WHAT'S INSIDE

COURSES MEET FLORIDA CNA CONTINUING EDUCATION REQUIREMENTS

FREQUENTLY ASKED QUESTIONS

What are the requirements for license renewal?

Licenses Expire	Contact Hours	Mandatory Subjects	
May 31, every 2 year renewal	24 (All hours are allowed through home-study)	• Bloodborne Pathogens, Infection Control • Domestic Violence • CPR Skills	• Medical Record Documentation and Legal Aspects Appropriate to Nursing Assistants • Resident Rights • Communication with Cognitively Impaired Clients • Medical Error Prevention and Safety

How much will it cost?

COURSE TITLE	HOURS	PRICE
An Overview of Geriatric Care	2	$18.95
Assistance with Self-Administered Medications	2	$10.00
Communication with Cognitively Impaired Residents/Patients	2	$10.00
Documentation for Certified Nursing Assistants	2	$10.00
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Licensing board contact information:
Florida Department of Health | CNA Registry/Board of Nursing
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Website: https://floridasnursing.gov/

Chapter 1: An Overview of Geriatric Care

2 Contact Hours

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Learning objectives

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

- Describe the categories and signs of elder abuse and appropriate nursing responses.
- Describe age-related memory changes.
- Identify common chronic health conditions associated with aging and effective ways to prevent or cope with age-related disease processes to promote independence and quality of life.
- Identify end-of-life issues and the role of palliative and hospice care.

Introduction

One in six Americans is over the age of 65, and it is estimated that by 2060, one in four Americans will be over 65 (U.S. Census Bureau, 2017). The old-old, or those over 85, are the fastest growing segment of the U.S. population and are projected to grow from 6.4 million in 2016 to 14.6 million (a 129% increase) by 2040 (Administration on Aging, 2018). Older adults are responsible for 50% of hospital days, 60% of primary care visits, 70% of home care visits, and comprise 85% of nursing home residents (Administration on Aging, 2018). Many nurses who care for older adults have not been educated in geriatrics or gerontology (Koroknay, 2015). Older adults face complex physical and mental health needs that require nursing care specialized for these areas of complexity. Complex issues in caring for older adults include understanding chronic disease, functional health, cognitive health in the aging brain, and end-of-life decision making.

This course is meant to give nurses additional knowledge related to caring and advocating for older adults. As America and the world ages, it will be necessary for nurses and other health care providers to be competent in the care of elders. Progressing through this course, the learner will become aware of important issues in the care of older adults.

GENERAL ISSUES IN CARING FOR OLDER ADULTS

Functional status assessment

Functional disability is common in older adults. It can be episodic or an indication of health decline (Lesende, 2019). Functional status is defined as the ability to function in everyday life. Older adults' functional status greatly affects their quality of life, goals, expectations, and concerns (Cabrita, 2017). Many older adults report that living at the maximum level of independence and functioning at the highest level of their ability is more important than long life. Functional status can be measured by using physical tests, such as ability to walk distances; ability to complete activities of daily living, such as dressing, eating, and bathing; and measuring executive function, such as check writing and shopping. Functional status predicts mortality, health care costs, and nursing home placement. The effects of aging, illness, and treatment options on quality of life are essential for health decision making in the older adult (Cabrita, 2017).

Nursing consideration: Older adults often feel neglected while receiving care when nurses do not speak directly to them when asking questions, but rather speak to family members or friends about them. When asking history questions or assessment questions, nurses should face the older adult and speak slowly and loudly enough for them to hear so that they are able to communicate.

Sleep and exercise in the older adult

Sleep is essential for quality of life in the older adult. Many studies have demonstrated an association between adequate sleep and quality of life in older adults. Physical activity has been shown to improve sleep for older adults (Gothe et al., 2019). Physical activity in general has been shown to increase quality of life and increase mental and physical health (Kell & Rula, 2019). Many types of physical activities are available for older adults almost everywhere, including Silver Sneakers, the cost of which is covered by Medicare (Kell & Rula, 2019). Nurses working with older adults should encourage exercise to the level of the older adult's ability. Exercises recommended should coincide with functional status of the older adult and could include seated or standing exercise.

Medication for the older adult

Medication can affect older adults differently than younger adults. This is because of several issues, including decreased absorption from the GI tract, decreased elimination through the kidney and liver, and a slower metabolism in general (Naganathan, 2018). Michael Beers, MD, created a list of medications in 1991 that could be dangerous when prescribed to older adults. This list is updated by the American Geriatrics Society each year and should be used to determine safe prescribing for older adults (DeRhodes, 2019).

Health care providers as well as patients and families should be aware of the Beers list in order to protect their health and the health of family members. There are three distinct categories within the Beers list: medications to avoid in all older adults, medications to avoid in older adults with certain medical conditions, and medications that should be used cautiously with any older adult.

Evidence-based practice! When reviewing the Beers criteria for the use of medications in the elderly, it is important to remember that these recommendations list potentially inappropriate, not definitely inappropriate, medications. Individual needs and health must be factored into the decision for prescribing. When inappropriate medications are being used, it is best to offer safer nonpharmacologic and pharmacologic therapies (American Geriatrics Society, 2019).

For example, antihistamines should always be avoided in older adults, including Benadryl and diphenhydramine, because they may cause dizziness, confusion, falls, and even delusions. NSAIDS should be used with caution because they can cause GI, renal, and liver damage in older adults, as well as dizziness and increased risk for falls. Benzodiazepines, including diazepam, should be avoided in older adults because they are more sensitive to the effects of these drugs, which may increase the risk of cognitive impairment, falls, and weakness. Estrogen in older adults raises the risk for heart attacks, strokes, breast cancer, and endometrial cancer. A list of medications that appear on the Beers list may be found at: https://www.pharmacist.com/beers-revised-drugs-not-use-older-adults

Opioid use among older adults

There is much concern in the United States related to opioid use overall. A large study completed in 2018 found that older adult opioid users were most often female aged 70 to 75, White, with high income. Most common medical issues requiring opioids included back pain, other musculoskeletal pain such as osteoporosis, and sleeplessness (Musich et al., 2019). Although pain is a real problem in the elderly, opioid medications can lead to dementia, increased risk for falls, and general weakness that decreases functional status. It is important for all health care providers to provide pain management that lessens the use of opioids if possible. Some of these strategies include physical therapy and other types of medications.

Being aware of medication use of all types and assisting older adults and their families with medication choices and administration are essential components of patient care. Nurses should be knowledgeable and provide guidance to their patients and families while meeting the health care needs of the older adult.

All self-assessment answers and rationales are at the end of the course.

Self-Assessment Quiz Question #1

Mary Thompson is a 74-year-old woman who is in good health and comes in for her yearly physical. The only complaint Mary has is that she has trouble sleeping and often needs a nap during the day to "catch up" on her sleep. Which of the following recommendations would be suitable for Mary?

a. A prescription for Ambien so that she can fall asleep better.
b. Give her a benzodiazepine to help her sleep.
c. Tell her to take a walk every day and not to nap because it can disrupt sleep.
d. Tell Mary that nothing can be done for older women who cannot sleep. It is simply common and untreatable.

ELDER ABUSE

Elder abuse is a crime affecting older adults that is often overlooked, undisclosed, or unrecognized by the victim as a crime. About 11% of older adults experience some form of abuse each year, and many experience multiple forms of abuse (Williams et al., 2017). Elder abuse is often the result of stress on family members attempting to provide support for older family members. It is believed that fewer than 1 in 14 cases are reported to a public agency (Roberto, 2016). Several interacting factors may contribute to an older adult's vulnerability to abuse: age, gender, race, ethnicity, living arrangements, cultural beliefs and values, physical and cognitive impairments, social isolation, and loneliness (Roberto, 2016).

Because nurses often provide care for older adults in hospital, nursing home, and home health settings, it is important to include the possibility of abuse in any assessment of older adults. If elder abuse is suspected, the nurse should interview the individual privately, and if abuse is still suspected, immediately report it through the proper channels. Sometimes the older adult may not provide accurate data about abuse because of the potential for retribution or loss of current care. For example, if a child that is caring for an older parent is abusive, the parent may not want to share what is happening because it could lead to the child no longer wanting to provide care.

Gerhart's story

Gerhart, an 82-year-old man, has had a stroke. He has been unable to care for himself because of left-sided weakness and has been unable to walk. Gerhart lived alone until his stoke. His wife died four years prior. He has one son, and that son and daughter-in-law invited him to move in with them so that he could receive care. Neither Gerhart nor his son had the financial means to hire extra help for Gerhart. Both the son and wife work during the day and have two teenage children who are involved in many activities after school and in the evenings. Gerhart has become very sad because he feels that he has become a burden to his son and family and tries as best he can to take care of himself.

Frank, a friend of Gerhart's, comes to visit several months after he moved in with his son. He was hoping to cheer Gerhart up and perhaps talk about the "good old days." He is surprised to see Gerhart alone in the house dressed in a dirty shirt and pants that smell of urine. Frank's old friend has lost quite a bit of weight and has some sores on his feet and shins. Frank feels that Gerhart is depressed and withdrawn. He does not want to talk much and keeps repeating that he does not want to be a burden on his family. Frank worries that Gerhart's family is neglecting him.

Categories of elder abuse

Abuse includes not only physical injury but also not properly caring for older adults. Following are types of abuse as defined by the National Institute on Aging (2017).

Physical abuse

Physical abuse is defined as the willful, nonaccidental use of force to inflict pain, injury, impairment, or unreasonable confinement on an individual. Physical abuse or mistreatment typically includes hitting, slapping, beating, pushing, punching, shoving, shaking, kicking, pinching, and burning.

Neglect

Neglectful actions can be intentional or unintentional and may include failure to provide adequate nutrition, personal care, medications, medical attention, or a safe and well-maintained home or place to live.

Emotional and psychological abuse

This type of abuse is the intentional infliction of emotional anguish by verbal or nonverbal behavior that is commonly difficult to detect unless witnessed. Examples of psychological abuse include name-calling, making unkind remarks within earshot, threatening, insulting, humiliating, ignoring, isolating, and excluding from day-to-day activities (Roberto, 2016).

Financial exploitation
Financial abuse occurs when someone forces an older adult to sell personal belongings or property; steals money, pension, or other checks; or withholds money that the older adult needs for daily expenses. Theft, fraud, forgery, extortion, and the wrongful use of a power of attorney are also forms of financial abuse (Roberto, 2016).

Sexual abuse
Sexual abuse is defined as nonconsensual sexual contact with an older adult. Sexual contact with any person incapable of giving consent is also considered sexual abuse. This type of abuse includes unwanted touching, rape, sodomy, coerced nudity, and sexually explicit photography.

Signs of elder abuse

Following are the most common signs of abuse or neglect (National Institute on Aging, 2017):

- Trouble sleeping.
- Frequent crying that is not caused by cognitive impairment.
- Depression or confusion, ceasing to enjoy or take part in formerly enjoyed activities.
- Unexplained weight loss.
- Signs of trauma like rocking back and forth or becoming withdrawn.
- Agitated or violent behavior.
- Messy appearance, unwashed hair, or dirty clothes.
- Bed sores.

The following are warning signs that may point to any type of elder abuse (California Advocates for Nursing Home Reform, 2017):

- Caregiver history of alcohol or drug abuse.
- Caregiver not allowing the older adults to speak for themselves or to speak without the presence of the caregiver.
- Obvious lack of assistance by the caregiver.
- Threats, harassment, or insults and other aggressive activities by the caregiver.
- Caregiver indifference to the older adult.
- Anger by the caregiver toward the older adult.
- Conflicting accounts of problems and accidents in the older adult.

Barriers to reporting elder abuse

A review of the literature has identified the following barriers to reporting elder abuse (Olomi et al., 2019). Nurses should review these common barriers and reflect on how to properly overcome them in order to report elder abuse.

- Lack of confidence in defining, identifying, and reporting abuse.
- Reluctance to report abuse unless there is certainty that abuse had occurred.
- Concern for the therapeutic relationship.
- Potential consequences for the victim.
- The risk of a long judicial process.
- Empathy with the abuser.
- A lack of screening procedures.
- Not having clear definitions of abuse.
- Shortages of available interventions for the abused and abusers.
- Perceptions regarding the intent of the perpetrator.
- A lack of training.
- A lack of time.
- The victim's health.
- Inability or unwillingness of victims to report their situation.
- Absence of clear legislation.
- Ignorance of laws concerning abuse.
- Not knowing where or how to report.
- A lack of protocols.
- Ethical dilemmas and paradoxes posed by reporting.
- The belief that abuse is a private family matter.
- Insecurity about whether the informant will be protected.

Strategies for managing elder abuse

Strategies for managing elder abuse and neglect must balance older adults' needs for safety against their need for autonomy and independent decision making. Teaching older adults what abuse is and that they do not need to tolerate it is the first step in stopping it. Health care professionals who work with older adults in all settings should be alert to signs and symptoms of elder abuse and know where to report and refer patients if elder abuse is suspected.

State legislation addresses specific elder abuse statutes for community and institutionalized older adults. Many policies and procedures exist to promote documenting, reporting, and treating elder mistreatment or abuse.

The following are ways for either the victim or the health care provider to report suspected abuse:

- Call the abuse hotline listed in the telephone directory.
- Notify the individual in the agency or facility, usually a social worker or administrator, who has been delegated the responsibility of handling abuse problems.
- If immediate danger is suspected, call 911.
- Contact a state agency such as adult protective services for assistance.

NORMAL AGING

The brain is made up of billions of cells called neurons that communicate with each other through small gaps called synapses. This communication is aided by chemical substances known as neurotransmitters. Memory depends on healthy neurons, but it is normal for neurons to die and decline in numbers during a natural life course. Memory peaks between ages 20 and 30, followed by a subtle decline until age 60, when memory difficulties become more pronounced simply because of aging. Although memory changes are associated with normal aging, the ability to learn new things does not decline. The health care professional should help older adults understand that simple memory loss is a normal aspect of aging and that they should not worry that they are experiencing cognitive decline.

All body systems become less efficient and slower with age, and so do thinking, problem- solving abilities, speed of learning, and recall. For most people, it is normal to require more time to learn new things, solve problems, make decisions, and retrieve information. Memory does not necessarily fade with age; it just takes longer for the neurons to communicate with one another. As a person ages, the ability to concentrate declines, distractions are more difficult to ignore, and interruptions may cause forgetfulness. Older adults also are slower to identify and comprehend incoming stimuli.

Memory cues and aids are often helpful when older adults attempt to retrieve information from memory. A cue can be a word, picture, smell, rhyme, or anything associated with information or events to be remembered. Encourage older adults to use memory cues such as lists, calendars, and electronic devices such as cell phones and computers.

Current estimates suggest that more than 5.8 million Americans have some form of dementia, and that number could grow to 16 million for Alzheimer's disease alone by 2050 unless a cure is found (Alzheimer's Association, 2020). Nearly 50% of those older than age 85 have dementia (World Bank, 2017). More than 70% of people with dementia live at home (Alzheimer's Association, 2020). Alzheimer's can be a devastating diagnosis for older adults who fear loss of memory and cognitive deterioration. Many older adults worry that their forgetfulness is the first sign of dementia and assume that changes in memory mean that they have dementia. Because of the expense and time needed, many older adults who exhibit cognitive changes are not evaluated (United States Preventive Services Task Force [USPSTF], 2020). Families often simply feel that their loved one has dementia. Medicare allows for a yearly memory screening during the annual health visit; however, there is controversy about whether this minimal screening is appropriate or whether it unnecessarily increases concerns among older adults and their families (USPSTF, 2020) However, there are many reasons for memory changes besides dementia: some changes are normal, some indicate progressive diseases like Alzheimer's but others may be caused by a condition that can be treated and reversed.

The stages of Alzheimer's disease

Dementia typically progresses slowly in three general stages: mild (early stage), moderate (middle stage), and severe (late stage). Dementia affects people in different ways. Each person will experience symptoms and progress through dementia stages differently (Alzheimer's Association, 2020).

Warning signs of dementia

Warning signs of dementia differ from the typical signs of aging (Alzheimer's Association, 2020):

- Memory changes that disrupt daily life.
- Challenges in planning or solving problems.
- Difficulty completing familiar tasks at home, at work, or at leisure.
- Confusion over time or place.
- Trouble understanding visual images and spatial relationships.
- New problems with words in speaking or writing.
- Misplacing things and losing the ability to retrace steps.
- Decreased or poor judgment.
- Withdrawal from work or social activities.
- Changes in mood and personality.

Diagnosing dementia

A diagnosis of dementia is never made based on memory loss alone. Several memory screenings tools (Mini-Cog, Clock Drawing Test [CDT], and Mini-Mental State Examination [MMSE]) are available for the Medicare annual wellness visit. Additionally, the patient's primary care provider should conduct a complete physical workup. The examination performed should evaluate any physical, emotional, or psychosocial causes for the cognitive impairment, as well as to determine if dementia is present and, if so, what type of dementia is present. Because dementia can have many different causes—with many different types of treatment—an accurate diagnosis is essential. Labs such as vitamin B12 and folate tests are ordered to rule out pernicious anemia and folate deficiency. If either are suspected, human immunodeficiency virus testing, drug screening, and toxin screenings are then performed. Serological tests might be done for syphilis. Brain imaging techniques such as a computed tomography scan or magnetic resonance imaging may be ordered to rule out the presence of tumors, stroke, blood clots, or other factors. An electroencephalogram is performed if a seizure disorder is suspected. Often a more intensive diagnostic evaluation is needed with the help of a neurobiologist, a neurologist, a psychiatrist, and other specialists.

Prevention

The key to maintaining brain health is a healthy lifestyle (Alzheimer's Association, 2020). Older adults can be taught how to keep their brains healthy. Research on whether exercising the brain with puzzles, games, discussion groups, and writing keeps it healthy has yielded mixed results. It does appear, however, that although these types of brain exercises may not prevent dementia, such activities may delay the onset (Baretto et al., 2018).

Differences between delirium and dementia

Delirium is usually caused by an acute illness or drug toxicity that causes a disturbance in cognition and consciousness level. Delirium usually develops suddenly and is often found in hospitalized patients who also have cognitive impairment (Merck Manual Professional Version, 2020). Although delirium can be life-threatening, it also can be completely reversed by treating the disease or reversing the drug toxicity. Major causes of delirium are infection, often urinary tract infection; dehydration; isolation; and anticholinergic, psychoactive, or opioid drugs. Delirium is characterized by difficulty focusing, maintaining or shifting attention, loss of consciousness, inappropriate behavior, paranoia, poor judgement, and hallucinations.

Dementia, on the hand, is typically caused by an anatomic change in the brain. It is characterized by a slower onset and deterioration of cognition over time and is not reversible. Most people think of Alzheimer's disease as the major cause of dementia. However, dementia can occur in patients with Parkinson's disease, Huntington's disease, and other disease as well as with brain tumors and traumatic brain injury. Dementia usually begins with mild cognitive impairment where cognitive functions are worse than age-matched healthy patients. Up to 50% of patients with mild cognitive impairment develop dementia within three years (Merck Manual Professional Version, 2020).

Factors that can cause problems for both delirium and dementia patients include visual defects not corrected with glasses, hearing deficits not corrected, inadequate sleep, pain, and underlying emotional problems such as depression (Wilson et al., 2018).

Medications that cause worsening delirium or dementia include anesthesia for surgery, anticholinergic drugs such as tiotropium (Spiriva), oxybutynin (Ditropan), flavoxate (Urispas), and diphenhydramine (Benadryl). Benzodiazepines also cause worsening dementia, especially longer active benzodiazepines such as Valium.

DEPRESSION

Depression is one of the most common mental health problems among adults but is not a normal consequence of aging (Centers for Disease Control and Prevention [CDC], 2017a). Estimates of major depression in older adults living in the community range from less than 1% to about 5% but rise to 13.5% in those who require home health care, and to 11.5% in those hospitalized (CDC, 2017a). Depression often goes undiagnosed and therefore untreated or undertreated, especially in older adults (Mayo Clinic, 2016; Palinkas et al., 2019). Depression is often missed in older adults because they may exhibit nonspecific somatic complaints rather than the symptoms of depressed mood as classified by the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5). Nonspecific somatic complaints that actually might be depression include increased fatigue, heaviness, grumpiness, a churning feeling, difficulty digesting food, and even pain. There may be a change in appetite or sleeping patterns (National Institute of Mental Health [NIMH], 2016a, 2016b).

Depression may be associated with adverse effects of medications or even certain medical conditions. Depression may be caused by such psychological conditions as coping with chronic illness, pain, and even gloomy environments, as well as an assortment of losses, including losses of function, independence, social roles, friends and relatives, and past leisure activities (NIMH, 2016a, 2016b). Coping with chronic illness, disabilities, and losses often results in minor depression, which may in itself become chronic (NIMH, 2016a).

Some older adults with depression may appear to have dementia, showing signs of confusion, inattention, and memory difficulties. For some, there may be a family or past personal history of depression. Others may become depressed after losing a loved one, developing a serious illness, experiencing the serious illness of a loved one, or from the stress of being a caregiver. Some people become depressed for no clear reason.

Depression should be aggressively treated in older adults because untreated depression can lead to a decline in functional states and even death (Frost et al., 2019). Depression is associated with increased falls, increased fatigue, poor sleep, cognitive changes, cardiovascular disease, and increased pain (Magnuson, 2019). Often the first sign of depression is anhedonia, or the lack of ability to feel happy and joyous. One of the best questions to begin a dialogue about depression is, "In the last week, what made you happy?" (Domenech-Abella et al., 2017). Often family members will notice the change in their loved one before the elder does themselves. There are several scales that can measure depression in older adults, including the Geriatric Depression scale (Sheikh & Yesavage, 1986). This scale is short and has been validated with different groups of elders as identifying levels of depression.

Following are the most common signs of depression (NIMH, 2016b):

- Ongoing sadness, an empty feeling, or anxiety.
- Being tired, easily fatigued, exhausted, or lacking in energy.
- Loss of interest in everyday things.
- Difficulty sleeping or sleeping too much.
- Loss of appetite or overeating.
- Crying too often or for no reason.
- Aches and pains that do not respond to treatment.
- Difficulty focusing, paying attention, making choices, or remembering.
- Feeling helpless, hopeless, or suffering a loss of self-esteem.
- Grumpiness or irritability.
- Thoughts of death or suicide.

Treatment options include pharmacotherapy, support groups or counseling, increased opportunities for socialization, and—for more severe depression—electroconvulsive therapy. Family support, patience, and understanding are also critical.

Prevention

Although depression cannot always be prevented, older adults can take some approaches to lessen the risk (Krans, 2017):

- Plan ahead for known changes such as retirement or moving.
- Keep in touch with old friends and family members.
- Take time to develop hobbies.
- Let someone know if they are feeling sad, upset, or stressed.
- Exercise: choose an activity that they enjoy such as walking in the mall, gardening, dancing, or biking.
- Eat a balanced diet to optimize wellness.
- Maintain a healthy weight; being overweight causes fatigue and sluggishness.
- Manage their chronic conditions by following the advice of their health care professional.

Depression should not be dismissed as a natural consequence of the physical, cognitive, social, and economic problems of later life. The health care community can help older adults by preventing and treating depression so that older adults feel satisfied with their lives.

Evidence-based practice! Research has uncovered encouraging evidence for the antidepressant effect of aerobic, resistance, or mind-body exercise as an effective treatment adjunct for older adults presenting with clinical depression. Health care providers should encourage older adults with depression to participate in exercise to the extent they are able in order to improve symptoms of depression (Miller et al., 2020).

MEDICAL CONDITIONS THAT IMPACT THE OLDER ADULT

Cancer

Cancer is more likely to occur in older adults than in younger persons. Although the chances of surviving cancer are improving, cancer is the second leading cause of death for older adults (Zaorsky et al., 2017). The key to surviving cancer is early detection and treatment. Older adults may reduce their risk for dying of cancer by living a healthy lifestyle, being aware of warning signs of cancer, and having regular medical checkups.

Following are common signs and symptoms of cancer (American Cancer Society [ACS], 2019):

- Changes in bladder or bowel habits, including frequency and consistency.
- A sore on the body that does not heal.
- Unusual bleeding or discharge from any part of the body.
- A lump or thickening in the breast or any other body part, including the mouth, testicle, or throat.
- Difficulty swallowing or persistent indigestion.
- An obvious change in a wart, mole, freckle, or other skin spot.
- Hoarseness or a nagging cough.
- Unexplained weight change.

Having one of these symptoms does not necessarily mean that the individual has cancer; however, it is important to consult a health care professional to determine the cause. Many older adults simply disregard these symptoms as normal aging changes. Fear and misinformation may also cause older adults not to seek medical attention. Most cancers do not cause symptoms in the early stages and routine screenings are the best method for detecting cancer before an older adult notices symptoms. Medicare now covers most of the screening tests for cancer.

Teaching older adults to watch for warning signs may help them detect possible cancers while they are still in early stages. Early detection often allows for more treatment options and better outcomes.

Hearing loss

Hearing loss is extremely common in the older population, especially among men. One-third of adults between the ages of

65 and 74, and one-half of those older than age 75 have hearing loss (National Institute on Deafness and Other Communication Disorders [NIDCD], 2017). Yet among adults age 70 and older who could benefit from hearing aids, only one-third have used them (NIDCD, 2016). Hearing loss impacts socialization and relationships. It can lead to the avoidance of social events and the appearance and feeling of being cognitively impaired. Some older adults are not aware of their impairment, and many are reluctant to report any problems or obtain treatment. Older adults with hearing loss may feel embarrassed, upset, and lonely. The hearing impairment causes frustration among everyone who comes into contact with the person—spouse, family members, and friends. Patients who acknowledge a hearing loss should be referred to an audiologist for complete assessment and determination as to whether a hearing aid could help. For patients who do not admit to a loss or who cannot get treatment, the health care professional needs to use good communication skills and ensure that the patient understands what is being said.

The following are common signs of untreated hearing loss (NIDCD, 2017; University of California San Francisco Medical Center, n.d.):

- Missing parts of conversations and continually asking people to repeat themselves.
- Experiencing loss of high and low tones, no longer able to hear birds singing.
- Turning the television, radio, or telephone volume up high.
- Being unable to distinguish speech from background noises and being unable to follow dinnertime conversation while others are talking or music is playing.
- Straining to read lips and facial expressions.
- Having difficulty hearing on the telephone.
- Having difficulty following a conversation when two or more people are speaking.
- Misunderstanding what people say.
- Accusing others of mumbling.
- Agreeing or nodding the head during conversations when the person is not sure what has been said.

Hypertension

High blood pressure, also called hypertension, is known as the "silent killer" because the symptoms cannot be felt or seen. Hypertension is a major health problem that, left untreated, leads to cardiovascular accidents, heart disease, eye problems, peripheral vascular disease, and kidney failure. Controlling blood pressure is extremely important to healthy aging.

To help the patient understand, prevent, and control high blood pressure, the health care professional needs to make the following points (Whelton, 2017):

- Be aware that even though high blood pressure may not make a person feel sick, it is serious.
- It is possible to lower blood pressure with lifestyle changes.
- If taking medications that have brought blood pressure under control and asked about high blood pressure, say, "Yes, I have hypertension, but it is under control."
- Maintain a healthy weight; being overweight is a significant risk factor in hypertension.
- Exercise daily, trying for at least 30 minutes per day, five days per week.
- Maintain a healthy diet that includes fruits, vegetables, and fiber, and limit fat intake.
- Cut back on salt and sodium intake.
- Avoid alcohol or limit alcohol intake to one drink per day.
- Follow the health care professional's recommendations for control of hypertension.
- Take hypertension medications exactly as prescribed, and do not stop taking them when feeling well. Take medications at the same time every day.
- Test blood pressure between office visits. Most pharmacies have free blood pressure machines, and home blood pressure devices are reasonably priced and easy to use. Keep a record of results to share with the physician. People older than age 60 should keep their blood pressure lower than 150/90. For patients with certain chronic health conditions or who have comorbidities such as diabetes and kidney disease, a blood pressure lower than 140/90 is ideal.

Exercise, diet, and medications should be employed aggressively to control and maintain hypertension in older adults. Effective management may prevent disability, cognitive decline, and mortality.

Osteoporosis

Osteoporosis is another of the "silent diseases" because bone loss occurs without symptoms. People may not know that they have osteoporosis until their bones become so weak that a sudden strain, bump, or fall causes a fracture, most commonly of the hip, backbone, or wrist. Osteoporosis has reached epidemic proportions in the United States. It is estimated that 54 million Americans have low bone mass, placing them at increased risk for osteoporosis (American Family Care, 2018). Approximately 80% of these people are women older than age 50. Although osteoporosis occurs primarily in women, men over 70 are also at high risk for osteoporosis.

The following are teaching points for keeping the bones healthy (National Institutes of Health, 2018):

- Do weight-bearing exercises at least five times per week.
- Get 1,200 mg of calcium every day. Foods high in calcium include low-fat dairy foods, leafy green vegetables, and fortified foods such as orange juice. Calcium supplements may also be required.
- Get the recommended daily doses of vitamin D from sun exposure or from eggs, fatty fish, and fortified milk. Vitamin D supplements may also be required.
- Avoid smoking and limit alcohol intake.
- Take any prescribed bone loss prevention medication exactly as directed.
- Practice safety measures in and around your home and community to prevent a fall.

Osteoporosis is preventable and a person is never too old to start preventive measures. The health care professional should encourage older adults to implement lifestyle habits that will strengthen their bones and help prevent fractures.

Evidence-based practice! Current osteoporosis medications reduce fractures significantly but have rare and serious adverse effects that may limit their safety for long-term use. New drugs using monoclonal antibodies and parathyroid hormone-related peptide analogs have had better results with fewer complications. On the horizon is the potential for cell-based therapies and drugs that target the elimination of senescent cells in the bone microenvironment (Cheng et al., 2020).

Osteoarthritis

Osteoarthritis is a noninflammatory, progressive, degenerative disorder of the movable weight-bearing joints. It is the most common rheumatological disorder and overall the most common disease in humans (Levenson, 2017). It is estimated that 27 million Americans are affected by osteoarthritis (Arthritis Foundation, n.d.). The prevalence among men and women is equal (Arthritis Foundation, n.d.). In addition to age, risk factors include joint injury, obesity, and mechanical stress.

The most common signs and symptoms are stiffness after a long period of immobility; morning stiffness; joint pain that occurs with activity; limitation of movement; crepitus; aching or nagging discomfort, usually experienced with motion, weight-bearing, or activity; and "flare-ups" of the disease that are associated with the use or abuse of the joint or trauma and are commonly relieved with rest.

The major goals of treatment are preservation of function, reduction of pain, and minimization of further damage to involved joints. Pain is generally treated with acetaminophen, nonsteroidal anti-inflammatory drugs, and sometimes opioids.

Health care professionals need to work with patients on prevention and management by stressing the following (Arthritis Foundation, n.d.):

- Prevention of falls and injuries.
- Encouragement of low-intensity exercise.
- Encouragement of weight loss if the patient is over the ideal body weight
- Education concerning use of pain medications as prescribed.
- Encouragement of use of assistive devices such as canes or walkers, or gripping and grabbing tools.

Stroke

Cerebrovascular accidents are a leading cause of disability in the United States (CDC, 2017b) and the fourth leading cause of death (Heron, 2016). A transient ischemic attack (TIA) is sometimes called a little stroke, but it is actually a precursor to a cerebrovascular accident (CVA), also known as a stroke. A TIA may be recognized by focal neurological signs that occur suddenly, last a short time, and resolve completely within 24 hours. Most TIAs are caused by partial blockage of arteries in the neck. A small blood clot may lodge in a carotid artery and temporarily prevent blood flow to a part of the brain. As blood flow is restored, the symptoms disappear without permanent damage.

Symptoms of a TIA vary from person to person but generally include blurred vision or speech, flashes of light, migraine, vertigo, facial weakness, confusion, and ataxia. Patients experiencing a TIA should be evaluated in an emergency room so that a disabling stroke may be prevented by medications or a carotid endarterectomy.

A CVA is an emergency, and all older adults should be aware of the warning signs and know to call 911 right away. Increasing people's knowledge of the signs of stroke is one of the goals of the American Stroke Association. In conjunction with the American Heart Association, the American Stroke Association has launched a campaign that teaches people to use the word FAST as an acronym to identify signs of a stroke and seek emergency help (American Heart Association/American Stroke Association, n.d.).

Face drooping.
Arm weakness.
Speech difficulty.
Time to call 911.

Here are additional warning signs (American Heart Association/American Stroke Association, n.d.):

- Sudden numbness or weakness in the face, arm, or leg, especially if it is on one side of the body only.
- Sudden confusion, difficulty speaking or understanding, or slurred speech.
- Sudden problems with vision in one or both eyes.
- Sudden dizziness, loss of balance or coordination, or difficulty walking.
- Severe sudden headache with no known cause.
- Inability to smile fully.
- Inability to raise both arms equally.

Urinary incontinence

Although the occurrence of urinary incontinence increases with age, it is not a normal part of the aging process. Urinary incontinence is associated with skin irritation, urinary tract infections, and falls. It can lead to embarrassment, withdrawal from social life, depression, and loss of self-esteem. The person may restrict or avoid entirely activities outside the home, interaction with friends and family, and sexual activity. Urinary incontinence has significant physical, psychological, social, and economic consequences for older adults. Incontinence may occur for many reasons, some of which are temporary, as from a urinary tract or vaginal infection, constipation, certain medications, or an extended respiratory infection or cold with frequent coughing or sneezing. Some incidences of incontinence result from longer-lasting problems such as a weak bladder muscle, an overactive bladder, or nerve damage from diseases such as multiple sclerosis or mobility problems. Most incontinence can be treated and controlled, and sometimes cured. Older adults with urinary incontinence should seek the help of a primary care provider who may perform a number of tests, including urine and blood tests and bladder emptying tests. The health care professional may ask the patient to keep a daily diary of urination and leakage.

Health care professionals can recommend the following techniques to control incontinence (National Institute on Aging, 2019):

- Use habit training or timed voiding for urge incontinence. This is done by first keeping a diary of when the urge to void occurs. Making this determination can allow the bladder to be emptied before leakage takes place.
- People with cognitive deficits benefit from prompted voiding. Assist with toileting every two or three hours.
- Perform Kegel exercises for urge, stress, and mixed incontinence.
- Modify the environment for functional incontinence, including adequate lighting, altered clothing, or adaptive equipment.
- Provide a substitution such as a bedpan, bedside commode, or urinal for functional incontinence.
- When attending social events, be aware of the location of bathrooms and do not wait for intermissions to void because there may be long lines.
- Use absorbent undergarments, which are designed not to feel wet or bulky. There are many types, ranging from small stick-on pads to underwear replacements.

For older adults who do not respond to these interventions, surgery, biofeedback, medications, implants such as pessaries, and other devices may be appropriate.

Palliative care

Palliative care aims to improve the lives of patients of all ages who are facing the challenges of life-threatening illnesses (World Health Organization [WHO], n.d.). Palliative care provides prevention and relief of suffering; early identification; holistic assessment and treatment of pain; and support for physical, psychosocial, spiritual, and bereavement issues (WHO, n.d.).

