standards, the nurse gave an extra unit of blood to one patient that was intended for the other patient. The State Board of Nursing (SBON) placed the nurse on probation for 3 years." Another example is "an RN working in the PACU was caring for a patient with extreme nausea. The nurse made several attempts to contact the treating provider but was unsuccessful. The nurse called the pharmacist, stating that she believed the patient's condition was urgent and she would contact the provider for an order. The medication was dispensed and the nurse gave it to the patient without ever obtaining an order. The SBON publicly reprimanded the nurse and ordered her to pay a fine for violating the Nursing Practice Act by practicing beyond the scope of practice for an RN" (NSO, 2020).

Protection from being sued

No strategy guarantees complete protection from being sued for malpractice. Unfortunately, patients or families may file lawsuits against nurses and other healthcare professionals for reasons that have nothing to do with the quality of care received (Wacko Guido, 2020).

Patients may be unhappy about a diagnosis or the outcome of a procedure. They may believe they were not treated with respect, or they may express anger over the death of a loved one even though standards of care were upheld. Unfortunately, some people are simply looking for an opportunity to obtain money regardless of the care received. Although none of these reasons is the result of a nurse's failure to adhere to appropriate standards of care, lawsuits can still be filed. Remember, however, that for the plaintiff to win a malpractice action, the four elements of malpractice must be proven (Wacko Guido, 2020).

Nursing consideration: A malpractice lawsuit has what is called an applicable statute of limitations. This means that a legal action must be filed against all defendants within a specific period of time from the time the allegedly negligent incident occurred (Wacko Guido, 2020). Sometimes, to avoid discovering that the statute of limitations has expired, and certain nurses and other healthcare professionals were not included as defendants in the lawsuit, the patient's/plaintiff's attorney may include as defendants "anyone and everyone" who may have been in any way involved in the client's care concerning the events leading to the alleged harm. After investigation, nurses and others not actually involved may be eliminated from the lawsuit (Wacko Guido, 2020).

Is there anything nurses can do to reduce the chances of being named in a malpractice action? Here are some suggestions (Wacko Guido, 2020):

- Practice only within the framework of their NPA and the scope and standards of their practice.
- Remain competent by attending in-services and continuing education activities.
- Become active in professional organizations.
- Identify their strengths and weaknesses. Work to enhance strengths and reduce weaknesses. Do not accept assignments if they feel they are not competent to perform them.
- Use all equipment safely and appropriately. If a nurse is unsure about the operation of a piece of equipment, they should seek assistance.
- Document all patient care activities and communications relating to patient care.
- Know how to use the chain of command to seek clarity or report situations that compromise patient care, and do not hesitate to do so.
- Interact in an objective, honest, and respectful manner with patients, families, and colleagues.

Nursing consideration: The most effective way for nurses to protect themselves from facing a malpractice lawsuit is to know and practice according to the NPA and standards for their levels of nursing practice and degree of specialization. This means that they must know the standards and NPA of the state or states within which they practice. They must also know the scope of practice standards as established by other recognized authorities such as relevant specialty organizations and the healthcare organization in which they practice (Wacko Guido, 2020).

The National Council of State Boards of Nursing does provide a checklist to enhance patient safety and minimize a nurse's liability for exposure (NCSBN, 2018c).

Below are some of the points on the checklist:

1. Read nurse practice act at least annually.
2. Decline to perform a requested service that is outside legal scope of practice and immediately notify supervisor or the director of nursing.
3. Contact the risk management or legal department regarding patient and practice issues, if necessary.
4. Contact the board of nursing and request an opinion or position statement on nursing practice issues.
5. Use the chain of command or the legal department regarding patient care or practice issues.
6. Evaluate every patient for risk of falling utilizing a fall assessment tool that considers the following factors, among others: Previous fall history and associated injury, gait and balance disturbances, foot and leg problems, reduced vision, medical conditions and disabilities, cognitive impairment, bowel and bladder dysfunction, special toileting requirements, use of both prescription and over-the-counter medications, and need for mechanical and/or human assistance.
7. Evaluate environmental factors needed to reduce risks - whether working in a hospital, rehabilitation, long term care facility, or in a home setting.
8. Accurately document all falls; some of the documentation should include patient functional status before and after fall, any witnesses to the fall, any contributory concerns (wet floor), and mental state, along with other things.
9. Complete a patient drug history, including current prescription medications; over-the-counter drugs and supplements; alternative therapies; and alcohol, tobacco and illicit drug use.
10. Review allergy notations on medication profiles before administering any medications.
11. Review laboratory values and diagnostic reports before administering medications and make practitioners aware of any abnormalities.
12. Utilize machine-readable barcoding to check patient identity and drug data before administration of drugs or, if this is not possible, verify patient identity using two patient identifiers (such as patient ID number and birthdate) from the original prescription.
13. Document simultaneously with medication administration to prevent critical gaps or oversights.
14. Accept verbal drug orders from practitioners only during emergencies or sterile procedures and, before transcribing the order, read it back to the prescriber and document the read-back for verification.
15. Follow procedures to prevent wrong dosages or concentrations of identified high-alert drugs (e.g., anti-coagulants, muscle relaxants, insulin, potassium chloride, opioids, adrenergic agents, dextrose solutions and chemotherapeutic agents).
16. Ensure that high-alert medications are always accompanied by standardized orders and/or computerized safe-dosing guidelines and are verified by two persons before administration.
17. Ensure that pediatric medications are accompanied by standardized orders and/or computerized dosing guidelines.
18. Follow employer's guidelines for both adult and pediatric patients' dosages, formulations, and concentrations of drugs.
19. Follow the employer's policies and procedures to keep drugs with look-alike and sound-alike names separate (NCSBN, 2018c).

Nursing consideration: Per report by the Nurses Service Organization (2020) the top defense matters in nursing litigation were 32.5% professional misconduct; 24.8% scope of practice, 9.7% documentation errors of omissions, 9.3% treatment and care; 8.8% patient's rights and patient abuse; 6.2% medication administration (NSO, 2020).

What to do if named in a malpractice suit

The first step the nurse should take is to inform their employer. Then the nurse needs to ask the following questions and be sure to receive clear answers (Wacko Guido, 2020):

- Am I covered by the organization's malpractice insurance policy?
- Up to how much in damages will the malpractice policy pay?
- Will the organization's attorney represent me in this lawsuit?
- May I hire my own attorney?

Even if the nurses are covered by the organization's malpractice insurance policy, it might be wise to consult with a personal attorney. It might be important to have legal counsel whose first and only priority is the nurse, not the employing healthcare organization.

Case study #6

Olivia is a critical care nurse. She is certified in that specialty and is familiar with the scope and standards of practice as they relate to critical care nursing. Olivia has worked in a large metropolitan medical center for 10 years as a critical care nurse. In this setting, Olivia has fulfilled her role as a critical care nurse to the maximum level within the standards legally and ethically allowed.

Recently, because of family needs, Olivia moved to a rural area served by a large community hospital. Hospital policies and procedures prohibit Olivia from performing some of the critical care procedures that she did in her previous work setting. Olivia is very upset about this and has complained, vehemently, to the nurse manager of the critical care unit. The manager sympathizes with Olivia but explains that change comes slowly to this facility. She suggests that Olivia form a task force to help provide evidence regarding the procedures now prohibited, showing that they are within the properly educated and trained critical care nurse's legal realm of practice. The manager promises to be part of the task force and to help develop and support any necessary training and education for Olivia's critical care colleagues. Olivia is frustrated: "It's not my job to show these outdated people how stupid they are being!"

One evening Olivia performs a procedure that, although within her scope of practice, is prohibited by hospital policy. The patient suffers a life-threatening complication.

Questions:

1. Can the family bring a lawsuit against Olivia and the hospital? Why or why not?
2. If the family can bring a lawsuit against Olivia and the hospital, do you think all elements of malpractice will be met?

Discussions:

Yes, the family can bring a lawsuit against Olivia and the hospital. While anyone can file a lawsuit, in this case there is potential malpractice. For malpractice, there needs to be a duty, breach of duty, harm, and causation. Olivia had a duty to care for the patient *following the hospital's policies and procedures.* While Olivia could perform the procedure in her original hospital, there were no policies in place for her to perform the procedure in the current hospital. Thus, by breaking the *scope of care at the hospital*, she breached her duty to the patient. Even if a NPA says an RN can do something, if the hospital has a policy that prohibits it, the nurse is obligated to follow the hospital policy. Hospital policy can restrict scope of care but cannot expand it larger than the state's nurse practice act. Yes, there was harm. The patient suffered a life-threatening complication and there was causation due to the fact the harm was caused by the procedure. So yes, all elements of malpractice have been met.

The nurse should not discuss the case with anyone except the attorney who is representing them (Wacko Guido, 2020). This includes other defendants and close friends. Discussing the case with even close friends may lead to problems later if these close friends indulge in gossip about the lawsuit or are called to testify against the nurse/defendant.

Suppose a nurse is not being represented by the healthcare organization but by an attorney they have hired. In that case, the nurse may be told not even to discuss the case with their employer (Wacko Guido, 2020).

Giving a deposition

A nurse named as a defendant in a malpractice lawsuit should expect to give a deposition. A deposition is "sworn pretrial testimony in response to written or oral questions and cross-examination, recorded by a certified court reporter." Depositions are taken from the plaintiff (patient or family), other defendants, and expert witnesses for both the plaintiff and the defendant. A written, audio, or video record is made of the testimony given during the deposition. Testimony is given under oath, meaning that the persons involved swear that the testimony they are giving is truthful. If the person lies, then perjury has been committed (Wacko Guido, 2020).

Nursing consideration: The information provided during a deposition can be used during the actual malpractice trial. Testimony given during a deposition that differs from testimony given during the trial may be a point of controversy during the trial. Such differences may have an adverse impact on any or all parties involved in the lawsuit. The credibility of the person whose testimony at the trial differs from the testimony given during the deposition could be damaged (Wacko Guido, 2020).

Here are other key points about giving a deposition (Wacko Guido, 2020):

- Depositions given by the defendant are meant to clarify what the patient's medical record contains (documentation by the defendant) and what the defendant intends to say as part of their testimony at trial.
- Depositions given by expert witnesses are meant to examine the scope of the experts' opinions.
- Before the deposition, the nurse's attorney will provide the nurse with advice and guidance as to how they should conduct themselves. The attorney will also review with the nurse the patient's medical record and questions likely to be asked by the patient's/plaintiff's attorney. The attorney will also explain which documents and discussions do not have to be answered - such as information about incident reports. Nurses and other defendants should follow the advice of legal counsel carefully. Deviating from such advice such as discussing the case with friends can have serious consequences.
- During a deposition, in addition to the patient's/plaintiff's attorney and the nurse's/defendant's attorney, other people may be present such as the patient, the patient's family members, and lawyers who represent other defendants in the case.
- During the deposition, the nurse will be asked about their background, education, nursing experience, and the care provided to the patient/plaintiff.

Malpractice coverage

Although the healthcare organization for which the nurse works may cover them under the organization's malpractice insurance policy, it is important that all nurses understand the kinds of events and financial limitations covered by the policy. Nurses should regularly check their employer's coverage of its nurses to be sure that coverage has not changed or been discontinued (Wacko Guido, 2020).

Nursing consideration: If the nurse and their employer are both named as defendants in a lawsuit, even if the nurse is covered by the employer's malpractice insurance, the interests of the nurse and the employer may be contradictory. It is possible that the employer could claim that the nurse failed to act within the scope of their employment and is consequently not covered by the employer's malpractice policy (Wacko Guido, 2020).

Here are some questions nurses need to ask regarding malpractice coverage (Wacko Guido, 2020):

- Am I covered by my employer's malpractice insurance? If so, what are the monetary limits of this coverage?
- What kinds of events and actions does the malpractice insurance policy cover?
- How many claims per year does the malpractice insurance policy cover?
- Does the malpractice insurance policy cover me if the incident that triggered the malpractice lawsuit occurred while I was an employee, but was not an employee by the time legal action was taken? In other words, does my protection stop if I am no longer employed by the organization, even though the incident occurred during my time as an employee?
- Does my employer's malpractice insurance cover the cost of an attorney to represent me?
- What are the laws in the state in which I practice concerning malpractice coverage? Are certain professionals mandated to have coverage? If so, how much coverage is mandated?

Employer's insurance relates to malpractice litigation. However, suppose a complaint is filed against a nurse by the state BON or other regulatory body. Legal representation is still necessary. An employer's policy will cover only malpractice representation. The nurse is on their own when dealing with the BON or other regulatory body complaints unless covered by personal malpractice insurance that includes such coverage (Wacko Guido, 2020).