WHO highlights improvements palliative care can make to a patient's quality of life (WHO, n.d.):

- Provides relief from pain and other distressing symptoms.
- Affirms life and regards dying as a normal process.
- Intends neither to hasten nor postpone death.
- Integrates the psychological and spiritual aspects of patient care.
- Offers a support system to help patients live as actively as possible until death.
- Offers a support system to help the family cope during the patient's illness and in their bereavement.
- Uses a team approach to address the needs of patients and their families, including bereavement counseling, if indicated.
- Enhances quality of life and may also positively influence the course of illness.
- Is applicable early in the course of illness in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications.

Palliative care can and should be initiated early in the trajectory of a life-threatening illness. Provided along a continuum that includes death, palliative care promotes and improves quality of life for those with a diagnosis of serious illness but who will fully recover, for those with advanced illness who may live long but will likely die from the disease, those who are very ill and will die shortly, and those who are dying (National Institute on Aging, 2017b). Care is comprehensive and holistic; centers on physical, psychosocial, and spiritual issues; and continues into the bereavement period. Palliative care helps patients and their family members handle the difficulties related to life-threatening illness. Consequently, the patient and the family comprise the unit of care.

Hospice care

The term "hospice" dates back to medieval times and refers to a place where travelers and people who were sick found a comforting setting for rest (American Cancer society, 2019). Hospice uses an interdisciplinary team of professionals to address the physical, spiritual, and psychosocial needs of dying persons and their families (Hospice Foundation of America, 2019). Hospice care is different from palliative care, as it begins with a referral from a health care provider who determines that a patient has six months or less to live, who is rapidly declining despite medical treatment, and is ready to live more comfortably and forego treatments aimed at prolonging life.

Hospice philosophy and central principles are as follows (American Cancer Society, 2019):

- Hospice is a philosophy focusing on end-of-life care; it is not a place.
- The philosophy of hospice affirms life instead of death.
- Hospice works to make quality of life as good as it can be.
- Hospice cares for the family as well as the patient.
- Hospice care is holistic.
- Hospice continues to support family members even after the death of their loved one.
- The hospice approach relies on interdisciplinary teamwork to provide both professional skills and a human presence.
- Hospice services are available around the clock, seven days a week.
- Hospice program participants support each other.
- The hospice philosophy is widely applied to various individuals and their family members who are coping with a life-threatening illness, dying, death, or the aftermath of the death of a loved one.

Conclusion

This course has provided information about common health issues and concerns that older adults are likely to encounter. It is important for nurses to be aware of the factors that interfere with successful aging and the factors that encourage a healthy lifestyle. It is important for nurses to understand how elder abuse takes place, recognize its signs, and educate their patients on this subject. Screening for age-related memory changes and other chronic medical conditions is also important in promoting healthy aging and quality of life for older adults.

The goal of hospice and palliative care is to reduce patients' distressing symptoms (physical, emotional, and spiritual) and improve their quality of life. Making appropriate and timely referrals for hospice and palliative care is one way that nurses can prevent needless suffering for patients with life-threatening conditions and assist their patients in addressing end-of-life issues.

Nurses continue to play an ever-expanding role in educating older adults and their families on daily habits that contribute to healthy aging and encourage healthy behaviors, and in offering valuable information and suggestions to address issues related to end-of-life care..

Resources

- Alzheimer's Association: https://www.alz.org
- Alzheimer's Foundation of America: https://www.alzfdn.org
- American Academy of Hospice and Palliative Medicine: https://www.aahpm.org
- American Cancer Society: https://www.cancer.org
- American Society of Hypertension: https://www.ash-us.org
- American Stroke Association: https://www.strokeassociation.org
- Arthritis Foundation: https://www.arthritis.org
- CaringInfo (National Hospice and Palliative Care Organization): https://www.caringinfo.org/i4a/pages/index.cfm?pageid=1
- Center to Advance Palliative Care: https://www.capc.org
- Centers for Medicare and Medicaid Services: https://www.medicare.gov
- Elisabeth Kübler-Ross Foundation: https://www.ekrfoundation.org
- Growth House (educational materials and resources concerning end-of-life care): https://www.growthhouse.org
- Hospice and Palliative Credentialing Center: http://virtualex.nhpco.org/user/view.php?id=607
- Hospice and Palliative Nurses Association: https://advancingexpertcare.org
- Hospice Association of America: https://www.hospice.nahc.org
- Hospice Foundation of America: https://www.hospicefoundation.org

References

- Administration on Aging. (2018). 2017 Profile on older Americans. https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2017OlderAmericansProfile.pdf.
- Alzheimer's Association. (2020). 2020 Alzheimer's disease facts and figures. Alzheimer's & dementia. https://www.alz.org/media/Documents/alzheimers-facts-and-figures.pdf.
- American Cancer Society. (2016). Hospice care. https://www.cancer.org/ treatment/finding-and-paying-for-treatment/ choosing-your-treatment-team/hospice-care. html.
- American Cancer Society. (2019). Signs and symptoms of cancer. https://acsjournals.onlinelibrary.wiley.com/doi/full/10.3322/caac.21557.
- American Family Care. (2018). The facts of osteoporosis. https://www.afcurgentcare.com/about/national-blog/2019/may/the-facts-of-osteoporosis/.
- American Geriatrics Society. (2019). Beer criteria review. https://www.americangeriatrics.org/.
- American Heart Association/American Stroke Association. (n.d.). Four letters: F-A-S-T/ Three numbers: 9-1-1. http://www.strokeassociation.org/STROKEORG/ Warning Signs/Stroke-Warning-Signs-and- Symptoms_UCM_308528_SubHomePage.jsp.
- Arthritis Foundation. (n.d.). What is osteoarthritis? http://www.arthritis.org/ about-arthritis/types/osteoarthritis/what-is- osteoarthritis.php.
- Baretto, P., Demougeot, L., Vellas, B., & Rolland, Y. (2018). Exercise training for preventing dementia, mild cognitive impairment, and clinically meaningful cognitive decline: A systematic review and meta-analysis. The Journal of Gerontology, 73(11), 1504-1511.
- Cabrita, M., Lamers, S., Trompetter, H., Tabak, M., & Vollenbroek-Hutten, M. (2017). Exploring the relation between positive emotions and the functional status of older adults living independently: A systematic review. Aging and Mental Health, 21(11), 1121-1128.
- California Advocates for Nursing Home Reform. (2017). Recognizing and reporting elder abuse. http://www.canhr.org/ factsheets/abusefs/html/fs_elderabuse.htm.
- Candrian, C., Tate, C., Broadfoot, K., Tsantses, A., Matlock, D., & Kutner, J. (2017). Designing effective interactions for concordance around end-of-life care decisions: Lessons from hospice admission nurses. Behavioral Sciences, 7(2), 22. 10.3390/ bs7020022.
- Casey, S. J., Solomons, L. C., Steier, J., Kabra, N., Burnside, A., Pengo, M.F., Moxmahn, J., Goldstein, L.H., & Kopelman, M.D. (2016). Slow wave and REM sleep deprivation effects on explicit and implicit memory during sleep. [Abstract]. Neuropsychology, 30(8), 931-945.
- Centers for Disease Control and Prevention. (2017a). Depression is not a normal part of growing older. http://www.cdc.gov/aging/mentalhealth/depression.htm.
- Centers for Disease Control and Prevention. (2017b). Stroke facts. https://www.cdc.gov/stroke/facts.htm.
- Centers for Medicare and Medicaid Services. (2017). Medicare hospice benefits. https://www.medicare.gov/Pubs/pdf/ 02154-Medicare-Hospice-Benefits.PDF.
- Cheng, C., Wentworth, K., & Shoback, D. (2020) New frontiers in osteoporosis therapy. Annual Review of Medicine, 71, 277-288.
- DeRhodes, K. (2019). The dangers of ignoring the Beers criteria – The prescribing cascade. Jama Internal Medicine, 179(7), 863-864.
- Domenech-Abella, J., Lara, E., Rubio-Valera, M., Olaya, B., Moneta, M.V., Rico-Ruibe, L.A., Ayuso-Mateos, J.L., Mundo, J., & Haro, J.P. (2017). Loneliness and depression in the elderly: The role of social network. Social Psychiatry and Psychiatric Epidemiology, 52, 381-390.
- Frost, R., Beattie, A., Bhanu, C., Walters, K., & Ben-Shiomo, Y. (2019). Management of depression and referral of older people to psychological therapies: A systematic review of qualitative studies, British Journal of General Practice, 69(680), e171-e181. 10.3399/bjgp19X701297.
- Gothe, N.P., Ehlers, D.K., Salerno, E.A., Fanning, J., & McAuley, E. (2019). Physical activity, sleep , and quality of life in older adults: Influence of physical, mental and social well-being. Behavioral Sleep Medicine. 10.1080/15402002.2019.1690493.
- Heron, M.P. (2016). Deaths: Leading causes for 2014. National Vital Statistics Reports, 6(5), 1-96.
- Hospice Foundation of America. (2019). Living with Grief https://hospicefoundation.org/.
- Joint Commission. (2018). Palliative care certification manual (PCPC-2). https://www.jointcommission.org/-/media/deprecated-unorganized/imported-assets/tjc/system-folders/assetmanager/advanced_palliative_care_proposed_requirementspdf.pdf?db=web&hash=4CEA08BC3D6C024EF9DBCFCFAA0080E0.
- Kell, K., & Rula, E. (2019.) Increasing exercise frequency is associated with health and quality-of-life benefits for older adults. Quality of Life Research, 28, 3267-3272.
- Koroknay, V. (2015). Education nurses in gerontology: We still have a way to go. Journal of Gerontological Nursing, 41(1), 3-4.
- Krans, B. (2017). Geriatric depression healthline. https://www.healthline.com/health/depression/elderly.
- Lesende, I.M., Crespo, L., & Bilbao I. (2019). Functional decline, mortality and institutionalization after 18 months in multimorbid older persons. European Geriatric Medicine 523-529.
- Levenson, J. (2017, May 3). Psychopharmacology considerations in treating patients with rheumatological disorders. Psychiatric News. http://psychnews.psychiatryonline.org/doi/full/10.1176/appi. pn.2017.5a14.
- MacDonald, J.M. & Barrett, D. (2016). Companion animals and well-being in palliative care nursing: A literature review. [Abstract]. Journal of Clinical Nursing, 25(3-4), 300-310.
- Magnuson, T. (2019). Depression and comorbidities: Common diseases and conditions effected by depression. https://www.unmc.edu/media/intmed/geriatrics/nebgec/critical_issues_geriatries_2010/ppt/magnusoncomorbidities.pdf.
- Mayo Clinic. (2015). Kegel exercises: A how- to guide for women. http://www.mayoclinic.org/healthy-lifestyle/ womens-health/in-depth/kegel-exercises/art- 20045283.
- Mayo Clinic. (2016). Depression (major depressive disorder). http://www.mayoclinic.org/diseases-conditions/ depression/basics/symptoms/CON-20032977.
- Merck Manual Professional Version. (2020). Overview of delirium and dementia. https://www.merckmanuals.com/professional/neurologic-disorders/delirium-and-dementia/delirium#v1036383.
- Miller, K., Goncalves-Bradley, D., Areerob, P., Hennessy, D., Mesagno, C., & Grace, F. (2020). Comparative effectiveness of three exercise types to treat clinical depression in older adults: A systematic review and network meta-analysis of randomized controlled trials. Aging Research Reviews, 58. https://doi.org/10.1016/j.arr.2019.100999.
- Musich, S., Want, S., Slindee, L., Kraemer, S., & Yeh, C. (2019) Prevalence and characteristics associated with high dose opioid users among older adults. Geriatric Nursing, 40(1), 31-36.
- Naganathan, V. (2018). Prescribing to the oldest old. Advanced Age Geriatric Care. 297-304.
- National Cancer Institute. (2016). Study confirms benefits of early palliative care for advanced cancer. https://www.cancer.gov/news-events/cancer-currents-blog/2016/palliative-care-quality.
- National Hospice and Palliative Care Organization. (n.d.). Interdisciplinary team. https://www.nhpco.org/inter disciplinary-team.
- National Institute of Mental Health. (2016a). Depression. https://www.nimh.nih.gov/health/topics/depression/ index.shtml.
- National Institute of Mental Health. (2016b). Depression basics. https://www.nimh.nih.gov/health/publications/ depression/index.shtml
- National Institute on Aging: National Institutes of Health. (2017). Elder abuse. https://www.nia.nih.gov/health/elder-abuse.
- National Institute on Aging. (2017a). Health & aging: AgePage – Elder abuse. https://www.nia.nih.gov/ health/publication/elder-abuse#signs.
- National Institute on Aging. (2017b). Health & aging: Care options at the end of life. https://www.nia.nih.gov/ health/publication/end-life-helping-comfort- and-care/care-options-end-life.
- National Institute on Aging. (2019). Urinary incontinence in older adults.
- https://www.nia.nih.gov/health/urinary-incontinence-older-adults
- National Institute on Deafness and Other Communication Disorders. (2016). Quick statistics about hearing. https://www.nidcd.nih.gov/health/statistics/ quick-statistics-hearing.
- National Institute on Deafness and Other Communication Disorders. (2017). Hearing loss and older adults. https://www.nidcd.nih.gov/health/hearing- loss-older-adults.
- National Institutes of Health. (2018). NIH SeniorHealth: Osteoporosis – What is osteoporosis? https://nihseniorhealth.gov/osteoporosis/whatisosteoporosis/ 01.html.
- Olomi, J., Wright, N., Hasche, L., & DePrince, A. (2019). After older adult maltreatment: Services needs and barriers. Journal of Gerontological Social Work. https://doi.org/10.1080/01634372.2019.1668517.
- Palinkas, A., Sandor, J., Papp, M., Korosi, L., Falusi, Z., Pal, L., Belteczki, Z., Rihmer, Z., & Dome, P. (2019) Associations between untreated depression and secondary health care utilization in patients with hypertension and or diabetes. Social Psychiatry and Psychiatric Epidemiology, 54, 255-276.
- Roberto, K.A. (2016). The complexities of elder abuse. American Psychologist, 71(4), 302-311.
- Sheikh, J.I., & Yesavage, J.A. (1986). Geriatric Depression Scale (GDS): Recent evidence and development of a shorter version. Clinical Gerontologist, 5(1/2), 165-173.
- Solomon, R., Smith, C., Kallio, J., Fenollosa, A., Benerofe, B., Jones, L., Adelson, K., Gonsky, J. P., Messner, C., & Bickell, N. A. (2017). Speaking up: How patient and physician voices shaped a trial to improve goals-of-care. [Abstract]. The Patient. [Advance online publication]. 10.1007/ s440271-017-0226-z.
- United States Preventive Services Task Force. (2020a). Screening for cognitive impairment in older adults. JAMA, 323(8), 757-763 .10.1001/jama.2020.0435.
- United States Preventive Services Task Force. (2020b). Should older adults get cognitive screenings? It's complicated. https://www.advisory.com/daily-briefing/2020/02/28/cognitive-decline.
- University of California San Francisco Medical Center. (n.d.). Hearing loss signs and symptoms. https://www.ucsfhealth.org/conditions/hearingloss/signs_and_symptoms.html.
- U.S. Census Bureau. (2017). Facts for features: Older Americans Month: May 2017. https://www.census.gov/newsroom/facts-for-features/2017/cb17-ff08.html.
- Whelton, P. & Carey, R. (2019). The 2017 American College of Cardiology/American Heart Association hypertension guideline: a resource for practicing clinicians. Annals of Internal Medicine 168(5) 359-360.
- Williams, J., Racette, E., & Hernandez-Tejada, M. (2017). Prevalence of elder polyvictimization in the United States: Data from the National Elder Mistreatment Study. [Epub ahead of print]. Journal of Interpersonal Violence. 10.1177/0886260517715604.
- Wilson, R.S., Boyle, P.A., Capuano, A.W., Shah, R. C., Hoganson, G.M., Nag, S., & Bennett, DA. (2016). Late-life depression is not associated with dementia-related pathology. Neuropsychology, 30(2), 135-142. 10.1037/neu0000223.
- World Bank. (2017). Population ages 65 and above (% of total). http://data.worldbank.org/indicator/SP.POP.65UP. TO.ZS.
- World Health Organization. (n.d.). Cancer: Palliative care is an essential part of cancer control. http://www.who.int/cancer/palliative/en.
- Zaorsky, N., Churilla, T., Egleston, B., Fisher, S., Ridge, J., Horwitz, E., & Meyer, J. (2017). Causes of death among cancer patients. Annals of Oncology, 28(2), 400-407. 10.1093/annonc/mdw604.

Chapter 2: Assistance With Self-Administered Medications

2 Contact Hours

By: Staff Writer

Learning objectives

- Identify and interpret the components of a prescription label.
- List and explain the procedures for assistance with oral and topical forms of medications (including ophthalmic, otic and nasal forms), including the "five rights" of medical administration.
- Identify and define the side effects for medication classes and discuss procedures to follow if residents experience side effects or adverse reactions.
- Describe conditions that require additional clarification for "as needed" prescription orders.
- Identify medication orders that require judgment, and may prevent the CNA from assisting residents with medication.
- Explain and list types of information and details that must be reported on the medication observation record.
- List the requirements and procedures for medication storage and disposal.

Introduction

The Florida statutes (revised in 2016) are the laws that govern assistance with self-medication. According to the state[1]:

> Legislative changes to the Florida Statutes, effective up to and including January 1, 2017, are treated as current for publication of the 2016 Florida Statutes. This means that some material in the 2016 edition may not take effect until January 1, 2017. Amendments effective on January 2, 2017, or later, will appear as footnotes.

Title XXX: Chapter 429: Social welfare assisted care communities

429.256 Assistance with self-administration of medication.

1. For the purposes of this section, the term:
   a. **"Informed consent"** means advising the resident, or the resident's surrogate, guardian, or attorney in fact, that an assisted living facility is not required to have a licensed nurse on staff, that the resident may be receiving assistance with self-administration of medication from an unlicensed person, and that such assistance, if provided by an unlicensed person, will or will not be overseen by a licensed nurse.
   b. **"Unlicensed person"** means an individual not currently licensed to practice nursing or medicine who is employed by or under contract to an assisted living facility and who has received training with respect to assisting with the self-administration of medication in an assisted living facility as provided under s.429.52 prior to providing such assistance as described in this section.
2. Residents who are capable of self-administering their own medications without assistance shall be encouraged and allowed to do so. However, an unlicensed person may, consistent with a dispensed prescription's label or the package directions of an over-the-counter medication, assist a resident whose condition is medically stable with the self-administration of routine, regularly scheduled medications that are intended to be self-administered. Assistance with self-medication by an unlicensed person may occur only upon a documented request by, and the written informed consent of, a resident or the resident's surrogate, guardian, or attorney in fact. For the purposes of this section, self-administered medications include legend and over-the-counter oral dosage forms, topical dosage forms and topical ophthalmic, otic, and nasal dosage forms including solutions, suspensions, sprays, and inhalers.
3. Assistance with self-administration of medication includes:
   a. Taking the medication, in its previously dispensed, properly labeled container, including an insulin syringe that is prefilled with the proper dosage by a pharmacist and an insulin pen that is prefilled by the manufacturer, from where it is stored, and bringing it to the resident.
   b. In the presence of the resident, reading the label, opening the container, removing a prescribed amount of medication from the container, and closing the container.
   c. Placing an oral dosage in the resident's hand or placing the dosage in another container and helping the resident by lifting the container to his or her mouth.
   d. Applying topical medications.
   e. Returning the medication container to proper storage.
   f. Keeping a record of when a resident receives assistance with self-administration under this section.
   g. Assisting with the use of a nebulizer, including removing the cap of a nebulizer, opening the unit dose of nebulizer solution, and pouring the prescribed premeasured dose of medication into the dispensing cup of the nebulizer.
   h. Using a glucometer to perform blood-glucose level checks.
   i. Assisting with putting on and taking off antiembolism stockings.
   j. Assisting with applying and removing an oxygen cannula but not with titrating the prescribed oxygen settings.
   k. Assisting with the use of a continuous positive airway pressure device but not with titrating the prescribed setting of the device.
   l. Assisting with measuring vital signs.
   m. Assisting with colostomy bags.
4. Assistance with self-administration does not include:
   a. Mixing, compounding, converting, or calculating medication doses, except for measuring a prescribed amount of liquid medication or breaking a scored tablet or crushing a tablet as prescribed.
   b. The preparation of syringes for injection or the administration of medications by any injectable route.
   c. Administration of medications by way of a tube inserted in a cavity of the body.
   d. Administration of parenteral preparations.
   e. Irrigations or debriding agents used in the treatment of a skin condition.
   f. Rectal, urethral, or vaginal preparations.
   g. Medications ordered by the physician or health care professional with prescriptive authority to be given "as needed," unless the order is written with specific parameters that preclude independent judgment on the part of the unlicensed person, and at the request of a competent resident.
   h. Medications for which the time of administration, the amount, the strength of dosage, the method of administration, or the reason for administration requires judgment or discretion on the part of the unlicensed person.
5. Assistance with the self-administration of medication by an unlicensed person as described in this section shall not be considered administration as defined in s. 465.003.
6. The department may by rule establish facility procedures and interpret terms as necessary to implement this section.

Assisted living facility legislation effective July 1, 2015[1a]

The governor has signed HB 1001 into law regarding assisted-living facility regulation. The new law includes several provisions affecting the regulations and enforcement of assisted living facilities (ALF).

Additional key components contained in the bill include:

- Increases training for unlicensed staff who assist residents with self-administration of medication (from 4 to 6 hours)and adds duties that unlicensed staff are now allowed to perform when providing assistance with a patient's medication self-administration. These assistance with: Prefilled insulin syringes, nebulizer including filling premeasured doses, glucometers, anti-embolism (T.E.D.) hose, measuring vital signs, and assisting with colostomy bags, applying and removing oxygen cannula but not titrating the prescribed oxygen setting, use of a continuous positive airway pressure device but not titrating prescribed setting.
- Titrating refers to determining the concentration of a dissolved substance. Additional details of these additions will be provided.

Nursing consideration #1: Look at the current Florida Statutes above. List the ones that are required at your facility in your role as CNA. Which ones are unfamiliar to you? How will you seek clarification?

Purpose

One of the most important services an ALF may provide is assisting a resident with medications. For caregivers in ALFs, this is frequently the most crucial component of caring for residents.

Most people move to an ALF because of a need for assistance with personal care, including assistance with medications and other activities of daily living.

Caregivers might need to assist a resident with medications, pick up medications at the pharmacy, check them when they are delivered, and make sure that they are taken as directed.

This guide describes the process for assisting residents to take their medications safely; provides an overview of the law and rule requirements with respect to assistance; and describes procedures relating to the management of medications in the assisted living setting. It was developed as a training guide to permit unlicensed personnel, as caregivers, to safely assist residents with the self-administration of medication.

MEDICATION LABELS AND HEALTH CARE ORDERS

Prescription labels

Rx = Prescription: A written directive to a pharmacist giving names and quantities of ingredients to be combined and dispensed for a particular patient.

Prescription label:

McMAHON PHARMACY
200 Main Street, Boxa Raton, FL
Ph. 561-555-8787 Fax 561-555-8686
Rx#5564 Dr. William Johnson

Mabel Poole 3/15/99
TAKE 1 TABLET BY MOUTH TWICE DAILY
TAKE ON EMPTY STOMACH.

VIDEX 100mg QTY. 60

REFILLS: 01
Discard by: 3/15/01

Prescription drug labels should be written according the doctor's order and should include:

- Resident's name.
- Name of the drug.
- Strength of the drug.
- Quantity of drug in the container.
- Time medication should be taken.
- Any directions for use or special precautions.
- Date the prescription was filled and number of refills.
- Prescriber's name (i.e. doctor).
- Pharmacy name, address and phone number.
- Rx number.
- Expiration date / discard date / do not use by date.

Auxiliary labels

Sometimes, the pharmacist will place a smaller, additional label (usually colored) on the container with special instructions, such as the following:

- "Shake well before using."
- "Do not drink alcoholic beverages when taking this medication."
- "Medication should be taken with plenty of water."
- "May cause drowsiness."
- "Take with food."

It is important to read the auxiliary labels, as well as the full prescription label. If the pharmacist is not using auxiliary labels, request them.

Important! A CNA cannot make changes on a prescription label. Only a pharmacist can change a prescription label.

Nursing consideration #2:

McMAHON PHARMACY
200 Main Street, Boxa Raton, FL
Ph. 561-555-8787 Fax 561-555-8686
Rx#0033 Dr. John Allen

Murphy Miller
TAKE 1 TABLET BY MOUTH, ONCE DAILY.

LANOXIN 0.125mg TABLETS QTY. 30

REFILLS: 01
Discard by: 12-31-01

Answer the following questions using the label above:

- Whom is the medication prescribed for?
- How many tablets should the person take?
- What is the strength of the medication?
- What is the name of the medication?
- When does the medication expire?

Nursing consideration #3:

McMAHON PHARMACY
200 Main Street, Boxa Raton, FL
Ph. 561-555-8787 Fax 561-555-8686
Rx#1346 Dr. Mark Freidman

Tony Ramos
CHEW, CRUSH OR DISSOLVE 2 TABLETS TWICE DAILY - TAKE ON EMPTY STOMACH.

VIDEX 100MG CHEWABLE TB ORANGE QTY. 120

REFILLS: 03
Discard by: 10-10-00

Answer the following questions using the label above:

- Should this medication be swallowed whole?
- What is the prescription number?
- Are there any special instructions?
- How many tablets should be taken at once?
- What is the name of the resident's doctor?

"As needed" or "PRN" medication labels

Assistance with an "as needed" or "PRN" medication by an unlicensed person may only occur at the request of a competent resident. A resident who is unable to request an "as needed" or "PRN" medication appropriately would require this type of medication to be administered by a licensed person, (i.e. licensed nurse).

Medication label

Unlicensed persons can only assist competent residents with "PRN" or "as needed" medications with an appropriate medication label. The instructions must be clear and must not require any judgment on by the CNA.

The following label provides clear instructions on how this medication may be taken:

McMAHON PHARMACY
200 Main Street, Boxa Raton, FL
Ph. 561-555-8787 Fax 561-555-8686
Rx#8989 Dr. Tom Johnson

Mabel Poole
TAKE 2 CAPSULES EVERY 3-4 HOURS AS NEEDED, BY MOUTH FOR DIARRHEA. CALL DR. IF SYMPTOMS PERSIST MORE THAN 3 DAYS.

MAXIMUM 6 CAPS PER DAY

GENERIC FOR IMMODIUM

LOPERAMIDE 2MG CAPSULE QTY 30
DISCARD AFTER: 07-30-00

All "PRN" or "as needed" medication labels should include the following:

- The **conditions** for which the medication should be given (For diarrhea).
- The **dosage** of medication to give (1-2 capsules).
- The **hours** it should be given (every 3-4 hrs).
- The **upper limit of dosages** (Maximum of 6 capsules per day. Call doctor if symptoms persist more than 3 days).

Medications ordered by the physician or health care professional with prescriptive authority to be given "as needed," unless the order is written with specific parameters that preclude independent judgment on the part of the unlicensed person, and at the request of a competent resident[1a].

Nursing consideration #4:

McMAHON PHARMACY
200 Main Street, Boxa Raton, FL
Ph. 561-555-8787 Fax 561-555-8686
Rx#4934 Dr. Bob Johnson

Kevin King
25 MG CAPSULE Benadryl BY MOUTH, AS NEEDED.

QTY. 60

REFILLS: 05
DISCARD BY: 07-30-00

The previous label does not provide clear directions. To understand why this is important, answer the following questions:

- Why should Kevin King take this medication?
- How often can this medication be taken?
- Is there an upper limit to the dosage in a given time period?
- The instructions for the label above should include additional information.

For example:

- Take (1) 25 MG capsule by mouth at bedtime, as needed for sleeplessness.
- May repeat one time if needed 1 hour later.
- Not to exceed 2 capsules in a 24-hour period.

This tells you why Kevin King should take the medication, how much he should take, when he should take the medication, and the maximum dose to be taken in a given time period.

CLARIFYING "AS NEEDED" OR "PRN" PRESCRIPTION LABELS

When an "as needed" or "PRN" medication is labeled without all of the necessary information, contact the health care provider to obtain any missing information. An unlicensed person may obtain such clarification from the health care provider, revised instructions clarifying the order are not considered a change in the health care provider's order.

With all "as needed" medication orders, know why the medication should be taken, as well as any limits to taking the medication.

How to clarify "as needed" or "PRN" medication orders[2]

Immediately after receiving the medication, determine what information is missing (for example, the upper dosage limits for the medication or why the medication may be requested).

Call the health care provider's office and explain that you are not a nurse, but are assisting a resident with his/her medications as allowed in an assisted living facility. Ask for the precise information that is missing. Ask the HCP's office to fax or send by electronic means a copy of the order. This will decrease the likelihood of a medication error as a result of a hearing, interpretation, or transcription error. Ask another staff member who is trained to assist residents with medications – or a nurse – to double check this information on the medication record. Ask the pharmacist to review the medication record including the revised directions[2]. This process will decrease the likelihood of mistakes.

Write in the revised instructions or the missing information on the medication record under the directions for use. Initial the entry. The medication record should also include a dated and signed notation indicating that the health care provider was contacted to obtain revised instructions for the medication. Include what the revisions were. This notation is often placed on the back of the medication observation record.

MEDICATION ORDERS THAT REQUIRE JUDGMENT OR DISCRETION

CNAs are prohibited by law to assist with medications for which the time of the administration, the amount, the strength of dosage, the method of administration or the reason for administration requires judgment or discretion.

Nursing consideration #5:

McMAHON PHARMACY
200 Main Street, Boxa Raton, FL
Ph. 561-555-8787 Fax 561-555-8686
Rx#4934 Dr. Mark Johnson

Joe Brown
TAKE 2 TABLETS AS NEEDED FOR FLUID RETENTION. NOT TO EXCEED 6 TABLES PER DAY.

LASIX 40 mg QTY 20

DISCARD AFTER: 07-30-00 REFILLS: 01

Why would the CNA NOT assist with this medication? What would you do in this case?

An unlicensed person is not trained to determine when the medication is to be used. In this case, CNAs are not trained to assess "fluid retention."

Changes in medication orders

Any change in directions for use of a medication in which the facility is providing assistance with self-administration must be accompanied by a written medication order issued and signed by the resident's health care provider. Unlicensed persons cannot implement any changes without first obtaining a written order. To ease this process, a faxed copy of the order is acceptable. Always have a supervisor review changes.

Implementing a change in medication

Obtain a copy of the medication order that clearly states the new directions for use from the health care provider.

Discontinue the previous entry (or the old directions for use) on the medication observation record on the day the new order is received. Record an entirely new entry, with the new directions for use, on the medication observation record.

Place an "alert" label on any existing medications for which the directions for use have now been changed, or obtain a new medication label with the new directions from the pharmacist. "Alert" labels are used to direct staff to examine the revised directions for use in the medication observation record.

Licensed nurses may take a doctor's order over the telephone. However, a written order must still be obtained within ten (10) working days.

When medication orders or new deliveries of labeled medications are received, check to make sure that the instructions do not require judgment.

If the instructions are not clear – or require a decision about when or how to give the medication – contact the administrator or supervisor. Advise him/her that CNAs are unable to assist the resident with the medication and the exact reason why.

Advise the resident that the medication requires judgment. If a CNA assists with the medication, call the health care provider to request clear instructions. Inform residents of the results of the conversation with the health care provider.

When contacting the health care provider about medications that require discretion or judgment, inform the health care provider that CNA is not a nurse, but assists a resident with his/her medications, as allowed in an assisted living facility. Sometimes health care providers do not understand what an assisted living facility is, or assume that all ALFs have nurses on staff who can take care of implementing doctors' orders. Inform the provider that as an unlicensed person, you are prohibited from assisting with medication that requires discretion or judgment.

MEDICATION OBSERVATION RECORDS

The MOR: A medication observation record must be kept for each resident who receives assistance with medications. Medication observation records (MOR) must include:

- The name of the resident.
- Any known allergies the resident has.
- The name and telephone number of the resident's health care provider.
- The name of each medication prescribed and its strength and directions for use.
- A record of each time the medication was taken.
- A record of any missed dosages, refusals to take medications as prescribed, or medication errors.
- Record medication each time it is offered.

Working with the medication observation record. The MOR is your record of all the medications a resident is receiving assistance with, as well as the verification that you have assisted a resident in taking his/her medication. When you provide assistance to a resident, record it on the MOR immediately after.

If a resident refuses to take a medication, record the refusal code on the MOR front, and explain why the resident refused the medication on the back of the MOR. Contact with the resident's physician should also be noted.

When a resident is hospitalized, or is out of the facility and does not receive assistance with medication, indicate this on the MOR. For example, write "H" in the box that would be initialed if the resident is hospitalized, or "O" if the resident is out of the facility. On the back of the MOR, keep a record of when the resident takes his/her medications out of the facility so this matches the chart.

Record the reasons for missed dosages and medication errors on the back of the MOR. Any resulting actions should also be noted (i.e. contacting the health care provider and instructions given).

When an order is changed, the original entry on the MOR should not be altered. Instead, the original order should be marked "discontinued" and the new order must be written in a new space. The order written on the MOR must match the prescription label exactly. If the label says "Buspar 5mg take 2 tablets twice daily," the MOR must match.

MORs should contain the signature and initials of each staff member who will be using the MOR. Abbreviations should not be used on the MOR.

DO NOT begin to assist the next resident until the current resident's MOR is completed, and that resident's medication has been returned to the storage area.

Nursing consideration #6:
What information from this label is recorded on the MOR? See the sample below.

McMAHON PHARMACY
200 Main Street, Boxa Raton, FL
Ph. 561-555-8787 Fax 561-555-8686
Rx#8976 Dr. Lee Hichu

Paul Goldberg
ONE TABLET by mouth, EVERY MORNING AND TWO AT BED TIME.

DISCARD AFTER: 08/00
RISPERDAL 3MG TAB QTY 90
REFILLS 05

What information from this label is recorded on the MOR? See the following sample:

Name of Resident_____
Month _____ **Year**_____
Allergies_____

Name of Physician_____
Telephone # _____

ALF MEDICATION OBSERVATION RECORD (MOR)

Medication	Hour	Dose	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

CODE:
X-Held by medical order
R-Refused
D/C-Discontinued
H-Home/pass

Instructions: Person assisting with self-administration or administering medications should initial box under date and opposite the medication taken. If medication is not given, then proper code initial should be placed in the space. See codes left.

DOEA/ALF Sample Form 10/99

Initials	Signatures	Initials	Signatures	Initials	Signatures

MEDICATION NOTES

Date/Hour	Medication/ Dosage	Reason	Results/Response	Initials

STORAGE AND DISPOSAL OF MEDICATIONS

Residents' right to privacy

Assisted living facilities have been increasing in number, largely due to residents' desire to live in an environment that is more like home, encourages personal autonomy, and which allows residents to be independent and make their own decisions.

Assisted living staff has the responsibility to protect residents' privacy and support personal dignity and individuality – while at the same time providing supervision and assistance with daily living activities. This is not always an easy task, especially when it comes to working with residents and their families and safely managing the residents' medications.

Residents' rooms are their private spaces. Staff should not violate this by searching through their drawers and cabinets without residents' permission. Be aware of the conditions in the room – such as pills on the floor or excessive amounts of over-the-counter medications. When assisting a resident in putting away clean clothes in drawers, observe for any medications that may be hidden. Ask the resident's permission to review the expiration dates on medication bottles. If pills are observed on the floor (or any other irregularity), discuss it with the resident and then report it to the supervisor. Additional tips for working with residents and families regarding medication management will appear later in this guide.

Storage of medications by residents

Since assisted living facilities are residents' homes, residents who are capable of managing their own medications are allowed to manage them. Residents are also allowed to keep both prescription and over-the-counter medications in their rooms. There are, however, some limitations.

If a resident self-administers his/her medications with or without assistance, he/she may keep them in his/her room; however, the room must be locked when the resident is out of the room or the resident must keep the medications in a secure place that is out of sight from other residents.

Special concerns: When residents share rooms, it is important to address the following:

- Medications should not be kept in a shared medicine cabinet.
- Medications should not be left out on a nightstand or dresser.
- A resident keeping medication in the room may endanger his/her roommate.
- Different arrangements must be made to provide a safe environment for both residents.

Centrally-stored medications

Medications must be centrally stored if:

- The facility administers the medication.
- The resident requests that the facility store his/her medications.
- A health care provider documents that it would be hazardous to the resident to keep the medication in his/her personal possession.

- The resident does not keep it in a secure place or keep his/her room locked when absent.
- The facility determines that because of physical arrangements, the conditions, or the habits of other residents, that the resident keeping his/her medication poses a safety hazard to other residents.
- Facility policy requires all residents to centrally store their medications.

An ALF may require all residents to "centrally store" their mediations. However, if an ALF has such a policy, the facility must provide this information to all residents prior to admission.

All medications that are centrally stored must be kept in a locked cabinet, locked cart or other locked storage receptacle, room, or area at all times. Centrally-stored medications must also be located in an area free from dampness and at normal temperature levels – unless the medication is required to be refrigerated.

If refrigeration is required, the medication should be kept in a locked container in the refrigerator, the refrigerator must be locked, or the room or area where the refrigerator is located must be locked. Medications must be kept in their legally dispensed and labeled packages or containers, and must be kept separately from the medication of other residents.

Staff trained to assist with – or licensed to administer – medications must have access to keys to the medication storage area or container at all times.

Medication storage tips

The medication storage areas should be well organized to reduce the risk of errors and to help save time when assisting with medications. Place medications in a systematic order; for example, in alphabetical order by resident name.

Always store medications in their labeled containers. If, for example, a tube of medication arrives in a box labeled by the pharmacy, the medication must be stored in the labeled box.

Do not expose medications to temperature extremes or moisture, unless medications are supposed to be refrigerated.

Store medications for the eyes, ears, nose and throat separately. For example, store these medications in different drawers of a medication cart, or store them by using drawer dividers.

Keep discontinued medications separate from medications currently being used. This will prevent you from continuing to give a medication which is no longer prescribed. These can be placed in a plastic bag and marked "discontinued" to further avoid mistakes.

Ask a pharmacist about the best way set up a system and organize a storage area. Medication containers must be properly closed or sealed so that medications do not become loose or mix together.

Storage of over-the-counter (OTC) medication

An ALF cannot have a "stock supply" of over-the-counter medication. Over-the-counter medication may not be kept for use by multiple residents; however, individual residents may have their own OTC medications. Residents may be allowed to keep over-the-counter medication in their rooms if they self-administer their medications, with or without assistance. If the resident requires medication to be administered, he/she should not store OTC medications in his/her room.

An ALF may centrally store OTC medications for residents. When storing OTC medications for residents that have not been prescribed by the health care provider, the medications must be labeled with the resident's name, and the manufacturer's instructions for use must be kept with the medication.

When an OTC medication is prescribed by a health care provider, the medication must be stored in the same manner as prescription medications and must be managed according to the prescription label/instructions – just like prescribed medication.

Discontinued medication

When a resident's medication has been discontinued but has not expired, the medication should be returned to the resident (if that is a safe option) or to the resident's representative/guardian. The facility also may centrally store the medication for future use. Check with the supervisor before returning medication to residents.

When centrally storing discontinued medications for residents, remember that only medications which have not expired may be kept. These medications must be stored separately from medications in current use – for example, in a separate drawer.

The medication must be kept in a separate area that is marked "Discontinued Medication." Store each resident's discontinued medication together; for example, in a plastic bag with the resident's name clearly marked on the bag, in an area marked "Discontinued Medications."

Remember: Do not alter or write on the medication label when a medication is discontinued. In addition, when storing discontinued medications, write the date the medication was discontinued and the name of the health care provider who gave the order to discontinue the medication on the medication observation record. Keep a copy of this information with the discontinued medication.

If a medication that was previously discontinued (but has not yet expired) is re-prescribed, it may be used in lieu of having a new prescription filled. However, ALF staff must be sure that they are using the right medication and strength by checking with the pharmacist or the prescribing physician.

Best practice

To reduce the risk of making any dangerous errors, follow the best practice for retrieving re-prescribed, discontinued medications as described below: When a medication is ordered for a resident, check to see if the resident has previously been prescribed the medication and if there is medication left which may be used. Check with the resident's representative or guardian or in the discontinued medication area. In other words, if you have Mrs. Brown's discontinued Haldol on hand, only use the Haldol for Mrs. Brown if it is re-prescribed for her. It may not be used for Mr. Brown (or for any other resident).

Verify the name and strength of the drug. To avoid any dangerous medications errors, only use the discontinued medication if it is the same strength as the present order. For example, if the current prescription is for 15 mg of Restoril and the discontinued medication on hand is 30 mg of Restoril, the CNA must obtain a new supply of medication in the correct strength of Restoril from the pharmacy rather than use the wrong strength. Enter the medication information on the MOR. Remove the medication from the discontinued medication area and return it to the resident's current medications.

Have another staff member (or a nurse) review the health care provider's order, the MOR, and verify the medication label. Verify that the medication has not expired and will not expire while the medication is to be taken. For example, if there's enough

medication for three weeks, but it expires in two weeks, make arrangements to reorder new medication prior to the expiration of the medication. Note on the MOR that a discontinued medication has been retrieved for reuse. Sign the notation and have the person who verifies this information sign also.

Disposal of abandoned or expired medications

The ALF is responsible for storing, managing and disposing of medications properly.

When a resident's stay in the ALF has ended, the medications must be returned to the resident, or to the resident's representative, unless otherwise prohibited by law. Notify the resident, or his/her representative, that the medication needs to be removed. The resident or representative may take the medications, or may request that you dispose of the medication. If there is no response from the resident or resident's representative within 15 days of the notification, the medications may be considered "abandoned." The ALF will then need to dispose of them within 30 days of being determined abandoned or expired. The disposal must be documented in the resident's record.

MEDICATION DISPOSAL: Medication must be properly disposed of. There are two ways to dispose of discontinued, abandoned, or expired medications:

1. The medication may be taken to a pharmacist for disposal.
2. The administrator (or person designated by the administrator, plus one witness) may destroy the medication. To destroy medications in a facility, they may be flushed down the toilet.

Nursing consideration #7: List the procedures to store over-the-counter (OTC) medication. Do you store discontinued medication? If so, how? What are the conditions for disposal of expired or abandoned medication? When can residents NOT have medication in their rooms? What procedures should you follow to safely dispose of medication?

When residents leave the ALF for temporary absences

Residents may leave an ALF on a temporary basis for a variety of reasons. For example, residents may attend day programs within the community; others may go away for a weekend (or longer) with family and friends. In all instances, it is important that residents continue to receive their prescribed medications.

When a resident who receives "assistance with medication" is away from the facility, the following options may be used to help the resident take the medication as prescribed:

1. The health care provider may prescribe a medication schedule that coincides with the resident's presence in the facility. For example, for residents who regularly go out during the day, ask the health care provider if the medication can be scheduled for when the resident is regularly in the ALF.
2. The medication container may be given to the resident (or to a friend or family member) upon leaving the facility. This must be noted on the medication observation record. CNAs may not transfer some of the medication into another container (for example, into an envelope) to go with the resident.
3. A nurse may transfer the medication to a pill organizer and then give it to the resident or to a friend or family member upon the resident leaving the facility. This must be noted in the resident's medication record.
4. Medications may be separately prescribed and dispensed in an easier-to-use form (such as unit dose packaging) so that the resident may take the dosage needed with him/her.

Medication reordering

For residents who receive assistance with medication or administration of medication, the ALF is responsible for making every reasonable effort to ensure that medications are refilled in a timely manner. Each ALF should have clear procedures for doing this. CNAs must be familiar with facility procedures prior to assisting residents with their medications.

Each ALF may have different procedures for reordering medications. Some ALFs designate a nurse to handle all health care orders, medication reordering and disposal of medication. It is imperative that each ALF has a system in place to ensure that residents do not run out of medications. Such a procedure should also address:

- Procedures for notifying families of the need for medication refills, if the family wishes to pick up prescription medications at a local pharmacy.
- Procedures to follow if the family does not bring medications in prior to the resident running out of medication.
- Procedures to follow when family members bring over-the-counter medications or herbal therapies to residents.
- Ordering medications by mail: Handling order changes by mail. Some residents have insurance that covers prescription medications only if they are ordered by mail.
- Designation of responsibilities for medication reordering; for example, the staff who work the second shift are responsible for reordering medications, or nursing staff is responsible, etc.

Best practice

The following describe the best-practice procedures for reordering medications:

- Reorder medications from the pharmacy seven days prior to running out, or as directed by the facility's policy.
- Keep a log of medications that have been reordered within the medication storage area. This way, everyone who has responsibility can see if a medication has been reordered.
- If medications are not received within three days of ordering, call the pharmacy to find out where they are and how to get them prior to running out. Even if a designated person is responsible for ordering medications, everyone who assists with medication should be responsible for finding out when refills will arrive if they have not been received three days prior to running out.
- When medications are received, check to make sure the correct prescription has arrived – prior to placing it into storage.
- Indicate that medications have been received on the log.

Assistance with self-administered medications

If residents in assisted living facilities can self-administer their own medications, they should be encouraged to do so. However, many residents need or desire some assistance with self-administration. A CNA who has successfully completed this course may assist them; however, there are limits. Importantly, unlicensed persons may not "administer" medications: Only a licensed nurse or doctor may administer medications.

Informed consent: Assisted living facilities are required to advise residents that assistance with medications can be provided by an unlicensed person, as well as whether or not the assistance will be overseen by a nurse. The resident or the resident's representative must consent to this after being informed and before unlicensed staff can provide "assistance with self-administration."

The facility must document that the consent has been received by obtaining a written and signed informed consent from the resident or the resident's representative, prior to assisting the resident with his/her medications for the first time. The facility should have a procedure for obtaining informed consent from residents who will be receiving assistance with their medications. Be familiar with that procedure.

In order to provide assistance with medications, the CNA must be at least 18 years old and must have been trained on how assist residents with their medications. A six-hour medication assistance course must also be completed. Training is provided by a registered nurse (RN), by a licensed pharmacist, or by a Department of Elder Affairs' staff person. A certificate of completion for assistance with self-administered medication training must be documented: A copy of the original must be kept in your personnel file.

Either a nurse or trained unlicensed staff must be in the facility at all times when residents need assistance with any medications.

CNAs must be prepared to demonstrate the ability to read and understand a prescription label to their administrator.

Providing assistance with medication

Assistance with a patient's self-administration of medication includes the following:*

- Taking a properly dispensed and labeled medication from where it is stored and bringing it to the resident.
- In the presence of the resident, reading the label, opening the container and removing the prescribed amount of medication.
- Closing the container.
- Placing an oral dosage (generally pills) in the resident's hand.
- Placing the oral dosage in another container, such as a small cup, and helping the resident by lifting the container to the resident's mouth.
- Returning the medication container to the storage area, and storing the medication properly.
- Documenting the assistance on the MOR.

Note* The 2015 additions to Florida law include[1a]:

1. Assisting with the use of a nebulizer, including removing the cap of a nebulizer, opening the unit dose of nebulizer solution, and pouring the prescribed premeasured dose of medication into the dispensing cup of the nebulizer.
2. Using a glucometer to perform blood-glucose level checks.
3. Assisting with putting on and taking off anti-embolism stockings.
4. Assisting with applying and removing an oxygen cannula but not with titrating the prescribed oxygen settings.
5. Assisting with the use of a continuous positive airway pressure device but not with titrating the prescribed setting of the device.
6. Assisting with measuring vital signs.
7. Assisting with colostomy bags.

Some residents will only be able to complete some of these tasks. Allow each resident to do as much as possible for him or herself. Do no more than needed. Remember, the CNAs role is to assist with self-administration, not take over.

Assistance with medication also includes applying topical medications. Topical medications include lotions, creams, eye and eardrops, nose drops and sprays, and inhalers. The procedures for providing assistance with topical medications are discussed in detail later in this chapter.

Nursing consideration #8: Review the procedures for assistance above, including the 2015 changes. Have you performed all of the procedures? If not, what questions do you have and how will you receive additional clarification?

Remember, when assisting a resident, keep a record of when a resident receives assistance with medication. This means recording each dose of medication for which assistance was provided on the medication observation record (MOR) as soon as it is given.

Assistance with medication does not include:

- Mixing, compounding, converting or calculating medication dosages.
- Preparation of syringes for injections and giving injections.
- Administration of medications through a tube inserted in the body.
- Parenteral preparations, medications which are not taken by mouth or applied topically such as intravenous medications.
- Irrigations or debriding agents, such as for the treatment of pressure sores.
- Rectal, urethral, or vaginal preparations (such as suppositories).
- "As needed" medications which require judgment.
- Any medication which requires judgment or discretion on the part of the unlicensed person.

As an unlicensed person, you are prohibited by law from performing any of the tasks listed above.

THE "5 RIGHTS" OF MEDICATION ASSISTANCE

Assisting a resident to take their medications includes knowing that the:

- Right resident takes the…
- Right medication and the…
- Right dosage (amount) at the…
- Right time by the…
- Right route…

Safely assisting more than one person in taking multiple medications can be complicated, so these procedures must be followed.

Right resident

Identify the resident. New employees, or veterans with new residents, should work with staff members who know the residents. Some facilities keep pictures of residents (upon the resident's permission) with the MOR. Always confirm the resident's identity.

Right medication

Check the medication three times. Check the MOR. Check the medication label. Verify the labeled container with the MOR. Read the label to the resident.

Right dosage

Check the dosage. Make sure the resident takes the correct amount of medication, whether it's in spoonfuls, tablets, or drops.

Right time

Medications must be given at the time prescribed. Standard practice is that medications must be given within one hour before or one hour after the time indicated on the label and MOR. Medication given outside that time span is a medication error.

Right route

Give the medications in the manner directed.

Take the time to provide assistance safely and with consideration for residents' privacy. If you are unable to assist all the residents in taking their medications in a reasonable amount of time – which is a safety concern – speak with your supervisor about the need for another trained person to share the assignment.

Know when to ask for help

Do not provide assistance if you are uncomfortable or are uncertain about that task.

When unclear about medication instructions, ask a supervisor, nurse, health care provider or pharmacist for assistance.

If the resident is new or is unknown, ask another staff member who knows the resident.

For resident safety, always ask the supervisor or ALF manager any questions regarding assisting with self- medication.

MANUAL SKILLS

Skill No. 1 – Providing assistance with solid doses of oral medication

- Wash your hands and prepare any necessary items: Water, juice, cups, spoons, etc.
- Obtain the medication observation record.
- Obtain the medication from storage. Verify that the medication has not expired.
- Verify the medication label with the medication observation record. Check the MOR, then the medication label, then the MOR before providing the medication to the resident.
- Take the medication to the resident and tell him/her what medication is being provided by reading the label to him/her. Open the container in the presence of the resident.
- Give the resident his/her medication, providing the type of assistance needed and with an appropriate liquid.
- Observe the resident swallow the medication.
- Record that the assistance was provided on the MOR, and then return the closed medication to storage.

  Note: Place unused medication back into the bottle as long as it has not been contaminated. If pills or other solid medications are dropped onto a clean surface, they are probably not contaminated. Do not touch the medication.
- Place an oral dosage in the resident's hand, or in another container. Help the resident by lifting the container to the resident's mouth. Do not place the medication directly in the resident's mouth.
- Never assist with a medication poured by someone else. It is not possible to know for sure what the medication is or if it was handled properly.

Skill No. 2 – Providing assistance with liquid medication

- Wash your hands and prepare the necessary items.
- Obtain the medication from storage and verify that the medication has not expired.
- Verify the medication label with the medication observation record. Check the MOR, then the medication label, then the MOR before providing the medication to the resident.
- Always use a cup or a container that contains lined measurements. Ask the pharmacist to mark the correct dosage on the cup being used.
- Shake liquids long enough to mix medication.
- Hold cup at eye level. Use your thumb to mark the correct level on the cup.
- Pour medication into the cup and stop at the mark for the prescribed dose.
- Give the cup to the resident. If necessary, assist the resident in lifting the cup to his/her mouth. Observe the resident swallow the medication.
- Record that assistance was provided on the MOR. Return the closed medication to storage.
- If the liquid is measured in drops, only use the dropper provided with the medication.

Skill No. 3 – Breaking scored tablets and crushing tablets

"Scored" tablets: Sometimes a medication label will read: Take half a tablet. It is safe to break tablets and caplets that are "scored." A scored tablet has been imbedded for easier and even breakage: This ensures the correct amount. Use a pill cutter to break a scored medication. Always wear gloves when handling pills.

Crushing a tablet: Crush a medication only when indicated on the medication label directions. Some medications are not meant to be crushed. In general, medications which are "sustained-release," "controlled release," "extended release" or which have an enteric coating may not be crushed. Pay close attention to the instructions on the label. It is a good idea to check with the pharmacist to be certain that a particular medication can be broken or crushed.

If a resident seems to be having difficulty swallowing medications, talk to the health care provider. Can the medication be crushed? Can the capsule be opened and mixed with food? Request specific directions for doing this. Could the medication be given in liquid form? Is there another medication which may be easier for the resident to swallow? Remember the CNA's role is to assist residents to take medications, not administer medications.

Medications cannot be "hidden" in foods for residents who are refusing them. Residents may only knowingly take a medication with food if it is easier for them and approved by a supervisor.

To crush a medication, using a pill crusher:

- Wash your hands and obtain the necessary items.
- Verify the medication label with the medication observation record. Check the MOR, then the medication label, then the MOR before providing the medication to the resident.
- Place the pill in a soufflé cup (paper cup).
- Cover the cup with another soufflé cup.
- Lower the lid of the pill crusher onto cup top and press.
- Place crushed pill onto spoon with food (for example, applesauce). Make sure to get all of the particles of medication from underneath the cup used on top.
- Record that assistance was provided on the MOR and return closed container to storage.

Skill No. 4 – Assisting with nasal drops and sprays

Some residents may need assistance with nasal drops and sprays. Allow each resident to do as much as possible for himself/herself. Assist a resident with nasal drops or sprays in the following manner:

- Wash your hands and prepare necessary items.
- Verify the medication label with the medication observation record. Check the MOR, then the medication label, then the MOR before providing the medication to the resident.
- Ask the resident to gently blow his/her nose to clear the nasal passage.
- Ask the resident to either lie down or sit down and tilt his/her head back. If resident lies down, put a pillow under the resident's shoulders and allow the head to fall over the edge of the pillow.
- Ask the resident to elevate the nares slightly by pressing the thumb against the tip of the nose.
- Hold the dropper or spray just above the resident's nostril. Place no more than three drops at a time, unless otherwise prescribed. Do not touch the dropper or spray bottle tip to the inside of the nostrils.
- Ask the resident to inhale slowly and deeply through the nose: Hold the breath for several seconds and then exhale slowly. Remain in position with head tilted back for one to three minutes so the solution will come into contact with the entire nasal surface.
- Discard any medication remaining in the dropper before returning the dropper to the bottle.
- Rinse the tip of the dropper with hot water, dry with tissue and recap promptly.
- Wash hands.
- Record that assistance was provided on the MOR and return medication to storage.

Skill No. 5 – Assisting with ear drops

Some residents may need assistance with eardrops. Allow each resident to do as much as possible for himself/herself. Assist a resident with eardrops in the following manner:

- Wash your hands.
- Verify the medication label with the medication observation record. Check the MOR, then the medication label, then the MOR before providing the medication to the resident.
- Ask resident to tilt his/her head so that the ear needing the drops is up and slightly tilted back, so the drops will not roll into the eye.
- Ask the resident to gently pull the ear up and back.
- Place drops in the ear, according to prescription. Do not touch the ear with the dropper.
- Hold the resident's head in position for approximately two minutes.
- Allow the resident to wipe ear with a cotton ball or a tissue.
- Wash your hands.
- Record that assistance was provided on the MOR. Return closed container to storage.

Skill No. 6 – Assistance with eye drops or ointments

Some residents may need assistance with eye drops or ointments. Allow each resident to do as much as possible for himself/herself. Assist a resident with eye drops or ointments in the following manner:

- Wash your hands and gather the necessary items.
- Verify the medication label with the medication observation record. Check the MOR, then the medication label, then the MOR before providing the medication to the resident.
- Assist the resident into a comfortable position, either sitting or lying down.
- If crusting or discharge is present, the eye should be cleaned with a clean, warm washcloth. Use a clean area of the cloth for each eye. When cleaning the eye, wipe from the inner eye to the outer eye: From closest to the nose, to away from the nose.
- Ask the resident to pull lower lid down and out gently, or using forefinger, gently pull lower lid down and out.
- Ask the resident to look up.
- Approach the eye from the side and drop medication into center of lower lid. Do not touch the eye with the dropper. Do not apply drops directly onto the cornea. Use care so that the medication does not roll into the other eye. If assisting the resident with an ointment, gently squeeze the medication along his or her inner lower lid. Do not touch the eye with end of tube.
- Instruct the resident to close his or her eyes slowly, but not to squeeze or rub them.
- After at least 30 seconds, instruct the resident to open eye.
- Allow resident to wipe off excess solution with a cotton ball or tissue.
- Wash your hands and return the medications back to the storage area.
- Record that assistance was provided on the MOR.
- If more than one medication is prescribed, wait three to five minutes between each medication. Observe the resident's response to the medication and report redness, drainage, pain or itching, swelling or other discomforts or visual disturbances.

Skill No. 7 – Application of transdermal medication

Transdermal medications are usually in the form of patches. You may assist a resident in applying a patch in the following manner:

- Wash your hands and gather the necessary items.
- Verify the medication label with the medication observation record. Check the MOR, then the medication label, then the MOR before providing the medication to the resident.
- Explain the procedure to the resident that you will be using to assist him/her.
- Open the package and remove the patch.
- Date and initial the patch (include time, if appropriate).
- Remove the backing from the patch, using care not to touch medication with your hands.
- Apply the patch to a dry, hairless part of the body, according to package instructions. Look for old patches that should be removed, or for absence an of a patch that should be present. Alternate the application sites to avoid skin irritation. Notify the health care provider of irritation.
- Wash hands immediately to avoid absorbing the medication yourself.
- Record that assistance was provided on the MOR and dispose of supplies appropriately.

Skill No. 8 – Providing assistance with creams and ointments

- Wash your hands and gather all necessary items.
- Verify the medication label with the MOR. Check the MOR, then the medication label, then the MOR, before providing the medication to the resident.
- Put on gloves, or use an applicator (such as a wooden tongue depressor or Q-tip) so that your hands do not come into contact with medication or affected skin.
- Squeeze small amount onto a tongue depressor (or similar tool). A 4 x 4 clean gauze pad may also be used to apply cream or ointment.

- Spread onto the affected area as prescribed by a physician until absorbed, unless the directions say to leave a film. Avoid rubbing the skin.
- Discard tongue depressor and gloves and wash hands.
- Record that assistance was provided on the MOR and return closed container to storage.
- Assist only with creams or ointments that do not require a dressing.

Skill No. 9 – Providing assistance with inhalers

- Wash your hands and prepare the necessary items.
- Verify the medication label with the medication observation record. Check the MOR, then the medication label, then the MOR before providing the medication to the resident.
- Explain to the resident the procedures you will use in assisting him/her. Shake or invert the container several times to mix the liquid. Remove the cap from the inhaler.
- Ask the resident to exhale, and then immediately place the mouthpiece of the inhaler into his/her mouth. Instruct the resident to close lips around the mouthpiece.
- Ask the resident to inhale slowly as either the resident or you push the bottle against the mouthpiece one time.
- Instruct the resident to continue inhaling until his/her lungs feel full, and then hold his/her breath for several seconds or as long as comfortable. Remove the mouthpiece from resident's mouth.
- Instruct the resident to exhale slowly through pursed lips.
- If a second puff is ordered, wait at least 30 seconds for valve pressure to rebuild. Again shake before reusing the applicator. Rinse the mouthpiece with warm water and recap.
- The resident may wish to rinse his/her mouth with water.
- Record that assistance was provided on the MOR and return medication to storage.

Do's and don'ts for assistance with medication

- Wash your hands before handling medications, after coming into contact with a resident, and/or a topical medication. Wear gloves when appropriate.
- Use clean, disposable cups, spoons, etc. Ensure that the area where you will be assisting residents is clean, organized and clutter free.
- Dispose of used cups, spoons, and/or gloves immediately after each use.
- Make sure that there is good lighting.
- Avoid distractions and interruptions while assisting residents with their medications.
- Never leave medications unattended, even for a minute. If necessary, lock the cart or the area.
- All centrally stored medications must be kept in their legally dispensed and properly-labeled containers. Call the pharmacist immediately if a label becomes smeared or difficult to read.
- Avoid using discolored medications. Call the pharmacist to discuss.
- The same person who provides assistance must record that assistance was provided on the MOR. Ask for help if you are unsure, uncomfortable or have too many residents to assist at once.
- Unlicensed staff are prohibited from providing assistance with medications for which the instructions are unclear or which require judgment or discretion. Seek clarification and/or alternatives from a supervisor.
- Unlicensed persons may assist with "as needed" medication – only at the request of a competent resident.
- Medications cannot be "hidden" in foods or drinks. A resident may knowingly take a medication with food if it's easier for him/her.
- Medications should be given as close to the time prescribed as possible. A general guideline allows no more than one hour either way of the time prescribed.
- Pay close attention to specific instructions, such as "take with food," "remain in a sitting position for one-half- hour after taking," and remind residents of such instructions.
- Speak with residents about their medications and about their concerns. Listen to what they say. You may pick up side effects, confusion, lack of compliance with medications or other problems.
- Be aware of your residents' "normal" appearance and behavior. If changes are observed , consider that it may be due to medications. Document and report changes to the supervisor and resident's health care provider.
- Check the resident frequently after first doses to evaluate the effect, particularly after administering a new medication.

Tips for promoting safe medication habits

All staff should "be on the lookout" for unsafe medication practices and for changes in residents' "normal" appearance and behavior. "All staff" includes housekeeping and dining services staff who see residents regularly. This staff may notice if residents are absent, notice changes to the upkeep of rooms, or notice pills on the floor. All staff should be cross-trained to observe for problems with medications and changes in residents' appearance and behavior.

Encourage residents to be independent, but to accept assistance if needed.

Speak with residents. Ask how they are doing, if they need anything, and if they have any concerns. If nothing else, the resident may appreciate concern for his/her welfare and may be more likely to share concerns when experiencing a problem.

COMMON MEDICATIONS AND SIDE EFFECTS OF COMMON MEDICATIONS

As a general rule, caregivers are usually required to assist residents with medications because of a physical or mental condition that may limit their ability to self-administer.

CNAs will be assisting residents with medications as prescribed by a health care provider. They also may be assisting with over-the-counter medications that a resident chooses to take. All medications must be used carefully. Part the CNA's role when assisting residents is to be aware that the resident may experience side effects as a result of taking a medication. All medications have side effects, and although we generally think of a medication making a person feel better, some side effects may be very dangerous or life-threatening.

Residents often take many different kinds of medications – each medication taken has a specific effect on the body. As a result, medications are classified according to how they will act within the body. Knowing how the medication is classified will help the CNA to understand its effect on the body.

It is important to have some general knowledge of common medication classifications and their potential side effects, adverse reactions, and drug interactions. Knowledge of common drug interactions can help prevent problems. A "drug interaction" occurs when a drug interacts with other drugs and/or certain foods to produce side effects.

The following are examples of classes of drugs and the most common types used:

Cardiovascular system medications:

- **Vasodilators** relax or dilate the walls of arteries so that less force is needed to push the blood through. They are used

especially to control angina. Common vasodilators are sublingual nitroglycerine (Nitrostat) and isosorbide (Isordil, Imdur).

- **Diuretics**, or sometimes called "water pills," help the body eliminate excess fluids through urinary excretion. Certain diuretics are often given along with antihypertensive drugs to treat high blood pressure. Diuretics are often used to treat congestive heart failure (CHF). Commonly used diuretics include hydrochlorothiazide (HydroDiuril), spironolactone (Aldactone), furosemide (Lasix) and Demadex.
- **Anti-hypertensives** are drugs that lower blood pressure. Hydralazine (Apresoline), captopril (Capoten), nifedipine (Procardia), propranolol (Inderal), methyldopa (Aldomet) and metoprolol (Lopressor) are some of the major antihypertensive drugs.
- **Antiarrhythmic** medications are used to treat irregular heartbeats. They calm the heart so that it doesn't beat too rapidly. Examples of antiarrhythmic medications are digitalis (Lanoxin), quinidine (Quinora) and procainamide (Pronestyl).
- **Anticoagulants**, sometimes called "blood thinners" prevent blood from clotting. Warfarin (Coumadin) is an example of an oral anticoagulant.

Most side effects from cardiovascular drugs come from over-dosage. Report any of the following side effects to the health care provider immediately: Headache, nervousness, "pounding pulse," weakness, flushing of the skin, fainting (especially when a person stands after lying down). Warning: Use of aspirin can be dangerous with anticoagulants.

Respiratory system medications:

- **Antitussive** drugs are cough suppressants. Codeine is a narcotic antitussive. Dextromethorphan (Dimetapp-DM) is a non-narcotic antitussive.
- **Expectorants** break up thick mucous secretions of the lungs and bronchi so they can be coughed up. Robitussin DM contains an expectorant.
- **Decongestants** reduce swelling and some dry up the mucous membranes. Examples of decongestants include Neo-Synephrine, Benzedrex and Afrin.
- **Bronchodilators** cause the bronchioles to relax and expand which helps ease breathing. Bronchodilator medications are most often prescribed as inhalers and include albuterol (Proventil and Ventolin), Primatine Mist, theophylline (Slo-Bid and Theo-Dur).
- **Medications for the skin**: Each skin disorder has its own best treatment and drugs. Most of the drugs fall into one or more of the following categories:
    - **Protectives and astringents** work by covering, cooling, drying or soothing inflamed skin. Protectives form a long-lasting film. They protect the skin from water, air and clothing to allow healing. Astringents shrink blood vessels, dry up secretions from scrapes and cuts and lessen the sensitivity of the skin.
    - **Antipruritic** medications relieve itching caused by inflammation. Some of these drugs (emollients, oils, creams and lotions) are soothing and relieve the itching. Antihistamines such as Benadryl and Atarax also relieve itching.
    - **Anti-inflammatory** drugs (also called topical corticosteroids) have three actions that work to relieve the symptoms of skin disorders: (1) Relieve itching; (2) suppress the body's natural reactions to irritation; and (3) tighten the blood vessels in the area of the inflammation. Examples of anti-inflammatory drugs are triamcinolone (Aristocort, Kenalog) and hydrocortisone. These are usually to be taken with food to decrease side effects.
    - **Anti-infective** drugs kill or inhibit organisms that cause skin infections. Antibiotic ointments, such as Neosporin and Bactroban, are anti-infective ointments.
    - **Antiseptics** inhibit germs on skin surfaces. They are never given orally. Antiseptics are used to prevent infections in cuts, scratches and surgical wounds. Alcohol and Betadine are antiseptics.
    - **Topical anesthetics** relieve pain on the skin surface or mucous membranes by numbing the skin layers and mucous membranes. These are often used to treat wounds, hemorrhoids and sunburn. Solarcaine is a topical anesthetic.
    - **Parasiticides** kill insect parasites that infest the skin such as scabies and lice. An example of a parasiticide is Kwell.

Urinary system medications:

- **Antibiotics** may be used to treat urinary tract infections. Examples of antibiotics include Cipro, Bactrim and Septra.
- **Diuretics** are used to increase the output of water. Diuretics are often given to maintain normal urine production for persons with kidney disorders.
- **Gastrointestinal** (digestive) system medications: Gastrointestinal disorders may require medications and physical care. Medication alone may not be sufficient to treat the problem. For example, a person with constipation needs to eat fresh fruits and bran, drink water regularly, exercise and get on a regular bowel program.
- **Antacids** relieve gastric and ulcer pain by neutralizing stomach acid. Too many antacids can interfere with digestion. Milk of Magnesia, Maalox, Gelusil and Mylanta are antacids.
- **Acid blockers** block acid from entering the stomach and causing pain. Common acid blockers include: Ranitidine (Zantac), Axid, Prevacid and Prilosec.
- **Antiflatulents** relieve gassiness and bloating that accompanies indigestion. Phazyme, Di-Gel and Mylanta are anti-flatulents.
- **Emetics** produce vomiting in case of poisoning. Ipecac is an emetic syrup.
- **Anticholinergics and antispasmodics** are often used to treat ulcers and irritable bowel syndrome. Dicyclomine (Bentyl) and Levsin are examples.
- **Anti-inflammatory** drugs are used to treat colitis. Examples of such medications are Medrol and Prednisone.
- **Laxatives and purgatives** promote bowel movements. In small dosages, they gently relieve constipation and are called laxatives. In larger dosages, they clean out the gastrointestinal tract and are called purgatives. Purgatives are often given prior to surgery or exams. There are several subcategories of laxatives and purgatives. Some elderly people get in a cycle of use/abuse of laxatives.
- **Stimulants** help push fecal matter through the intestines and include castor oil, Senokot, Dulcolax and Ex-Lax.
- **Saline** softens feces and stimulates bowel movements. Examples include milk of magnesia and Epsom salts.
- **Bulk formers** stimulate bowel movements and include Metamucil.
- **Emollients/lubricants** are lubricants and detergents that work to allow fecal matter to pass more easily through the intestine. Also called stool softeners this group includes docusate (Colace), Peri-Colace and Senokot-S.

Time of administration is important for these medications. Some medications must be given without food. Pay close attention to instructions about giving before, after or with food.

Endocrine system:

- **Antidiabetic** agents such as glipizide (Glucotrol), metformin (Glucophage) and glyburide (Micronase, Diabeta) are oral medications used to control blood sugar levels. Injectable antidiabetic agents include insulins such as Humalog, Novolin and Humulin.
- **Hormonal** drugs are used for disorders related to problems with thyroid and pituitary glands, adrenal, pancreas, and ovaries and testes by regulating hormones. Common hormonal drugs include Thyroid, Synthroid, Vasopressin (Pitressin), and Corticotropin (ACTH).

Ensure that residents take these medications at regularly scheduled times. Do not miss dosages with these medications. The health care provider should be contacted immediately if a resident stops taking his/her medications.