Nursing consideration: If the nurse and their employer are both named as defendants in a lawsuit, even if the nurse is covered by the employer's malpractice insurance, the interests of the nurse and the employer may be contradictory. It is possible that the employer could claim that the nurse failed to act within the scope of their employment and is consequently not covered by the employer's malpractice policy (Wacko Guido, 2020).

Understanding malpractice insurance

A number of myths surround nursing malpractice insurance. Below are some reasons why a nurse should carry their own individual liability insurance (Wacko Guido, 2020):

1. Defending against a lawsuit is expensive and the healthcare agency's insurance may not cover all the nurse's legal expenses.
2. Nurses with private professional liability insurance are not sued more frequently. A plaintiff does not know if the individual has individual liability insurance until after the lawsuit is filed.
3. Costs may be relatively inexpensive, depending on where the nurse works.
4. Malpractice is not synonymous with incompetence or guilt. Sometimes, untoward events do occur placing the patient at risk, which can place the nurse at risk of being named in a lawsuit.
5. Should the institution decide to sue the nurse for reimbursement, the nurse has coverage for this.
6. A nurse can be sued, even if standard of care was followed. The patient's or family's perception that an error has occurred may be sufficient to trigger a lawsuit.

Types of malpractice insurance and their coverage

Occurrence-based policies cover nurses for events that occurred while the policy was in effect (e.g., the policy period). This is true even if the policy has expired but the claim was from an incident within the time period where the policy was enforced. *Claims-made policies* only provide for claims made within the active policy period and when the lawsuit has been filed with the courts, and when the insurance company is made aware of the lawsuit. If the lawsuit is filed after the policy has expired, the nurse is not covered (Wacko Guido, 2020). Policies usually cover defense costs; covered injuries, which can include bodily injury, mental anguish, property damage, libel, slander; and economic damages (Wacko Guido, 2020).

Policies will include limits of liability (individual claim, and overall [aggregate]). Some policies will not cover criminal actions, incidents under the influence of drugs or alcohol, "physical assault, sexual abuse, molestation, habitual neglect, licentious and immoral behavior toward patients whether intentional, negligent, inadvertent, or committed with the belief that the other party was consenting," and finally actions that violate state nursing practice acts (Wacko Guido, p. 188, 2020).

JUST CULTURE

A just culture is one that supports a safe haven for the reporting of errors and near misses in healthcare (Paradiso & Sweeney, 2019). It is the organization that is ultimately accountable for systems they design and the analysis of the incident, not the individual. The organization realizes errors are a sequence of events with multiple opportunities for correction, as opposed to occurring in a vacuum (Paradiso & Sweeney, 2019). There is not one definition of just culture; however, a generally accepted one is "organizational accountability for the systems they've designed and employee accountability for the choices they make" (Paradiso & Sweeney, 2019).

The first pillar of a just culture is the adoption of a nonpunitive, non-blaming system for the reporting of errors. The goal of the organization is to improve patient outcomes but not blame the individual (Paradiso & Sweeney, 2019). The second pillar is understanding the behavior leading up to a person's choice. Behaviors that could lead to errors would be "at-risk" behaviors, where the risk is not recognized or is believed to be justified. There can also be reckless behavior, which is a conscious decision to disregard the risk that is substantial and unjustifiable (Paradiso & Sweeney, 2019).

Once an error or near miss has been reported, the organization should conduct a root cause analysis (RCA) or failure missed and effects analysis (FMEA) to truly understand how the error occurred and what change is needed to prevent this in the future (Schroeder, Parisis & Foster, 2019). Systems are not infallible. Even with all the checks and balances in US healthcare systems (electronic medical records, orders etc.), mistakes still occur (Paradiso & Sweeney, 2019).

So, does a "Just Culture" mean there is never repercussions for an individual in a healthcare system? No, as stated above, there is a pillar consisting of understanding the behavior underlying the error. There are "at-risk" behaviors, which are a known violation of a rule or procedure, done in good faith that the violation is inconsequential; or reckless behavior, which is the commission of an error out of intentional disregard for the rule or procedure, its consequence, or both (Wasserman, Redinger and Gibb, 2020).

The question is "what should be the repercussion?" Samuel Reis-Dennis (2018) provided an ethical basis for some sort of repercussion for errors based on the ethical idea of a moral imbalance. When someone decides to knowingly break the rules, they are taking advantage of a non-blame culture. This brings about a disadvantage for others. Also, the person who "breaks the rules" is demonstrating a contempt for themselves and for those who follow the rules (Reis-Dennis, 2018). The message communicated is "the rules only apply to others, but not to the person who has broken them" (Reis-Dennis, 2018). He does not advocate punishment for system breakdown, but when members of the healthcare team knowingly break the rules. If there are also system issues, those need to be investigated and handled (Reis-Dennis, 2018).

What should the consequences be for "breaking the rules?" Wasserman, Redinger and Gibb (2020) provide some ideas. The recommendations are for medical students who "break the rules," however they can be applied to all persons working in healthcare. They advocate for two different sets of responses based on the type of "error". If it was a medical error, there is one set of responses and if there is a lapse in professionalism, there is another set (Wasserman, Redinger and Gibb, 2020). Below is a table adapted from their article, expanded to all healthcare providers, not just medical students.

Table 1

Type of Error or Lapse	Response	Example
Medical/Nursing Error		
Inadvertent human error: an error, usually resulting from shortcomings of human cognition, that was unintended.	Console.	Not hearing a patient call button, forgetting to turn a patient.
At-risk behavior: a knowing violation of a rule or procedure but with a good-faith belief that the violation is inconsequential.	Coach.	Error caused by failing to scan a patient's bedside barcode before delivering medication because the system often doesn't work correctly or ignoring a medication dosage alert in the electronic medical record because such alerts pop up constantly.
Reckless behavior: commission of an error out of intentional disregard for the rule or procedure, its consequences, or both.	Discipline.	Failure in completing a procedure or not following policies that directly endanger a patient (e.g., not monitoring a patient after giving a medication that is known to potentially cause harm).
Lapse inProfessionalism		
No-fault suboptimality: a lapse caused largely by environmental factors, but that could have been handled better by the employee.	Affirm, support, advise.	Missing a dressing change because central supply did not deliver the necessary supplies. Being late to work because of a storm where power outages were predicted and alarm clock did not go off.
Nonegregious unprofessionalism: knowing engagement in an unprofessional behavior but with a reasonable and good-faith belief that the violation is minor or inconsequential.	Remediate.	Skipping a mandatory inservice because it is felt the content is redundant.
Egregious unprofessionalism: knowing violation of a professionalism expectation without a reasonable claim or good-faith belief that the violation is minor or inconsequential.	Discipline.	Logging into a family member or friend's electronic medication record after training in HIPAA and other policies.
Modified from: Responding to Unprofessional Behavior by Trainees- A "Just Culture" Framework. Wasserman, Redinger, & Gibb, 2020.		

What is the difference between a "Just Culture" and law enforcement?

Both cultures aim to prevent harm to persons/patients and public interest. According to Eng and Schweikart (2020) "Just culture emphasizes the quality or desirability of an individual's choices and behaviors and apportions corrective actions or discipline on that basis more so than on the severity of the consequences. Criminal law, on the other hand, often focuses on outcomes, and while the law "generally disallow[s] criminal punishment for careless conduct, absent proof of gross negligence" (i.e., a heightened level of negligence that may include recklessness; p781)." This means in a just culture all aspects of the incident are reviewed, however, when examining the same situation through the lens of the criminal system, only the outcome is important." Instead of imposing punishments for all categories of failures of duty, a just culture advocates acceptance and support for errors, coaching to change risky behaviors, and discipline or punishment for those whose actions are reckless because they were committed with knowledge of harm or with purposeful intent to harm" (Eng and Schweikart, 2020 p781). Whereas in law enforcement, there may not be "coaching" but punishment, no matter if the behavior was risky (such as driving 5 miles over the speed limit) or with wanton recklessness (driving 50 miles over the speed limit and swerving wildly; Eng and Schweikart, 2020).

Even with Just Culture, does the error still effect the healthcare provider?

The most obvious victim of a medical error is the patient (and family), however, there is a second victim - the healthcare worker who was involved with the error (White and Delacroix, 2020). The healthcare worker can suffer significant emotional harm and burnout, whether their contribution to the error was preventable

or not, and depending on the severity of the error (Sexton, Adair, Profit, Milne, McCulloh, Scott and Frankel, 2021). White and Delacroix, in their integrative review of the research, describe a six-stage recovery process which most second victims go through.

The six stages are:

1. Chaos and accident response, where the medical error is first detected and usually involves an acute stress response.
2. Intrusive reflections, where those who err experience a period of self-isolation and rumination regarding the event.
3. Restoring personal integrity, in which healthcare providers are haunted by intrusive thoughts regarding the error and its impact on their personal and professional self.
4. Enduring the inquisition, where second victims worry about legal and professional repercussions.
5. Obtaining emotional first aid for those who err to seek emotional support from trusted family members, friends, and/or colleagues.
6. Moving on by either dropping out, surviving, and/or thriving (White and Delacroix, 2022 p7). A healthy recovery after a medical error is highly grounded in the individual's coping skills and self-forgiveness (White and Delacroix, 2022).

What also assists with second victim recovery is support from the employing institution. According to the findings in the White and Delacroix article, the second victim needs 1) fair treatment; 2) respect; 3) institutional understanding of their need for assistance in coping with the experience; 4) institutional support; and 5) transparency as the institution fosters a culture of openness to aid in the healing process (White and Delacroix, 2020, p8).

This finding was also supported in a research study published after White and Delacroix's publication. Sexton, et al in 2021 published their findings examining the perception of institutional support for second victims (Sexton, Adair, Profit, Milne, McCulloh, Scott, and Frankel, 2021). They examined cross sectional data from 13,040 healthcare workers across 440 work settings within one academic health system (Sexton, Adair, Profit, Milne, McCulloh, Scott and Frankel, 2021). Forty-three percent of the registered nurses surveyed (the largest group within the respondents with an n=3,367) were aware of a second victim (Sexton, Adair, Profit, Milne, McCulloh, Scott, and Frankel, 2021). But of those nurses, only 31% felt the institution actually provided support for second victims. (Sexton, Adair, Profit, Milne, McCulloh, Scott and Frankel, 2021). The study also demonstrated that those who felt there was poor support for second victims also scored more negatively on the assessment of the safety culture of the institution, than those who did not know a second victim. Thus, the authors concluded this dichotomy could have significant repercussions on the overall culture of the institution. Leaders can take away from this the need to assess the gaps in perceived second victim support and to improve the institutional structure of support, which may help with overall increase in the support of a safety culture (Sexton, Adair, Profit, Milne, McCulloh, Scott, and Frankel, 2021).

Should the error be disclosed to the patient or family?

Traditionally, patients and families were not made aware of the error unless it was obvious. Healthcare systems traditionally had a deny and defend strategy in hope of providing limited information to the family and denying fault. However, this has changed (Agency for Healthcare Research and Quality [AHRQ], 2019). This is in direct contrast to patient-centered care. Now a number of institutions have adopted the philosophy of "communication and response." This philosophy emphasizes early disclosure of adverse events, appropriate investigations (and letting the patient and family know the institution is investigating the event), changes to mitigate the chances of the event happening again, and, if care was inappropriate, financial compensation. Research has demonstrated this approach has led to a decrease in malpractice lawsuit and lower litigation costs. How the adverse event is disclosed to the patient and/or family needs to be handled thoughtfully and with sensitivity to avoid alienating the patient and/or family. State legislatures have supported this change in the culture of healthcare with more than 33 states having laws that preclude some or all information contained in the disclosure from being used in a malpractice lawsuit (AHRQ, 2019).

Self-Assessment Quiz Question #8

Taylor makes a medication error. He forgets to scan the patient's identification before administering the medication. There was no harm to the patient. He submits a report in the hospital's reporting system. In a just culture, should there be any consequences, and if so, what should they be?

a. No consequences, since he reported the failure to scan.
b. No consequences, since there was no harm to the patient.
c. Yes, this is an at-risk behavior and coaching would be appropriate.
d. Yes, this is a reckless behavior, and he should be written up.

Conclusion

Nurses have faced legal and ethical dilemmas for many years. It is the obligation of each nurse to practice within the scope and standards of practice as established by NPAs and within ethical codes of conduct. Understanding what could place a nurse in legal jeopardy is important. Also understanding what a "just culture" is and is not, will help the nurse in their care. Finally, the best interest of the patient is every nurse's primary goal and responsibility.

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ETHICAL AND LEGAL ISSUES IN NURSING PRACTICE

Self-Assessment Answers and Rationales

1. The correct answer is A.
Rationale: A veracity is telling the truth. By accurately telling the patient the side effects of the medication, the nurse is being truthful to the patient.

2. The correct answer is C.
Rationale: Changing a bandage is within what can be delegated to an LPN. The rest of the items can be performed only by RNs.

3. The correct answer is D.
Rationale: It is each state or territory's board of nursing which develops and enforces nursing practice acts.

4. The correct answer is D.
Rationale: You are overstating your credentials.

5. The correct answer is C.
Rationale: This forces the patient to tell you what they understood, and any misconceptions can be discussed. The rest of the answers can be answered yes/no or not answered at all by the patient.

6. The correct answer is C.
Rationale: Given the Hospital Readmissions Reduction Program, if one of the patients is readmitted within 30 days of discharge, the hospital may lose the reimbursement for the admission.

7. The correct answer is A.
Rationale: Even though Tom has not posted names, he has posted private patient information by using patient descriptions (most of his patients were combative) and location (unit and hospital).

8. The correct answer is C.
Rationale: While there was no harm to the patient and Taylor reported the incident, he did place the patient at risk. After an investigation to see why Taylor did not scan (no scan wand in the room, the scan wand was broken, etc.) and any systems issues fixed, Taylor should be coached on how to prevent this from happening again.

Course Code: ANCCPA07EL

Health Care Management of Patients with Substance Use Disorders

2 Contact Hours

Release Date: July 15, 2021 **Expiration Date:** July 15, 2024

Faculty

Author: Karen S. Ward, PhD, MSN, RN, COI, received BSN and MSN degrees in psychiatric-mental health nursing from Vanderbilt University and a PhD in developmental psychology from Cornell University. She is a professor at the Middle Tennessee State University School of Nursing, where she has taught in both the undergraduate and graduate programs. Dr. Ward's work has been published in journals such as *Nurse Educator, Journal of Nursing Scholarship, Journal of Emotional Abuse*, and *Critical Care Nursing Clinics of North America*. She has also presented her work at local, regional, and international conferences. Dr. Ward's research interests include child and adolescent maltreatment, mental health, and wellness issues (stress and depression), leadership variables, and survivorship.

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

Author: Debra Rose Wilson, PhD, MSN, RN, IBCLC, AHN-BC, CHT, received an MSN in holistic nursing from Tennessee State University School of Nursing and a PhD in health psychology with a focus in psychoneuroimmunology from Walden University. She has expertise in public health, psychiatric nursing, wellness, and disease prevention. In addition to being a researcher, Dr. Wilson has been editor of the *International Journal of Childbirth Education* since 2011 and has more than 150 publications with expertise in holistic nursing, psychoneuroimmunology, and grief counseling. Dr. Wilson has a private practice as a holistic nurse and is an internationally known speaker on stress and self-care. Dr. Wilson was named the 2017-2018 American Holistic Nurse of the Year. She is on the faculty at both Austin Peay State University School of Nursing and at Walden University.

Debra Rose Wilson has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Reviewer: Cindy Parsons, DNP, ARNP, BC, is a Psychiatric Mental Health Nurse Practitioner and educator. She earned her Doctor of Nursing Practice at Rush University, Illinois and her Nurse Practitioner preparation from Pace University, New York. Dr. Parson's is an Associate Professor of Nursing at the University of Tampa and maintains a part-time private practice. She is board certified as Family Psychiatric Nurse Practitioner and a Child and Adolescent Psychiatric Clinical Specialist and her areas of specialization are full spectrum psychiatric mental health care with a focus on family systems, community health and quality improvement. Dr. Parson's currently
serves as the chair of the QUIN council, is the membership chair for the Florida Nurse Practitioner Network, and in 2009, she was inducted as a Fellow of the American Association of Nurse Practitioners.

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

Course overview

Substance use disorder is widespread, varies from culture to culture, and covers a vast array of mind-altering substances. The purpose of this course is to help health care workers in their treatment of patients with substance use disorders, also called SUDs, and to provide patients with the tools and interventions to pursue a lifestyle on their own absent from substance use disorder. The treatment for SUDs includes in- and outpatient programs, a multimodal treatment approach, possible pharmacological treatments, and behavioral therapy. This course helps to prepare health care professionals to recognize SUDs, suggest treatments, provide important motivation and encouragement, and assist with self-management skills that will help with a successful recovery.

Learning objectives

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

- Differentiate the common health care diagnoses for patients with substance use disorders.
- Compare the types of assessments used by healthcare professionals in the past to the more recent tool for assessing patients.
- Distinguish four types of non-alcohol related substance use disorder.
- Apply appropriate interventions for patients who exhibit signs of substance use disorder.

How to receive credit

- Read the entire course online or in print which requires a 2-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.

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.

Sponsorship/commercial support and non-endorsement
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

Throughout history, societies have consistently found substances that provide mind-altering properties. The specific substance that is used varies from culture to culture and over time. Generally, norms are established as to what constitutes acceptable use and what constitutes misuse. Using any substance in a non-socially accepted way is viewed negatively. The health care costs associated with illicit substance use disorder in the United States are $11 billion annually (National Institute of Mental Health, [NIMH], 2017). Alcohol use disorder is not included in these numbers, so the total cost is significantly higher. Cultural traditions surround the use of alcohol in family, religious, and social settings. There are marked differences in the quantity, frequency, and patterning of alcohol consumption in different countries. Alcohol consumption is legal in the United States for persons older than 21 years of age. There is some evidence that drinking small amounts of alcohol is beneficial for many people. However, the negative consequences that alcohol use disorder has on relationships, finances, employment, and health are well known.

In the United States, many individuals use illicit substances such as cannabis, methamphetamine, cocaine, and heroin. Synthetic heroin and heroin laced with fentanyl are popular substances. Amphetamines are used by individuals at all levels of society and is more common among younger adults.

The most widely used illicit psychoactive substance in the United States is Cannabis (NIMH, 2017). As of early 2017, cannabis was illegal under federal law and is still classified by the United States government as being equally dangerous as heroin. However, state laws have changed to allow legal use of cannabis in over 18 states (NCSL, 2021). Because there are both legal and illegal markets for cannabis, health care professionals working in areas where they see patients affected by cannabis on a regular basis should become familiar with the typical strength and potential contaminants in their area as well as their state's laws regarding use of this substance.

Prescription drug abuse is a growing concern in the United States and does not appear to be easing up any time soon. Except for cannabis and alcohol, prescription drugs are the most abused substances. In the U.S., an estimated 52 million people have taken prescription drugs for a nonmedical reason at least once. Prescription drug use disorder is an issue facing both young and older adults, and teens. The types of drugs that people commonly abuse include painkillers, stimulants, and sedatives (Smith, 2021).

In every health care setting, health care professionals interact with patients who have substance-related disorders. For patients with a substance use disorder (SUD), the manner in which a health care professional cares for them is important. Those who

work in emergency departments are familiar with patients who use substances. In some parts of the United States, cocaine, crack, and phencyclidine (PCP) have brought increased violence into the emergency department. Patients with substance-related problems are seen on medical-surgical units and even maternity units, where mothers misusing substances give birth to babies who experience the adverse effects of the substance or neonatal abstinence syndrome (i.e., withdrawal).

Although this course does not focus on tobacco use, nicotine is considered an addictive drug, the consequences of which can change and end lives. Smoking and other forms of tobacco use are less socially accepted than in the past, with increased attention now being paid to the risks of secondhand smoke and protecting nonsmokers (NIMH, 2017).

Nurses may be the first health care professionals with whom a patient with substance-related disorders comes in contact. Nurses may have the opportunity to intervene by providing assessment, corroboration, referral, and collaboration with the patient and the members of the patient's health care team and family. Getting an accurate substance use history is critical to providing the best care for any patient.

HEALTH CARE ATTITUDES

The health care professional can potentially have an impact on or influence the resistance of patients who are misusing substances. It is essential for health care professionals to examine their own attitudes and beliefs about people with SUDs before working with them. For example, it is helpful when health care professionals understand and believe that SUDs are a legitimate problem rather than a result of moral weakness.

It can be frustrating to care for patients with SUDs, and health care professionals may want to avoid them if possible. Many patients with SUDs are particularly good at manipulating situations to receive more medication than necessary, and this can make the health care team angry. Even when patients are truly trying to stop their substance misuse, it can be difficult and involve a lot of treatment failures. Caring for patients with repeat admissions to the hospital may be annoying to health care professionals who feel their time is better spent on patients who are "really sick." Patients who misuse substances are also sick in some way and need quality care.

SUBSTANCE-RELATED AND ADDICTIVE DISORDERS

The general biopsychological process of addiction involves substances that either mimic naturally occurring neurotransmitters or cause abnormally large amounts of neurotransmitters to be released. Specifically, these substances can cause sharp increases in the release of dopamine in the nucleus accumbens (Volkow et al., 2016; Volkow & Morales, 2015). Conditioned learning occurs with repeated exposure, and eventually the dopamine neurons stop firing in response to the actual reward and start responding to cues in anticipation of the reward (Volkow et al., 2016). A decrease in the normal dopamine production in the brain (tolerance) may cause the person to feel depressed and to increase the behaviors that stimulate dopamine production (Volkow & Morales, 2015). Addiction is a neurophysiological process and has been linked to more than smoking, drinking, or misuse of other substances. Food, sex, and gambling addictions are recognized in the *Diagnostic and Statistical Manual of Mental Disorders* (5th edition; DSM-5).

Diagnostic assessment and the DSM-5 psychiatric diagnoses

The DSM-5 diagnoses for patients with substance-related disorders are divided into substance-use disorders and substance-induced disorders (APA, 2013). As the term implies, substance-induced disorders (such as intoxication, withdrawal, anxiety, and sleeping disorders) are the result of a patient's substance use disorder. These conditions are generally considered to be temporary and based on the length of time the substance's effects last; it is assumed that once a person stops using these substance-induced disorders will disappear. The focus of this course is to recognize and evaluate substance-use disorders related to alcohol, cannabis, hallucinogens, inhalants, opioids, sedatives, hypnotics, anxiolytics, and stimulants (See Box 1).

Box 1. DSM-5 Substance-related Disorders and Diagnoses
Alcohol use disorder • Alcohol intoxication • Alcohol withdrawal
Caffeine use disorder • Caffeine intoxication • Caffeine withdrawal
Cannabis use disorder • Cannabis intoxication • Cannabis withdrawal
Other hallucinogen use disorders • Other hallucinogen intoxication • Inhalant use disorder • Inhalant intoxication
Opioid use disorder • Opioid intoxication • Opioid withdrawal
Sedative, hypnotic, or anxiolytic disorder • Sedative, hypnotic, or anxiolytic intoxication • Sedative, hypnotic, or anxiolytic withdrawal
Stimulant use disorder • Stimulant use intoxication • Stimulant use withdrawal
Tobacco-related disorders • Tobacco use disorder • Tobacco withdrawal • Other tobacco-induced disorders
(American Psychiatric Association, 2013)

HEALTHCARE DIAGNOSES

Numerous healthcare diagnoses are possible for patients with substance-related disorders. Patients with these disorders commonly have more than one healthcare diagnosis such as the following (Herdman & Kamitsuru, 2018):

- Coping (e.g., ineffective, readiness for enhanced, compromised family)
- Family processes (e.g., dysfunctional, interrupted, readiness for enhanced)
- Denial (ineffective)
- Self-esteem (e.g., chronic low, risk for low)
- Confusion (e.g., acute, chronic)
- Decisional conflict
- Violence, risk for other-directed or self-directed
- Spiritual distress, risk; readiness for enhanced

Healthcare diagnoses that are related to the potential physiological result, or sequelae, of substance-related disorders include the following (Herdman & Kamitsuru, 2018):

- Activity intolerance
- Anxiety (e.g., moderate, severe, panic)
- Altered nutrition
- Disturbed sleep pattern
- Self-care deficit (e.g., bathing, dressing, feeding)
- Memory, impaired
- Sexual dysfunction

ALCOHOL-RELATED DISORDERS

Alcohol use disorder is the excessive use of beverages containing ethanol. Alcohol use disorder is recognized as an addictive disease that changes brain circuitry and thus function. Chronic exposure to alcohol causes the balance of chemicals in the brain to change, resulting in an increased craving for alcohol (NIAAA, 2017).