Nervous system:

- **Anticonvulsants** are used to treat seizure disorders. Phenytoin (Dilantin), Depakote, carbamazepine (Tegretol), and clonazepam (Klonopin) are examples of anti-convulsant medication. If you have a resident on anticonvulsants, know what to do for a seizure.
- **Psychiatric medications**: Psychiatric medications are given to decrease the symptoms of mental disorders. Each medication helps a certain set of symptoms.
- **Anti-depressants** are used to decrease symptoms of depression such as trouble concentrating, loss of enjoyment, changes in sleeping and eating patterns, or thoughts of wishing to die. Examples include: Elavil– amitriptyline, Paxil – paroxetine, Prozac-fluoxetine, Wellbutrin – bupropion, Zoloft – sertraline.
- **Anti-anxiety** medications are given to decrease symptoms of anxiety such as intense fears, panic, repetitious thoughts, stomachaches, fast breathing and heartbeat, and tremors. These medications are often habit forming. These include: Ativan – lorazepam,Klonopin – clonazepamLibrium – Chlordiazepoxide, Valium – diazepam, Xanax – alprazolam.
- **Anti-psychotic** medications are given to decrease symptoms of psychosis such as hallucinations, delusions or disorganized thinking. Examples: Ativan – lorazepam, Mellaril – thioridazine, Thorazine – chlorpromazine, Risperdal – risperidone, Haldol – haloperidol. Anti-psychotic medications can take as long as a month of consistent administration before they are effective. Close observation is important.

  Some side effects associated with anti-psychotic medications are particularly dangerous. Tardive dyskinesia is often seen in persons taking anti-psychotic medications. Left untreated, the symptoms characteristic of tardive dyskinesia can become permanent. These symptoms include involuntary movements such as facial tics, facial grimacing, eye blinking, lip smacking, tongue thrusting, foot tapping, shuffling gait, head nodding, and moving one's head to the back or to the side. If you notice any of these symptoms, notify the health care provider as soon as possible.
- **Mood stabilizing** medications are used to treat the symptoms of bipolar disorder, such as not sleeping for several nights, frantic highs (mania), and drastic lows. Examples: Lithium Lithobid – lithium,Tegretol – carbamazepine, Depakote Depakene – valproic acid. Lithium toxicity is a potentially life-threatening side effect. It occurs when the body has too much lithium. It can happen because of high dosage or dehydration.

  Dehydration can result from diarrhea, too much alcohol, a really bad sunburn, vomiting; anything that causes the person to lose a lot of body fluids.

  A person who is lithium toxic would have some or all of the following symptoms: Mental confusion, slurred speech, vomiting, diarrhea, severe muscle tremors, severe drowsiness, poor coordination, and coma. If a person seems to be showing signs of lithium toxicity, contact the health care provider or call 911 immediately.

Understanding side effects of medications

A side effect is the body's reaction to a medication which is different from that of which it was intended by the health care provider.

While it may not be possible to know all of the potential side effects of the medications your residents are taking, there are some general side effects that you should be aware of. Some mild side effects can be taken care of by simple techniques. More severe side effects should be reported to the resident's health care provider immediately. On the following pages are guidelines for handling these general side effects.

There are also a number of guides or handbooks that you might keep on hand for easy reference and which can usually be purchased at a local bookstore. Sometimes, a leaflet is included with a medication. Keep this and other up-to-date resources handy. There is a table included at the end of this chapter that may also be used as a quick reference guide.

The facility should have clear procedures for responding to changes in a resident's condition. Such procedures should describe the type of changes which should be documented in the resident's record, when changes should be reported to the administrator, nurse, or health care provider and who should call the health care provider. The CNA must know the facility's procedures prior to providing assistance with medication: He/she is responsible for safely assisting residents to take medications.

Common mild to moderate side effects:
When any of the following effects occur, take appropriate action and report symptoms to the doctor on the next visit.

Symptom.	Action to be taken.
Eyes sensitive to strong sun or light.	Wear sunglasses, hat or visor; avoid prolonged exposure.
Dryness of lips and/or mouth.	Increase fluid intake; rinse mouth often with water; keep sugarless gum handy; ice chips.
Occasional upset stomach.	Drink small amounts of water; eat dry saltines or toast. DO NOT TAKE antacids without consulting the health care provider or pharmacist.
Occasional constipation.	Increase water intake; increase physical exercise; eat leafy green vegetables or bran cereals, etc.
Occasional dizziness.	Get up slowly from sitting or lying-down position.
Tiredness.	Take a brief rest period during the day; consult health care provider about switching daily dosages to bedtime.
Dryness of skin.	Use mild shampoo and soap; use hand and body lotion after each bath; wear seasonal protective clothing.
Mild restlessness, muscle stiffness or feeling slowed down.	Exercise; take short walks; stretch muscles; relax to music.
Weight gain.	Increase exercise; watch diet and reduce overeating.

If no relief is obtained by following these suggestions, call the health care provider.

If any of the following symptoms occur, call the health care provider. Call immediately for any wheezing or trouble breathing, for any swelling in the face, lips or throat and for a rash or hives.

More serious side effects:

Symptom.	Action to be taken.
Blurred vision.	Difficulty focusing eyes.
Drooling or difficulty swallowing.	Spasms of swallowing muscles.
Body tremors or spasms.	Involuntary shaking or tightening of muscles.
Diarrhea.	Liquid stools (for more than two days).
Severe constipation.	Unable to move bowels (for more than two days).
Muscle rigidity.	Difficulty moving (e.g., masklike face).
Nervousness, inability to sit or lie still, or inner turmoil.	Muscle restlessness in body, arms or legs.
Rash/hives.	Skin eruptions; pimples on body (Notice where they begin and pattern of appearance. A rash can involve internal lesions or peeling skin can be dangerous).
Skin discoloration.	Excessive pigmentation.
Sexual difficulty or menstrual irregularity.	Delayed ejaculation; impotence; breast changes; unusual erections; changes in periods.
Sunburn.	Sensitivity to sun's rays.
Tardive dyskinesia.	Slow, involuntary movements of mouth, tongue, hand or other parts of body.
Sleepiness during the day.	Excessive sedation.
Extreme difficulty urinating.	Bladder tone relaxed.

Common side effects and drug interactions:

Category.	Frequently Used.	Watch for:
Heart.	Digoxin, Procardia, Nitropatch, Calan.	Slow pulse, weakness, agitation, dizziness, headache, and local skin irritation from nitro ointments.
Diuretics.	Lasix, Bumex, Hydrodiuril, Demadex.	Nausea, vomiting, loss of appetite, rash, dizziness, headache.
High blood pressure.	Tenorim, Capoten, Aldomet, Zestril. No grapefruit juice with Procardia.	Fatigue, low blood pressure and/or pulse, nausea, vomiting, diarrhea, rash, difficulty breathing, headache, dry cough, swelling tongue.
Respiratory tract.	Antihistamines, expectorants, inhalants. Bronchodilators: Atrovent, Isuprel, Alupent, Theo-Dur, Benadryl.	Restlessness, nausea, vomiting, diarrhea, palpitations, dizziness, headache.
Antibiotics.	Penicillin, Ceclor, Tetracycline, Erythromycin, Cipro, Amoxicillin. Watch antacids and milk products.	New rash, itching, nausea, vomiting, stomach/abdominal pain.
GI tract.	Antacids, anti-diarrheals, laxatives, anti-ulcer (Tagamet, Axid, Zantac).	Dizziness, nausea, vomiting, rashes, itching, constipation.
Steroids.	Medrol, Prednisone.	Delayed wound healing, gastric ulcer common uses, but last resort treatment. Do not stop suddenly.
Sedatives.	Nembutal, Seconal, Restoril, Halcion, Ambien, Dalmane.	Lethargy, hangover, rash, itching, nausea, vomiting.
Antidiabetic agents.	Oral: Glucotrol, Diabeta, Micronase injections: Insulin-Humulin, Novolin.	Nausea, heartburn, rash, facial flushing, dizziness. Low blood sugar, itching, local reaction at injection site.
Thyroid hormones.	Synthroid, Armour Thyroid, Levothroid.	Nervousness, insomnia, tremor, nausea, diarrhea, headache.
Seizures (anti-convulsants).	Dilantin, Dilantin with Phenobarbital, Klonopin.	Slurred speech, dizziness, insomnia, twitching, headache, increased eye movement, confusion.
Antidepressants.	Elavil, Wellbutrin, Prozac, Pamelor, Zoloft, Desyrel, Paxil. No alcohol.	Drowsiness, dizziness, rapid pulse, blurred vision, nausea, vomiting, rash, itching.
Anti-psychotics.	Thorazine, Clozaril, Haldol, Prolixin. No alcohol.	Low blood pressure, sedation, dry mouth, urinary retention, constipation, rash, muscle stiffness.
Parkinson's.	Eldepryl, Sinemet, Levodopa.	Aggressive behavior, involuntary grimacing or jerking motions, blurred vision, nausea, vomiting, loss of appetite, dry mouth, bitter taste, urinary frequency.
Anticoagulants.	Coumadin: Watch foods high in Vitamin K, watch aspirin.	Bruising, hemorrhage, nausea, vomiting, diarrhea, rash.
Ophthalmic (eye) agents.	Pilocarpine drops, Betoptic drops, Timoptic, Xalatan.	Diminished vision, burning or stinging eyes, headache, nausea, vomiting, cramps.
Analgesics for pain and fever.	Aspirin, Tylenol, Motrin. Narcotics: Tylenol No. 3, Darvocet N, Percocet.	Rash, itching, GI tract sensitive to many of these. Watch for signs of distress, i.e., nausea, vomiting, diarrhea, and ANY SIGN OF BLEEDING (bruising, blood, dark tarry stools). Lethargy, sleepiness, overexcitement, tremors, dizziness.
Miscellaneous.	Fosamax. Miacalcin nasal spray.	Wait 30 minutes after administering before taking any food or medication or lying down. Take with 8 oz. water. Store in refrigerator (keeps two weeks after opening).

Many of the most common side effects of medications are incorrectly interpreted as signs of aging in the elderly including:

- Confusion.
- Forgetfulness.
- Depression.
- Tremor.
- Lack of appetite.
- Constipation.
- Weakness.
- Dizziness.
- Lethargy.
- Diarrhea.
- Ataxia.
- Urinary retention.

Talking with a resident's health care provider

When you or another staff member contact a resident's health care provider, be prepared to provide organized information to ask for direction. Review the resident's record prior to contacting the health care provider. Determine the specific conditions or behavior you wish to discuss, including the amount of time the resident appears to have been experiencing such conditions and any other pertinent information you have about the resident. Have the phone number for the pharmacy available. If another staff member speaks to the health care provider, be sure you find out the results of the contact. Document all calls and instructions given.

Important questions to ask:

- What is the medicine for?
- Will the medicine interact with other drugs the resident takes?
- Are there any special instructions? Does the medication need to be taken with food? Can the resident continue to have alcohol?
- Are there any side effects and should we report them?
- Can we prevent or mitigate the side effects?
- What should we do if the person misses a dose?

If a call is made to the health care provider because the resident appears to be experiencing problems with the medication, do not hang up until a plan of action has been established. The health care provider might ask the CNA to monitor for certain symptoms or discontinue the medication. Document the conversation in the resident's record.

Conclusion

One of the most important roles of the CNA is assisting residents to safely self- administer medication. The CNA must complete a training program that includes Florida state law, reading prescription labels, the five rights, common classes of medication, side effects and adverse reactions and procedures to follow, record keeping and medication storage and disposal.

CNAs must always remember that they are assisting residents to self-administer – not administer the medication themselves. They must recognize when the assistance requires judgment, which can be performed only by licensed staff, not the CNA. They must assist only when they thoroughly understand the prescription label and know when to seek assistance.

The CNA must collaborate with supervisors, pharmacists, and healthcare providers to and stay current with changes in the law and best practices for patient safety.

Reference

1. State of Florida. Statutes Title XXX, Chapter 429.(2016) www.leg.state.fl.us/index.cfm?Tab=statutes&submenu=-1. Accessed August 26, 2016

1.a State of Florida Assisted Living Facility Legislation Effective July 1, 2015. a http://www.myfloridahouse.gov/Sections/Documents/loaddoc.aspx?FileName=_h1001er. docx&DocumentType=Bill&BillNumber=1001&Session=2015 Accessed August 26, 2016

2. Department of Elder Affairs: State of Florida. Assistance with Self –Administration of Medication.http://www.falausa.com/Files/DOEA%20MED%20GUIDE%205th%20Edition%20(May%202016)%20DRAFT.pdf. Accessed August 26, 2016

Chapter 3: Communication with Cognitively Impaired Residents/Patients

2 Contact Hours

By: Staff writer

Learning objectives

- Explain the difference between cognitive impairment and dementia. Give an example of each.
- Describe the characteristics of Alzheimer's disease (AD).
- List and describe strategies to enhance communication with cognitively impaired individuals.
- Identify factors that interfere with communication with cognitively impaired individuals. Give an example of each.

Introduction

The role of a CNA often includes assisting individuals with moderate to severe cognitive impairment who require special care. Individuals with these types of cognitive impairments require round the clock supervision, specialized communication techniques, and occasional management of difficult behavior. They commonly need help with activities of daily living (ADLs), such as bathing, eating, transferring from bed to a chair or wheelchair, and using the toilet and/or other personal care.

Individuals with cognitive impairment have difficulty with one or more basic functions of the brain, such as perception, memory, concentration and reasoning skills. Common causes of cognitive impairment include Alzheimer's disease and related dementias, stroke, Parkinson's disease, brain injury, brain tumor or HIV-associated dementia. Although each disorder has its own unique features, caregivers often share similar issues and strategies when working with this population.

Cognitive and memory impairments can change how a person thinks, acts and/or feels. These changes often present special challenges for caregivers and family members. One common complaint is difficulty communicating with cognitively impaired individuals. An ordinary conversation, for example, can be quite difficult when the resident has difficulty remembering what has been said from one moment to the next.

As communication is essential to good care, CNAs must be able to overcome some of the common obstacles to communication that they encounter. This chapter will discuss strategies to make communication with cognitively impaired individuals more effective.

WHAT IS COGNITIVE IMPAIRMENT?

Cognitive impairment is a problem associated with the brain that may affect thinking, speaking, understanding or remembering. These problems may be permanent, or they may come and go – depending on whether they are the result of Alzheimer's disease, stroke, brain injury or illness. In some cases, individuals suffer loss of cognitive function due to mental illness; others experience it as a side effect of some medications[1].

WHAT IS DEMENTIA?

The term "dementia" describes a group of symptoms that are caused by changes in brain function and cognitive impairment. Dementia refers to brain disorders that significantly affect a person's ability to carry out daily activities. Dementia symptoms may include asking the same questions repeatedly; becoming lost in familiar places; being unable to follow directions; getting disoriented about time, people, and places; and neglecting personal safety, hygiene, and nutrition. People with dementia lose their abilities at different rates[2].

Damage to brain cells occurs with aging and causes dementia in some people. It creates language and communication difficulties along with disturbed cognition, loss of memory, altered personality traits, poor decision-making, and poor coordination/balance. Dementia is caused by multiple factors. Some conditions that cause dementia can be reversed; others cannot. The two most common forms of dementia in older people are Alzheimer's disease and vascular dementia. These types of dementia are irreversible, which means they cannot be cured. Reversible conditions with symptoms of dementia can be caused by a high fever, dehydration, vitamin deficiency, poor nutrition, adverse reactions to medicines, problems with the thyroid gland, or a minor head injury.

Nursing consideration #1: Think of a resident in your care that has presented characteristics of cognitive impairment or dementia. What symptoms did he or she have and how did you adapt your skills to assist him or her?

What is multi-infarct (vascular) dementia?

With multi-infarct dementia (MID), a series of small strokes or changes in the brain's blood supply result in the death of brain tissue. The location in the brain where the small strokes have occurred determines the seriousness of the problem, as well as determines the symptoms that arise. Symptoms that begin suddenly may be a sign of this kind of dementia. People with multi-infarct dementia are likely to show signs of improvement – or they may remain stable for long periods of time, and then will quickly develop new symptoms if more strokes occur. High blood pressure is to blame in many people with multi-infarct dementia. One of the most important reasons for controlling high blood pressure is to prevent strokes.

What is mild cognitive impairment (MCI)?

MCI is different from both Alzheimer's disease and normal age-related memory change. People with MCI have ongoing memory problems, but do not have other losses such as confusion, attention problems, or difficulty with language. Mild cognitive impairment (MCI) represents a transitional state between the cognitive changes of normal aging and very early dementia. MCI is becoming increasingly recognized as a risk factor for Alzheimer's disease (AD).

WHAT IS ALZHEIMER'S DISEASE (AD)?

The most common form of dementia is Alzheimer's disease (AD), which represents 45 to 75 percent of all dementia cases. In 2013, five million Americans had the disease; fourteen million Americans are projected to have AD by 2050[3]. AD is a progressive disease that initially involves the parts of the brain that control thought, memory and language. Although scientists are learning more every day, they still do not know what causes AD, and there is no cure. Researchers believe that genetics play a role in the development of the disease along with diet, environment and other disease factors. AD usually begins after age 60, and the risk increases with age. Although younger people may get AD, it is much less common.

Changes in the brain begin long before symptoms appear: AD begins slowly. The first symptom may be mild forgetfulness and can be confused with age-related memory changes. Most people with mild forgetfulness do not have AD. In the early stage of AD, people may have trouble remembering recent events, activities, or the names of familiar people or things. They may not be able to solve simple math problems. These difficulties may be a nuisance, but they are usually not serious enough to cause alarm. According to the CDC[3], someone with Alzheimer's disease may experience one or more of the following signs:

- Gets lost.
- Has trouble handling money and paying bills.
- Repeats questions.
- Takes longer to complete normal daily tasks.
- Displays poor judgment.
- Loses things or misplacing them in odd places.
- Displays mood and personality changes.

As the disease progresses, symptoms are more apparent and become serious enough to cause people with AD (or their family members) to seek medical help. Forgetfulness begins to interfere with daily activities. People in the middle stages of AD may forget how to do simple tasks like brushing their teeth or combing their hair. They can no longer think clearly. They can fail to recognize familiar people and places. They begin to have problems speaking, understanding, reading, or writing. At some point, people with AD may become anxious or aggressive or may wander away from home. AD patients eventually need total care.

HOW DOES COGNITIVE IMPAIRMENT AFFECT COMMUNICATION?

Communication is the transfer of messages or information. It requires the use of cognition, memory and language skills, as well as the abilities to speak, hear and understand words. These abilities are damaged with many types of cognitive impairment or dementia. This is challenging for both caregivers and residents who need to communicate with one another to attend to daily needs.

A resident may not understand what is being said or may not be able to express his or her thoughts. Impeded communication is aggravating – often contributing to further frustration and agitation – and can make routine tasks difficult. Mood swings and personality changes can be symptoms of cognitive impairment. These issues compound frustration and communication problems. Communication is critical to patient care: The CNA must learn strategies to overcome barriers to be receptive and expressive in language. The CNA must also learn to manage behaviors that may result from cognitive impairment in order to deliver effective care.

Different terms are used to describe the types of problems encountered with cognitive impairment. Communication difficulties include dysarthria: Difficulty articulating words; agnosia: Difficulty recognizing people and things; and apraxia: Difficulty with voluntary movements. Aphasia, which literally means "no speech," refers to the complete or partial loss of the ability to use or understand words. Aphasia may be the result of a stroke or other damage to the brain. Less severe forms of aphasia may be called dysphasia.

Expressive aphasics are able to understand communication, but may have difficulty sending messages. Receptive aphasics have difficulty understanding messages from others. Individuals with cognitive impairment may know what word they want to use, but will be unable to recall it; they may know what they want to say, but may not be able to articulate it in such a way that others will understand. Individuals often experience a combination of impairments.

Alzheimer's disease may progressively damage the individual's ability to communicate. It interferes with pathways in the brain, making it more difficult to recall and to understand words. Individuals with Alzheimer's disease may feel like they have a word "on the tip of their tongue," but are unable to recall it. In some cases, a word is incorrectly substituted for another, or the individual repeats the same word or question. Cognitive impairments can be especially challenging because the person's words or behaviors may make little or no sense to others. Normal communication channels become increasingly difficult – frustrating both the resident and the caregiver.

As people with Alzheimer's disease become increasingly unable to organize thoughts in a meaningful way, they grow more likely to lose their train of thought and require more time to interpret the words they hear. They may get frustrated or angry about barriers to communication, become agitated, curse or use offensive language. Remember, this is not the person; rather, it is the disease. These behaviors must not be taken personally. The patient may not know whom they are speaking to or why they are upset.

Nursing consideration #2: Think of the residents you assist. What communication difficulties can you identify? Do these difficulties affect their behavior? How do you know? Did you document the connection between communication problems and behavior?

COMMON BEHAVIORS ASSOCIATED WITH COGNITIVE IMPAIRMENT/DEMENTIA

Dementia is often associated with incontinence. Getting to the bathroom is very difficult if a patient is unable to remember where the bathroom is, or does not have the control or the awareness to make it there on time. Be matter-of-fact about pads and other products that protect clothing. If the individual is incontinent, be understanding. Do your best to maintain the individual's dignity and reduce embarrassment. Because individuals with dementia may forget to go to the bathroom, it is useful to develop a routine to assist them. Be sure to remind the individual at reasonable intervals: Every two hours is usual, but some individuals will not need the facilities as frequently. Some residents find it easier to use a commode, or a toileting chair, which can remain in the bathroom overnight. Drinks with a diuretic effect (including coffees, teas, sodas, or alcoholic beverages) may be limited, especially in the evening. Reduced liquid intake prior to bedtime may also be helpful – but only as ordered in the patient's care plan. Careful supervision and assistance must be given to avoid falls.

Clothing can be another obstacle for an individual with cognitive impairment who needs to use the bathroom. Knots, belts, zippers, and buttons can be difficult to navigate. Clothing with elastic waistbands or Velcro closures can facilitate the process of disrobing and dressing before and after using the toilet.

Dressing

Getting dressed and undressed is often problematic for individuals with severe dementia; they should be guided toward choosing comfortable, practical clothes. Limit the individual's choices of clothes, as decision-making with too many options can be overwhelming. Put each item of clothing out – one at a time – in the order it should be put on. Encourage the individual to dress him/herself as much as is possible. Always supervise dressing – assist the individual in a seated position, if balance is an issue. Check with the facility for a strategy when addressing cases where the resident wants to wear the same outfit repeatedly. Duplicates of similar styles, colors, and fabrics could solve this particular problem. Soiled clothing should be removed and cleaned. Label items and assure the client that his/her clothing will be returned promptly.

Agitation and frustration

Agitation is a term that refers to a number of behaviors commonly seen in individuals with dementia. It may include irritation, anger, animosity or violence in spoken words or behavior. The individuals may feel "revved up" at night, restless and unable to sleep. He or she may try to get up during the night, putting him/her at risk of falls. Proper safety equipment, such as bed rails, may prevent the individual from falling out of bed, but also may be an obstacle when getting up at night. Remember that each person has different needs and habits that must be addressed. Be sure to document and report nighttime behavior that should be addressed by the daytime supervisor or staff.

A tendency toward agitation increases as the dementia progresses. Like other behaviors, agitation is triggered by specific factors, which may be environmental or situational. Documenting these behaviors and determining the triggers will allow staff to anticipate difficult interactions, plan interventions, and devise prevention strategies. In many cases, the trigger is associated with the loss of control that comes with dementia. Patients with difficulty in expressive language may become aggressive when control is threatened. This is a common occurrence when carrying out ADLs.

Diet may contribute to agitation, such as consuming too many caffeinated drinks. Other common triggers include loud noises, too many people, or too many activities in the room. A feeling of security – achieved through a calm, structured environment, familiar people and surroundings, including furniture, bedding and photographs – can be soothing. Quiet and familiar music, a gentle speaking voice, reading aloud to the patient or taking walks to dispel the nervous energy are other calming strategies. The more familiar the CNA is with the patient, the better equipped he or she is to meet the patient's needs and lower the frequency of aggression. Anticipating trigger events allows the CNA to restructure the environment to help prepare the individual to cope with the situation. If the trigger activity can be eliminated or altered, the aggression may be avoided or lessened.

Frustration occurs when the individual encounters obstacles and finds him/herself unable to do or say what he/she wants. Acknowledging this frustration is important. Empathize and validate the resident's experience by acknowledging the individual's frustration or agitation. Express your care and concern regarding the situation. A gentle touch may be soothing, but do not attempt to physically control or restrain the individual: This can contribute to out-of-control feelings that can further agitate him or her and may cause bodily harm. Be sure to complete training and follow the facility guidelines concerning restraint. Some institutions consider actions as simple as holding a patient's hand to keep the patient from wandering or leaving the area as a restraint.

A better strategy is to distract the resident by offering another activity that he or she enjoys, having a light snack, or taking a walk. Do not participate in an emotional exchange or argument, as this may increase agitation. Allow the individual to move on to a different topic; do not dwell on the unpleasant incident. Encourage as much independence as possible with ADLs, but do not let the activity become a frustrating or overwhelming experience.

Yelling, cursing, threatening

Many emotional outbursts have feelings of stress or loss of control at their centers. Remain calm and comforting, speak in a low voice, acknowledge and validate the resident's feelings. Say, "I know it is very frustrating to lose or misplace items. I'll help you look for it." Then use the strategy of distraction or redirection with a pleasant activity or snack.

Inappropriate sexual behavior

Sexual comments, public nudity, or public masturbation are unpleasant side effects of some types of cognitive impairment. In rare cases, behavior may be sexually harassing or threatening. Most institutions have specific measures for addressing this behavior. Document all incidences of this and if it is a pattern, try to determine the triggering behavior. Report these behaviors to the supervisor for intervention and treatment.

Hallucination/delusions

Cognitive impairment sometimes takes the form of hallucinations or delusional thinking. The individual may see, hear, or think something that is not real, or may remember an incident that did not occur. Frequency of these events may increase as the disease progresses. Do not argue about what did or did not happen. Instead, state what you perceived and do not dwell on the incident. Keep rooms bright to reduce shadows, which can contribute to "seeing things." Document and report these incidents, because further treatment may be needed if there is a risk that the individual might hurt him/herself because of hallucinations or delusional thinking. Provide information about activities to help the individual regain awareness of his or her surroundings to bring the patient back to reality. Always calmly reassure the individual that s/he is safe.

Paranoia

One of the unfortunate by-products of dementia is increased suspicion or paranoia – sometimes in the form of accusations against other individuals, including caregivers. Try to determine the triggers of paranoia and the feelings behind the words and actions. If it is fear, confusion or a non-preferred activity, provide structure, try to minimize the activity, redirect, and offer reassurance. Remember, what the person is experiencing is very real to him or her so do not argue or disagree. Paranoia is a common occurrence in patients with dementia and cognitive impairment: Do not to take it personally[4].

The disease may accentuate tendencies (such as competitiveness), or feelings (like jealousy). Let family members know that expressions of paranoia or delusional thinking are a recognized side effect of the cognitive impairment and may be directed at anyone around them.

Individuals with dementia may frequently misplace items. They may hide money and forget where it is. It may be helpful to have the resident keep a small amount of money in a purse, a pocket or a hiding place, and then remind him or her where it is if he/she is concerned it is missing. When an item is missing, help the

resident look for it or remember where he/she put it. A resident may have a customary hiding place for money or jewelry and "lost" items may appear there.

Do not dwell on what happened to the lost item. Let the resident know you are concerned on their behalf and that you take their emotions seriously. Accusations are often an expression of fear and loss of control. Imagine the frustration and the anger felt when the individual believes that personal possessions were taken or moved. The individual may or may not remember the people around him or her from day to day. It is difficult for these patients to build trusting relationships when memory and cognition vary frequently.

Repetitive speech and actions

Individuals with cognitive impairment may repeat sounds or words over and over, or may ask the same questions repeatedly. This uncontrollable repetition of a sound or gesture is called "perseveration," and is sometimes made worse by anxiety[5]. Provide comfort and reassurance with words or through a gentle touch, if that is known to be effective with the resident. Be patient and continue to answer the question in an even tone, or try to distract the resident or change the subject. Avoid reminding them that they have asked that question before. Do not discuss future activities until just before an event. Engaging the patient in a new activity can reduce repetitive questioning.

Stay even-tempered and do not get annoyed or tell the patient that he or she has already asked that question before. Urge patience on the part of family members and inform them that this is a side effect of the condition. In some individuals, this effect is made worse by nervousness, boredom, fear or other environmental or situational triggers[4]. In some cases, certain behaviors signal fatigue, hunger, thirst or the need to use the toilet. Try to identify the behaviors or events that trigger the perseveration so you can address the problem, distract or redirect the person before the repetitive patterns begin.

Questions repeated continually such as "What time is lunch?" can be answered on paper and placed where the resident can easily refer to it: For example, writing "Your daughter is visiting at three," (or drawing a picture of a clock showing 3 o'clock on a piece of paper and putting it where the individual can refer to it) may contribute to a greater sense of control. Pictures or symbols can also be used and limit the numbers of words.

Shadowing

An individual with dementia may follow or mimic a caregiver or may speak nonstop to him or her. This behavior is usually more pronounced later in the day. Stay calm and reassuring, and attempt to distract the resident or redirect attention to something else. Suggest a preferred activity or ask the individual to assist with a simple task they enjoy and can complete easily.

Nursing consideration #3: Look at the behaviors above. Select three that you have observed among the residents in your care. Describe how the residents expressed those behaviors. What strategies did you use with them? Were your strategies effective? Why or why not? What would you do to change in your practice, based on the effectiveness of your work with these residents?

Wandering

A common symptom associated with Alzheimer's disease is wandering – an activity in which the individual walks away from home, without an apparent goal. This kind of behavior presents special problems for institutions and individuals who are responsible for the resident's safety. The individual may not act rationally, may be disoriented, and can be at great risk of getting hurt or suffering from exposure, from hypothermia, or from dehydration. Residents may exhibit no concern for their own safety.

Abut three out of every four individuals with AD wander during the course of the disease. The degree of risk depends on the severity of the dementia[4]. Verbal and nonverbal communication becomes more difficult as the disease progresses. A wanderer can be difficult to locate because s/he acts unpredictably, does not call for help, and does not respond when his/her name is called. When found, a person with dementia may not remember his/her current address, or even his or her own name. The individual may be frightened and found far from where s/he started.

Check with your institution for specific strategies and policies for addressing resident wandering. If a person is missing, a search of the building, grounds and nearby streets and walkways should begin immediately. The individual's previous home locations or places of special meaning should be searched, along with areas along the sides of roads. Close supervision eliminates this problem completely.

People with Alzheimer's wander for a number of reasons. They may attempt to go to a former home, work site, or a favorite place. Understanding why residents wander is an important part of keeping them safe. A resident who has just moved to the nursing home may be searching for something or someone familiar. He or she may be looking for a bathroom and/or food or water, but may not be able to remember where these things are located. Some people need to explore their immediate environment periodically to reorient themselves. An individual may be trying to get away from too much noise or stimulation, too many people, or a noisy, cluttered, or confusing environment. As the brain becomes more damaged by the disease, the individual with Alzheimer's is more likely to feel overwhelmed, which can trigger wandering. If the person appears agitated, disoriented or lost, reassure him or her that he or she is safe and where he or she is should be. The patient may need to be reminded of staff names, the day, month, and year: This is also a good way to start each day. Simple visual cues can be used such as in pictures or on a dry erase board for drawing or writing information, depending on the level of cognition.

Sometimes wandering is associated with a former routine. If wandering occurs at a specific time of day, it may be related to the individual's former business or family responsibilities. In these cases, it is useful to plan an activity at that particular time. This will distract the individual from the tendency to wander. To reduce the risk of wandering, put away coats, boots, purses, and other visual reminders of going outdoors. Some residents are much less likely to go out without familiar items like a coat, keys or a purse.

There is usually a trigger for wandering; a patient's triggers can be determined over time. In some cases, wandering fulfils a physical need for activity; it can be associated with stress, or is an attempt to drink, eat or use the bathroom. Anticipating needs and offering a glass of water, a snack or assistance to the bathroom may discourage a wandering episode. Scheduling activities or exercise can help channel action into less wandering and more participation in other activities. Some institutions are able to provide a safe enclosed area where individuals can safely walk or explore. Creating a circular well-marked path or trail allows residents a secure route and an opportunity to stretch their legs. Be sure the individual is supervised at all times.

It is often useful to put signs with pictures on bathroom doors to signify where the toilet is, as residents may forget. Also, putting a "no entry" sign, along with an appropriate image, to keep the individual from wandering from his/her room is effective. A mirror, curtains over a door, a sign that says, "STOP" or a picture of a traffic stop sign may signal a barrier to an individual with

dementia. In many cases, individuals with dementia often see obstacles where they do not actually exist. For example, placing a black mat or painting a black space outside the resident's room may make it appear to be an "impassable space" to those with severe dementia.

Nursing consideration #4: What policies are in place in your facility to discourage wandering? What emergency procedures are in place in case wandering occurs? Have they been effective? How could your practice be enhanced to prevent wandering?

Sundowning

Many difficult behaviors increase near the end of the day and last throughout the night. This tendency, called "sundowning," is expressed in agitation, restlessness and disorientation, and is likely to be caused by increased fatigue and disruptions to internal factors that control patterns of sleep[6]. Encourage restful sleep by increasing daytime activity, especially movement or exercise, and in some cases, discouraging naps. Ingredients like caffeine can increase restlessness, so keep foods or drinks with these ingredients limited to early in the day. In some cases, a snack or light meal before bedtime encourages sleep.

Start by quieting the resident's schedule in the afternoon or evening, introducing preferred structured activities like card or board games, reading aloud or listening to soothing music.

Minimize stress

Try to help patients stay calm in the evening hours. Encourage them to engage in simple activities that are not too challenging. Frustration and stress can add to their confusion and irritability. If they have mid-stage or advanced dementia, watching television or reading a book might be too difficult; instead, consider playing soft music to create a calm, quiet environment[6]. Ask the family for some items of comfort, such as a favorite blanket, pillow, Bible or other items to help them feel at ease. Try to learn as much as possible about the patient to determine other calming activities. The patient may relax when read or sung to, for example.

Opening curtains in the morning and closing them at night will reinforce what time of day it is and reduce disorientation. Keep lights on during the day and have a nightlight on at night in the bedroom and bathroom. Put away anything that might hurt the person if he/she bumps into it at night when going to the bathroom. Making sure the individual is safe and supervised at night is critical.

Nursing consideration #5: Give three examples of stress among your patients. How do they react when they are stressed? Give three examples and three strategies you could use to minimize or eliminate their stress.

Diet

Individuals with dementia may forget to drink and eat, so reminders are important for proper nutrition and fluid intake. Ensuring proper nutrition is even more difficult if there are any barriers to comfortably eating or drinking, like tooth sensitivity or trouble swallowing. Always document and report changes to the supervisor. Additionally, some medications decrease appetite or make other foods taste or appear less appetizing. Assess the individual periodically for weight loss; note any dental or denture issues or problems passing food or liquids. Because individuals with dementia have decreased appetites, a larger number of smaller meals at regular intervals throughout the day may be a better strategy to ensure proper nutrition; however, always remember to follow the prescribed dietary guidelines.

Make mealtimes as enjoyable as possible and encourage the individual to feed him/herself without concern for "table manners" or the correct use of eating implements, as this may be difficult for a person with cognitive impairment. Finger foods are often a good strategy. Cut the food into small bite-size pieces and add spices to suit the individual's tastes. Drinking from a glass can be facilitated with the use of a straw or a cup with a lid and small opening for drinking. Provide adequate assistance to ensure the resident has eaten enough. Encourage chewing and swallowing by showing these motions yourself, as well as gently touching the jaw to encourage chewing, or stroking the throat to encourage swallowing. Never leave the patient unsupervised due to the chance of choking. Some patients will need to be monitored so they do not eat too fast or take large bites, which may lead to choking or vomiting.

Hygiene

Individuals with dementia may forget – or be reluctant to do – tasks related to their personal care and grooming. Elements of proper hygiene, such as brushing one's teeth and hair, bathing and changing clothes, will likely require reminders or assistance. Because these activities are so personal, having someone assist them may symbolize a loss of control, triggering difficult behavior. It also may be frightening to the resident. Being undressed and cleaned or bathed may feel humiliating to some people: These activities have been done alone since childhood. These situations may be very stressful for both residents and caregivers, as well.

Other suggestions for communication to make the bathing process more successful include the following[7]:

Before bathing:

- Determine the preferred time for bathing and set the schedule to establish the routine. Try to follow the patient's previous bathing routine as closely as possible. Find out if there are preferred soaps, shampoos, or other products.
- Try to determine the correct temperature preference by letting the patient check the water with his or her hand, as you begin fill the tub.
- Give the resident choices for a sense of control: Determine if the patient prefers a bath or a shower and then present the choice of time within set parameters, such as 7:00 AM or 7:15 AM. If the individual cannot respond verbally, use picture cues.
- Involve the patient if possible. Ask him or her to help hold a washcloth, or other easy tasks.
- Consider the patient's feelings. Is the patient frightened or threatened by the process? Determine the person's reaction to getting in the tub. It may be better to fill the tub with only two or three inches of water until after the person is seated. Fear of falling in a bath or tub is very common, so help him or her feel as secure as possible, with all the assistive devices or help necessary. Use safety bars and bath mats to reduce the chance of slipping, and install bath and shower handrails or a shower seat. Hand-held showers can make bathing a much easier experience. Assure the patient that you are there to keep him or her safe and assist as needed. Be prepared for negative responses with soothing music, singing, or other activities to comfort, distract or redirected. If the person becomes too agitated, cease the activity. Always have a call button or a light in case other staff needs to assist. Have familiar staff, preferably of the same sex, outside the door or out of sight if you anticipate needing help due to the patient's size.
- Respect the individual's dignity and privacy: Always cover the person with a bath towel and blanket when undressing.

During the process:

- Be flexible and do not rush the process.
- If the patient has a certain order or bathing preference, follow his or her lead – as long as the end goal for hygiene is accomplished successfully. If he or she cannot communicate preferences verbally, use visual cues instead.
- Talk the person through each step and let them know what comes next. For example:
  - "Put your feet in the tub." or "Wash your face." "Now we are going to wash your hair."
- Model or guide the person through the process. Demonstrate or gently guide the person's hand through the washing process.
- Try a sponge bath instead. Bathing with a washcloth can be an alternative to a regular bath or shower. Try non-rinse soap products with warm towels applied under the guise of providing a "massage."

In cases where the individual is very weak or frail, a bed bath may be in order. In this process, the individual is washed incrementally by soaping a part of the body, rinsing with a container of water and towel drying. Ensure that a curtain protects the individual's modesty, or that the doors are closed during bathing and undressing. Keep a towel covering the breasts, and lower parts of the person and lift the towel to wash these areas.

COMMUNICATION STRATEGIES FOR ALZHEIMER'S DISEASE AND OTHER DEMENTIAS

Getting ready to communicate[2]

Make sure the individual is prepared to focus on communication. Does he or she require a hearing aid, dentures or glasses? Has he/she just woken up from a nap or is he or she due for one? Trying to speak with someone who is drowsy makes communication more difficult. Always be sure they are fluent in the language being spoken. If not, an interpreter must be provided.

Approach the individual from the front, as you may startle him/her if you are not within the line of vision. Eye contact is an important element of nonverbal communication: It shows that you are ready to communicate. Try to get on the individual's level so you can look him or her in the eye. Face the person as you speak, as some people with hearing loss or other issues may rely on lip reading more than hearing the words. Use the individual's name to get his or her attention, and remember to identify yourself.

Timing

Timing your communication is important. The resident must be receptive, awake and alert. He or she must be ready to focus and listen to what you are saying. The ability to communicate or understand is more difficult when the resident is confused, sleepy, or medicated. Communication may be more difficult later in the day as the individual grows more fatigued. Some medications have side effects (such as drowsiness or lethargy) that make communication more difficult.

Give your complete attention to the resident. Do not attempt to communicate during other activities that require you or the resident's full attention. Residents with severe dementia have difficulty focusing on one thing. Save unnecessary conversations for safe times when an ADL is completed; make sure your full attention is on communication.

Allow sufficient time for communication: Everything needs to be slowed down for a resident with dementia. He or she is likely to communicate poorly, or without focus, and may need additional time. Provide ample time. Do not appear rushed or distracted.

Minimize distractions and noise

Minimize external noise or distractions. This may require closing a curtain, shutting a door, or turning off a radio or TV – but always ask first. Reduce or avoid any background noise that may be distracting or drown out the conversation. The environment should be bright and quiet. Eliminate clutter, shadows, and sensory overload in the form of too many people, too much talking, or environmental distractions and noises.

Keep it short and simple

Communicate simply using common words and short sentences. Avoid hospital lingo. Always refer to other people using their names and a description, if necessary, rather than "him" or "her," to provide a context for the resident. Example: "Did your daughter, Susan, visit today?" Acknowledge the resident's response[5].

Speak slowly in a low tone of voice. Higher pitched voices may be more difficult to hear, while louder voices can sound angry. If the individual does not seem to understand, repeat it more slowly using the same words. If there is still no recognition, rephrase what you are saying or use a nonverbal method to be understood.

Slow down and use pauses when speaking. Individuals with dementia cannot process information as quickly, so provide sufficient time for the patient to receive information, respond, or ask questions.

Allow the resident to complete his/her own thoughts. In some cases, this means letting a resident struggle to find a word. Some individuals in this situation like to have a word supplied; others are annoyed. Do not be too quick to guess what the person is trying to say unless the person does not mind you trying to complete his/her thoughts. Find out what strategy is least frustrating for the individual. If the word is not forthcoming, suggest that he/she write it down, and then try reading it out loud (if he or she still has those skills intact). Assist as needed to avoid frustration. Use other strategies such as gestures, visual cues, modeling or demonstrating to assist them.

One step at a time

Discuss one topic (or one part of a topic) at a time. Avoid complicated information and do not provide too much information at once, which can confuse or overwhelm a resident with severe dementia. Break ADLs and other projects into a series of short steps, instead of one long process. Inform the resident about each step, and let him/her complete it before you move on. Assist and remind the patient, as needed.

Develop simple routines with no more that two-step directions, such as making transfers, or completing other common tasks in a way that ensures resident safety. For example, one strategy that is used when transferring an individual with cognitive impairment is using as few words as possible to complete the task: "Stand," "pivot," or "turn" and "sit," for example. Identify what needs to be done at the appropriate time. Using too many words can confuse the resident.

Use behaviors to facilitate communication[4]

- **Show**: Use pictures or symbols or show the item that you are talking about, if possible. Show a urinal, for example, and use the word "urinate." Also, try writing, gestures, or pointing to items that help illustrate what you have to say. Visual clues are very helpful when getting a point across. See below for nonverbal communication.
- **Ask**: Ask only one question at a time and keep the question as simple as possible. The best questions can be answered with a yes or a no. Do not give too many choices. "Would you like a banana or an apple with lunch?" is better than "What kind of fruit do you want with lunch?" The best option is to show both choices.
- **Repeat or rephrase**: If repeating, say exactly the same thing while emphasizing key words. If after repetition the message still isn't understood, try to find another way of saying the same thing. Repeat questions as needed; it may be necessary to repeat a great deal.
- **Listen**: Good communication requires good listening skills. Don't interrupt, and give the resident ample time to respond. It may take individuals with dementia up to 30 seconds or more to respond to a question. Be patient, everything takes more time with dementia.

Situations to avoid

- **Do not ask questions that rely on short-term memory**. Instead, encourage discussion about things that happened long ago in the past; the past may seem more vivid than recent memories. Asking what the resident had for breakfast may just be frustrating.
- **Do not criticize, hurry, correct, argue or contradict**. Focus on the feelings they are trying to express. Avoid rushing communication; be patient.
- **Avoid crowding the individual**. Give him/her "elbow room." Do not stand over him/her.

If you do not understand

- Let the person know you do not understand him/her. Do not pretend to understand what the person has said if you do not. Nod yes only if you understand.
- Maintain eye contact and show that you are listening and trying to understand.
- Ask questions such as "Does it have to do with …" and end the sentence with categories like "eating," "sleeping," "dressing," etc., to get a clue of what the individual is trying to say.
- Use nonverbal communication, such as props, visual cues, charts, models, pictures or gestures to increase recognition of the message. Take the person to where the toilet is visible, for example. Point to it and then ask if he or she needs to use the toilet.
- Ask the person what might help them communicate better – including using pictures, writing, or modeling.
- Use family, friends, or familiar staff members to assist in cases of difficult communication; someone who knows the individual better may be able to interpret what is being said.
- Respond with verbal and physical reassurance. Use a gentle touch to communicate and reassure when words do not get through; however, be aware that some people do not respond well to touch.

Using nonverbal communication

There are two main types of communication: Verbal (spoken) and nonverbal (non spoken). Nonverbal communication includes writing or communicating with signs or gestures, like a "thumbs-up" signal communicates good news. Nonverbal communication is sometimes better when communicating a message to an individual with cognitive impairments. Demonstrating or modeling an action (or using hand gestures) to ask someone to sit up or sit down is a non-verbal cue. Do not gesture near the individual's face or stand too close, however. This may threaten the patient. A distance of at least eighteen inches is a respectful distance that allows for personal space.

Sometimes body language is easier to interpret than spoken words; watch for gestures and posture. Sometimes we communicate things that are unintended through body language; beware of facial expressions, posture, and movement. While people with dementia often may have difficulty communicating with spoken words, they are often very perceptive at reading nonverbal cues. Watching the way a resident stands and walks, or the look on his/her face to search for signs of pain, for example, can help the CNA nonverbally communicate with a patient when he or she cannot verbally describe how he or she feels.

Tone of voice

Even if you become frustrated, try to keep your voice calm and relaxed. If your words and the way your words are spoken do not match, it may be confusing to the resident. Your tone of voice often sends a clearer message than what is actually being said. Smile and maintain a positive attitude and frame of mind. Keep the tone of your voice pleasant, gentle, respectful and caring. Speak slowly and be reassuring and positive. Use facial expressions and a gentle touch to convey concern or care.

Visual cues

Visual cues are non-spoken ways of communicating important information. Use written language, symbols, pictures, or objects to help communicate meaning. When making signs, use large, easy-to-read letters and focus lighting to emphasize the information. A bathroom sign hung over the bathroom door may be all that is necessary to assist a resident who soils himself because he forgets where the bathroom is located. Different kinds of visual cues exist for different functions.

Elderly individuals are also prone to visual disabilities, such as difficulty seeing in low light. They could have problems with glare or may have age-related macular degeneration, leading to impaired vision. Use contrasting light and dark colors to make the sign as clear and as easy to read as possible, using heavy block print and sharp images.

Asking the resident to point to familiar pictures of common items within his or her environment may help when identifying what he/she needs. Paste these pictures in categories within a simple notebook. One page may be food, another may be activities he or she enjoys. This allows non-verbal patients to communicate their choices. These pictures can replace written language for those people who are limited in their ability to speak, read and write. There are a number of technology devices that can provide visual cues and auditory responses to help a patient communicate.

Nursing consideration #6: Describe three different communication problems you have encountered with clients.

What strategies can you use to enhance your practice in the following areas to address these problems?

- Non-verbal communication.
- Visual cues.
- Timing.
- Minimizing distractions.

Handling difficult situations and behavior

Difficulties communicating about ADLs can lead to frustration on the parts of both the CNA and the resident. Try to be flexible and consider changing the environment that triggers negative behavior. Adjust the plan of action and respond to the person's needs in a different way. If the resident wants to nap in a reclining chair rather than the bed, and there's no good reason not to, accommodate the new behavior. Sometimes changing the staff's response to the behavior is the best way to change the resident's behavior, so try to accommodate it whenever safety is not an issue.

Because people with dementia have barriers to communication, they may do things we do not understand; however, there is typically a reason for the behavior. Try to determine what triggered the behavior and what the individual is trying to communicate with the behavior. Is he or she trying to escape or avoid something? Is the patient seeking attention the wrong way? The trigger can be anything – such as a change in the environment that the resident finds disturbing. Plan plenty of time to get ready and complete activities at the patient's pace.

Do not try to control the person or the behavior. This will increase the patient's sense of loss of control. Always check with a supervisor or staff for strategies to manage behavior issues. Always document the patient's behavior, actions taken, as well as the outcome. When tasks get difficult because the individual is upset or agitated, try the following:

- **Distract and redirect**: Try to change the subject or shift to a new project. Always acknowledge frustration or feelings before redirecting. Say for example, "I'm sorry you're frustrated/sad/angry. Let's try this again later. Right now, let's go for a walk/get a snack/etc."
- **Try different approaches to address difficult behaviors**: What works one day may not work the next. You will need to be flexible in trying new things and developing new strategies. Breaking a non-preferred task into a series of simple steps, and then explaining each step beforehand often has a calming effect. Telling the resident what is going to happen and answering questions gives the individual more sense of control.
- **Try to reinforce appropriate language and behavior**: Tell the patient when he or she speaks or behaves appropriately.
- **Consider the words or sentences you are using**: Do they sound as if you are telling a child what to do? When you say, "You need to…" or "You can't …" it is likely to escalate agitation or anger. Try to be age-appropriate, even though the cognitive level may be limited. Remember that the dementia damages the person's ability to be rational or logical. As the functioning adult, do not let the difficulty escalate.
- **Appear as nonthreatening as possible**: Backup about three feet to appear as nonthreatening as possible when dealing with an angry or agitated person. Smile and keep a pleasant expression and use a calm tone of voice.
- **Some difficult behaviors have medical reasons**: See if the behavior is a side effect of medication. Document and report behavior changes.
- **Consult staff trained in behavior management:** To assist you in developing a plan to keep everyone safe.

Important points

- Keep your sense of humor and do not take anything personally. Remember that personality changes are a part of dementia for many people. In most cases, it is the disease, not the person. Treat the resident with compassion and affection.
- The resident's reasoning and judgment will decline over time. Avoid arguing or conflict, as the most likely outcome is increased anger and frustration for both of you.
- Be flexible. There may be a better time to approach the situation when the person will be more receptive and cooperative.
- Set priorities. Focus on what is most important to accomplish if the individual is having a difficult day.
- Recognize that you are human and have limitations. You will have good days and bad days. Self-care and support from peers is important on those bad days.

Not all strategies work with all residents. Due to cognitive changes, a strategy may work one day and not the next. The CNA must develop and plan a variety of strategies that they are comfortable with using and be flexible and patient when scheduling activities and daily living skills.

Nursing consideration #7: Review the behavior strategies above. Which ones have you used in your practice? Were they effective? Why or why not? Which strategies would you use in the future to enhance your practice?

OTHER TYPES OF PROBLEMS THAT AFFECT COMMUNICATION

There are many other kinds of conditions that make communication with residents/patients more difficult, especially when coupled with cognitive impairment. Other obstacles to communication for patients with cognitive impairments include:

- Respiratory impairment.
- Nutrition or hydration issues.
- Inability to discriminate foreground and background noise.
- Illness or disease.
- Surgery.
- Weak or absent voice.
- Laryngeal edema/infection.
- Inability to understand or speak the English language.
- Oral deformities.

There may be a number of issues at work that complicate the resident's speaking, hearing or thinking. Communication can be made more difficult by the normal aging process, which can include sensory loss, memory loss and slower cognitive function. As an individual ages, the voice may change and may become more difficult to understand.

Inquire about the patient's hearing problems with your supervisors. Document and report the problem. If you are trying to communicate, it is best to avoid times when certain drugs, such as sleeping medication or anxiety medication, are most active. Integrate the ADL schedule around the drug regime.

Strategies for communicating with the visually impaired

- Consult a vision therapist if possible.
- Use Braille materials if the person is able to use that method.
- Introduce yourself when entering the room and identify anyone else who is present.
- Inform the patient upon leaving and explain who else is staying.
- Use the name of the person you are speaking to when addressing him or her.
- Offer to read a menu or other written information, when necessary.
- For many individuals with low vision, a bright light may help.
- Speak the person's name and gently touch the individual to let them know you are listening.
- Say what you are doing as you do it, so the individual will know what is going on and what was done.
- Let the resident take your arm for guidance.
- Do not move anything in the room unless asked to by the resident.

Strategies for communicating with the hearing impaired

- Consult with speech and language therapists, if possible.
- For those who wear hearing aids, ensure that the hearing aid is in the person's ear, is turned on, and has a good battery. If there are still problems, document and report the issue for further evaluation.
- Speak in front of the individual, and face him or her. Engage in eye contact.
- Never speak while chewing gum or eating.
- Keep hands away from the face and mouth when speaking.
- The hard of hearing are often less able to understand if fatigued or ill.
- Minimize background noise.
- Speak clearly without shouting.
- Write messages if necessary: The person may be able to read or use pictures.
- Try a different way to communicate using gestures. If the patient does not understand, include visual aids or technology.
- Communicate simply, with short sentences, statements, or questions.
- Use body language, gestures, and other cues to assist with communication.

Conclusion

Cognitive impairment and dementia are complex problems that may eventually affect all brain functions. CNAs should have a basic understanding of these disorders and how they impact their delivery of care with patients. Each patient will be affected differently, and at different rates, as the syndromes progress.

In addition to knowledge about the different types of brain disorders, CNAs must gather as much information on their patients and be focused on changes that may occur slowly at first. Careful documentation and collaboration with staff and supervisors can inform their practice to deliver the best possible care.

Communication strategies are critical when delivering services effectively. CNAs must be patient, flexible, persistent and equipped with verbal and non-verbal approaches to help build communication systems with their patients.

A challenging barrier to communication with these patients may be behavior manifestations that result from brain changes. CNAs must understand that these behaviors are part of the disease process, and must learn how to work through them to achieve effective communication with their patients. The CNA's care and the patient's well-being will be enhanced through effective communication: This is the first step to building a relationship of trust.

References

1. Center for Disease Control and Prevention. Cognitive Impairment (2016). https://www.cdc.gov/aging/pdf/cognitive_impairment/cogimp_poilicy_final.pdf. Accessed August 24, 2016.
2. Center for Disease Control and Prevention. Healthy Brain Initiative (2016). http://www.cdc.gov/aging/healthybrain/ . Accessed August 25, 2016.
3. Center for Disease Control and Prevention. Alzheimer's Disease (2016). http://www.cdc.gov/aging/aginginfo/alzheimers.htm. Accessed August 24, 2016.
4. Family Caregiver Alliance. Caregiver's Guide to Understanding Dementia Behaviors2016https://www.caregiver.org/caregivers-guide-understanding-dementia-behaviors. Accessed August 26, 2016
5. National Institute of Health. Talking With Your Older Patient: A Clinician's Handbook (2016). https://www.nia.nih.gov/health/publication/talking-your-older-patient/talking-patients-about-cognitive-problems. Accessed August 26, 2016.
6. Roth .E Seven Tips for Reducing Sundowning. (2016) http://www.healthline.com/health-slideshow/dementia-sundowning. Accessed August 25, 2016.
7. Alzheimer's Association: Alzheimer's and Dementia Caregiver Center. Bathing (2016). http://www.alz.org/care/alzheimers-dementia-bathing.asp. Accessed August 25, 2016.

Chapter 4: Documentation for Certified Nursing Assistants

2 Contact Hours

By: Staff writer

Learning objectives

- Identify and explain the functions of documentation.
- List requirements for documentation by the CNA.
- Describe the categories of care and types of observations that must be documented.
- Identify information that should be reported to the supervisor.
- Explain the CNA's role in maintaining confidentiality of medical documentation.

Introduction

Certified nursing assistants (CNAs) perform basic restorative and nursing services related to the safety, comfort, personal hygiene, basic mental health and protection of patient rights. A CNA has important responsibilities to the facility where he or she works and the residents/patients that he or she assists. This chapter explains role of the CNA in resident/patient documentation of daily care.

WHAT IS DOCUMENTATION?

Each state develops standards of care, ethical practice guidelines, and sets the scope of practice for the CNA. It is important to follow these directives that will be used to evaluate practice – including requirements for documentation. Documentation is formal communication regarding a patient or resident, entered on a medical chart or similar form. It is a daily assessment of how the individual is doing. This information is reviewed by state agencies, and determines whether or not the facility will be reimbursed for medical expenses associated with recipients of Medicare and Medicaid[1].

What are Medicare and Medicaid?

Medicare is a federal insurance program for people age 65 and older (or younger, if disabled). The Centers for Medicare and Medicaid Services (CMS), which operate the programs, is the part of the U.S. Department of Health and Human Services. The Medicare program consists of two parts: Medicare Part A (hospital insurance) and Medicare Part B (supplemental medical insurance). Part A covers hospital, skilled nursing facility, home health and hospice care. Part B covers doctors' services, outpatient hospital services, durable medical equipment and a number of other medical services and supplies. Medicare also provides limited coverage for preventive services.

Medicaid was established in 1965, at the same time as Medicare, under Title XIX of the Social Security Act. It was designed to assist low-income families in providing health care for themselves and their children. It also covers certain individuals who fall below the federal poverty level. It covers hospital and doctor's visits, prenatal care, emergency room visits, drugs and other treatments.

Quality ratings

The Centers for Medicare and Medicaid Services (CMS) updated the five-star nursing home ratings in August 2016. The updated Five-Star Quality Ratings incorporate new measures, giving families more information to help them make important decisions regarding care. These new measures look at successful discharges, emergency visits, and re-hospitalizations. Results are published on the agency's public information website, "Nursing Home Compare," which provides information on how well Medicare and Medicaid-certified nursing homes provide care to their residents.

Nursing homes receive four different star ratings on the Nursing Home Compare website, each ranging from one to five stars: One for each of the three components (health inspections, staffing, and quality measures), and one for an overall rating (which is calculated by combining each of the three component star ratings)[2].

ABOUT THE SURVEYS

What are surveys?

The office of long-term care services for each state's Department of Health Services – the Assurance and Licensure Services Division – inspects nursing homes that provide care to Medicare and Medicaid clients using federal standards. Such inspections are called "surveys." States record all the information they find during an inspection in a detailed report (form HCFA-2567).[2] When the state finds a deficiency, it records the specific reasons for the deficiency. Medicare attempts to ensure that all states report their findings in a consistent and timely manner.

The surveys take place every nine to fifteen months; the average is twelve months. Skilled nursing facilities (SNFs) and nursing facilities (NFs) are required to be in compliance with state requirements to receive payment under the Medicare or Medicaid programs (see Glossary). The surveys determine to what extent the facility is following (or not following) the required Medicare and Medicaid regulations.

Why are surveys performed?

Surveys are conducted to ensure that the nursing home is meeting all state and federal standards. These standards specifically detail how care must be provided to nursing home residents. The areas looked at are: Quality of care and quality of life in the facility, whether residents' rights are observed and if the facility meets environmental standards of cleanliness and is hazard-free. Facilities that do not meet all these standards must correct any "deficiencies," or they may face a variety of sanctions including financial penalties, transfer of residents, termination of Medicare or Medicaid participation, and license forfeiture.

Who performs these surveys?

Surveys are performed by teams of state employees (usually three or four people) who specialize in nursing home care within the state agency. The surveyors have backgrounds in nursing, social work, dietetics, sanitation, health care administration and counseling. These individuals must first pass a test administered by the federal government to qualify as nursing home surveyors.

How do surveys occur?

Prior to beginning a survey, team members review the nursing home's background. They look at previous survey results, complaint investigations, incident reports and quality indicators that provide information specific to each facility. They also consult with the long-term care ombudsmen assigned to that facility. This alerts the surveyors to special concerns or problems that they should be aware of during the survey.

Health inspections

Certified nursing homes must meet over 180 regulatory standards designed to protect residents. Examples of these standards include:

- Proper management of medications.
- Protecting residents from physical and mental abuse.
- Storage and preparation of food.

Using the regulatory standards, the inspection team looks at many aspects of life in the nursing home including:

- The care of residents and the processes used to give that care.
- How the staff and residents interact.
- The nursing home environment.

Inspectors also review the residents' clinical records, interview residents and family members, and interview caregivers and administrative staff.

Complaints

Inspections are also conducted when a complaint is registered about a nursing home. An inspection regarding a complaint which results in a health deficiency citation is reported to CMS and is included on the Nursing Home Compare website.

Staffing

These types of staff are included in the nursing home staffing information that is collected by CMS:

- Registered Nurse (RN).
- Licensed Practical Nurse (LPN) and Licensed Vocational Nurse (LVN).
- Certified Nursing Assistant (CNA).

Certified nursing assistant (CNA)

According to federal guidelines:

> Certified nursing assistants (CNAs) work under the direction of a licensed nurse to assist residents with activities of daily living such as eating, bathing, grooming, dressing, transferring and toileting. All full-time CNAs must have completed a competency evaluation program (or nurse assistant training) within four months of their permanent employment. They must also complete continuing education each year[3].

The staffing hours are reported by the nursing home into a measure that shows the number of staff hours per resident, per day. Staffing hours are reported by nursing homes and are displayed as the number of staff hours per resident per day.

Staffing hours per resident per day is the total number of hours worked, divided by the total number of residents. It doesn't necessarily indicate the number of nursing staff present at any given time, nor does it reflect the amount of care given to any one resident[3].

Federal law requires all nursing homes to provide enough staff to adequately care for residents. However, there's no current federal standard for the best nursing home staffing levels. The nursing home must have at least one RN for at least 8 straight hours a day, 7 days a week, and either an RN or LPN/LVN on duty 24 hours per day. Certain states may have additional staffing requirements. CNAs provide care to nursing home residents 24 hours per day, 7 days a week[3].

Quality measures

Nursing homes regularly collect assessment information on all their residents through the use of a form called the Minimum Data Set. Survey data may be referred to as The Long-Term Care Minimum Data Set (MDS). The MDS is a standardized, primary screening and assessment tool of health statuses that forms the foundation of the comprehensive assessment for all residents of long-term care facilities certified to participate in Medicare or Medicaid. The long-term care MDS contains items that measure physical, psychological and psycho-social functioning. The items in the MDS give a multidimensional view of the patient's functional capacities, and can be used to present a nursing home's profile. The MDS now plays a key role in the Medicare and Medicaid reimbursement system and in monitoring the quality of care provided to nursing facility residents.

MDS categories include data on residents[3]:

- Medical diagnosis, health status – including skin condition.
- Cognitive functioning and changes.
- Functional communication methods.
- Vision and hearing acuity.
- Overall physical functioning.
- Continence.
- Psychosocial functioning.
- Mood and behavior patterns and changes.
- Activity levels, assisted and independent, and self-help skills.
- Oral/nutritional statuses and needs.
- Dental health and treatment.
- Prescribed medication, delivery and compliance.
- Treatments procedures and therapies provided.

Nursing consideration #1: Review the quality measures listed above. In your role as a CNA, which measures are parts of your work with the residents? Which measures are parts of your documentation?

Nursing homes self-report this information to Medicare. Medicare uses some of the assessment information to measure the quality of certain aspects of nursing home care, such as if residents have received flu shots, are in pain, or are losing weight. These measures of care are called "quality measures."

Medicare posts each nursing home's scores for these quality measures on its Nursing Home Compare website to help consumers evaluate the quality of care provided by the state's Medicare and Medicaid certified nursing homes.

The survey tool reports the number of requirements in each category that are in compliance, as well as the total overall performance of the facility. A new report is generated after each new survey, or after an investigation that finds deficiencies in the key requirements. The facility's score is adjusted to reflect the scope and severity ratings of all deficiencies cited, and a survey report is sent to the nursing home after each survey. Any violation of federal law must be reported as a deficiency to the CMS.

If standards are not met, then the nursing home must submit a plan of correction to the division. A follow-up survey is completed to verify that the standards that were initially found not met are corrected.

Why are they unannounced?

The nursing home is not notified in advance of a survey unless it is an initial survey. When the team arrives at the nursing home, they place a sign in the lobby informing everybody that a survey is in progress. The idea of unannounced surveys is for the team to be able to see how the facility operates on a daily basis.

How do surveyors conduct their work?

Surveyors observe what is going on in the nursing home; they interview residents, family members and nursing home employees and they read medical records and other documents. They also meet with nursing home staff members for clarification of questions. The surveyors summarize their observations to the facility staff at the conclusion of the visit.

What kinds of questions do surveyors ask staff, resident, and their family members?

The surveyors want to know what life is like in the nursing home. They spend time talking to residents – they ask how the staff treats them, what the food is like, if the residents like and participate in the activities being offered, as well as how the nursing home responds when they have a concern or a complaint. Surveyors want to know if the home provides help to people when they need it with daily tasks such as bathing, dressing, eating meals, going to the bathroom and getting in and out of bed. They also speak to the family members of residents who are "not interviewable" (i.e., persons who can no longer speak or who have advanced dementia and other diseases that keep them out of touch with their surroundings).

Why is it important for staff, residents, and family members to participate in interviews?

It is important for residents and family members to participate in interviews because they know first-hand what occurs in the nursing home. It is important that residents and family members speak frankly with the surveyors about the home's performance. The home is primarily evaluated on how it cares for its residents.

What happens after a survey is completed?

Complete survey reports and nursing home plans of correction – edited to protect patients' confidentiality – are available at each nursing home, as well as at the state's office of long-term care.

After completion of the survey, the team meets briefly with nursing home staff to explain the outcome of the survey – including deficiency citations and the plans for correction. A deficiency citation is a determination by the state's office of long-term care that a nursing home has violated one or more specific licensure or certification regulations. Deficiencies range in scope and severity – from isolated violations with no actual harm to residents, to widespread violations that may cause injuries or may put residents in immediate jeopardy of harm. Deficiencies are cited as a result of an on-site inspection. When deficiencies are alleged, the facility is given an opportunity to rebut the findings. If deficiencies are cited, the office of long-term care requires the nursing home to submit a written plan of correction, detailing how and when each deficiency will be corrected. In some cases, the office of long-term care will direct specific corrective measures that must be implemented. In situations where current conditions at the facility pose a serious risk to the health and safety of residents or staff, the office of long-term care can initiate immediate corrective actions. The federal government may impose penalties on nursing homes for serious deficiencies, or for deficiencies that the nursing home fails to correct for a long period of time. For example, Medicare may assess a fine, deny payment to the nursing home, assign a temporary manager, or install a state monitor. States record all the information they find during an inspection in a detailed report (form HCFA-2567).1 Each nursing home that provides services to people with Medicare or Medicaid is required to make the results of its last full inspection available at the nursing home for the public to review.

Medical records

A medical record or medical chart is the systematic documentation of a patient's status and care, and includes the plan of care and the results of that plan.

Over an individual's life, each time he or she receives medical care, information is compiled into a health or medical record. The medical record is used by doctors, nurses, and other medical staff to ensure that the patient receives quality health care. The medical record serves as a(n):

- Basis for planning care and treatment.
- Means by which doctors and nurses can communicate and evaluate the resident's/patient's needs and care.
- Legal document describing the care received.
- Means by which a patient or insurance company can verify that services billed were actually provided.
- Accurate health history to all health care providers who treat the individual.
- Verification of compliance with the patient's Bill of Rights.
- Effective means of communication of health status and care to families and guardians.

The medical history usually includes a section listing injuries, accidents, illnesses, and surgical procedures in the patient's life. The history also includes a checklist of conditions and symptoms, with a notation indicating if these symptoms or conditions have ever been experienced, when they were experienced, and if they are currently being experienced. The history should also explore what treatment has been used for these conditions or symptoms in the past (and currently) – including prescription and nonprescription substances (including nutritional supplements or vitamins) the patient is currently taking. All health care workers with access to medical records or charts have a responsibility to take the necessary steps to ensure all information is correct and complete.

Medical records are written in many different styles. The goal of any facility should be to have a uniform record-keeping system that is consistently used by all employees. A medical record should be "self-contained." That is, it should be easily understandable and not leave any questions unanswered. One should be able to read a carefully written medical record and, without ever having seen the patient, be able to gain a comprehensive understanding of the patient's medical care.

Each facility has specific rules about documentation and special forms that must be filled out. Learn the rules of your facility, including common abbreviations used and any special documentation procedures required.

MEDICAL RECORD DOCUMENTATION

"If it isn't documented, it hasn't been done," is an adage that is frequently heard in the health care setting.

For documentation to be complete, it must include every task and observation. This means all care and treatments, as well as statements or actions by the patient, whether it appears normal or not. These observations may be objective or subjective, but they must be documented and reported to the supervisor if it affects the health and the well-being of the patient. Remember: If it is not documented in the patient record, it will be viewed as not observed or completed by the CNA. So, if the task was completed(or an observation was made) it must be documented.

Example: If the resident/patient was taken to and from the toilet, and he or she mentioned a stomachache, documentation must include the fact that the resident/patient was taken to/from the toilet and also that he/she had a stomachache. The CNA must inform the nurse about the stomach pain as soon as possible: It directly relates to patient's health and well-being. This observation, and all other observations, must be reported to the nurse immediately, and should also be documented in the patient's medical record as soon as possible.

Nursing consideration #2: Think about your facility and practice. What are the policies and the procedures for recording and reporting information to your supervisor?

TYPES OF OBSERVATIONS

There are two types of observations: Subjective and objective.

Objective observations are measurable facts that would be reported the same way by all health professionals. They are based on an observable fact such as heart rate, blood pressure, pulse rate, measures of urine output, or bruises. They may also be observed changes in skin condition, wheezing, coughing, speaking, changes in memory, eating habits, emotional states or behaviors.

Subjective observations come from the patient and are statements such as, "I feel sick, I am dizzy, and/or I think my blood pressure is low." These observations should be documented and reported – exactly as the patient gave them and as soon as they occur.

Subjective observations are not measurable as given by the patient, but are very important and must be documented and reported. Subjective observations may be warnings of physical changes that need to be investigated and evaluated by the nurse. In addition, any questions from the patient should be documented and reported to the nurse so the patient can receive a prompt answer.

Both types of observations are important because they may provide information for potential intervention and treatment. The CNA's role is to document and report these observations as accurately as possible, without added opinions or judgment.

Nursing consideration #3: Think about the residents in your care. What subjective observations have you documented? Did you report them? Why or why not? How could you enhance your practice?

Here are some of the daily tasks and observations that must be documented:

- Vital signs.
- Height and weight.
- Dressing according to patients' needs: Ranging from minimal assistance to totally dependent.
- Bathing: Bed baths, tub baths, showers.
- Feeding: Serving meals, feeding patients, swallowing and eating patterns, appetite, hunger, amount of food eaten or left.
- Toileting issues: Assisting with bedpans and urinals, helping patient to the bathroom, providing incontinent care if needed.
- Catheter care: Emptying, upkeep of intake and output sheets when necessary.
- Glucose readings.
- Color of the skin and characteristics, such as warmth or dampness.
- Any questions, comments, or concerns expressed by the patient related to health and well-being, verbatim in quotation marks.
- Attitude and behaviors: Including worry, anger, pain.
- Orientation to time, place and person.
- Answering call lights in a timely fashion.
- Assisting patients with ambulation, when needed.
- Helping with range of motion exercises, as prescribed by physical therapy.
- Assisting patients in transferring to wheelchairs, beds or other equipment and checking for pressure sores.
- Making beds and keeping the patients' rooms and belongings neat and organized, other housekeeping duties as assigned.
- Ensuring that bedridden patients are turned at least every two hours to ensure comfort and to prevent bedsores.
- Reporting all changes, physical and mental, to a nurse.
- Observing patients who wander and watching for potentially dangerous situations as part of safety awareness.
- Slips, falls, or accidents must be reported and injuries addressed immediately. Documentation will include accident reports following agency protocol, in addition to the patient records.
- Documenting daily care accurately and in a timely manner.
- Other tasks as assigned the supervising nurse.
- Mandatory reporting protocol will be followed for suspected or observed signs of abuse or neglect.
- Other objective or subjective observations.