The National Institute on Alcohol Abuse and Alcoholism, or NIAAA, reports that 86.4% of adults over 18 years of age have consumed alcohol, and 56% have consumed alcohol in the past month. Alcohol use disorders include binge drinking and long-term alcohol use. More than 10% of children in the United States live in a home where a parent has alcohol problems (NIAAA, 2017). There is an enormous cost of preventable death associated with alcohol use disorder.

Recent data on alcohol use disorder reveal that an estimated 15.1 million U.S. adults describe themselves as having a problem with alcohol, and 1.3 million have received some sort of treatment. For children younger than 17 years, 2.5% met the criteria for alcohol use disorder (NIAAA, 2017). A combination of physical, psychological, and social factors seems likely to contribute to the development of alcohol-related disorders in the context of each person's life (See Table 1).

Table 1. Factors Associated with the Development of Alcohol-Related Disorders

Factors	Alcohol-Related Disorders
Physical Factors	• Because a high rate of alcohol use disorder is seen in families, a genetic link cannot be ruled out. When a choice is made to drink, that choice may have been influenced by the environment. However, once a person is drinking regularly, there are genes that more easily trigger the brain to further use the substance (NIAAA, 2017). • An endocrine dysfunction may cause a desire for or a predisposition to use alcohol. • A nutritional theory claims that some deficiencies may cause a craving for alcohol.
Psychological Factors	• Extreme need for oral gratification. • Ineffective coping skills. • Low self-esteem. • Repeated drinking over time that results in relief of tension. • Presence of other psychiatric disorders, such as depression and anxiety, is also associated with a greater likelihood of alcohol use disorder.
Social Factors	• Having a partner or spouse who drinks regularly. • Excessive drinking because of patterns in the family. • Experiencing disrupted family life and relationships. • Being "socialized" within the family or having access to alcohol within the neighborhood. • Adolescents who have friends who drink are more likely to drink themselves. • In addition, some cultural and ethnic groups drink more than others do, and more men than women have alcohol use disorders, although the number of women with the disorder is increasing. • Many media messages glamorize drinking.

(Halter, 2018; National Institute on Drug Abuse [NIDA], 2020; Townsend & Morgan, 2017)

Screening for alcohol use disorder

Assessments should be made of all patients, considering possible misuse of alcohol or other substances and the resulting social problems (e.g., marital, work-related, or legal, including drunk driving or arrests for assault). Physical illnesses, such as liver, gastrointestinal, and neurological problems, and recurrent injury may be associated with the coexistence of alcohol use disorder. Emotional problems, such as depression, insomnia, and irritability, can also be associated with alcohol use disorder.

An assessment of alcohol use includes the amount and frequency of alcohol consumption and any evidence of the presence of alcohol withdrawal symptoms. A brief screening of all patients can be completed using the following resources (American Psychiatric Association, 2013; SAMHSA, n.d.).

Ask: Do you drink alcohol?

If yes, ask: When was the last time you had four (women) or five (men) or more drinks in 1 day?

Within the past 3 months is a positive screen. This would suggest that a more detailed assessment of alcohol consumption and its consequences should be done.

A more recent tool for assessing alcohol and substance use includes screening as well as brief intervention and referral to treatment. A format for brief interventions, which has been researched and is effective, is focused on stating concern, offering advice, gauging readiness to change behavior, requesting that the patient reduce consumption if not ready to enter abstinence-focused treatment, providing educational materials, and helping the patient find treatment (SAMHSA, n.d.).

Case study 1

Richard Ellis was admitted to the local hospital for minor foot surgery. He is 45 years old and appears to be in good physical shape. He is friendly with Kathy, the health care professional who is there to do his admission screening, and frequently includes a little joke along with his answers. As a routine part of the assessment, Kathy includes a brief alcohol use question: "Do you drink alcohol?" Richard answers with "Oh, not really." When Kathy tries to clarify, Richard seems to become vaguer.

Self-Assessment Quiz Question #1

What should Kathy do at this point?

a. Stop the interview because Richard is not answering the question.
b. Ask, "Why are you refusing to answer me in a straightforward manner?"
c. Explain that she needs this information to give him the best care.
d. Say, "Mr. Ellis, I really need for you to stop joking around; this is important."

Case study 2

Richard seems to understand that Kathy is serious about getting an answer to her question, and he answers that he does drink alcohol on occasion. Kathy then asks how much he drinks in a day, and Richards says that he drinks maybe two beers. Her next question is "When was the last time you had five [had she been interviewing a woman, she would have used four] or more drinks in 1 day?" If he answers, "within the past 3 months," then it is a positive screen. This would suggest that a more detailed assessment of alcohol consumption and its consequences should be done.

Self-Assessment Quiz Question #2

Which answer by Richard would indicate that no further screening is needed?

a. "Gosh, I guess it must have been at one of my fraternity parties in college."
b. "Well, I'm not sure I can remember exactly when I had that much at once."
c. "Last weekend with my poker buddies – you know how that goes!"
d. "It would have been a couple weeks ago when the wife and I celebrated our anniversary."

Another brief assessment tool is the CAGE questionnaire (Ewing, 1970). The CAGE questionnaire poses the following questions once it has been established that the individual is currently drinking alcohol (SAMHSA, 2021):

- Have you ever felt you should **C**ut down on your drinking?
- Have people **A**nnoyed you by criticizing your drinking?
- Have you ever felt bad or **G**uilty about your drinking?
- Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (**E**ye opener)?

Self-Assessment Quiz Question #3

Kathy asks the questions from the CAGE questionnaire. What should she do with the results?

a. Make a note on Richard's medical record.
b. Warn Richard that he needs to control his drinking.
c. Ask the team leader to tell the next shift.
d. Either call or leave written details of her findings with the primary health care provider or surgeon.

Effects of alcohol

Alcohol is the most pervasively misused substance. It is classified as a central nervous system (CNS) depressant (NIAAA, 2017; Townsend & Morgan, 2017). The early signs and symptoms of intoxication, such as giddiness, talkativeness, and relaxation, result from the alcohol's depression of the person's self-control system; inhibitions are diminished. Alcohol's effects may seem socially appealing, but continued use can result in serious physiological, psychological, and social consequences. Even short-term drinking has consequences to an individual's health. Immune function is reduced for up to 24 hours after alcohol consumption (NIAAA, 2017). Drinking too much alcohol is linked to heart disease, stroke, cancer, liver and pancreas diseases, and generally poor decision making.

The effects of alcohol are different in each person. Some of the effects are related to each person's absorption time, which can be affected by variables such as the following (NIAAA, 2017; Partnership to End Addiction, 2017; SAMHSA, n.d.):

- Amount of alcohol consumed
- How quickly the alcohol is consumed
- Gender, age, body weight, height, and general size
- Presence or absence of food in the stomach
- Stomach emptying time and metabolic rate
- Tolerance level

Alcohol use disorder

Alcohol use disorder is a progressive disease that can be fatal. A number of physiological problems and potential diseases are related to excessive drinking. Table 2 outlines some of the physical complications associated with alcohol use disorder. Patients who have these problems may initially show up in the emergency department for treatment of the alcohol-related problem or because of other health-related issues. The presence of these problems may provide a clue to a patient's as-yet-unrecognized alcohol use disorder.

Table 2. Alcohol-Related Physical Complications	
System or Organs Involved	**Complication**
Brain, nervous system	• Peripheral polyneuritis • Wernicke-Korsakoff syndrome (disorientation, delirium, confusion, confabulation, ocular impairment; a progressive disorder that requires thiamine replacement)
Liver, pancreas	• Alcoholic hepatitis • Liver failure • Pancreatitis
Muscular	• Myopathy
Cardiopulmonary	• Enlarged heart • Susceptibility to infections • Pneumonia
Gastrointestinal	• Gastric distress • Ulcers • Nutritional imbalance
Cardiovascular	• Anemia

Based on Halter, M. J. (2018). Varcarolis' foundations of psychiatric mental care: A clinical approach (8th ed.). Elsevier.

National Institute on Alcohol Abuse and Alcoholism. (2017). Alcohol and your health.

https://www.niaaa.nih.gov/alcohols-effects-health/alcohols-effects-body

National Institute of Mental Health. (2017). Trends and statistics in substance use disorder. https://www.drugabuse.gov/related-topics/trendsstatistics

Townsend, M., & Morgan, K. I. (2017). Essentials of psychiatric mental care: Concepts of care in evidence-based practice (7th ed.). F. A. Davis.

Alcohol misuse refers to patterns of alcohol use with the continuation of drinking despite marital discord, job loss threats, or legal and physical problems. An example of someone who misuses alcohol is a person who continues to drink and drive despite repeated convictions for driving under the influence of alcohol (American Psychiatric Association, 2013).

Alcohol use disorder is diagnosed based on the use of quantities of alcohol that are progressively larger than intended, the persistent desire to cut down or control use, craving, and continued use despite awareness of problems associated with the consumption of alcohol, including a withdrawal syndrome (NIAAA, 2017; SAMHSA, n.d.).

The progressive course of alcohol use disorder can range from mild signs and symptoms of hangover, missing or being late to work, and some marital discord to severe symptoms of total craving and dependence on alcohol. Alcohol dependence may be associated with a complete breakdown in the family, loss of a job, poor health, hospitalization for medical illnesses associated with chronic alcohol ingestion, and signs and symptoms of withdrawal or intoxication.

Significant clues in the assessment of possible alcohol use disorder include the following (Halter, 2018; Townsend & Morgan, 2017):

- A loss of control over drinking: sneaking drinks, drinking until unconscious, drinking in the morning
- Social and occupational problems: arguing about drinking with spouse and other family members, missing work because of drinking or being hung over, not keeping engagements, becoming unreliable
- Blackout episodes: continuing to function but having no recall of events
- Legal complications: being convicted of driving under the influence of alcohol

Alcohol intoxication

People who are intoxicated are usually not difficult to recognize. After recent ingestion of alcohol, they generally display some or all the following (NIAAA, 2017; Partnership to End Addiction, 2017; SAMSHA, 2017):

- Odor of alcohol on the breath
- Emotional lability, ranging from euphoria to hostility
- Slurred speech
- Incoordination and ataxia
- Nystagmus
- Impaired judgment
- Decreased inhibitions, aggressiveness, and increased sexual impulses
- Memory or attention impairment
- Stupor or coma

Alcohol withdrawal

In a general hospital setting, a patient can have undiagnosed alcohol use disorder and receive treatment for a health problem that might be related or unrelated to it. Because patients ordinarily cease drinking immediately upon admission or shortly before, health care professionals must be aware of the signs and symptoms of alcohol withdrawal (see Box 2).

Box 2. Signs and Symptoms of Alcohol Withdrawal

- Autonomic hyperactivity
- Increased hand tremors
- Tachycardia
- Psychomotor agitation
- Anxiety
- Nausea
- Vomiting
- Insomnia
- Grand mal seizures
- Transient, visual, tactile, or auditory hallucinations or illusions
- DTs

Based on Halter, M. J. (2018). Varcarolis' foundations of psychiatric mental care: A clinical approach (8th ed.). Elsevier.

Townsend, M., & Morgan, K. I. (2017). Essentials of psychiatric mental care: Concepts of care in evidence-based practice (7th ed.). F. A. Davis.

Withdrawal from alcohol generally occurs 24 to 72 hours after the last drink was consumed (MedlinePlus, 2017. It should be noted that people who habitually consume large quantities of alcohol daily, and thus have developed tolerance, can function reasonably well, even with a high blood alcohol level. These individuals may also experience symptoms of withdrawal if they are not maintaining their accustomed extremely high blood alcohol level. During withdrawal, the patient's health progressively deteriorates. Potential complications of alcohol withdrawal are listed in Box 7-3.

Health Care Consideration: When patients are admitted in an unconscious state and require surgery, the health care professional should be alert for possible withdrawal symptoms beginning after the recovery period. Because CNS depressants act cumulatively in the body, it is possible for someone with a long history of drinking to be given various medications for surgery and the immediate postoperative period and then develop withdrawal symptoms once those medications are discontinued. In effect, the sedatives and pain medications have stabilized the patient throughout the initial hospitalization. In effect, they have kept the patient "drinking." It is only after these medications are stopped that withdrawal may begin. For this reason, it is worthwhile for the health care professional to get a substance use history even if the patient has been in the hospital for a while.

Potential Complications of Alcohol Withdrawal

- Aspiration pneumonia
- Peripheral vascular collapse
- Seizures
- Hyperthermia
- Infection
- Myocardial infarction
- Self-inflicted trauma, purposeful or accidental
- DTs
- Death because of one of the other complications

Based on Halter, M. J. (2018). Varcarolis' foundations of psychiatric mental care: A clinical approach (8th ed.). Elsevier.