Nursing consideration #4: Review the list above. Compare it to the policies in your facility regarding a CNA's documentation. Compare and contrast the list above to your own documentation of information. Are there areas where you need to enhance your practice? If so, list those areas and provide strategies for improvement.

Concise medical record documentation is critical to providing patients with quality care and for achieving satisfactory staff and agency performance. Accurate documentation chronologically documents the care of the patient and is required to contain pertinent facts, findings, and observations about the patient's health history – including past and present illnesses, examinations, tests, interventions, treatments and outcomes. Concise medical record documentation also assists physicians and other health care professionals in evaluating and planning the patient's immediate treatment, and monitoring his or her health care over time.

Medical records are used as legal documents: They must meet the specific laws of the state and the policies of the facility. Times and dates must be accurate and completed in a timely manner. Patient care comes first; however, do not wait until the end of a shift to complete documentation. Important facts and observations may be forgotten and omitted.

All documentation is reviewed to ensure that services are consistent with the Medicare, Medicaid and insurance coverage provided in order to validate:

- The site of service.
- The medical necessity and appropriateness of the diagnostic and/or therapeutic services provided.
- That services furnished have been accurately delivered, reported, and evaluated.

General rules of documentation

Certified nursing assistants provide the majority of activities of daily living and personal care to the assigned residents. CNAs play a critical role of the health care team and will need to participate in documenting their interactions with the residents/patients. Every task must be accompanied by the necessary documentation:

- Documentation of care, provided with facts and observations regarding the resident/patient's health status.
- Documentation of the patient's activities noted throughout the shift (as accurately as possible). Do not document actions or opinions of other people unless it relates to quality of care in some way.
- Entries must be timely and must document the full range of the care provided, using appropriate abbreviations and legible writing.
- Entries must be initialed or signed and dated, according to your facility's policy; date and sign anything added to the medical record following protocol.
- Discuss any changes and/or additions with the nursing supervisor before they are made in the permanent record.

Accuracy

Always ensure that the right patient, the right chart, and the right information is documented correctly following agency protocol. Maintain accurate and truthful records by recording only factual information, observations, and actions. As mentioned previously, opinions, ideas or judgments about the patient or his/her condition do not belong in medical record documentation. Record only pertinent, verifiable, factual details; avoid unclear or unnecessary information. Brevity is important, but do not leave out important details. When recording statements made by the resident/patient, use quotation marks to demarcate the client's words. It is permissible to keep a separate notebook for personal notes and other information you want to remember that do not belong in the medical record; however, keep all notes professional and do not record anything you would not want to be read in a court of law. Remember that the information entered on a patient's chart – or a daily flow sheet – shows how the person was doing that day, and it is monitored over time. Medical personnel, family members, and the administration need to know if the care plans for that person are appropriate, administered correctly, and are effective – based on the documentation.

Legibility

Most facilities use electronic documentation; however, there may be situations when handwritten notes must be taken. It is critical to keep chart information and personal notes legible, easy to read and clearly understood. If it is ever necessary to refer to files in the future – for example, in a medical emergency or during legal proceedings – the context and the details of the notes should be clear, concise and professional. Other health care personnel will need to know the background, status, actions taken, as well as the results. Do not use a pencil or a pen that can be easily smudged, and use approved medical terminology and abbreviations. Accuracy, time and date, and complete details are important; medical decisions, evaluations of care, staff and payment may rely on legibility of notes.

Electronic formats

It is important to be proficient in the use of electronic documentation formats. Be sure to seek assistance when documenting and securing electronically stored information. Use grammar, spell check and approved templates and forms for professional documentation following agency protocol. The Health Insurance Portability and Accountability Act's (HIPAA) regulations govern patient privacy and confidentiality. Electronic data to be recorded, stored, and shared must follow these specific regulations, according to federal guidelines and agency protocol. The CNA must receive training in these areas prior to using electronic data formats for documentation.

Electronic Medical Record (EMR) and Electronic Health Records (EHR)[4]

An EMR is used by providers for diagnosis and treatment and is more beneficial than paper records. It allows providers to:

- Track data over time.
- Identify when patients are due for treatments, medications or diagnostic screenings.
- Monitor how patients measure up to certain parameters, including blood pressure readings.
- Improve overall quality of care in a practice.

The facility may adopt a system using EHRs that include more comprehensive patient histories[4]:

- EHRs are designed to contain and share information from all providers involved in a patient's care. EHR data can be created, managed, and consulted by authorized providers and staff from multiple health care organizations.
- Unlike EMRs, EHRs also allow a patient's health record to move with them to other health care providers, specialists, hospitals, nursing homes, and even across states[4].

The use of electronic sharing of patient data underscores the importance of accuracy and professionalism when documenting all patient data that will be viewed by all providers in the future.

Timelines

Document care provided according to the timelines required by the facility. Time notations must be accurate; documentation that is added out of chronological order must be entered following facility late entry procedures. Use the time format approved by the facility, such as military time, special notation, etc. Never chart "in advance": Enter information and initials only after completing the action.

Consistency

Chart entries should be consistent over time, using the same language and the same format. Information should reflect actual times and events, and must provide nurse supervisors an accurate assessment of the resident's needs, as well as the care given. Ensure entries are concise, but include all important data for other caregivers. It is critical to quantify (measure) detailed information about the patient over a period of time and to document the injury/illness as well as the patient's degree of rehabilitation. Insurance companies will determine the need of continued care based on this information.

Changes in the patient

Record any progress or any decline in a patient's mental or physical status. A resident's health may change on a daily basis, so it is essential that documentation notes these changes – small or large – of either improvements or declines. Note observed changes such as changes in skin condition or nail color, appetite, elimination, weight, strength, speech, memory, emotions or behavior, for example. Dramatic or drastic changes can be a sign that the patient's health is at risk; it is imperative to seek help immediately and document the changes.

Pain or discomfort

Note complaints or indications of pain and/or discomfort – including changes in pain levels or locations since the last recording. Also, note any postures or behaviors that suggest a problem if a patient is unable to verbally respond. Record changes in pain medication levels and changes in requests. Always report changes to the nurse.

Initial/signature and date

Sign or initial and date every chart entry. Do not use nicknames; these notes are legal documents. In some cases, you may need to note your credentials. Individuals in training, students, or apprentices must also have a supervising professional sign chart notes.

Refusal of services

Document a resident/patient's refusal of services (or other noncompliance) within the care plan – including failure to follow health care instructions, failure to take prescribed medications, or any other activities or behaviors that may pose risks to the resident/patient's health. Report this information to the supervisor.

Documentation errors and legalities

It is crucial that any changes made on an entry must be dated and initialed by the CNA or nurse, following agency protocol for patient care and insurance reimbursement purposes. Never alter anyone else's documentation. If you are unsure about the proper way to add or change documentation, seek assistance from a supervisor.

Never document opinions or ideas unrelated to CNA duties and discuss concerns with the supervisor only. Do not record anything if you are unsure: Confirm the answer before documenting. Never document false information; if asked to do so, report it to a supervisor. Changes to documentation should be kept to a minimum.

Sections on forms that do not specifically apply to a resident/patient should be marked "N/A" (non-applicable), rather than left blank. Inform your supervisor if entries are missing or blank spaces are left on forms; do not write in the margins. To amend mistakes, use the procedure that your facility requires. For example, some facilities require that a line must be drawn through the error with an initial and a date, along with the correct notation above the entry; do not white out or use an erasable pen for written documentation. Electronic formats may not allow material to be deleted. Follow specific procedures for editing medical records.

The following guidelines were established for litigation (legal) purposes and should be standard practice in all health care environments:

- Modify records altered as minimally as possible and only when necessary. Follow protocol.
- If something is written in error, do not erase or delete it. Cross out the error using a single line, so as not to conceal what is written underneath, and write the word "error" above the incorrect statement. Follow protocol to change data in electronic formats.
- Do not use "white-out" in written records, or delete electronic records written previously.
- When reviewing records, follow the protocol for adding notes to clarify a point.
- Never make change to records without consulting a supervisor.

It is possible for the CNA to be held liable and lose his or her license if the CNA knowingly violates federal law and include Medicare, Medicaid, HIPAA laws, or state laws concerning privacy, confidentiality and improper documentation, storage or sharing of patient records. Malpractice concerns actions that cause harm to the patient. Careful practice, documentation, and reporting concerns to supervisors can protect the CNA from alleged malpractice.

Abbreviations

Use correct spelling and approved abbreviations only. Avoid jargon, slang, or complicated medical terminology. Define terms as needed. The facility should review forms on a regular basis, and revise or simplify confusing formatting or content. It is also important to become well acquainted with common abbreviations; however, do not use abbreviations that are not approved or abbreviate phrases that are not generally known.

Only use abbreviations that are supported in your workplace. Some common abbreviations are no longer used because they were found to be associated with medical error. For example, "U" is no longer used to mean "Units" because it was mistaken as a zero or for a four (4), resulting in overdose. It was also mistaken for "cc" (cubic centimeters) when poorly written. Similarly, "Q.D.," a Latin abbreviation for "every day," is no longer used because the period after the "Q" has sometimes been mistaken for an "I," and the drug has been given "QID" (four times daily) rather than daily.

Many materials provide standard abbreviations or codes used in most health care facilities because others must be able to interpret everything written on the chart. These are some commonly used abbreviations in health care:

Blood pressure.	BP.
Bowel movement.	BM.
Edema.	E.
No known drug allergies.	NKDA.
Not applicable.	N/A.
Pain.	Pn or Px.
Respiratory or respirations.	Resp.
Shortness of breath.	SOB.
Urinary tract infection.	UTI.

Consider how your documentation will appear to reviewers

Inaccurate or unreliable documentation undermines a facility's ability to care for patients/residents.

Medical professionals must be able to accurately or reliably assess how the resident is doing and whether he or she is receiving the care and services he/she needs. In addition, a survey resulting in a statement of deficiency may result in serious sanctions, as outlined previously. The nursing home is reimbursed for Medicare and Medicaid patients based on documented information. Inspectors will review:

- Does the care plan match the assessments?
- Are the assessments and care plans appropriate for the individual?
- Are there any deficiencies in the plan or the provision of services?

The facility and staff are "graded" based on this information. Surveyors consider a specific random group of patients/residents and do the following:

- Review each item of the survey.
- Review periodic reviews of each resident.
- Assess whether the care plan was carried out as intended.
- Assess whether the care plan was appropriate for the resident.

A NOTE ABOUT CONFIDENTIALITY OF MEDICAL INFORMATION

Information should be shared only in cases where disclosure is required by law, court order, or another appropriate, professionally approved manner, according to legal requirements. It is crucial to follow HIPAA rules for patient privacy and confidentiality of information about the resident/patient. All information and matters relating to a client's background, condition, and treatment are strictly confidential and should not be communicated to a third party (even one involved in the patient's care) without the client's written consent or a court order. Clients should be treated with respect and dignity: Handle personal information with sensitivity and keep the content of written records strictly private. CNAs that share secrets, repeat gossip, or divulge confidential medical information about patients should be aware of the heavy penalties associated with jeopardizing client confidentiality in a professional context – including loss of employment and certification.

Using specific forms templates or "flow sheets"

Many institutions have their own special forms, "flow sheets," or computerized processes for documentation. A flow sheet is a one or two-page form that gathers important data regarding a patient's condition. It often refers to a specific condition or a set of conditions. A flow sheet is kept in the patient's chart and serves as a reminder of care as well as a record of if care expectations have been met (if the care plan was carried out at the right time and in the right manner). Flow sheets are commonly added to a patient's chart to assess lab results and vital statistics. Every time lab work is performed or test results are made available, it is entered into the appropriate space on the flow sheet, so that health care providers can easily view the resident's progress/status relating to each item.

Medical flow sheets usually allow the health care provider to track several aspects of a patient's health at one time. Hospitals, medical centers, nursing home facilities, home health care providers, clinics, cancer centers, research centers, and private health care providers are all facilities that use medical flow sheets.

Medical flow sheets are most commonly used for tracking vital statistics, diabetic insulin dosages, pain assessment, lab results, blood pressure, medication start and stop dates, physical assessments, and drug frequency.

Commonly-used flow sheets often include:

- Vital signs.
- Weight.
- Meals.
- Use of the toilet (including bowel movements).
- Transportation/transfers.
- Activities of daily living (ADL).

Vital signs

Vital sign flow charts include heartbeat, breathing rate, temperature, and blood pressure (systolic and diastolic). These signs are watched, measured, and monitored to check an individual's level of physical functioning. Normal vital signs change with age, sex, weight, exercise tolerance, and condition.

Medication observation records (MOR)[6]

CNAs are allowed to assist patients with self-medication in an assisted living facility only within restricted and supervised situations. This does not mean that CNAs can administer medication: Specific training is needed in this area, but documentation and recordkeeping information is included here for informational purposes.

The MOR: A medication observation record must be kept for each resident who receives assistance with medications. Medication observation records (MOR) must include:

- The name of the resident.
- Any known allergies the resident may have.
- The name and telephone number of the resident's health care provider.
- The name of each prescribed medication, its strength and its directions for use.
- A record of each time the medication was taken.
- A record of any missed dosages, refusals to take medications as prescribed, or medication errors.
- A record of medication each time it is offered.

Working with the medication observation record

The MOR is your record of all the medications a resident is receiving assistance with, as well as the verification that you have assisted the resident with taking his/her medication.

- When you provide assistance to a resident, record it on the MOR.
- If a resident refuses to take a medication, record the refusal code on the front of the MOR. Explain why the resident refused the medication on the MOR back. Any contact with the resident's physician should also be noted.
- When a resident is hospitalized or is out of the facility and does not receive assistance with medication, indicate this on the MOR. For example, write "H" in the box you would typically initial if the resident is hospitalized, or "O" if the resident is out of the facility. On the back of the MOR, keep a record of when the resident takes his/her medications out of the facility so this matches the chart.
- Record the reasons for any missed dosages and medication errors on the back of the MOR. Any resulting actions should also be noted (i.e. contacting the health care provider and instructions given).
- When an order is changed, the original entry on the MOR should not be altered. Instead, the original order should be marked "discontinued" and the new order written in a new space.
- The order written on the MOR must match the prescription label exactly. If the label says "Buspar: 5mg take 2 tablets twice daily," the MOR cannot read differently.
- MORs should contain the signature and the initials of each staff person who will be using the MOR.
- Abbreviations should not be used on the MOR.
- DO NOT begin to assist the next resident until the MOR is completed on the resident you are currently assisting, and until after that resident's medication has been returned to the storage area.

Activities of daily living (ADL)

ADL refers to "activities of daily living," or routine activities that people need to do every day. There are six basic categories of ADLs:

- Eating.
- Bathing.
- Dressing.
- Using the toilet.
- Transferring (walking/transporting to another position or location).
- Continence.

Approximately half of all Americans will eventually enter a nursing home as a result of being unable to perform ADLs. Although the majority of nursing home admissions will be short-term, about a quarter will stay longer than a year. An individual's ability to perform ADLs is important for determining what type of long-term care (e.g., nursing-home care or home care) and coverage the individual needs (i.e., Medicare, Medicaid or long-term care insurance). Typically, nursing costs cover an individual who is unable to perform two or more of the six basic ADLs.

There are many different types of ADL flow sheets. Two different formats follow:

SAMPLE FORM 1: ADL Data Tracking Tool by Shift[1]

Instructions: Fill in the appropriate codes for resident self-performance and support provided.

Self-performance key	Support provided key
0 =Independent – No help or oversight. **1 =Supervision –** Oversight, encouragement or cueing provided. **2 =Limited Assistance –** Resident highly involved in activity; received physical help in guided maneuvering of limbs or other non-weight bearing assistance. **3 =Extensive Assistance –** Resident performed part of activity but help of the following type(s) were provided. ***Weight-bearing support.** ***Full staff performance.** **4 =Total Dependence –** Full staff performance of activity during entire shift. **8 =Activity Did Not Occur** on this shift. The responsibility of the person completing the documentation for self-performance is to capture the total picture of the resident's ADL self-performance over the seven day period, 24 hours a day – i.e., not only how the evaluating clinician sees the resident, but how the resident performs on other shifts as well.	**0** =No setup or physical help from staff. **1** =Setup help only. **2** =One person physical assist. **3** =Two+ persons physical assist. **8** =Activity did not occur. The responsibility of the person completing the documentation for support provided is to code the maximum amount of support the resident received over the last seven days irrespective of frequency.

N = Nights D = Days E = Evenings

		Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		A3a	
Date		/ /		/ /		/ /		/ /		/ /		/ /		/ /	
Bed Mobility - How resident moves to and from lying position, turns side to side, and positions body while in bed.															
			Int		**Int**		**Int**		**Int**		**Int**		**Int**		**Int**
Self Perform	**N**														
	D														
	E														
Support Provided	**N**														
	D														
	E														
Transfer - How resident moves between surfaces-to/from bed, chair, wheelchair, standing position (Excludes to/from bath/toilet).															
			Int		**Int**		**Int**		**Int**		**Int**		**Int**		**Int**
Self Perform	**N**														
	D														
	E														
Support Provided	**N**														
	D														
	E														
Eating – How resident eats and drinks (regardless of skill). Includes intake of nourishment by other means (tube feeding, total parenteral nutrition).															
			Int		**Int**		**Int**		**Int**		**Int**		**Int**		**Int**
Self Perform	**N**														
	D														
	E														

Toilet use – How resident uses the toilet room (commode, bedpan, or urinal); transfers on/off toilet, cleanses, changes pad, manages ostomy or catheter, adjusts clothes.															
			Int		Int		Int		Int		Int		Int		Int
Self Perform	**N**														
	D														
	E														
Support Provided	**N**														
	D														
	E														

Signatures required on back of Tracking Tool.
Signature Sheet

Int	Signature	Int	Signature

SAMPLE FORM 2: ADL DOCUMENTATION TOOL			
Activity	Date	Initial	Notes
Bladder C = Continent I = Incontinent B = Both	Shift N = Night D = Day E = Evening	Initial only **after** charting is completed	
Bowel C= Continent I = Incontinent B = Both	Shift N = Night D = Day E = Evening		
Daily Pain Screening Score _____ Medication (s) _____	Shift N = Night D = Day E = Evening		
Daily Skin Inspection Status _____ New skin issues (report to supervisor)	Shift N = Night D = Day E = Evening		
Bottoming Out (Ulcer Prevention) Bed: Chair:	Shift N = Night D = Day E = Evening		

Key for resident performance – Code for **resident** performance: 0 = Independent – No help or oversight provided. 1 = Supervision – Use of oversight or verbal cueing. 2 = Limited Assist – Touch, nonweight-bearing assistance needed. 3 = Extensive assist – Weight-bearing assistance needed. 4 = Total dependence (staff does all). X = ADL did not occur on shift.	**Score**	**Shift**	**Initials**	**Notes**
Key for staff assistance – Code for most support provided: 5 = No staff help. 6 = Set up help only (provide resident with materials or devices to do task). 7 = One person assistance. 8 = Two person (or more) assistance. X = ADL did not occur on shift.				
Bed mobility: How resident moves to and from lying, turning side to side, and positioning in bed.	**Score**	**Shift**	**Initials**	**Notes**
Eating/tube feeding: Manner and amount of eating and drinking.				

Toileting (includes bedpan, commode, bedpan): Include transfers on/off. Cleaning/wiping. Changing pad. Managing catheter/ostomy. Replace clothes.				
Transfers: To/from bed or chair. (**Do not include** to/from toilet/bath/shower).				
Personal hygiene: How resident maintains personal hygiene: Combing hair, brushing/flossing teeth, shaving, makeup, washing up, etc.				
Walking: How resident walks within the room. How resident walks in the hallway.				

Extent of assistance required: Late loss ADL

It is very important to accurately document just how much you are doing for the patient and how much he/she can do for him/herself. Incorrect coding of ADLs is one of the most common reasons for refusing reimbursement. The level of reimbursement your facility receives depends largely on how accurately you code activities of daily living (ADLs) such as bed mobility, transferring, eating, and toileting. Coding these ADLs ultimately determines the amount of reimbursement your facility receives.

Recent changes in policy (RUGs 53) require that Section G of the Minimum Data Set split up necessary actions into understandable segments. This means you must distinguish all transfers to/from the toilet, bath, bed, or chair from one another. Know how to properly perform and code each of the four late-loss ADLs (eating, bed mobility, transfer, and toileting), as required by your facility.

- **Bed mobility self-performance**: How the resident moves to and from lying position, turns side to side, and positions body while in bed, in a recliner, or other type of furniture the resident sleeps in, rather than a bed.
- **Transfer self-performance**: How a resident moves between surfaces – i.e., to/from: Bed, chair, wheelchair, and standing position. Excluded from this definition of movement is to/from bath or toilet, which is covered under toilet use and bathing.
- **Eating self-performance**: How resident eats and drinks, regardless of skill. This includes intake of nourishment by other means (e.g., tube feeding, total parenteral nutrition).
- **Toilet use self-performance**: How resident uses the toilet room (or commode, bedpan, urinal); transfers on/off toilet, cleanses, changes pad, manages ostomy or catheter, and adjusts clothes. Do not limit assessment to bathroom only. Elimination occurs in many settings.

Because reimbursement is based on the correct definition of the activity, each part of bed mobility, transfer, eating, and toileting must be broken down to distinguish coding differences. Bed mobility, for example, has three components that staff should consider when coding:

- How the resident moves to or from the reclining position.
- How the resident turns from side to side.
- How the resident positions his/her body in bed or other location where the resident sleeps.

CNAs who do not understand how critical proper documentation is are likely to have more miscoded ADLs than any other minimum data set (MDS) items. Ensuring that CNAs properly document ADLs so they can be correctly coded on the MDS will ensure that the facility receives the appropriate reimbursement.

Fiscal year 2016 payment and policy changes for Medicare Skilled Nursing Facilities (SNF)

On July 30, 2015, the Centers for Medicare & Medicaid Services (CMS) issued a final rule [CMS-1622-F] outlining Fiscal Year (FY) 2016 Medicare payment rates for skilled nursing facilities (SNFs) [5]. The FY 2016 final rule promotes policies that continue to shift Medicare payments from volume to value, in order to build a health care system that delivers better care, spends health care dollars more wisely, and results in healthier people[5].

Nursing Facility Quality Reporting Program (QRP)

Starting in FY 2018 SNF QRP, CMS proposed – and is finalizing – the adoption of three measures addressing three quality domains identified in the IMPACT Act: (1) Skin integrity and changes in skin integrity; (2) incidence of major falls; and (3) functional status, cognitive function, and changes in function and cognitive function[5]. What this means for the CNA is that additional review of data in these areas will be included during inspections and will be used to determine payment rates from Medicare. Simply stated, this emphasizes the importance of accuracy in documentation in these areas of patient care to assess quality.

Introduction to SOAP notes

Medical documentation of patient complaint(s) and treatment must be consistent, concise, and comprehensive. Many medical offices using EMR include the SOAP note format to standardize medical evaluation entries made in clinical records. SOAP notes are a form of documentation used by medical professionals. While CNAs are probably not required to use SOAP notes, knowing a little about them can better aid communication with other health care providers to maintain the best resident care.

The acronym SOAP stands for "subjective, objective, assessment, and plan." It is a brief report in the patient's chart, completed the day of the appointment when the patient is seen. It is different from a comprehensive progress note that may accompany a diagnosis.

The SOAP note briefly expresses the following:

- Date and purpose of the visit.
- The patient's symptoms and complaints.
- The current physical exam.
- New lab data and results of studies, reports, assessments.
- The current formulation and plan for the patient.

Charting is a critical way for all health care workers to coordinate their care, to speak in the same clinical language, to organize and record information, and to chart progress together. SOAP notes also act as legal documents – for potential use in litigation of personal injury cases, proof of improvement or restoration to pre-injury status, and completion of functional outcomes.

Glossary of terms

- **Certification**: A determination that a nursing home meets the federal care standards for operating a home with Medicaid or Medicare funding.
- **Deficiency**: A failure to meet a federal and/or state standard for care. The most serious deficiencies pose an immediate threat to resident health or safety.
- **Exit conference**: A meeting at the end of a survey, in which surveyors review their findings with the nursing home's administrator and key staff.
- **Center for Medicare and Medicaid Services (CMS)**: The federal agency which oversees the regulation of federally-funded (Medicare, Medicaid) nursing facilities.
- **Licensure**: A determination that a nursing home meets the state standards for operating a home.
- **Nursing facilities (NF)**: A Nursing facility is one of many settings for long-term care, including other services and supports outside of an institution, provided by Medicaid or other state agencies. They provide three types of services:
  - Skilled nursing or medical care and related services;
  - Rehabilitation needed due to injury, disability, or illness;
  - Long term care —health-related care and services (above the level of room and board) not available in the community, needed regularly due to a mental or physical condition (medicare.gov)[1].
- **Ombudsman**: A federally-mandated program with offices throughout the country. Ombudsman representatives are trained to receive questions and complaints and to advocate for residents and families.

Preadmission

Screening and resident review: A federal requirement to help ensure that individuals are not inappropriately placed in nursing homes for long term care. PASRR requires that: 1) All applicants to a Medicaid-certified nursing facility be evaluated for serious mental illness (SMI) and/or intellectual disability; 2) be offered the most appropriate setting for their needs (in the community, a nursing facility, or acute care settings); and 3) receive the services they need in those settings[1].

Skilled nursing facility (SNF): A care facility covered by Medicare Part A (Hospital Insurance) under certain conditions for a limited time. Medicare-covered services include, but aren't limited to:

- Semi-private room.
- Skilled nursing care.
- Medical social services.
- Physical and occupational therapy.
- Speech and language therapy[1].

References

1. US Department of Health and Human Services: The Official US Government Site for Medicare: Inspection Results (2016). https://www.medicare.gov/NursingHomeCompare/About/Inspection-Results.html. Accessed August 24, 2016.
2. US Department of Health and Human Services: Centers for Medicare and Medicaid Services. CMS Updates Nursing Home Five-Star Quality Ratings (2016). https://www.cms.gov/Newsroom/MediaReleaseDatabase/Press-releases/2016-Press-releases-items/2016-08-10.html. Accessed August 24, 2016.
3. US Department of Health and Human Services: The Official US Government Site for Medicare: Staffing (2016). https://www.medicare.gov/NursingHomeCompare/About/Staffing-Info.html. Accessed August 24, 2016.
4. US Department of Health and Human Services. Health Care Quality & Convenience (2016). https://www.healthit.gov/providers-professionals/health-care-quality-convenience. Accessed August 24, 2016.
5. US Department of Health and Human Services: The Official US Government Site for Medicare: Final Fiscal Year 2016 Payment And Policy Changes For Medicare Skilled Nursing Facilities (2016). https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2015-Fact-sheets-items/2015-07-30-2.html. Accessed August 24, 2016.
6. Department of Elder Affairs: State of Florida. Assistance with Self –Administration of Medication.http://www.falausa.com/Files/DOEA%20MED%20GUIDE%205th%20Edition%20(May%202016)%20DRAFT.pdf. Accessed August 26, 2016.

Chapter 5: Domestic Violence for Florida Nurses

2 Contact Hours

By: Marquetta Flaugher, Ph.D., ARNP-BC

Learning objectives

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

- Review Florida's definition of domestic violence.
- Explain how the coronavirus can impact the sequela of domestic violence.
- Analyze the effects of domestic violence on specific populations.
- Discuss domestic violence mandatory licensure requirements for the state of Florida.
- Identify laws that impact domestic violence.

DOMESTIC VIOLENCE IN FLORIDA AND THE US

Trauma and abuse remain widespread occurrences in the United States (US). Domestic violence (also known as intimate partner violence – IPV) is devastating to families, the local community, and the nation. Domestic violence (DV) not only impacts the quality of life of the abused, but also impacts the lives of those around them. On average, "nearly 20 people per minute are physically abused by their intimate partner" (National Coalition Against Domestic Violence [NCADV], n.d., para. 1). Newer national statistics find that 22% to 25% of women in the US will experience domestic violence at some degree (Florida Department of Children and Families [DCF], 2019). In the US, it is estimated that 29% of women and 10% of men have been the "target" of domestic violence, whether physical violence or another form of violence (National Domestic Violence Hotline, n.d.).

In a review of Florida's 2018 statistics, "104,914 crimes of domestic violence were reported to Florida law enforcement agencies resulting in 64,573 arrests" (DCF, 2019). While the rate of domestic violence decreased by 43% from 1998 to 2018 in Florida, murders related to domestic violence in Florida increased 5% in 2018 (FDLE, 2018). This statistic equates to one person dying every 3 days from domestic violence in Florida (2019 Florida Statutes, 741.32). Services are essential for this population and have been assumed by the Florida DCF, which provides funding initiatives for the prevention and maintenance of state statistics.

Unfortunately, during the COVID-19 pandemic, murder rates are up 37% throughout the US (CBS News, 2020). During this pandemic, people are spending more time at home under increased stress. People worry about lack of employment and finances, fear of illness, and additional duties such as schooling children. The abuser may feel a lack of control over the situation and, thus, takes out their anger on their partner and/or children. If alcohol is being used to help relieve stress, this also can lead to abusive attacks or impaired reasoning and self-control. Although these rates of violence are staggering, one must wonder about the accuracy of these registers as under-reporting still exists.

The cost to society is enormous: it is estimated the cost was 9.3 billion in 2017 (McLean & Bocinski, 2017). While the rates of domestic violence in Florida may have decreased, the direct and indirect costs associated with services and care has increased, creating a societal burden and a need for additional resources and training.

Nursing consideration: During the COVID-19 pandemic, people are experiencing increased stress from quarantines, possible loss of income, and changes in work and home life, thus potentially increasing domestic violence due to the abuser feeling a lack of control.

FLORIDA'S DEFINITION OF DOMESTIC VIOLENCE

The state of Florida defines DV as "any assault, aggravated assault, battery, aggravated battery, sexual assault, sexual battery, stalking, aggravated stalking, kidnapping, false imprisonment, or any criminal offense resulting in physical injury or death of one family or household member by another family or household member" (The Florida Senate, 2018, Chapter 456). IPV is defined as "physical violence, sexual violence, stalking and psychological aggression (including coercive acts) by a current or former intimate partner" (CDC, 2017).

While both of these terms are often used interchangeably, the definitions can vary depending upon specific state terminology.

It is important to note that both definitions do not clearly embrace men as the individuals who are abused. In 2016, the National Institute for Health and Care Excellence (NICE) developed a definition of DV that was gender inclusive. Peate (2017) wrote that NICE in 2016 defined domestic violence as "any incident or pattern of incidents of controlling, coercive, or threatening behavior" by any family member or an intimate partner. This definition also contains terminology that includes psychological, physical, sexual, financial, and emotional abuse (Peate, 2017).

HISTORY OF DOMESTIC VIOLENCE

Domestic violence has been noted throughout history. In the past, women were seen as property and had no rights. In Mesopotamia during ancient times, the Code of Hammurabi, a Babylonian code of law dating from 1754 BC, provided provisions for disciplining females and children. It included such things as allowing a husband to execute his wife if she was caught cheating; he could drown her if she overspent monies or he could sell the children or force them into slavery to pay for his debts (Criminal Justice Report, n.d.).

In Greece, early laws allowed men to rule as they saw fit, which meant they could do anything to their wife. In early Rome, beatings were commonplace, and only upper-class women could request a divorce. It is written that Constantine the Great, who was later canonized as a saint in the Catholic Church, executed his wife by boiling her alive for the suspicion of adultery (Criminal Justice Report, n.d.).

The English law, "Rule of Thumb," limited domestic beatings: citizens could use a stick no larger in diameter than their thumb to perform the beating. In the early United States, the Constitution did not include women's rights. Women could not own property, vote, or have a say in the political arena. Religious views also contributed to domestic violence to women as people interpreted biblical commands literally, such as women obeying and submitting to their husbands.

During the early history of domestic violence, crimes were abundant and punishments were public. As we review our current history, will we see the prevalence rate for domestic violence, which has been documented as decreasing over the past few years, continue with the progress toward the cessation of violence?

"SOCIAL SLEEPINESS" TO DOMESTIC VIOLENCE

In today's world where violence is an unfortunate but common occurrence, it seems as if we are socially numb or "sleepy" to what is being heard or said. Violent occurrences are so common that we expect to hear about them on a daily basis. The act of hurting others no longer simply occurs inside a person's home, as workplace bullying and violence have also been identified. According to Cook & DePrince (2020), there is a link between mass shootings in the US and domestic violence. The authors stated the more violent the mass shooting, the more likely the shooter had a prior history associated with domestic violence. This finding is thought to be associated with increased social stressors and cultural gender views.

With various social medias bombarding us through music, television programs, and news reports, we have become accepting to violence and no longer feel "shocked." This author calls this "social sleepiness" where nothing is so alarming any longer as it is considered the "norm." We simply become "sleepy" and passive against these terrible violent behaviors (Flaugher, 2018).

Because of the "social sleepiness" of our nation, the focus among domestic violence care groups has been to call the person who is (or who was) abused a "survivor" instead of a "victim" to demonstrate empowerment. Hopefully, survivors will feel more empowered and violence of this type will cease.

Nursing consideration: Social media can play an important role in domestic violence, lending a voice to many people who are abused. Nurses need to be aware that what is being reported can influence a person's health.

RISK FACTORS FOR DOMESTIC VIOLENCE

In 2020, the CDC stated an average of 6.6 per 100,000 homicides occurred in Florida. With Florida's population increasing, this number is expected to also increase. Florida murder offenses in 2018 showed firearms were used 71% in the 1107 cases (CDC, 2020). To attempt to reduce these figures, healthcare providers need to understand the risk factors associated with domestic violence and related domestic violence homicide. These include the following:

- Unemployment.
- A substance abuse or mental health history.
- Prior stalking behavior.
- Access to a weapon.
- A criminal history with prior threats of homicide.
- Early dating with adolescents
- Early use of alcohol.
- Personality disorders such as antisocial personality disorder.
- Anger.
- Depression.
- Substance abuse.

Interestingly, if teens have an explosive disorder identified before the age of 20, they are commonly seen to exhibit violence and aggression with dating (Askin, 2015).

Askin (2015) identified five reasons people abuse their partners:

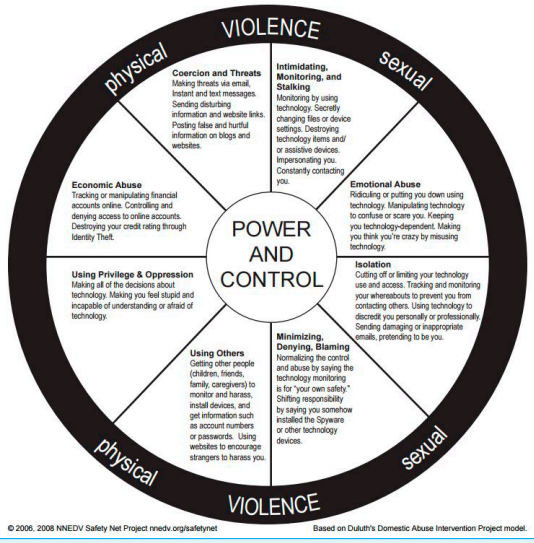
1. Perpetrators may have poor coping skills. A person who is hurt may want to retaliate or "get even." The hurt person does not know how to cope with their own feelings, thus they hurt others.
2. Perpetrators may feel entitled. They do not feel they have the right to be hurt or embarrassed. If this is violated, they will hurt someone in response.
3. There may be a lack of empathy. Abusive people put themselves in their partner's shoes, but they don't necessarily do it with generosity.
4. There may be a lack of accountability. This is explained by the idea that society "accepts" violence, or it is considered acceptable to hurt someone "if they hurt us."
5. There may be unaddressed trauma. When people (especially children) witness abuse, they accept this as normal and do not know how to respond when hurt.

Most experts agree anger is NOT the reason why people are abusive. When police are called to a home for a report of domestic violence, the abuser can talk in normal tones without any form of physical violence. If anger was the culprit of domestic violence, then the emotion could not be so easily "turned off."

The Power and Control Wheel, developed by emergency room physicians, reveals ways people abuse, control, and dominate their partners (Domestic Abuse Intervention Programs, 2017). See Figure 1 below.

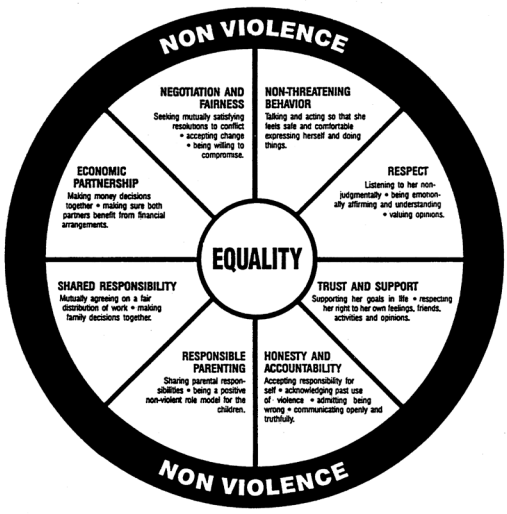
Nursing consideration: Awareness of risk factors for domestic violence can assist with early screening and implementation to promote the health of a person being abused.

Figure 1: The Power and Control Wheel



Note. The Power and Control Wheel has been redeveloped to accentuate positive behaviors to help others recognize actions seen in a healthy relationship called the Equality Wheel. Adapted/Retrieved/Reprinted from "Wheels' Adapted from the Power and Control Wheel Model." National Center on Domestic and Sexual Violence, 2017 (http://www.ncdsv.org/publications_wheel.html)

Figure 2: The Equality Wheel



Note. Developed by: Domestic Abuse Intervention Project, 202 East Superior Street, Duluth, MN 558024612 Shoal Creek Blvd, Austin, Texas. Adapted/Retrieved/Reprinted from "Wheels' Adapted from the Power and Control Wheel Model," National Center on Domestic and Sexual Violence, 2017 (http://www.ncdsv.org/publications_wheel.html).

TYPES OF DOMESTIC VIOLENCE

The following table displays the various types of domestic violence and examples of each (Domestic Abuse Intervention Programs, 2017):

Table 1: Behaviors demonstrating various forms of violence

Form of violence	Behaviors
Physical	Hitting, slapping, abandonment, forcing drug/alcohol use, preventing daily activities such as bathing, eating, or sleeping.
Sexual	Making derogatory remarks, forcing sexual acts, forcible rape, forcing someone to watch pornography, intentionally trying to infect someone with a sexually transmitted infection.
Emotional	Threatening, ridiculing, isolation, blaming someone for acts, constant surveillance, acting possessive.
Financial	Providing little or no monies to a person, taking work checks away from a person, preventing the partner from working, maxing out credit cards.
Reproductive coercion	Refusing use of contraceptives to prevent unwanted pregnancies, monitoring someone's menstrual cycles, forcing an abortion.
Digital abuse	Denying social media access, sending texts that are fearful or threatening, sending explicit photos to someone or demanding explicit photos in return, using technology to monitor a person.

Note. Retrieved from The Advocates for Human Rights (2018). Forms of Domestic Violence (http://www.stopvaw.org/forms_of_domestic_violence).

Evidence-based practice! Mumma et al. (2017) conducted a research study that screened 143 female emergency room patients aged 18 to 40 years and assessed their risk of human trafficking. They found that 20% to 35% of these women screened positive, including 10 who were identified as human trafficking victims. This study demonstrates the importance of a screening survey to help identify victims, so specific services can be offered.

Stalking

Stalking is legally defined as when a person travels "with the intent to kill, injure, harass, intimidate, or place under surveillance with intent to kill, injure, harass, or intimidate another person, and in the course of, or as a result of, such travel or presence engages in conduct" (NCADV, 2015). This action makes the observed person fear bodily harm or causes emotional distress. This may include any form of verbal or electronic communication (Legal Information Institute, 2013).

Florida defines stalking as an intentional, malicious, and repeated harassment directed at a specific person. It includes unwanted telephone calls or emails, unwanted gifts, and surveillance of someone without their knowledge and/or consent (Florida State Statute 784.048). Although stalking is a crime in all 50 US states, "less than 1/3 of states classify stalking as a felony if it is a first offense, leaving stalking victims without protections afforded to victims of other violent crimes" (NCADV, 2015).

State stalking statistics are difficult to ascertain because of the definition of the laws pertaining to stalking. Although Florida was the second state to enact a stalking law in the US, it is typically difficult to obtain the evidence to prosecute (Jarrett, 1997). Stalking has a high propensity for the development of physical violence and injury. For example, weapons are commonly found in stalking cases; additionally, these cases are closely related to homicides (Skiner, 2017).

When technology is used to harass someone, such as sending unwanted emails or pornography for example, this is classified as cyberstalking. Often cyberstalking involves "sextortion" (when private information is threatened to be released unless sexual demands are met). While difficult to track because of people using code names and multiple Internet sources, cyberstalking is punishable with fines and possible years in prison, especially if seen to be the cause of the death of the recipient (Federal Bureau of Investigation [FBI], 2018).

HOW ABUSED WOMEN VIEW THEIR HEALTH

Leite et al. (2016) reported that when women are abused emotionally and/or physically, this creates a phenomenon where they view their health as weak or problematic. What do these findings mean for healthcare providers and our society? If a person perceives their health as poor, they typically think of themselves as weak, which will likely prevent them from leaving an abusive situation. More medical services, costing additional dollars to our healthcare system and resources, will be required. Additionally, misunderstood perceptions can be passed on to others (children) who wonder why the parent does not leave an abusive situation, thus increasing mental and physical suffering along with increasing costs associated with healthcare services.

What do these findings indicate for healthcare providers? Violence and abuse can lead to additional "psychological suffering and emotional impact" (Leite et al., 2016). These perceptions can predispose a person to additional co-morbidities that greatly impact health, such as anxiety, depression, PTSD, and other mood disorders. With these diagnoses and the perception of a weakened health status, women can place themselves at risk for misusing medications or attempting suicide.

Nursing consideration: Nurses need to understand how abused individuals view their health, as their perception can make successful interventions and follow up difficult.

PREVALENCE & EFFECTS OF DOMESTIC VIOLENCE ON CHILDREN

In 2018 the Children's Advocacy Center in Florida reported 34,000 children were neglected or abused annually (Florida Network of Children's Advocacy Center, n.d.). Of this number, 36% represented victims that were 0 to 6 years of age; 35% were abused sexually, and 27% were physically abused (Florida Network of Children's Advocacy Center, n.d.). It has also been documented that children who are exposed to violence suffer both physically and/or mentally, leading to detrimental effects as they grow older. Children may suffer emotionally when seeing someone they love being hurt (or possibly losing that person to homicide). Often, children who are exposed to violence suffer from academic problems, substance abuse issues, and other emotional and physical problems, including death. They may also have issues with developing meaningful relationships, as they do not understand (or have not been taught) love in a relationship (McTavish et al., 2016). McTavish et al. (2016) reported that while we know witnessing violence has harmful effects on children, even awareness of violence can lead to devastating effects on the child's physical and mental development.

Physical changes in the brain may also occur with child mistreatment. Bellis et al. (2017) reported that children who are exposed to violence may develop altered brain development. This includes the lack of finding pleasure in what would be considered pleasurable activities, and poor impulse control leading to acting out or antisocial behaviors. Neurological stressors – such as living in a violent, unstable home environment or being physically abused – can lead to the development of cognitive learning disabilities, thus affecting school performance.

It has been suggested the hypothalamus-pituitary-adrenal axis during times of stress (both physical and emotional) can alter cortisol release, affecting immunological systems. This may result in inflammatory processes and lead to development of cancer, diabetes, or early death.

Dargis and Koenigs (2017) explained that children who repeatedly witness physical violence are prone to be physically aggressive and this may lead to psychopathy. The authors conducted a study of 127 incarcerated males and investigated whether childhood exposure to violence leads to psychopathic traits in adulthood (Dargis and Koenig, 2017). The results indicated a strong association between exposure in childhood and psychopathic traits (Dargis and Koenig, 2017).

Unfortunately, children who are exposed to the homicide of one of their caregivers suffer compounded mental anguish. Not only do they suffer from the loss of their caregiver, but they are often placed in foster care without understanding why, and they may feel acute uncertainty about their future during a legal investigation (Alisic et al., 2017). This might lead to depression, which can continue for years beyond into adulthood (Alisic et al., 2017).

Evidence-based practice! A retrospective study conducted by Bellis et al. (2017) found that the presence of a trusted adult in a child's abusive environment can lessen that child's engagement in health harming or mental health issues when they are an adult.

RECOGNITION OF CHILD ABUSE

The continued prevalence of child abuse mandates that clinicians must be familiar with characteristics associated with child abuse. Boos (2018) described common signs and symptoms of abuse that may be seen upon assessment of children, including the following:

- Learning disabilities.
- Conduct disorders.
- Bruises of various ages.
- Human bite marks.
- Missing or fractured teeth.
- Cigarette burns or scalds from hot water.
- Fractures .
- Head trauma.

When assessing the social environment, consider the following risk factors, which may lead to child abuse (Boos et al., 2018):

- Unplanned pregnancy.
- Poverty status.
- Acute or chronic stressors in the home environment (such as loss of a job).
- Parents with low level education.
- Parents with a negative view of a child's normal developmental behaviors.
- Presence of substance abuse in home.
- Caregiver with history of abuse.
- Existence of animal cruelty.
- Presence of caregiver psychiatric illness.

Clinicians should always assess for the potential or real presence of child abuse and report any suspicions to the local authorities, per guidance of state laws.

Nursing consideration: Children are a vulnerable group. When suspicion of abuse is present, it MUST be reported, and suspicions must be documented in the health record.

PREVALENCE AND EFFECTS OF TEEN DATING VIOLENCE

Teen dating violence (TDV) is defined differently in various states, but can ultimately be described as a pattern of behavior that includes physical, emotional, verbal, or sexual abuse used by one person in an intimate relationship to exert power and control over another in the 12- to 18-year age group (McLean & Gonzales, 2017). The 2015 Youth Risk Behavior Survey found approximately 10% of high school students had been physically hurt while in a teen relationship with almost 11% suffering from sexual violence (Kahn et al., 2016). According to the 2019 National Youth Risk Behavior Surveillance, the prevalence rate for violence in US high school students who had dated in the past year was 8% with almost 16% reporting electronic bullying in the past year (Basile et al., 2020). When adolescents were followed over time, 30% of young adults ages 12 to 21 years in heterosexual relationships experienced psychological abuse; 20% experienced abuse if they participated in a same-sex relationship (NIJ, n.d.).

TDV is different from adult violence. Factors that distinguish TDV include young girls that usually are living at home, thus not dependent upon their partner for financial support and typically have no children. However, teens do experience poor coping and negotiating conflict and have the extra burden of being easily influenced by their peers.

When adolescents are involved in an abusive relationship and are not able to cope or have not developed necessary relationship skills, they are more likely to use "anger, physical aggression, and emotional abuse in conflicts" while staying in the current abusive relationship (Cutter-Wilson, 2011).

The short and long-term effects of teen violence abuse can result in major health issues. Tables 2 and 3 illustrate these results from Cutter-Wilson (2011).

Nursing consideration: Many disorders specific to teenagers can be effects of violence. All age groups (including teens) must be assessed on a routine basis for the risk of being abused or using non-coping mechanisms to deal with abuse.

Table 2: Short-term effects of abuse
1. Suicide.
2. Anxiety.
3. Depression.
4. Illegal drug use.
5. Unintended pregnancy.
Note. Adapted from Cutter-Wilson, E. and Richmond, T. (2011). Understanding TDV: Practical screening and intervention strategies for pediatric and adolescent healthcare providers. Current Opinion Pediatric, 24(4): 379-383. doi:10.1097/MOP.0b013e32834876d5.

Table3: Long-term effects of abuse
1. Decreased self-esteem.
2. Academic issues.
3. Eating disorders.
4. Mental health disorders.
Note. Adapted from Cutter-Wilson, E. and Richmond, T. (2011). Understanding teen dating violence: Practical screening and intervention strategies for pediatric and adolescent healthcare providers. Current Opinion Pediatric, 24(4): 379-383. doi:10.1097/MOP.0b013e32834876d5.

TDV is commonly associated with socioeconomic status and is more likely to occur in specific populations, such as those who participate in high-risk behaviors. Because of poor self-image and/or lack of control in managing difficult relationships, TDV is associated with risky health behaviors (substance abuse or unprotected sex) and, when coupled with poor self-image or coping mechanisms, can lead to unhealthy weight control, unwanted pregnancies, and antisocial behaviors – even legal ramifications and suicide.

SPECIAL POPULATIONS

Pregnancy

Abuse during pregnancy occurs in one out of six women (ACOG, 2020). Several risk factors make women more vulnerable to domestic violence during pregnancy. These risk factors include the following (ACOG, 2020):

- Prior history of violence.
- Low educational status.
- Living apart from the partner.
- Having a low income.
- Experiencing unintentional pregnancies.
- Lack of sleep.

Domestic violence is often triggered by stress. Pregnancy is a stressor for both partners and, unfortunately, while most women seek medical care during this time, abused women often miss routine follow-ups or may not start pregnancy care until they are in the third trimester. Because of the lack of prenatal care, babies may be born with their own set of healthcare issues. Often, pregnant women continue to use alcohol and tobacco products and have poor nutritional habits, which can lead to additional health concerns for the baby. The most alarming healthcare concerns during pregnancy of an abused female include suicide and homicide (ACOG, 2020).

Nursing consideration: Pregnancy is a time of stress for both partners, which can trigger domestic violence. Nurses must be aware of this possibility, especially in women who seek healthcare late in their pregnancies.

Mental health populations

As the World Report on Disability highlights per the Dammeyer and Chapman (2018) study, people with disabilities are at a greater risk of violence than those without disabilities. Because of aging populations and the increasing global burden of disease and injury, the prevalence of disability world-wide – now estimated at 15% of adults – is predicted to rise, further underlining the importance of more research on the experience of violence among people with disabilities (Dammeyer & Chapman, 2018).

When assessing mental health patients, the cause of the mental health disorder could be bi-directional. This means that a person with a mental health disorder is prone to domestic violence and, in some victims of domestic violence, mental health could develop as a result of the abuse. Depression, anxiety, aggression, and PTSD are symptoms commonly seen. Often barriers are present, including substance abuse, illiteracy, and poverty, which compound the problem of seeking solutions for this population. These barriers can be removed through training clinicians on proper assessment techniques and introducing the patient to motivational or support groups, fostering the growth of the cognitive and emotional skills necessary for a healthy relationship (Dammeyer & Chapman, 2018).

Evidence-based practice! It has been suggested by Brem et al. (2018) that costs exceeding over $19.3 million were attributed to the consequences of physical and mental health issues credited to violence. The authors reviewed research that supported antisocial personality disorder and alcohol abuse as leading factors to domestic violence.

Native American women

Violence against Native American women is one of the most prevalent healthcare concerns for today's society. Women living on reservations present unique barriers because of laws that govern territorial and jurisdictional rights. Another issue is the accuracy of reporting data, because it is neither gathered nor maintained by any federal organization or Indian agency.

Many factors, including repression, tribal laws, poverty, lack of medical or social support, and victims' lack of trust outside their community, lead to higher levels of alcohol abuse, suicide, and mental anguish. This is supported by a report that two-thirds of victims in the American Indian and Alaskan Native groups believe their attackers were drinking or on drugs before the abuse (Futures Without Violence, n.d.).

The abuse of Native American women is thought to be related to historical violence seen in this population. Oppression and domination leading to financial restraints may have led to adopted normalization of violence. In addition, poverty and substance abuse create environmental conditions that are stressful and may lead to further violence.

Social isolation is another issue for Native American women that makes it difficult for them to access needed resources to protect themselves. The isolation prevents many women from obtaining adequate medical care or other resources that are available to them. Tribal laws vary based on the location where the offenses occurred, the nature of the crime, which particular party was involved, and if the tribe resides in a PL–280 state (Futures Without Violence, n.d.) The Violence Against Women Reauthorization Act of 2013 (VAWA) included a section to assist Native American women by allowing tribal courts to prosecute non-Native American defendants accused of violence against Native American women (Potera, 2014). These laws are important in helping to protect Native American women, but additional support is required.

Men

Little research has been conducted investigating men as the abused victims in violent relationships (The National Domestic Violence Hotline, n.d.). Approximately 25% of men have experienced some form of contact with sexual violence, including rape, attempted rape, or sexual coercion (Smith et al., 2018). When men are abused, they often do not report the violence as they fear they will not be believed or feel they are the only one experiencing this type of control. Men often do not see the controlling behavior from their partner as abuse. Further, they may not believe their family members or intimate partners have committed a crime (Peate, 2017).

Men who are abused or stalked often see their medical provider for complaints of asthma, high blood pressure, headaches, chronic pain, insomnia, and limitations in their activity levels. Psychological effects of abuse have been difficult to describe as men typically do not report these to their healthcare provider (Peate, 2017).

Another issue faced by abused men is the lack of social support. Currently, there are limited educational programs developed for men and very few domestic shelters are set up specifically for male victims. Men who have been abused also state that when they call national hotlines, they are often stereotyped and referred to batterer programs instead of being supported as the victim. Another major concern are legal rulings that are usually against the male partner. This is because when men go to court to seek legal protection, the female sometimes lies and states she is the actual victim. Additional educational programs are needed for healthcare providers along with community resources that can meet the needs of this population. Legislation and funding are essential as this population is experiencing an increase in prevalence of abuse (Peate, 2018).

Gender-related domestic violence

A new, more encompassing term, "gender and sexually diverse" (GSD), is starting to be used in the current literature instead of lesbian, gay, bisexual, or transgender (LGBT or LGBTQ) to describe these populations. Lorenzetti et al. conducted a study in 2017 to review risk factors associated with domestic violence in this population. Their conclusions yielded five interesting results (Lorenzetti et al., 2017):

1. Sexual stigma associated with same-sex relationships could lead to internalized stigma and self-contempt, which ultimately can lead to abuse for their partners.
2. Traditional roles, which are engrained in our society, make a person who is bisexual or transgendered feel they are a "mismatch" against the norm. This can result in bullying and/or violence toward transgendered and bisexual populations.
3. Social stigma and unacceptance of bisexual or transgendered preferences typically cause a lack of support from family, friends, and community. This can lead to suicidal thoughts (even in school-aged children).
4. Social norms and homophobic harassment can lead to isolation and social exclusion. Some may even be viewed as criminals, sinners, or ill, which can lead to human rights violations.
5. Safe and accessible resources are often limited for the GSD population, which may lead to further violence and/or death.

Elderly

More than 14% of individuals aged 70 or older have experienced some form of abuse in the past year (Rosay & Mulford, 2017). Because many elderly individuals make up the state's population, Florida is frequently referred to as a "retirement state." The 2018 US Census found the older population comprises 16% of the total population (US Census Bureau, 2020). Currently, Florida is estimated to have one of the highest percentages of older adults in the nation; this number is expected to increase 20% to 25% by the year 2030. "Elders who have been abused have a 300% higher risk of death when compared to those who have not been mistreated, as well as higher rates for hospitalization" (Ageless Alliance, 2017, para. 2). Unfortunately, because of unique barriers, less than 5% of actual elder abuse cases are reported (House of Representatives Staff Analysis, 2018). Religious, cultural, and financial reasons are all potential explanations of why the abused older person may remain in the home. Personal values or beliefs are specific to races and cultures; thus, some may not feel comfortable enough to discuss what is happening, especially since many elder abuse cases involve a family member or a caregiver. Generational values also influence an older person's reluctance to discuss abuse. This generation typically does not feel comfortable talking about private matters with strangers. This is compounded with fear that they may be removed from their home with subsequent placement in a nursing facility (WHO, 2020).

Another consideration that providers should be aware of when assessing the elderly for possible domestic violence includes health issues. The older population may suffer from dementia and

cannot make their needs known or may suffer from depression. Many times, the abused elder loves their abuser, but they are unsure of how to end the violence, leading to depressive symptoms (Halphen & Dyer, 2018; Holt & Colburn, 2015).

Nursing consideration: Any person is at risk for domestic violence regardless of their social status, age, or geographical area.

DOMESTIC VIOLENCE INTERVENTIONS

Development of a safety plan

Many times, clinicians discuss safety issues with patients who have suffered from domestic violence and feel confused when the victim decides to return home instead of leaving the environment. Often, people need time to get items together (clothes, medications, legal and banking documents, etc.) before they can actually leave. For this reason, it is wise to discuss a safety plan with the individual so when they do decide to leave the abusive environment, it can be done without harm.

Safety plans should include access to a phone with 911 on speed dial. It should also include a plan to inform family and friends of the situation when possible (ensuring they do not share the information with the perpetrator). Additionally, the plan should include obtaining a bag of clothing, any necessary medications, copies of bank statements, and keys to have at a later date when retrieval of these items will be difficult. Nurses should instruct patients to notify the police, a domestic violence shelter, or a close friend if they feel they are in imminent danger. If children are in the home, make sure they know how to call 911 and give their full name to the authorities. Teach children "secret passwords" that alert them to the need to leave the home or immediate situation.

After individuals leave an abusive environment, they still need to remain alert for potential danger. When abused patients leave the abusive environment, they need to make sure others are aware of what is happening. They should also be cautious with technology. For example, using a public computer, changing passwords, changing phone numbers, and even having a technician check their mobile devices and computer for spyware programs are ways to protect themselves.

Evidence-based practice! The development of a safety plan helps ensure the person remains safe while in an abusive relationship or when trying to leave a violent relationship. Safety planning incorporates education, legal guidance, and support for the victim(s).

Legal efforts toward reducing the prevalence of domestic violence

Florida has continued its efforts toward decreasing domestic violence occurrences. It also refers batterers to an intervention program. Additionally, Florida continues to work nationally and has partnered with the National Domestic Violence Fatality Review and with Arizona's Child and Adolescent Survivor Initiative to identify funding and resources that can train advocates and mental health clinicians on how to better help children who have lost their caregivers to homicide or suicide.

Laws influencing domestic violence

In 1994, the Violence Against Women Act (VAWA) was created to support women who were abused and to bring about information to promote social awareness and enact needed changes. This law was reauthorized in 2013 (now called the Violence Against Women Reauthorization Act of 2013). While it continues to help women who are, or who have been, abused, it also has enhanced funding for additional services. The law allows for the following (Congressional Research Service, 2019):

- Free sexual assault exams.
- Protection orders for women and families.
- Prosecution and free legal services.
- Strengthens penalties for criminal activities.
- Sets up programs to meet the needs of immigrants or women of different races and ethnicities
- Provides services for teens and children.
- Affords protection for the abused who may have been evicted from their homes.
- Sex trafficking assistance.
- Gives tribal courts jurisdiction over crimes committed by non-Native perpetrators.

The Family Violence Prevention and Services Act (FVPSA) was created in 1984. This Act provides federal funding for domestic violence direct-service providers, including shelters and nonresidential facilities to enhance the quality of life for those suffering from abuse https://nnedv.org/content/family-violence-prevention-services-act/

The Victims of Crime Act (VOCA), established in 1984, was set up to assist those who suffered from violent crimes. The funds are obtained from donations, federal criminal fines, forfeited bonds, and special assessments. This money is then forwarded to individual states as grant money, which can be used to compensate victims of crimes (personal psychological counseling and or from lost employment), build additional shelters, or fund service providers (Office for Victims of Crime, 2013; http://www.ovc.gov/pubs/crimevictimsfundfs/index.html).

Healthcare clinicians must be knowledgeable about the laws and community resources available for their patients. Domestic violence will only end when everyone speaks up and gets actively involved.

Domestic violence legal proceedings in Florida

It can be an overwhelming task when an abused person seeks assistance from the legal system. The first action is to report the violence to the local law enforcement agency. Then, the victim must file for an injunction from the County Clerk's office. There are various injunction forms in the state of Florida, thus making it difficult for a layperson to know which form is appropriate. An attorney is recommended to assist in this endeavor; if that is not possible, however, the petitioner (the one seeking the injunction) can fill out the form by themselves. Although the County Clerk's staff is available to answer questions, they cannot provide legal advice or fill out the form for the petitioner.

There are a variety of injunctions that can be obtained in Florida to help protect the person when they feel that their life is in danger or they havebeen threatened. These are a few common injunctions that can be used in the state of Florida (www.flcourts.org):

1. Injunction of Protection: This is a court order (better known as a restraining order) that mandates the accused to have no contact with the petitioner in any manner – including phone calls, text messaging, emails, or any other form of contact.

2. Sexual Violence Injunction: The respondent has committed one of the following acts:
   - Sexual battery.
   - Lewd behavior upon a child under the age of 16 years
   - Luring the child into a sexual act.
   - Requiring a child to perform sexually
   - Committing any forcible felony if a sexual act was committed or attempted.
3. Dependency with Children Injunction: The respondent must be related to the petitioner either by blood or by marriage. The respondent must also have lived with the petitioner, either in the past or present, as a family, or may have had a child with the person.
4. Dating Violence Injunction: The respondent must be a person that the petitioner has dated within the past 6 months, had a belief of affection or sexual involvement with, and was engaged on a routine basis during the relationship.
5. Repeat Violence Injunction: The respondent can be a neighbor, coworker, student, or relative who lives at another address (has never lived with the petitioner), a friend, or a roommate AND there were two incidents of violence OR two threats of violence.

If the individual is under 18 years of age, an adult will need to file the injunction for them. After the petitioner files the injunction, it is then sent to the judge for review.

The judge may then do the following:

- Issue a temporary injunction and set a court date for hearing.
- Deny the temporary injunction and set a court date for hearing, allowing the respondent to receive a copy of the injunction.
- Deny a temporary injunction and set a hearing date without providing the respondent a copy of the injunction.

After the petitioner files the injunction, they should keep a copy of this paper with them at all times. The risk of homicide is the greatest during times of separation. Therefore, if the respondent named in an injunction owns guns, these are removed from the person's possession until the outcome of the court proceedings are finalized, per Federal Law 18 US C. S922 (G) (8) – (9). Additional information about filing an injunction can be found at www.flcourts.org under "Family Law Forms," or by calling the Florida Domestic Hotline number at 1-800-500-1119.

Mandated educational requirements

Continuing education requirements for licensure vary from state to state. Currently, Florida's rules for education on domestic violence and licensure (Florida Department of State, Florida Board of Nursing, 2019) are the following:

- A 2-hour course (one contact hour equals 60 minutes) for biennial renewal on or after January 1, 2019.
- A course on domestic violence every third biennium.
- A nurse's license by examination within a biennium does not need to take a domestic violence course during that time. This exemption includes nurses who were licensed in the original state of licensure.
- A nurse who was endorsed in Florida during a biennium will need to have one contact hour for each calendar month remaining in the biennium (however, no hours are required if the time remaining in the biennium is 6 months or less). This does not apply if the nurse's license was suspended, revoked, or becomes inactive at the end of the biennium.
- Any nurse who holds both a Licensed Practical Nurse (LPN) and a Registered Nurse (RN) license will satisfy educational requirements by meeting the RN guidelines.
- An Advance Practice Nurse Practitioner (APRN) who also has an RN license can satisfy the educational requirement for domestic violence by completing the requirements outlined for the RN. Or, the APRN may satisfy the educational requirement by taking up to 50% of continuing medical education comparable to the state mandated contact hours.

An RN who is the spouse of any military branch member and is absent from the state of Florida because of the spouse's duties is exempt from the educational requirement (The Florida Senate, 2018 Florida Statutes, Chapter 456). Clearly, the educational requirements can be confusing; therefore, nurses need to be familiar with the rules and regulations regarding their licensure and educational requirements for each state in which they are actively licensed.

Conclusion

Domestic violence is a national tragedy that has been ongoing for many years. It can be seen in any population and knows no age limits. While society tends to think only of the physical effects of domestic violence, there are many other forms that lead to abuse. Devastating physical and mental health consequences can occur as a sequalae of abuse. Nurses must be aware of the prevalence of this problem and feel comfortable enough to ask hard questions regarding domestic violence. Nurses also need to know about legislation and community resources available for their patients. Nurses often encounter domestic violence victims; thus, they must understand the ramifications of being abused and how they can best support and provide care to this special group. While it may be easy to become complacent because ofthe violence seen almost on a daily basis in today's world, nurses must be a voice for patients through education and legislative efforts to help end the cycle of domestic violence.

References

- Ageless Alliance. (2017). Impact of elder abuse. https://agelessalliance.org/impact.of-elder-abuse/#;~:text=Older%20people
- Alisic, E., Groot, A., Snetselaar, H. Storeken, T., & dePutte, E. (2017). Children bereaved by fatal intimate partner violence: A population-based study into demographics, family characteristics and homicide exposure. PLOS One. https://agelessalliance.org/impact.of-elder-abuse/#;~:text=Older%20people
- Askin, C. (2015, October 27). Five reasons people abuse their partners. *Psychology Today.* https://www.psychologytoday.com/us/blog/hurt-people-hurt-people/201510/five-reasons-people-abuse-their-partners
- Basile, K., Clayton, H., DeGue, S., Gilford, J., Vagi, K., Swarez, N., Zwald, M., & Lowry, R. (2020). Interpersonal violence victimization among high school students – Youth Risk Behavior Survey, United States, 2019 (2020). Centers for Disease Control and Prevention, MMWR Suppl 2020:69 (Suppl.1):28-37. https://dx.doi.org/10.15585/mmwr.su6901a4
- Bellis, M., Hardcastle, K., Ford, K., Hughes, K., Asthon, K., Quigg, Z., & Butler, N. (2017). Does continuous trusted adult support in childhood impart life-course resilience against adverse childhood experiences – a retrospective study on adult health-harming behaviors and mental well-being. Psychiatry, *17*(110). doi: 10.1186/s12888-017-1260-z
- Boos, S. (2018). Physical child abuse: Recognition. https://www.uptodate.com/contents/physical-child-abuse-recognition/
- Brem, M. J., Florimbio, A. R., Elmquist, J., Shorey, R. C., & Stuart, G. L. (2018). Antisocial traits, distress tolerance, and alcohol problems as predictors of intimate partner violence in men arrested for domestic violence. Psychology of Violence, *8*(1), 132-139. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5849274/
- CBS News. (2020, September 1). Murder rates rises in major US cities amid COVID-19 pandemic. [Video]. https://www.cbsnews.com/video/murder-rate-soars-in-big-cities-amid-pandemic/
- Centers for Disease Control and Prevention. (2017). Intimate partner violence: Definitions. https://www.cdc.gov/violenceprevention/intimatepartnerviolence/definitions.html
- Congressional Research Service. (2019, April 4). Family violence prevention and services act (FVPSA): Background and funding. Summary by Adrienne Fernandes-Alcantara. R42838. https://fas.org/sgp/crs/misc/R42838.pdf
- Cook, J. & DePrince, A. (2020, July 13). The link between mass shooters and domestic violence. The Crime Report. https://thecrimereport.org/2020/07/13/the-link-between-mass-shooters-and-domestic-violence/
- Criminal Justice Research. (n.d.). The rule of thumb and domestic violence. http://criminal-justice.iresearchnet.com/crime/domestic-violence/rule-of-thumb/
- Cutter-Wilson, E. & Richmond, T. (2011). Understanding teen dating violence: Practical screening and intervention strategies for pediatric and adolescent healthcare providers. Current Opinion Pediatric, *24*(4): 379-383. doi:10.1097/MOP.0b013e32834876d5
- Dammeyer, J., & Chapman, M. (2018). A national survey on violence and discrimination among people with disabilities. BMC Public Health. https://doi.org/10.1186/s12889-018-5277-0
- Dargus, M. & Koenigs, M. (2017). Witnessing domestic violence during childhood is associated with psychopathic traits in adult male criminal offenders. Law Human Behavior, *41*(2), 173-179.
- Domestic Abuse Intervention Programs. (2017). Wheels. https://www.theduluthmodel.org/wheels/
- Flaugher, M. (2018). Domestic violence Florida. Elite Healthcare https://www.EliteLearning.com/cna/courses/domestic-violence-florida
- Florida Department of Children and Families. (2019) Domestic Violence Statistics Florida. https://www.myflfamilies.com/service-programs/domestic-violence/statistics.shtml
- Florida Department of Law Enforcement. (2018). Domestic violence. www.fdle.state.fl.us/FSAC/Cri.me-Trends/Domestic-Violence
- Florida Department of State. Florida Board of Nursing. Continuing Education Requirements. Chp. 64 B9-5 https://floridasnursing.gov/renewals/continuing-education-ce-ceu/
- Florida Network of Children's Advocacy Centers. (n.d.). Child abuse info. Child abuse and neglect statistics. https://www.fncac.org/child-abuse-and-neglect-statistics
- Futures Without Violence. (n.d.). Perpetrator risk factors for violence against women. https://www.futureswithoutviolence.org/perpretrator-risk-factors/
- Halphen, J. & Dyer, C. (2018). Elder mistreatment: Abuse, neglect, and financial exploitation UpToDate. from https://www.uptodate.com/contents /elder-mistreatment-abuse-neglect-and-financial-exploitation?search=elder-mistreatment-abuse-neglect-and-financialexploitation&source=search_ result&selectedTitle=1~150&usage_type=default&display_rank=1
- House of Representatives Staff Analysis. (2018). Exploitation of a vulnerable adult. SB 1562. https://www.flsenate.gov/Session/Bill/2018/1059/Analyses/h1059c.CFS.PDF
- Jarrett, J. (1997). Following the crime of stalking. The Florida Bar, *71*(6). https://www.floridabar.org/the-florida-bar-journal/following-the-crime-of-stalking/ https://www.cdc.gov/mmwr/volumes/65/ss/ss6506a1.htm
- Knight, L. & Hester, M. (2016). Domestic violence and mental health in older adults. International Review of Psychiatry, *28*(5), 464-474. https://doi.org/10.1080/09540261.2016.1215294
- Legal Information Institute, Cornell Law School. (2013). 18 US Code § 2261A – Stalking, Part I, Chp. 110A. https://www.law.cornell.edu/uscode/text/18/2261A
- Leite, F., Silva, A., Bravim, L., Tavares. F., Primo, C., & Lima, E. (2016). Victims of violence:
- Perception, complaints and behaviors related to their health. *Journal of Nursing UFEE. 10*(supp. 6), 4854-4861.
- Lorenzetti, L., Wells, L., Logie, C., and Callaghan, T. (2017). Understanding and preventing domestic violence in the lives of gender and sexually diverse persons. *The Canadian Journal of Human Sexuality, 26*(3), 175-185.; doi: 10.3138/cjhs.2016-0007
- McLean, G. & Bocinski, S. G. (2017). The economic cost of intimate partner violence, sexual assault, and stalking: Fact sheet.
- Mumma, B., Scofield, M., Meadoza, L., Toofan, Y., Youngyunpipatkul, J., & Hernandez, B. (2017). Screening for victims of sex trafficking in the emergency department: A pilot program. *Emergency Medicine. 18*(4), 616-620. https://pubmed.ncbi.nlm.nih.gov/28611881/
- National Center on Domestic and Sexual Violence. (2017). "Wheels" adapted from the Power and Control Wheel model. http://www.ncdsv.org/publications_wheel.html
- National Coalition Against Domestic Violence. (2015). What is stalking?
- https://www.speakcdn.com/assets/2497/domestic_violence_and_stalking_ncadv.pdf
- National Domestic Violence Hotline. (n.d.) Domestic violence statistics. https://www.thehotline.org/stakeholders/domestic-violence-statistics/
- Office for Victims of Crime. (2013). Crime victims' fund. http://www.ovc.gov/pubs/crimevictimsfundfs/index.html
- Peate, I. (2017). Domestic violence against men. *British Journal of Nursing, 26*(6), 309.
- Polaris Report. (2018, January 17). New report details human trafficking in massage parlors. https://polarisproject.org/press-release/new-report-details-human-trafficking-in-massage-parlor
- Potera, C. (2014). The VAWA makes American Indian women safer. *American Journal of Nursing Online, 114*(5).
- Rosay, A. & Mulford, C. (2017). Prevalence estimates and correlates of elder abuse in the United States: The national intimate partner. *Elder Abuse Negl. 29*(1), 1-14. doi: 10.1080/08946566.2016.1249817
- Ross, C., Dimitrova, S., Howard, L., Dewey, M., Zimmerman, C., & Oram, S. (2015). Human trafficking and health: A cross-sectional survey of NHS professionals' contact with victims of human trafficking. *BMJ Open*. doi: 10.1136/bmjopen-2015-008682
- Skiner, W. (2017). Harbor House of Central Florida. Recognizing stalking awareness months this January, 2017. https://www.harborhousefl.com/recognizing-stalking-awareness-month-january-2017/
- Smith, S., Zhang, X., Basile, K., Merrick, M., Wang, J., Kresnow, M., & Chen, J. (2018). The national intimate partner and sexual violence survey: 2015 data brief-updated release. National Center for Injury Prevention and Control, CDC. https://www.cdc.gov/violenceprevention/pdf/2015data-brief508.pdf
- The Advocates for Human Rights. (2018). Forms of domestic violence. http://www.stopvaw.org/forms_of_domestic_violence
- The Florida Senate. Florida Statutes. Chapter 456. Health Professions and Occupation: General Provisions. (2018). https://www.flsenate.gov/Laws/Statutes/2018/Chapter456
- The Florida Senate. Florida Statutes. Title XLIII, , Sec. 32. (2019). https://www.flsenate.gov/Laws/Statutes/2019/Chapter741
- United States Census. (2018). ACS demographics and housing estimates. https://data.census.gov/cedsci/table?q=About%2016%25%20of%20the%20population%20was%2065%20years%20old%20or%20older%20in%202018&tid=ACSDP1Y2018.DP05
- United States Department of Justice. (2020, August 4). Department of Justice awards over $35 million to provide housing to victims of human trafficking. https://www.justice.gov/opa/pr/department-justice-awards-over-35-million-provide-housing-victims-human-trafficking
- Viergever, R., West, H., Borland, R., & Zimmerman, C. (2015). Health care providers and human trafficking: What do they know, what do they need to know? Findings from the Middle East, the Caribbean, and Central America. *Frontiers in Public Health*, (*3*), 1-9.
- Vietor, T. & Hountz, R. (2018). RIGHTS: Response initiative guiding human trafficking services. *Journal of Forensic Nursing*. doi: 10.1097/JFN.0000000000000197
- World Health Organization. (2020). Elder abuse. https://www.who.int/news-room/fact-sheets/detail/elder-abuse

Chapter 6: Clinical Update for Florida Nurses: HIV/AIDS, 2nd Edition

1 Contact Hour

By: Adrianne E. Avillion, DEd, RN

Learning objectives

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

- Explain how HIV is transmitted.
- Discuss the incidence and prevalence of HIV infection.
- Identify groups at high risk for HIV infection.
- Identify infections common to patients with HIV/AIDS.
- Explain strategies to prevent HIV infection in health care workers and in the general public.
- Identify treatment options for HIV infection.
- Discuss nursing interventions and intent to change practice.