Townsend, M., & Morgan, K. I. (2017). Essentials of psychiatric mental care: Concepts of care in evidence-based practice (7th ed.). F. A. Davis.

If patients have used alcohol in significant quantities over a long period of time, withdrawal can become life-threatening. DTs can be part of the withdrawal process, causing extremely dangerous symptoms such as marked autonomic hyperactivity (tachycardia, sweating, fever, anxiety, and insomnia) and vivid visual and tactile hallucinations (Halter, 2018). Once a person has had DTs during withdrawal, it is quite likely that DTs will occur again during any subsequent withdrawal episode. This is a medical emergency and can result in death (Townsend & Morgan, 2017).

Specific treatment for alcohol-related disorders

The immediate treatment for current withdrawal symptoms or impending DTs is pharmacological. An antianxiety agent, usually a benzodiazepine, is used. The CNS depressant action of the drug helps minimize progression of the withdrawal. The benzodiazepine can then be titrated down gradually to the lowest effective dose until the patient is no longer at risk for serious sequelae of withdrawal. Eventually, the medication can be discontinued. Additional symptomatic treatment is also provided as needed.

Other health issues to be considered are the patient's nutritional status, including fluid and electrolyte balance and levels of vitamins, in particular, thiamine and magnesium. The potential for trauma or self-harm should be addressed as appropriate. Obviously, any imminent crisis (e.g., circulatory, or respiratory collapse) must be attended to immediately.

When the immediate effects of alcohol withdrawal are subsiding, the ongoing treatment for alcohol use disorder as the primary disease problem needs to be considered. Most treatment programs in the United States are based on the idea of the "recovering" alcoholic (Townsend & Morgan, 2017). These treatment programs advocate taking one day at a time and accepting the ideas that the temptation to drink is ever-present in society and that abstinence is the only way to maintain sobriety.

Because the causes of alcohol use disorder differ from person to person, a wide range of treatment approaches are needed. Self-help groups including Alcoholics Anonymous are available, as well as family and marital therapy (which can be an important adjunct as well), individual therapy, education programs, behavioral therapy, and aversion therapy.

A variety of treatment options are available. Inpatient programs are found in general hospitals, psychiatric hospitals, residential treatment facilities, and group homes. Outpatient treatment can be provided through privately owned businesses or through the auspices of clinics, hospitals, or other public facilities. Of the outpatient programs, Alcoholics Anonymous is the most well-known and widely used. It is free, anonymous, and supportive. Since the 1940s, it has been a growing, popular, and respected 12-step self-help program. Because alcohol use disorder has effects on all members of a family, Al-Anon and Alateen are groups that are available for family members to help them cope with the issues surrounding the alcohol use disorder of a family member.

Public and private outpatient programs are available through clinics and private practitioners from a variety of disciplines, including physicians, health care professionals, social workers, psychologists, drug and alcohol counselors, and other health care professionals. These programs may be oriented to the group or individual. Some offer residential treatment and then outpatient follow-up care.

Use of medications after the withdrawal period has been effective for some people. Acamprosate, naltrexone, and disulfiram are used to assist patients who cannot achieve sobriety independently. The medications are antagonists to alcohol, and patients find that taking one of them is enough of a deterrent to maintain abstinence. However, the benefits of this treatment are eliminated if the patients have no motivation for taking the antagonist. Patients must be fully educated and in agreement with this method because there are serious consequences related to taking them and consuming alcohol in any form (including mouthwash, some salad dressings, and alcohol-based products such as hand sanitizers; NIH, 2016; NIDA, 2019).

Each person's situation, general health, emotional problems, amount of physical disease, and life circumstances should be considered when recommendations for treatment are made. It may be preferable for the person with an alcohol use disorder to receive treatment as an inpatient, removed from the pressures and commitments of everyday life and from the access to alcohol, in a place where treatment can be intensive. Conversely, being an inpatient may jeopardize a person's job, family, or social situation, and, thus, beginning treatment as an outpatient might be a better option (SAMHSA, n.d.). Many insurance companies require outpatient treatment rather than inpatient hospitalization unless the patient is experiencing severe medical or psychiatric issues that could be life-threatening.

Contemporary treatment of alcohol use disorders is a multisystem effort. Programs include a variety of approaches (Halter, 2018; Townsend & Morgan, 2017). A patient's treatment plan may include any or all the following:

- Individual counseling
- Group therapy
- Daily educational meetings

- Family therapy
- Occupational therapy or vocational rehabilitation
- Recreational therapy
- Psychopharmacological therapy

The increasing problem of alcohol use disorders and increased awareness of it by the medical community and the media have brought the "secret" of widespread alcohol use disorder into the open. Treatment options are available to all who want help. The biggest concern is getting the person who is abusing alcohol into treatment. It is thought that the life expectancy of individuals who have a problem with alcohol and do not stop drinking will be decreased by an average of 15 years (NIAAA, 2017; Partnership to End Addiction, 2017; SAMSHA, 2017).

NONALCOHOL SUBSTANCE USE DISORDERS

Like alcohol use disorder, use disorders of other substances has no single, known causative factor. Substance use disorders seem to manifest in a person who is experiencing a combination of biological, psychological, and social phenomena. Genetic predisposition and environment play contributing roles in the development of substance use disorder. Society has been medically and commercially socialized to "pop" pills: "Have a headache, toothache? Take a pill." Children are raised in this atmosphere.

Young people often begin abusing substances because of peer pressure (NIDA, 2019. During the vulnerable preteen and adolescent years, some individuals begin taking drugs to be part of the crowd. Some adolescents may be rebelling against their parents, other authority figures, and society itself. Others may be looking for an escape from their perceived problems and feelings of depression. These children are looking for a way out of their present reality.

Once substances are tried, different variables come into play that determine whether a person develops a substance use disorder. These include a person's place in society, self-esteem and self-concept, age, peers, finances, lifestyle, personality characteristics, and other physical and emotional problems. The environment also plays a role, particularly if the individual has repeated exposure to stressors such as poverty, racism, lack of appropriate educational and job opportunities, frequent exposure to drug sales and drug use, and absence of protective relationships and positive activities. Abuse of medicines may start with a medication prescribed for a defined ailment. However, use can quickly become a physical dependence. Individuals of all ages are abusing and sharing prescription drugs without regard to the uses for which these drugs were initially intended.

Evidence-based practice! Individuals in need of treatment for alcohol use disorder are often very willing to go into treatment immediately after an experience with withdrawal, particularly if it is not the first time, and they have gone through DTs. Once sober and out on their own, however, it is difficult for them to remain sober. Much effort goes into trying to find "the" treatment that will make it easier to obtain sobriety and remain sober. An interesting study was conducted using virtual reality (Sharma et al., 2019). In this research, subjects were shown what effects alcohol has on their bodies using virtual reality. At least in the short term, having the opportunity to visualize and experience intoxication while sober seems to show some promise in helping patients maintain sobriety. Of course, much more study is needed, but these early results seem worth pursuing.

Risk factors for substance use disorder include family history, being male, having another psychiatric disorder, peer pressure, lack of positive coping skills for mediation of emotions, lack of family involvement, and use of highly addictive substances such as opioids or cocaine (Halter, 2018; Townsend & Morgan, 2017).

In view of the different substances readily available, it is no surprise that polysubstance use disorder (abusing more than one substance at a time) has become a problem. Although all the substances used are associated with some degree of psychological dependence, some are physically addicting. Continued use creates a physical tolerance and a craving for the substance. Discontinuing their use causes a great deal of physical discomfort, so much so that the need for the substance is heightened. Opioid addiction is an example of this phenomenon.

Many researchers are dissatisfied with the inconclusiveness of psychosocial theories of substance use disorder and are focusing their attention on biochemical factors. Substance use disorder is still explained best by a biopsychosocial model that combines multiple factors.

Heroin has long been a substance associated with use disorders. In the 1960s, cannabis, lysergic acid diethylamide (LSD), and other psychedelic drugs were the popular substances of choice. The use of "downers" (barbiturates and tranquilizers) and prescribed medicine followed. In the 1970s, "uppers" came to the forefront, along with PCP (NIMH, 2017; United Nations Office on Drugs and Crime, 2016). The 1980s brought the cocaine crisis, along with crack and crystal methamphetamine (crystal meth), and a peak in substance use. In the 1990s, younger age groups entered the drug-using community, and research efforts focused on determining causative factors for all forms of substance use disorders. All the previous issues related to substance use disorder have continued into the 2000s, with the opioid epidemic getting the most attention (NIMH, 2017).

Any patient who is physically dependent on one or more substances and is currently hospitalized is at risk for withdrawal. Many times, information about drug use is not available; either patients are not willing to provide it, or they are unable to do so because they are unconscious. Sometimes the withdrawal is delayed because similar drugs have been used during treatment. For example, as noted earlier, someone using CNS depressant drugs will not go through withdrawal if given other CNS depressants for surgery or pain relief.

Cannabis-related disorders

Recreational cannabis and hashish generally produce a state of mild euphoria and relaxation. These substances are smoked in a "joint" (a hand-rolled cigarette) or through a pipe. They can also be cooked in food and ingested in that manner. Hallucinations can occur with high doses. Lack of motivation and possible irreversible brain damage have been matters of concern in adolescents who smoke cannabis extensively (SAMHSA, n.d.).

Cannabis intoxication includes the following signs and symptoms (American Psychiatric Association, 2013; SAMHSA, n.d.):

- Maladaptive behavior or psychological changes, such as impaired motor coordination, euphoria, anxiety, and impaired judgment
- Conjunctival injection
- Increased appetite
- Dry mouth
- Tachycardia

Hallucinogen-related disorders

The hallucinogens LSD, PCP, psilocybin (magic mushrooms), mescaline (from cacti), and the more recent kratom, "bath salts" (synthetic), or "spice" (as manufactured substance or large quantities of natural substances) are drugs that alter a person's sense of reality and consciousness. They cause a distorted sense of energy and excitement. Hallucinations and other perceptual

changes may occur. LSD was popularized as "acid" in the hippie era of the 1960s. In the 1970s, PCP or "angel dust" was more commonly used. Violent side effects are associated with the use of PCP. Each generation seems to find its own favorite way to escape reality. People who use these drugs can become quite paranoid and delusional and act out impulsively. Personnel in the emergency department often have been assaulted while attempting to administer care to such patients. Apart from symptomatic treatment, the most common method of helping patients experiencing bad effects because of hallucinogenic agents is to "talk them down." This is done in a calm, reassuring tone, reminding patients that they have taken something that is causing the bad experience, responding to their questions, and generally trying to get them to interact within the reality of their situation rather than the hallucinatory experience.

Inhalant-related disorders

Sniffing glue or inhaling other substances such as paint, paint thinner, gasoline, or even correction fluid (Liquid Paper) is a less common problem than other forms of drug use. Children and preteens are more apt to have an inhalant use disorder than people in other age groups probably because the substances are cheap and readily available. Inhalants and some other substances are seen as a "cheap high" in this school-age group and may cause not only social and school problems but also respiratory and neurological damage (Nguyen et al., 2016). Although readily available and comparably inexpensive, these are dangerous drugs.

Opioid-related disorders

Heroin, methadone, and narcotics such as morphine and meperidine have long been known for their addictive properties and their definite and severe withdrawal patterns. Today, the opioids of choice for many people include the prescription medications acetaminophen, hydrocodone, and oxycodone. Ironically, a medication developed to treat addiction to opioids, buprenorphine, and naloxone, has also increased in "street" use. Abused for their euphoric properties, these drugs also produce pain relief, apathy, and impaired judgment. Patients with opioid use disorders, such as heroin use, seem to be seeking release from daily woes (SAMHSA, n.d.).

The signs and symptoms of opioid intoxication and overdose are (American Psychiatric Association, 2013; Townsend & Morgan, 2017):

- Decreased respiration
- Pinpoint pupils
- Pale, cool, clammy skin with cyanotic tinge
- Needle tracks (marks) on the arms and legs or in areas of hidden veins
- Cardiac dysrhythmias
- Clouded consciousness, semi-comatose states, or coma
- Pulmonary edema
- Shock
- Death as a result of respiratory failure or cerebral edema

The signs and symptoms of withdrawal from opioids are (American Psychiatric Association, 2013; Townsend & Morgan, 2017):

- Dysphoric mood
- Nausea and vomiting
- Muscle aches
- Lacrimation or rhinorrhea
- Pupillary dilation, piloerection, or sweating
- Diarrhea
- Yawning
- Fever
- Insomnia

Evidence-based practice! A recent study (McCauley et al., 2020) investigated whether dentists in rural areas prescribed opioid medication for their patients as often as dentists in larger cities. According to findings in this research, they do. The dentists in rural areas reported that opioid use disorder was a significant problem with their population, much more so than what was reported by dentists in urban areas. The researchers concluded that more education for practitioners in rural areas is needed to help them deal more effectively with patients and their need for pain relief.

Sedative-, Hypnotic-, and anxiolytic-related disorders

Sedatives, hypnotics, and anxiolytics such as benzodiazepines are in a group of tranquilizing drugs that cause quiescence, relaxation, and a decrease in tension and anxiety (Townsend & Morgan, 2017). Still prescribed medically and valuable for their beneficial effects, these drugs are highly misused. Tolerance often develops, causing the need for increases in dosages and frequency of use. If outright addiction does not occur, habituation and dependence are common (Townsend & Morgan, 2017).

The signs and symptoms of misuse of sedatives, hypnotics, and anxiolytics are:

- Clouded consciousness
- Hypersomnia
- Coma

(American Psychiatric Association,2013; Townsend & Morgan, 2017)

The signs and symptoms of withdrawal from sedatives, hypnotics, and anxiolytics are:

- Autonomic hyperactivity
- Increased hand tremors
- Insomnia
- Nausea and vomiting
- Transient visual, tactile, or auditory hallucinations
- Psychomotor agitation
- Anxiety
- Grand mal seizures

(American Psychiatric Association, 2013; Townsend & Morgan, 2017)

Stimulant-related disorders

Amphetamines

Amphetamines are CNS stimulants. They have been used to treat obesity, attention-deficit/hyperactivity disorder, and narcolepsy. However, they are generally avoided, when possible, because of their high potential for misuse (Townsend & Morgan, 2017). Amphetamine withdrawal develops within a few hours to several days after cessation (or reduction) of amphetamine use that has been heavy or prolonged.

The signs and symptoms of amphetamine misuse include:

- Euphoria
- Hyperalertness
- Anorexia
- Increased pulse rate
- Increased blood pressure
- Insomnia
- Excessive talkativeness

(SAMHSA, n.d.)

The signs and symptoms of amphetamine withdrawal include:

- Dysphoric mood
- Fatigue
- Vivid, unpleasant dreams
- Insomnia or hypersomnia
- Increased appetite
- Psychomotor retardation or agitation

(SAMHSA, n.d.)

Cocaine

Cocaine seems to have been the scourge of the 1980s, and its use is considered a stimulant use disorder. When cocaine use disorder first became widespread, it was considered a white-collar problem. The drug was expensive, and initially addiction and withdrawal problems were not seen. A fast-acting but short-lasting CNS stimulant, cocaine produces a rush of euphoria. The popularity of "coke," as it is commonly known, has continued, and spread. The drug has found its way into poorer communities as crack cocaine, a cheaper, less pure, and smokable form of the substance. Cocaine addiction has increased since the 1980s.

The signs and symptoms of cocaine overdose include:

- Panic level of anxiety
- Increased pulse rate
- Increased blood pressure
- Dilated pupils
- Severe perspiration
- Syncope
- Seizures
- Episodes of delusions, paranoia, hallucinations, and mania
- Death, usually because of cardiac or respiratory failure

The signs and symptoms of cocaine withdrawal include:

- Dysphoric mood
- Vivid, unpleasant dreams
- Fatigue
- Hypersomnia or insomnia
- Psychomotor retardation or agitation
- Increased appetite

(Halter, 2018; Townsend & Morgan, 2017)

TREATMENT APPROACHES

Patients with substance-related disorders generally cannot achieve a substance-free lifestyle on their own. Because of the craving, cost, peer-group pressure, and increased need for the legal or illegal substance, continued use can cause serious damage in the person's life. Family, friends, job relationships, the community, and society at large may all be affected adversely.

As with alcohol use disorder, treatment for a substance use disorder ideally should be self-motivated. Although outside forces – job, family, money, and health – can contribute to their decision, an individual with substance use disorder needs to want to quit. Along with the desire to become substance-free, help and support from others are extremely important.

The single most predictive criterion for success or failure for all individuals with substance-related disorders is the level of motivation or lack of it. When motivation is high, a degree of recovery usually can be achieved (NIDA, 2018).

Psychopharmacological treatment

Psychopharmacological treatment is generally used for detoxification in emergencies (as antagonists) and for maintenance therapy. Naloxone acts as an immediate antagonist to combat opioid overdose and is available even to people outside the medical profession (causing a degree of controversy). Methadone is used for ongoing treatment of opioid use. For any substances of abuse associated with a physical withdrawal syndrome, psychopharmacological treatment is available to help patients withdraw safely. Benzodiazepines (e.g., diazepam and lorazepam) are used for withdrawal from sedatives, hypnotics, stimulants, and anxiolytics. Occasionally, the misused substance is given in decreasing doses until the substance is no longer necessary. Often the treatment consists of supportive medication for symptoms that the patient is experiencing. These drugs are only as useful as the patient makes them; following the treatment plan is essential to success, and any treatment must be individualized for each person.

Inpatient and residential programs

For some patients, it is crucial for them to be away from the environment, place, or people in which or with whom they use their substances of choice to gain freedom from dependency. Others have more success by maintaining their usual activities, and they find outpatient programs a better option.

In conjunction with a person's general physical condition and state of mind, the substance use disorder itself may be a factor in determining the best type of treatment. Some emergency or acute medical care may be needed, either for an overdose or for potential sequelae of withdrawal. Certain hospitals, clinics, and private residential treatment facilities offer a wide range of services, from withdrawal treatment to long-term rehabilitation. Others offer only some of these services. Helping patients select the approach that appears to best meet their specific needs is something health care professionals can do if reasonably informed about what is available.

Outpatient programs, federally funded methadone clinics, consumer-run programs, and private practitioners, including advanced practice health care professionals, also offer many treatment services for persons with substance-related disorders. These include the following:

- Individual therapy
- Group therapy
- Family and marital counseling
- 12-step anonymous groups
- Self-help recovery groups

Recovery

Recovery is not necessarily a one-time event. It is common for relapses to occur. Therefore, patients may have to try repeatedly. Even though an individual with substance use disorder may not remain abstinent, repeated failures should not be criticized. An attitude of acceptance and willingness to support abstinence and maintain a substance-free lifestyle should be fostered.

HEALTH CARE INTERVENTIONS FOR PATIENTS WITH SUBSTANCE USE DISORDERS

There are many independent health care interventions that can be useful for patients with substance use disorders. The first step is to create a therapeutic relationship with the patient. Once the health care professional gains the patient's trust, it is much easier to obtain full cooperation with the treatment plan. It is most important to provide the patient with a safe environment, both physically and emotionally.

Withdrawal from any substance is a frightening experience for the patient. Depending on which substance the patient has been using, as well as how much substance the patient has been taking and over how long a time the use has been occurring, withdrawal can even be life-threatening. Without appropriate observation and intervention, patients can die if the substance is abruptly discontinued. Nurses play a key role in obtaining a thorough substance use history and in observing the patient for severe signs and symptoms of withdrawal.

Once patients have been withdrawn from their substance of choice, it is important to get them into further treatment as quickly as possible. Long-term recovery is highly unlikely without some form of rehabilitation follow-up. Nurses can educate patients about the substances, why their misuse is problematic, and provide appropriate referrals and resources that are available in their community.

Introducing various forms of relaxation and stress relief techniques provides patients with options other than substance use for coping with the burdens of everyday life. The health care professional can educate the patient to recognize early signs of stress buildup and what to do before it becomes overwhelming. Patients with any of the substance-related disorders are in the habit of self-medicating rather than coping in some other, less harmful way. Helping patients learn more effective coping strategies is an important health care function. A list of independent health care interventions that are helpful to patients with substance use disorders is found in Table 3.

Table 3. Independent Health Care Interventions and Rationale for Patients with SUDs

Independent Health Care Interventions	Rationale
Establish a therapeutic relationship with the patient.	This will increase the patient's trust in you and give them a feeling of safety and security.
Treat confused patients with dignity and respect. • Use patients' proper names. • Do not treat patients as if they were children.	Being treated with dignity and respect increases patients' self-esteem and self-concept.
Be supportive of the patient.	Support from health care providers can help encourage freedom from substance use disorder and increase the patient's low self-esteem.
Provide the patient with safety from trauma and harm.	While under the influence of a substance, the patient cannot maintain their own safety needs.
Assess and continually monitor the patient for adverse medical sequelae of intoxication or withdrawal.	Some drugs may cause death as a result of cardiac or respiratory failure
Assess and monitor the patient's mental status.	Mental status changes and fluctuates according to ingestion of the substance and the amount ingested.
Do reality testing with the patient.	Monitoring the fluctuations in the patient's level of awareness and comprehension enables necessary changes to be made in the care plan.
Encourage verbalization and exploration. Help the patient connect current difficulties with substance use disorder or dependence. Use techniques from motivational interviewing and stages-of-change theories.	These measures help increase the patient's awareness of their problem areas.

Table 3. Independent Health Care Interventions and Rationale for Patients with SUDs (continued)

Teach the patient about substance use disorder, including the psychological, biological, and social ramifications.	Knowledge about substance use disorder will help increase the patient's awareness of the potential for problems.
Assess available support and explore options.	Knowledge about available support and possible options can help patients recognize their potential strengths.
Provide role modeling.	Role modeling sets an example and shows patients that they can be drug-free.
Administer psychopharmacological medications, when necessary, as directed by the prescribing clinician.	Psychopharmacological medications are generally used for detoxification, in emergencies as antagonists, and for maintenance therapy (e.g., methadone for heroin).
Teach and encourage the use of relaxation techniques and other self-management strategies.	Relaxation can provide relief from tension and decrease anxiety. Coping skills can be learned and practiced.

HOLISTIC CONSIDERATIONS

Since the 1970s, scientific research has endorsed the following key principles as the foundation for effective substance use disorder treatment: (a) recognizing that addiction is a complex but treatable disease of the brain; (b) understanding that treatment programs should address all the patient's needs, not just the substance misuse; and (c) using medications, especially in combination with counseling and behavioral therapies in the treatment of substance use disorders. In 1999, NIDA established a list of 13 principles for treatment of substance use disorders that flow from the key principles above (NIDA, 1999).

Although most treatment programs are based on conventional therapies, various complementary and alternative treatments have also been used to enhance the overall recovery of persons with substance use disorders. Yoga and mindfulness-based therapies are often used to assist those struggling with addiction to reconnect with their minds and bodies. They also serve to provide self-soothing, and they aid individuals in learning to respond to stressors through conscious decisions as opposed to reacting (Schuon, 2017). These complementary therapies have been so helpful that in recent years, there has been an integration of the yogic philosophy with the 12-step model

of recovery through an organization called Yoga of 12-Step Recovery (Y12SR, 2017).

Acupuncture is another complementary therapy that has been used to treat substance use disorders. Recent research findings on the efficacy of acupuncture in treating substance use disorders are inconclusive. One of the largest randomized controlled studies found inconclusive results for acupuncture when used in treating cocaine addiction as a stand-alone treatment but noted its promise as an adjunctive therapy (Margolin et al., 2002). Meta-analyses noted the large variation in quality among published studies but recognized some positive effects (Boyuan et al., 2014). One meta-study postulated a neurological mechanism explaining the efficacy of acupuncture on opiate addiction. Acupuncture is thought to activate opioid receptors (Lin et al., 2012).

Case study 3

Olivia Kingsley is a 73-year-old female patient who has been admitted to the hospital because she has fallen in her apartment and sustained injuries that need further evaluation. She was admitted twice before in similar circumstances and continues to exhibit a slight limp because of a previous fall. Olivia lives alone but has children in the area who check on her regularly. A home health aide also visits twice a week to help with personal care issues. Olivia's vision is somewhat impaired, and she does not drive at night. She has a history of hypertension that is controlled with medication.

Currently, Olivia's main complaint is pain in her right arm and right leg. Both are bruised badly, and there is a laceration on her forearm. While completing an initial assessment, Ethan Carter, her health care professional, notices that Olivia has other bruised areas that appear older and more healed. Because a pattern of injury over a period opens the possibility of an abusive situation, Ethan asks Olivia if anyone has been hurting her. Olivia appears quite shocked by this line of questioning and asserts that all her injuries are from falls she has had while alone in her home. Ethan asks a few more questions and leaves feeling comfortable that Olivia is not being abused.

Self-Assessment Quiz Question #4

After Ethan eliminates substance use disorder, what other conditions should he consider?

a. Olivia's vision is becoming worse and needs evaluation.
b. It is probable that Olivia is hurting herself on purpose.
c. Olivia needs a neurological work-up as falling could be a result of a neurological problem.
d. It is more than likely that Olivia has had a stroke.

Case study 4

After a couple of days at the hospital, Olivia is discharged, although she is still complaining of significant pain and asks for pain medication frequently. She is sent home with a 15-day prescription for opioid pain medication, and home health care is scheduled to have a health care professional check on Olivia biweekly. When Jane Masters, the home health care professional, first visits Olivia 3 days after discharge, she checks Olivia's medications and discovers that she has used the entire supply of pain medication since her discharge.

Self-Assessment Quiz Question #5

What should Jane, the home health care professional, do next?

a. Assess Olivia for additional falls or other injury that would require such a large amount of pain medication.
b. Report her to the local police for misuse of prescription drugs.
c. Call her family to determine if anyone in the family is using her medication.
d. Inform Olivia that she will not receive services unless she uses her medications correctly

Case study 5

There is no evidence that Olivia has fallen again or experienced any additional injuries. Upon questioning, Olivia admits to using pain relievers on a consistent basis unrelated to the level of actual physical pain. When she does not have medication that is strong enough, she drinks alcohol to relieve her pain. From what Jane can determine, Olivia tends to fall when she is under the influence of some form of CNS depressant. It begins to make sense that Olivia has had so many accidents. Further questioning reveals that Olivia has felt very lonely and depressed since her husband died. At the time of his death, a neighbor offered her "some kind of pain pill," and she took it. Because it made her feel better, she continued to self-medicate with prescription drugs. Jane also determines that Olivia has begun to feel the need to self-medicate to prevent symptoms of drug withdrawal, although she did not recognize what she was experiencing as withdrawal symptoms.

Self-Assessment Quiz Question #6

What question would be important to ask Olivia after finding out about her ongoing drug use?

a. "When did your husband die?"
b. "Which neighbor gave you the pain medication?"
c. "How many pills do you take at one time?"
d. "Does your family know about your drug use?"

Self-Assessment Quiz Question #7

Which of the following would also be a priority question?

a. "When did you take the last pill in the bottle?"
b. "When did you have your last pain pill?"
c. "Where do you get all your pain pills?"
d. "Does your family know you are taking this many pills?"

Case study 6

Olivia needs long-term treatment of some sort. She is abusing CNS depressant drugs and appears to be showing signs of depression. Jane contacts Olivia's primary care provider, and a psychiatric consultation is ordered. In collaboration with the family and the health care team, Olivia agrees to enter a residential treatment program. She will be there 3 weeks and after discharge will stay with her daughter until it is decided that she has recovered enough to live alone in her own apartment again.

Self-Assessment Quiz Question #8

The family is very embarrassed by the fact that they had no idea that Olivia was abusing drugs. What might Jane say in response to this?

a. "Oh, don't feel bad, there's no way you could have known."
b. "It took a while for any of us to know; your mother is very tricky."
c. "Well, it won't happen again, now, will it?"
d. "Your mother isn't typical for people who use drugs. You'll be getting some helpful materials as part of her program."

Self-Assessment Quiz Question #9

Which of the following will have the most influence on Olivia being able to stay off of the pain pills she has been taking?

a. Having the family check on her twice a day once she is home.
b. Scheduling a home health care professional to visit every other day.
c. Educating her on the adverse effects of taking too much pain medication.
d. Helping her maintain a desire to stay away from ongoing pain medication.

Self-Assessment Quiz Question #10

Of the following activities that Olivia might try out while at the treatment facility, which one is the most likely to help Olivia remain drug-free when she returns home?

a. Learning new line dances
b. Practicing childcare skills
c. Learning job interview techniques
d. Practicing meditation regularly

Conclusion

Because substance use disorder is widespread, it is likely that health care professionals will encounter patients with this problem. Patients with substance use disorders generally cannot achieve a healthy lifestyle on their own. Treatment for substance use disorders should be encouraged, either in an outpatient program or in a brief residential program, which includes a multimodal treatment approach consisting of possible pharmacological treatment; individual, family, and/or group therapy; and 12-step or peer-facilitated groups. With motivation and the development of self-management skills, patients with substance use disorders can be successful in recovery.

Glossary of terms

Clarification of concepts and terms associated with chemical dependency is necessary to begin to understand the illness (American Psychiatric Association, 2013; NIMH, 2017; SAMHSA, n.d.).

Addiction: The psychological or physical need for a chemical substance and the compulsive use of it, because of previous intake behavior and despite harmful outcomes to the user.

Craving: An intense and persistent desire for a substance that is both psychological and physical and can take on an urgent quality. Addressing psychological cravings is one of the most difficult aspects of early recovery from addiction.

Delirium: A disordered mental state characterized by confusion, agitation, and hallucinations.

Delirium tremens (DTs): A disordered mental and physiological state that can occur during withdrawal from alcohol.

Organic delusional disorder: A disorder characterized by alteration in thought processes in which the person affected has false beliefs.

Organic hallucinosis: A physical disorder characterized by alteration in thought processes in which the person affected hallucinates.

Substance: A chemical in the form of a drug of misuse/abuse; a medication or a toxin.

Substance use disorder: A disorder characterized by out-of-control consumption of a substance, resulting in biological, social, and vocational functional impairment.

Tolerance: The need for greatly increased amounts of a substance to achieve intoxication (or desired effect) or a markedly diminished effect with continued use of the same amount of the substance.

Withdrawal: A physical and behavioral change that occurs when blood or tissue concentrations of a substance decline in an individual who had maintained prolonged, regular use of the substance.

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HEALTH CARE MANAGEMENT OF PATIENTS WITH SUBSTANCE USE DISORDERS

Self-Assessment Answers and Rationales

1. The correct answer is C.
Rationale: Answer c is the only response that encourages Richard to answer Kathy's questions by explaining to him that the information is being collected to provide the best possible care.

2. The correct answer is A.
Rationale: Richard's response is far enough in the past that further assessment is not required.

3. The correct answer is D.
Rationale: The results of this brief assessment should be shared with the patient's health care providers as a basis for determining the appropriate intervention.

4. The correct answer is C.
Rationale: There are several neurological problems that could cause Olivia to fall, and she is in an age group when falls are often diagnosed. The other answers could be correct, but they are less likely given Olivia's living situation and physical condition.

5. The correct answer is A.
Rationale: A thorough assessment is Jane's first step.

6. The correct answer is C.
Rationale: It is important for Jane to determine what level of medication Olivia is used to so that she can determine how to proceed with treatment. The other questions may be of interest but do not need to be asked right away.

7. The correct answer is B.
Rationale: Answer a is similar to answer b – but it specifies the "pills in the bottle." In fact, Olivia may have other pills, so the information would be incomplete when asking a. C and d are questions for another time.

8. The correct answer is D.
Rationale: This acknowledges that there were reasons why drug use disorder might not come to mind when thinking about Olivia, but it also indicates that there are things the family can learn about drug abuse that will help in the future.

9. The correct answer is D.
Rationale: Although all will certainly be helpful, there is no way for someone to quit taking drugs without a firm personal decision to stay away from them.

10. The correct answer is D.
Rationale: Practicing meditation on a regular basis can help an individual remain calm and less anxious than usual, thereby decreasing the need for self-medication. Although dancing (response a) provides physical exercise, which is generally good for keeping stress down, line dancing is often part of the club scene where alcohol is prevalent. This is therefore not a good plan for Olivia who is just coming from her rehab program. Learning to take care of children (response b) can be an engaging activity and provide possible future job opportunities, but it may be too stressful for someone newly discharged from rehab. Clearly Olivia will need to get a job, so some interview skills (response c) would be valuable for her. Because dwelling on finding a job can be stress provoking rather than stress reducing, response C is not the best answer.

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

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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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Course verification

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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):

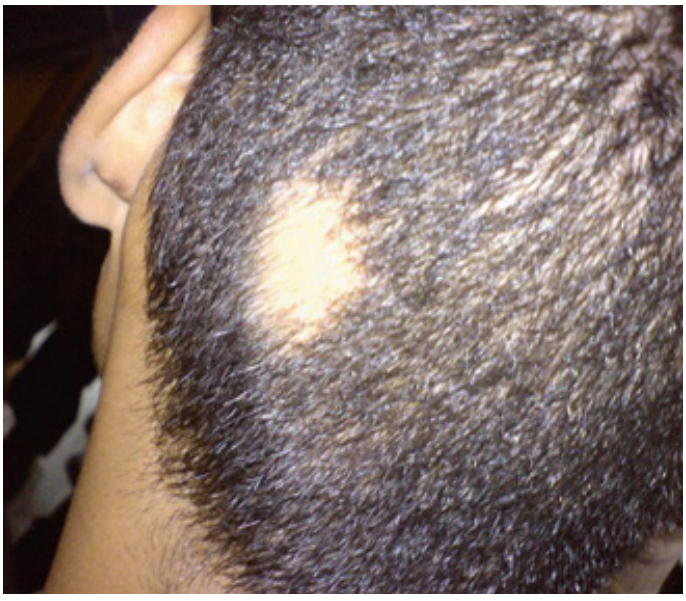
- An estimated 10% to 20% of people with alopecia areata have a family member with the disorder. The actual percentage may be much higher since many people try to hide hair loss.
- People who have asthma, hay fever, atopic dermatitis, thyroid disease, vitiligo, or Down syndrome are at higher risk for 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.

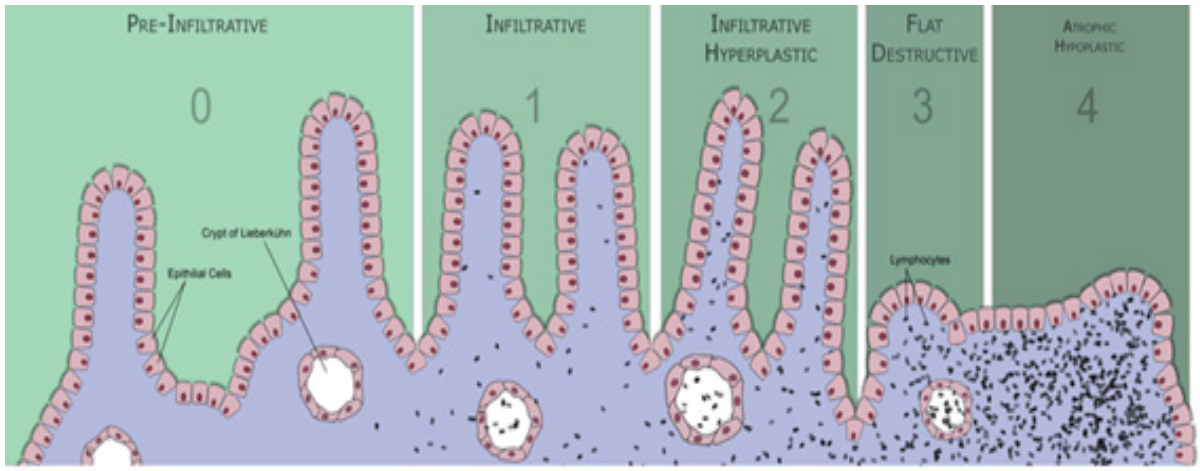
Pathophysiology
When people with celiac disease ingest gluten, the immune system responds and attacks the cells of the small intestine. Eventually the villi of the small intestine are damaged. Villi are the projections that line the small intestine and facilitate the absorption of protein (Celiac Disease 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).

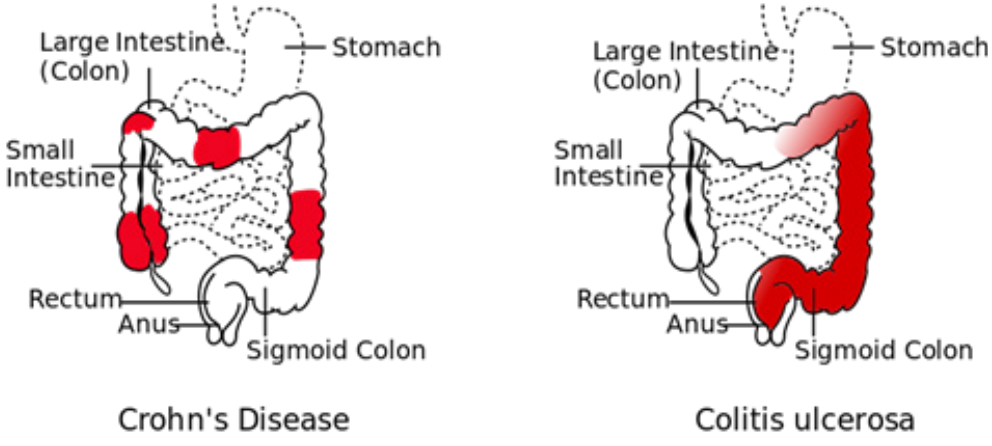
Patients and families may benefit from participating in a support group. Support resources include the following:

- 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):

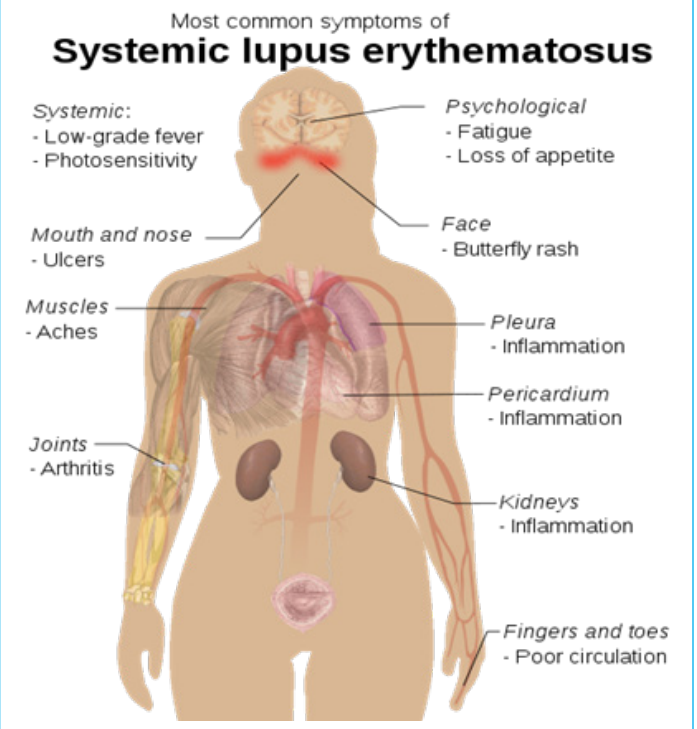
- **Infection**: Patients with lupus are more susceptible to infections because the disease and its treatments weaken the immune system.
- **Malignancies**: Having lupus leads to a small risk of increased vulnerability to malignancies.
- **Death of bone tissue**: When the bone's blood supply is reduced, 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).

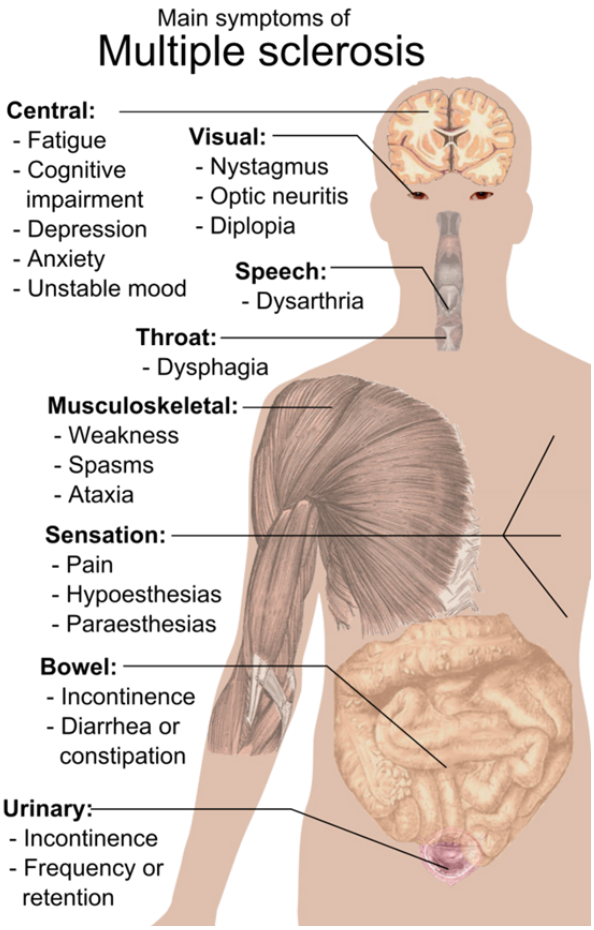
Signs and Symptoms. Assessment of signs and symptoms can be challenging because they are both unpredictable and hard for the patients to describe. Signs and symptoms may be transient or may last for hours or weeks. Typically, there are two general categories of initial symptoms: vision problems (because 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

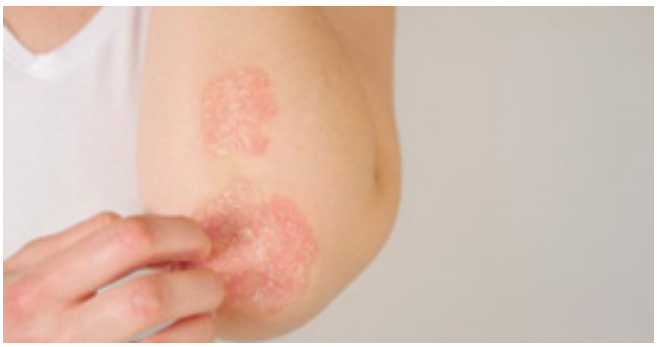
Psoriasis is a chronic autoimmune skin disease characterized by an acceleration of the growth cycle of skin cells. Although psoriasis can be treated, there is no cure. A dermatologist is often the best healthcare provider to diagnosis psoriasis because it has been confused with other skin disease, such 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).

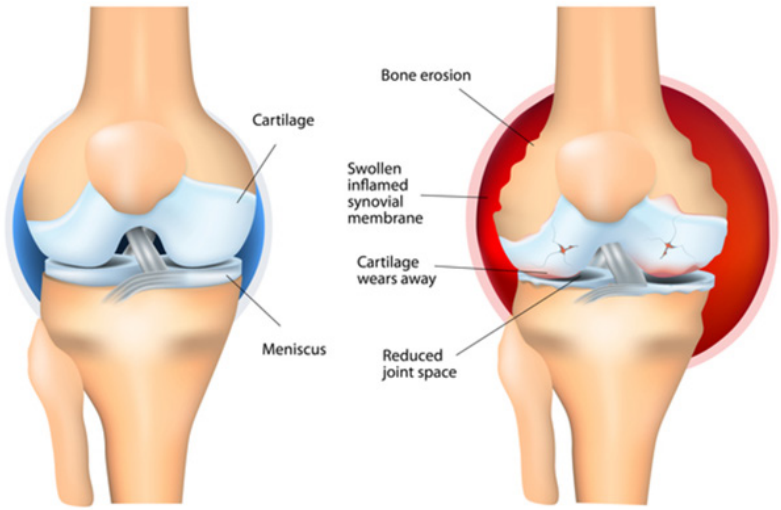
Joint inflammation occurs in four stages (Rebar et al., 2019; Smith, 2021a):

- **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

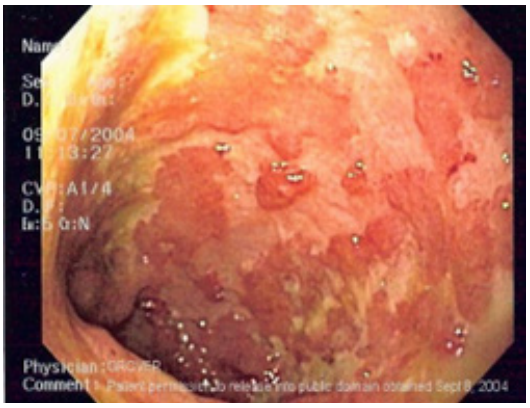
Ulcerative colitis is a chronic inflammatory bowel disease (IBD). An autoimmune disease, ulcerative colitis causes inflammation and ulcerations of the mucosa in the colon. Ulcerative colitis affects the innermost lining of the colon and rectum (Mayo Clinic, 2021d; National Institute of Diabetes and Digestive 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).

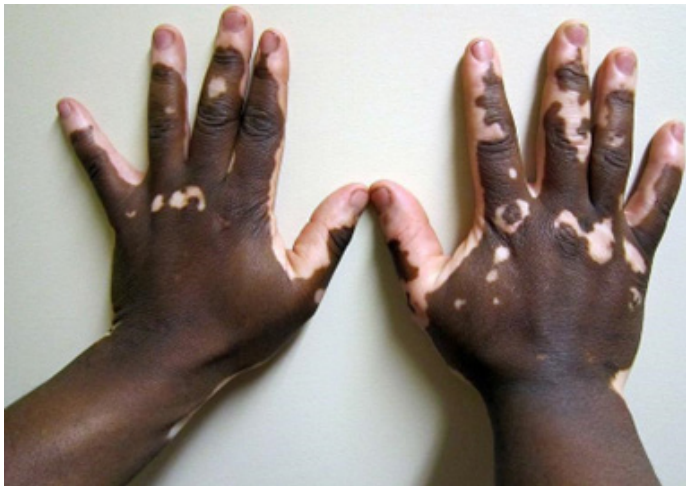
Pathophysiology

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.

Elite
PO Box 37 | Ormond Beach, FL 32175
Questions? Call us toll-free: 1-866-344-0971

Pennsylvania Nursing Professionals
CE Correspondence Package
Final Examination Answer 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 final examination answer sheet online with instant certificate issuance. Please visit EliteLearning.com/Book to complete your final examination online. **The Pennsylvania Department of State requires us to obtain your date of birth and the last 4 digits of your Social Security number in order to report your hours.**

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) | **PA Nursing License Number**

Date of Birth (mm/dd/yyyy) **(Required for reporting to the state)**

Last 4 Digits of Your SS# Number **(Required for reporting to the state)**

E-Mail address (include to receive processing confirmation and instant certificate access)

Payment Method

☐ Check / M.O. Enclosed for:
☐ Visa / Mastercard / AMEX /Discover

☐ Entire Package only $38.95

or

☐ Pennsylvania Mandatory Child Abuse Recognition and Reporting (Renewal Licensure) - $20.95
☐ Asthma Management and Patient Education - $18.95
☐ Crisis Resource Management for Healthcare Professionals - $23.95
☐ Cultural Humility for Healthcare Professionals - $23.95
☐ Diabetes Prevention and Management for Healthcare Professionals - $29.95
☐ Ethical and Legal Issues in Nursing Practice - $35.95
☐ Health Care Management of Patients with Substance Use Disorders - $18.95
☐ Nursing Assessment, Management and Treatment of Autoimmune Diseases - $35.95

Visa / Mastercard / AMEX / Discover Number | Credit Card Expiration Date

Cardholder Signature: _____

Pennsylvania Mandatory Child Abuse Recognition and Reporting (Renewal Licensure)
Please refer to page 12 for the Final Exam Questions. Use this area directly below to indicate your answers.
Unanswered questions will be scored incorrect.

Shade circles like this: ●
Not like this: ⊠ ⊘

	A	B	C	D		A	B	C	D
1	○	○	○	○	6	○	○		
2	○	○	○	○	7	○	○	○	○
3	○	○	○	○	8	○	○	○	○
4	○	○	○	○	9	○	○	○	○
5	○	○	○	○	10	○	○	○	○

ALL OTHER COURSES
Use this area directly below.

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.

_____
Signature

For Internal Use Only - Please Do Not Mark In This Area

ANCCPA3023

0026629263

Test Expiration Date: 1/20/2024
1.ANCCPA02CA22[1-10] 2. ANCCPA02AP 3. ANCCPA03CR 4. ANCCPA03CH 5. ANCCPA05DM 6. ANCCPA07EL 7. ANCCPA02PS 8. ANCCPA06AD

NURSING - COURSE EVALUATION (ANCCPA3023 - Required)

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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.
4. I would recommend this course to my peers.	10. What I have learned from this course will have an impact on patient outcome.
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.	

	Pennsylvania Mandatory Child Abuse Recognition and Reporting (Renewal License) 2 Contact Hours					Asthma Management and Patient Education 2 Contact Hours					Crisis Resource Management for Healthcare Professionals 3 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 Elite 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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4. I would recommend this course to my peers.	10. What I have learned from this course will have an impact on patient outcome.
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.	

	Cultural Humility for Healthcare Professionals 3 Contact Hours					Diabetes Prevention and Management for Healthcare Professionals 5 Contact Hours					Ethical and Legal Issues in Nursing Practice 7 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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_____

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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.	

	Health Care Management of Patients with Substance Use Disorders 2 Contact Hours					Nursing Assessment, Management and Treatment of Autoimmune Diseases 6 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	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
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 Elite to use my comments. If you agree, please provide your name and title as you would like to see them to appear.

_____