INTRODUCTION

HIV and AIDS remain a significant, persistent worldwide problem. In 2020, an estimated 37.7 million people had HIV/AIDS (HIV.gov, 2021). The state of Florida has approximately 113,000 people living with HIV, the third highest number in the United States (World Population Review, 2022). It is imperative for nurses and other health care professionals to not only facilitate treatment initiatives and implement nursing interventions but also work aggressively to help prevent transmission of the infection.

Nursing Consideration: Nurses must be able to help their patients understand the difference between HIV and AIDS. HIV is a virus that attacks immune cells of the body. AIDS is the late stage of HIV infection that occurs when the body's immune system is critically damaged because of the virus (HIV.gov, 2022)

HIV TRANSMISSION

HIV is most commonly transmitted during anal or vaginal sex and needle or syringe use. In the United States, HIV is transmitted mainly by (CDC, 2020):

- Having anal or vaginal sex with someone infected with HIV without using condoms or without taking medications to treat or prevent HIV
  - For the partner who is HIV negative, receptive anal sex (bottoming) is the highest-risk sexual behavior. But the virus can also be transmitted via insertive anal sex (topping).
  - Either partner can get HIV through vaginal sex. However, it is less risky than receptive anal sex.
- Sharing needles or syringes, rinse water, or other equipment used to prepare injectable drugs with someone who has HIV

Evidence-based practice! HIV can live in a used needle for up to 42 days, depending on temperature and other factors (CDC, 2021b). This means that nurses and other healthcare professionals must educate persons who use, or who are at risk for using, injectable drugs about how long the HIV virus can live in a used syringe. They must also teach patients NOT to share syringes, needles, rinse water, and so on with any other person.

Only certain body fluids from a person infected with HIV can transmit the virus. These include (National Institute of Health Office of Aids Research, 2021; CDC, 2021b):

- Blood
- Semen
- Preseminal fluid
- Rectal fluids
- Vaginal fluids
- Breast milk

These fluids must meet a mucous membrane or damaged tissue or be directly injected into the bloodstream from a needle or syringe for transmission to occur. Mucous membranes are located inside the rectum, vagina, penis, and mouth (AIDSinfo, 2019a; CDC, 2021b).

Nursing Consideration: Some people (including some health care professionals) believe that HIV is transmitted in saliva. HIV is not spread through saliva. However, deep open- mouth kissing can spread the virus if both partners have sores or bleeding gums and blood from the person infected with HIV gets into the bloodstream of the non-infected person (CDC, 2021b). Nurses must educate patients and other health care colleagues that saliva does not harbor the virus, but HIV can be transmitted via blood in the mouths of partners during deep open-mouth kissing.

HIV is not transmitted through ordinary contact such as hugging, dancing, sharing dishes, closed-mouth kissing, or shaking hands. The virus cannot be transmitted through the air, water, by sharing toilets, food or drinks, or insect bites. The virus is not spread via saliva, tears, or sweat that is not mixed with HIV-infected blood (CDC, 2021b; Mayo Clinic, 2022).

Other less common documented ways that HIV has been spread include (CDC, 2021b; Mayo Clinic, 2022):

- Passing from mother to child during pregnancy or breastfeeding
- Being stuck with an HIV-contaminated needle or other sharp object
- During oral sex, although the risk is generally low, it increases if there are oral ulcers, bleeding gums, genital sores, or the presence of other sexually transmitted diseases (STDs), which may or may not be visible
- Receiving blood products that are contaminated with HIV
- Eating food that was pre-chewed by a person infected with HIV when blood from the person who is infected mixes with blood in the mouth of a person who is not infected Being bitten by a person infected with HIV if blood is transmitted into an open area on the skin of the person who is not infected
- During tattooing or body piercing if the equipment used has someone else's blood in it or if ink is shared; the risk is increased if the person performing the procedure is unlicensed
- During deep open mouth kissing when blood is exchanged

Evidence-based practice! Research shows that if someone has another sexually transmitted disease, they are at higher risk for becoming infected with HIV. Many STDs cause open genital sores, which can provide a pathway for the virus to enter the body. Research also shows that uncircumcised men are at greater risk for infection. Having multiple sexual partners can increase risk (Mayo Clinic, 2022). Nurses should know about all possible means of transmission and include this knowledge in their patient/family education endeavors.

NURSING INTERVENTIONS AND INTENT TO CHANGE PRACTICE

The nurse's role as an educator is very important as it pertains to transmission. Because patients, families, and the community in general need to know how HIV is transmitted, such education should be incorporated as part of patient education.

INCIDENCE, PREVALENCE, AND HIGH-RISK GROUPS: U.S. STATISTICS

According to the CDC (2022a), an estimated 1.1 million people in the U.S. had HIV at the end of 2019, the most recent year for which this information is available. Of those people, about 13% did not know they were infected with the virus.

In 2020, gay, bisexual, and other men who have sex with men accounted for 68% of all new HIV diagnoses in the U.S. and its six dependent areas. In 2020, heterosexual contact made up 22% of all HIV diagnoses (CDC, 2022a).

Blacks/African Americans are most affected by HIV. In 2020, this population accounted for 42% of all new HIV diagnoses. Hispanics/Latinos are also significantly affected by infection. They accounted for 27% of all new HIV diagnoses in 2020(CDC, 2022a).

A closer look at new HIV diagnoses, trends in the U.S. and its dependents (CDC, 2022a)

From 2015 to 2019, HIV diagnoses remained stable among Black/African American gay and bisexual men overall. HIV diagnoses among Black/African American gay and bisexual men varied by age.

- Ages 13–24: Decreased 15%
- Ages 25–34: Increased 6%
- Ages 35–44: Rates remained stable
- Ages 45–54: Decreased 21%
- Age 55 and older: Increased 6%

In 2019, heterosexual men accounted for seven percent of new HIV diagnoses, and heterosexual women accounted for 16%.

In 2019, people who inject drugs (PWID) accounted for seven percent of the 37,832 new HIV diagnoses. Men who inject drugs accounted for four percent of new HIV diagnoses, and women who inject drugs accounted for three percent of new HIV diagnoses.

In 2019, there were 15,815 deaths among adults and adolescents with diagnosed HIV in the U.S. These deaths, however, could have been due to any cause.

Florida statistics

Southern states accounted for more than half of the 34,800 new HIV diagnoses in 2019 (CDC, 2022a). In the South, 23% of new HIV cases were in suburban and rural areas. In other areas of the U.S., the majority of the people diagnosed with HIV live in urban areas. In the South, however, its larger and more geographically dispersed population of people living with HIV creates unique challenges for prevention and treatment (CDC, 2022b).

Florida has one of the highest rates of HIV infection in the U.S. There are an estimated 113,000 people living with HIV in Florida. Additional statistics regarding Florida data include (AIDSVu, 2022):

- People living with HIV by race as of 2019 were 44.3% Black; 25.4% Hispanic/Latino; 27.2% White.
- Percentage of people living with HIV by sex as of 2019 were 73% male: 27% female.
- The number of new HIV diagnoses in 2019 was 4,378.
- In 2019, there were 1,933 people with HIV who died.

In response to the prevalence of HIV infection, the state of Florida has implemented an amended HIV testing law for healthcare settings (Section 381.004, Florida Statutes). This amendment removed the need for separate informed consent prior to HIV testing in healthcare settings, creating an opt-out HIV testing model. There is a link to Florida Department of Health model protocols for HIV testing in healthcare and non-healthcare settings, which provides further details on HIV testing implementation. For further information, access http://flhealthsource.gov/files/Dear%20Colleague%20Letter.pdf (Florida Board of Nursing, 2017; Florida Health, 2017).

Evidence-based practice! The WHO (2021) recommends offering HIV testing to:

- Adults, adolescents, or children who present in clinical settings with signs and symptoms or medical conditions that could indicate HIV infection, including TB, viral hepatitis, and sexually transmitted infections.
- Children who are exposed to HIV and symptomatic infants and children.
- Key populations and their partners.
- All pregnant women.

Nursing interventions and intent to change practice

It is imperative that nurses understand the statistics as they pertain to HIV infection in the U.S. and in their respective geographic regions. They need to incorporate these data in their patient education, paying particular attention to high-risk groups.

INFECTIONS COMMON TO PEOPLE WITH HIV/AIDS

Nursing Consideration: There are a number of infections/complications that are common to people with HIV/AIDS. It is important for nurses to be aware of these infections/complications and prepared to provide nursing care and counseling if they develop.

Infections/complications common to people with HIV/AIDS include (Mayo Clinic, 2022; Merck Manual Professional Version, 2020; WebMD, 2021):

- Candidiasis: This inflammatory infection leads to a thick, white coating on mucous membranes of the mouth, tongue, esophagus, or vagina.
- Cervical cancer: In women infected with HIV, the prevalence of human papillomavirus (HPV) infection is increased. The incidence of cervical intraepithelial dysplasia is up to 60%. However, an increase in the incidence of cervical cancer has not been proved. But if cervical cancers do occur in women infected with HIV, they are more extensive, are harder to cure, and have higher recurrence rates after treatment.
- Cryptococcal meningitis: This type of meningitis is caused by a fungus found in soil.
- Cryptosporidiosis: This is caused by an intestinal parasite commonly found in animals, and it is ingested via contaminated food or water. The parasite grows in the

intestines and bile ducts, causing severe, chronic diarrhea in people with AIDS.
- Cytomegalovirus: This is a common herpes virus that is transmitted in body fluids such as saliva, blood, urine, semen, and breast milk. Inactivated by the body's immune system, it remains dormant unless the immune system weakens, allowing the virus to resurface and damage the eyes, lungs, or other organs.
- Herpes simplex: These are a group of viruses that can cause infectious sores around the mouth and on the genitals.
- Kaposi's sarcoma: This is a cancer of the blood vessel walls. It is rare in people who are not infected with HIV, and it is common in those infected with HIV. Men are three times more likely than women to develop this cancer.
- Mycobacterium ovium complex (MAC): This is a bacterial infection that can cause fevers, digestive problems, and serious weight loss.
- Non-Hodgkin lymphoma: The incidence of this cancer is 50 to 200 times higher in patients infected with HIV. Most cases are aggressive.
- Pneumocystitis pneumonia (PCP): PCP is a potentially deadly fungal lung infection.
- Primary CNS (central nervous system) lymphoma: The incidence of this lymphoma is increased in patients infected with HIV who have very low CD4 counts. These lymphomas originate in CNS tissue and have a poor prognosis.
- Progressive multifocal leukoencephalopathy (PML): PML is a virus that infects the brain.
- Squamous cell cancer of the anus and vulva: These cancers occur more often in patients infected with HIV. This increase is believed to be caused by both high-risk behaviors and immunosuppression by HIV.
- Toxoplasmosis: This is a possibly deadly infection caused by a parasite spread mainly by cats. Parasites are passed in the cat's stool and may spread to other animals and humans.
- Tuberculosis (TB): In poorer nations that lack adequate medical resources, TB is the most common opportunistic infection associated with HIV and is a leading cause of death among people with AIDS.

Nursing interventions and intent to change practice

It is imperative that nurses be familiar with infections that are common in patients infected with HIV, how to recognize them, and how to facilitate treatment. Practice can be changed to increase knowledge of these infections and how to effectively intervene when they occur.

STRATEGIES TO PREVENT HIV INFECTION: PREVENTION STRATEGIES FOR THE GENERAL PUBLIC

It is imperative that nurses take a leading role in educating the public about strategies to prevent HIV transmission. Here are some prevention recommendations that everyone should follow and that nurses should be sure to tell their patients about:

- Limit your number of sexual partners. The more sexual partners you have, the greater the risk of having a partner who is HIV-positive and whose disease is not well controlled or who has another sexually transmitted disease (STD). If you have more than one sexual partner, you should be tested regularly for HIV infection (AIDSinfo, 2019a).

Nursing Consideration: Some people still believe that HIV/AIDS is a disease that only affects people who are bisexual or homosexual. Nurses must be sure to teach patients that anyone, regardless of their sexual orientation, can become infected with HIV!

- Know your HIV status. Know the HIV status of your partner(s). Talk to your partner about HIV testing and get tested BEFORE you have sex (AIDSinfo, 2019a).
- Use a new condom every time you have sex. Use only water-based lubricants because oil-based lubricants can weaken condoms, making them more likely to break or tear. Women can use a female condom (Mayo Clinic, 2022).

Evidence-based practice! Research shows that inconsistent or nonuse of condoms can lead to STD acquisition. Studies that compare the rates of HIV infection between condom users and nonusers who have partners infected with HIV show that consistent condom use is highly effective in preventing HIV transmission. Nurses must teach patients about the correct use of condoms.

- Be sure to use condoms correctly. Here are some guidelines developed by the CDC (2014) for correct male condom use:
  - Use a latex condom.
  - Use a new condom for every act of vaginal, anal, and oral sex. The condom should be applied before any genital contact and worn throughout the entire sex act.
  - If the condom lacks a reservoir tip, pinch the tip, leaving about a half-inch space to collect semen. Holding the tip, unroll the condom all the way to the base of the erect penis.
  - After ejaculation and before the penis becomes soft, grip the rim of the condom and withdraw. Then pull the condom off the penis, being careful that the semen does not spill out.
  - Wrap the condom in a tissue and dispose of it in the trash where other people will not handle it.
  - If the condom breaks at any time during sexual activity, stop immediately, withdraw, remove the broken condom, and put on a new condom.
  - Ensure that there is adequate lubrication during vaginal and anal sex. Use water-based, not oil-based, lubricants.
- Avoid drinking alcohol and using other drugs, especially in unfamiliar surroundings. Alcohol and drug use can make you careless in your behavior, and it can make you vulnerable to being taken advantage of by others (WebMD, 2022).
- Get tested for STDs and get appropriate treatment if needed. Insist that sexual partners be tested and treated for STDs as well (Mayo Clinic, 2022).
- Do not inject drugs. If you do use drugs, use only sterile equipment and water. Never share equipment (e.g., cocaine spoons, needles, syringes, rinse water) with other people. Seek help to stop using drugs (National Institute of Health Office of Aids Research, 2021; Mayo Clinic, 2022).
- If you are pregnant or become pregnant, seek medical help immediately. Get tested for HIV and other STDs. You can pass diseases to your baby during pregnancy. If you are treated during pregnancy, you reduce your baby's risk of infection significantly (Mayo Clinic, 2022).

Another option for prevention of HIV infection is pre-exposure prophylaxis (PrEP). PrEP is NOT for everyone. The CDC recommends that PrEP be considered for people who are negative for HIV but are at substantial risk for HIV infection. PrEP is a powerful medication that consists of two medicines that are also used to treat HIV. PrEP is a prescription pill called Truvada, which contains two medications that are also used to treat HIV. The two medications are tTenofovir and eEmtricitabine. They work by blocking pathways that HIV uses to establish an infection. It is imperative that PrEP be taken daily to make sure that the level of medication in the bloodstream is consistent. If Truvada is not taken daily, there may not be enough medication to effectively stop the virus from causing infection (HHS, 2022).

Combining this drug with condom use and other prevention methods can be a powerful prevention strategy (CDC, 2022b). People who are good candidates for PrEP include anyone who (U.S. Department of Health & Human Services [HHS], 2022):

- Is in an ongoing relationship with an HIV-infected partner

- Is not in a mutually monogamous relationship with a partner who recently tested HIV- negative and is a:
  - Gay or bisexual man or woman who has had sex without a condom or been diagnosed with a sexually transmitted infection (STI) within the past six months
  - Man, who has sex with both men and women
  - Heterosexual man or woman who does not regularly use condoms when having sex with partners known to be at risk for HIV or whose HIV status is unknown
- Has, within the past six months, injected illicit drugs and shared equipment or been in a treatment program for injection drug use

Nursing Consideration: PrEP is not guaranteed to be 100% effective. Therefore, PrEP should be used in conjunction with the other previously described prevention strategies (HHS, 2022).

Evidence-based practice! Research indicates that PrEP may reduce the risk of HIV infection by more than 90% if consistently taken according to the prescriber's instructions compared to those people who did not take the medication (HHS, 2022). Thus, when working with people who are taking PrEP, nurses must stress the importance of taking the medication daily as prescribed and of implementing other HIV prevention strategies as well.

For those who qualify for PrEP, the Ready, Set, PrEP program may provide free access to daily oral PrEP medications to people who qualify. Criteria for this program includes (HHS, 2022):

- Lack of health insurance coverage for prescription drugs Negative result on HIV test
- Prescription for PrEP
- Living in the U.S., including tribal lands and territories

The program may be accessed by visiting https://www.readysetprep.hiv.gov or calling toll- free (855) 447-8410.

Another available prevention measure is using PrEP using the dapivirine vaginal ring. It offers additional prevention to women who are at a high risk of transmission, along with other preventative measures (WHO, 2021).

PREVENTION STRATEGIES FOR HEALTH CARE WORKERS

A sharp injury is a matter of concern for any health care worker. Fortunately, occupational transmission of HIV to healthcare workers is very rare. According to CDC data, only 58 cases of confirmed occupational transmission of HIV to healthcare workers have occurred in the U.S. An additional 150 possible transmissions have also been reported to the CDC (CDC, 2019).

According to the CDC (2019), the risk of occupational HIV transmission varies by the type of exposure and is associated with the following:

- Splashes with body fluids: Near zero, even if the fluids have blood in them
- Fluid splashes to intact skin or mucous membranes: Extremely low risk, even if blood is involved
- Percutaneous (needle-stick injury): Less than one percent

The CDC stresses that Standard Precautions must be followed at all times to prevent occupational HIV transmission. It also recommends (2019):

- Using gloves, goggles, and other barriers when anticipating contact with blood or body fluids.
- Washing hands and other skin surfaces immediately after contact with blood or body fluids.
- Using caution when handling and disposing of sharp instruments before and after use.
- Using safety devices to prevent needle-stick injuries.
- Disposing of used syringes or other sharp instruments in a sharp's container.

If health care workers experience an HIV exposure at work they should immediately (CDC, 2016):

- Wash needlesticks and cuts with soap and water.
- Flush splashes to the nose, mouth, or skin with water.
- Irrigate eyes with clean water, saline, or sterile irrigants.
- Report the incident to a supervisor.
- Seek medical treatment.

Post Exposure prophylaxis (PEP) is important to initiate as soon as possible. PEP involves preventing infection by taking antiretroviral medications (ART) after being potentially exposed to HIV. PEP should be used only in emergency situations and must be started within 72 hours of a recent possible exposure to HIV (CDC, 2021a). PEP is most effective if taken within 24 hours of exposure. PEP is not taken (Avert, 2022):

- If the person is already infected with HIV.
- To prevent pregnancy or other STIs.
- As a regular form of HIV prevention.

DIAGNOSIS AND TREATMENT: DIAGNOSIS

Diagnosis of HIV infection can be made via rapid diagnostic tests that provide same-day results. People can also use HIV self-tests to test themselves for infection. However, no single test can confirm a definitive HIV diagnosis. A confirmatory test is required and must be conducted by a qualified and validated health care worker at a community center or clinic (World Health Organization [WHO], 2022).

Additional key points about HIV diagnosis include (WHO, 2022):

- In most cases, people develop antibodies to HIV within 28 days of infection.
- During the 28-day period, HIV antibodies may not have been produced yet, and if they have, they may not cause any signs of infection. However, the individual may still be able to transmit HIV to other people.
- Following a positive diagnosis, people should be retested before they are enrolled in treatment in order to rule out any testing error. If a person diagnosed with HIV has started treatment, they should not be retested.
- WHO recommends that HIV partner notification services be used to reach partners of persons infected with HIV.

WHO (2022) recommends that all HIV testing services follow the "5 C's":

- Informed consent
- Confidentiality
- Counseling
- Correct test results
- Connection (linkage to care, treatment, and other services)

Nursing Consideration: For children less than 18 months of age, serological testing is not sufficient to identify HIV infection. Virological tests must be provided as early as six weeks of age (WHO, 2022).

TREATMENT

Although there is no cure for HIV/AIDS, there are different drugs available to control the virus. Treatment is referred to as antiretroviral therapy or ART. (When ART is used to prevent HIV transmission, it is called treatment as prevention (TasP), which is often known as undetectable = untransmittable or U = U). Prior to treatment, it is important to determine the stage of the disease and identify the best treatment. These include (Mayo Clinic, 2022):

- CD4 T cell count. HIV infection progresses to AIDS when the CD4 T cell count dips below 200.
- Viral load (HIV RNA): Indicates the amount of virus in the blood. A higher viral load is linked to a worse outcome.
- Drug resistance: Some strains of HIV are resistant to medications. Testing for drug resistance helps to identify the specific form of the virus and guides treatment decisions.
- The presence of complications: Patients are tested for the presence of complications and how to treat them.

As of this writing, the Food and Drug Administration (FDA) has approved the following HIV medicines (U.S. Department of Health & Human Services, 2022):

- Nucleoside reverse transcriptase inhibitors (NRTIs): These drugs block reverse transcriptase, an enzyme needed by the virus to make copies of itself (examples: Abacavir, Emtricitabine, Lamivudine, and Tenofovir Disoproxil Fumarate).
- Non-nucleoside reverse transcriptase inhibitors (NNRTIs): These medications bind to and later alter reverse transcriptase (examples: Doravirine, Etravirine, Nevirapine, and Rilpivrine).
- Protease inhibitors (PIs): PIs block HIV protease, an enzyme required for HIV to make copies of itself (examples: Atazanavir, Darunavir, Fosamprenavir, Ritonavir, Saquinavir, and Tipanavir).
- Fusion inhibitors: These drugs block HIV from entering the CD4 cells of the immune system (example: Enfuvirtide).
- CCR5 antagonists: CCR5 antagonists block CCR5 coreceptors on the surface of certain immune cells that HIV needs to enter cells (example: Maraviroc).
- Integrase inhibitors: These medications block HIV integrase, an enzyme required for HIV to make copies of itself (examples: Dolutegravir and Raltegravir).
- Post-attachment inhibitors: These drugs block CD4 receptors on the surface of certain immune cells that HIV needs to enter the cells (example: Ibalizumab-uiyk).
- Pharmacokinetic enhancers: These drugs are used to increase the effectiveness of an HIV medicine included in an HIV regimen (example: Cobicistat).
- Combination HIV medicines: Combination medicines contain two or more HIV medicines from one or more drug classes (examples: Abacavir and Lamivudine; Abacavir, Dolutegravir, and Lamivudine; and Abacavir, Lamivudine, and Zidovudine). There are a large number of combinations. The goal of ART is to reduce the viral load to a level that is undetectable. In other words, the goal is to decrease the level of HIV in the patient's blood to one that is too low to be detected by a viral load test. If this happens, it means that the ART is effective (AIDSinfo, 2019b).

Nursing Consideration: Achieving an undetectable viral load does not mean that the person is cured of HIV. Effective ART helps patients with HIV to live longer, healthier lives, and it lowers the risk of HIV transmission.

Although no vaccine is currently recommended for the population at large, clinical trials of vaccines are ongoing. The HIV Vaccine Trials Network (HVTN) recently reported research findings that demonstrated anti-HIV antibody responses within six weeks of initial HIV vaccination. Although more studies are necessary, these results are encouraging (HVTN, 2019).

Nursing interventions and intent to change practice

Education must be provided not only for patients and families but for health care workers as well. Nurses are in key positions to take the lead in such education, which can facilitate diagnosis, treatment, and—hopefully—increased prevention. The state of nursing practice should be evaluated on the thoroughness and effectiveness of education regarding prevention and what to do if exposure occurs.

As nurses facilitate treatment, it is important to be able to answer the following questions (National Institute of Health Office of Aids Research, 2021):

- Are there other coexisting diseases or conditions in addition to the HIV infection?
- What are the side effects associated with ART? How well can patients cope with possible side effects? Do the patients have support systems (e.g., family, friends) that will help them deal with treatment adherence?
- What are the results of drug-resistance testing? Do the results of such testing indicate that the patients are resistant to certain HIV medications?
- How convenient are the proposed HIV regimens?
- What issues in the patients' lives have the potential to make it more difficult for them to adhere to an HIV regimen?
- Is cost a factor? Do the patients have insurance that will cover the cost of the medications? Do they need financial assistance?

In summary, it is imperative that nurses maintain up-to-date knowledge of the status of HIV treatment, transmission modes, and infection incidence and prevalence information. They are essential providers of patient/family education and emotional support for persons coping with a lifelong (and life-threatening) disease that cannot be cured.

References

- AIDSVu. (2022). Local data: Florida. https://aidsvu.org/local-data/united- states/south/florida/#hiv-prevalence
- Avert. (2022). Emergency HIV treatment. https://www.beintheknow.org/hiv-and-stis/hiv-prevention/emergency-hiv-prevention-post-exposure-prophylaxis
- Centers for Disease Control and Prevention (CDC). (2014). Condom fact sheet in brief. https://npin.cdc.gov/publication/condom-fact-sheet-brief
- Centers for Disease Control and Prevention (CDC). (2016). Emergency sharps information. https://www.cdc.gov/niosh/topics/bbp/emergnedl.html
- Centers for Disease Control and Prevention (CDC). (2019). HIV and occupational exposure. https://www.cdc.gov/hiv/workplace/healthcareworkers.html
- Centers for Disease Control and Prevention (CDC). (2020). HIV transmission. https://www.cdc.gov/hiv/basics/transmission.html
- Centers for Disease Control and Prevention (CDC). (2021a). HIV in the United States: At a glance. https://www.cdc.gov/hiv/statistics/overview/ataglance.html
- Centers for Disease Control and Prevention (CDC). (2021). PEP. https://www.cdc.gov/hiv/basics/pep.html
- Centers for Disease Control and Prevention (CDC). (2022a). HIV: Basic statistics. https://www.cdc.gov/hiv/basics/statistics.html
- Centers for Disease Control and Prevention (CDC). (2022b). HIV in the United States by region. https://www.cdc.gov/hiv/statistics/overview/geographicdistribution.html Florida Board of Nursing. (2017). News about HIV testing. http://floridasnursing.gov/latest-news/news-about-hiv-testing/
- Florida Health. (2017). Model protocol for HIV counseling and testing in non-health care settings. https://www.flrules.org/gateway/readRefFile.asp? refId=9329&filename=Model%20Protocol%20Testing%20Non- HC%20Setting_6.30.17%20%7Bno%20link%7D.pdf
- HIV.gov. (2021). Global statistics. https://www.hiv.gov/hiv-basics/overview/data-and- trends/global-statistics
- HIV.gov. (2022). What are HIV and AIDS? https://www.hiv.gov/hiv- basics/overview/about-hiv-and-aids/what-are-hiv-and-aids
- HIV Vaccine Trials Network (HVTN). (2019). HVTN study demonstrates anti-HIV antibody responses within 6 weeks of initial HIV vaccination. https://www.hvtn.org/news/news-releases/2019/10/ hvtn-study-demonstrates-anti-hiv- antibody-responses-within-6-wee.html
- Mayo Clinic. (2022). HIV/AIDS. https://www.mayoclinic.org/diseases-conditions/hiv- aids/symptoms-causes/syc-20373524
- Merck Manual Professional Version. (2020). Cancers common in HIV-infected patients. National Institute of Health Office of Aids Research. (2021). HIV prevention. https://hivinfo.nih.gov/understanding-hiv/fact-sheets/basics-hiv-prevention
- U.S. Department of Health & Human Services [HHS] (2022). Pre-exposure prophylaxis. https://www.hiv.gov/hiv-basics/hiv-prevention/using-hiv-medication-to- reduce-risk/pre-exposure-prophylaxis
- WebMD. (2021). What opportunistic infections do you get with HIV? https://www.webmd.com/hiv-aids/guide/aids-hiv-opportunistic-infections-stay- healthier#1
- WebMD. (2022). How can you prevent an HIV infection? https://www.webmd.com/hiv- aids/understanding-aids-hiv-prevention#1
- World Health Organization (WHO). (2022). *HIV/AIDS*. https://www.who.int/news- room/fact-sheets/detail/hiv-aids
- World Population Review. (2022). *HIV statistics by state 2022*.
- https://worldpopulationreview.com/state-rankings/hiv-statistics-by-state

Chapter 7: Infection Control: Standards for Nursing Practice

8 Contact Hours

Learning objectives

Upon completion of this course, the student will master the following objectives:

- Define terminology related to infection prevention and control.
- Discuss the process of infectious disease, including the source of infectious agents, modes of transmission, host susceptibility, and stages of infection.
- Discuss common healthcare-associated infections, including risk factors for development of these infections, and organisms causing these infections.
- Discuss the term multiple drug-resistant organism, including the effect of these infectious agents on infection prevention and control.
- Outline types of bloodborne pathogens and how they spread in healthcare settings.
- Discuss the role of national agencies in maintaining public health and security.
- Describe how infection control prevention concepts are applied in professional practice.
- Discuss immunization programs in place in the United States and the role these programs play in infection prevention and control.

Introduction

Healthcare-associated infection causes increasing healthcare costs, as well as significant morbidity and mortality. According to the Centers for Disease Control and Prevention, about one in every twenty-five patients has an infection related to their hospital care [22]. In 2011, an estimated 75,000 patients died during hospitalization due to healthcare-associated infections [22]. In the same year, an estimated **722,000** healthcare-associated infections were reported in United States acute care hospitals [22].

In efforts to decrease the numbers of healthcare-associated infections, the Centers for Disease Control and Prevention established partnerships with public health agencies to create measurable targets that correlate with specific areas of the Healthy People 2020 objectives. One such area addresses healthcare-associated infections and describes target measures to reduce central line-associated bloodstream infections and invasive healthcare-associated methicillin-resistant Staphylococcus aureus infections [21].

Healthcare providers must understand and be vigilant about the prevention of infection and the control of infectious diseases. Hand hygiene campaigns and an emphasis on infection control education with required updates have been implemented in all types of healthcare settings. It is critical that all healthcare providers implement the most current standards in accordance with national, state, and agency guidelines.

This Infection Prevention and Control course provides content important to healthcare providers, specifically nurses, working in all healthcare settings. The content provided includes the following:

- An overview of terminology related to the topic.
- Discussion of the infectious disease process.
- Descriptions of common healthcare-associated infections.
- Discussions related to drug resistant organisms and bloodborne pathogens.
- Discussions related to the role of national agencies.
- Descriptions of infection control prevention in practice settings.
- Discussion of immunization programs for the public and healthcare providers.

Nurses completing this course will find a succinct synthesis of data from national publications. In addition, multiple resources that provide expanded content are listed. Nurses should uses these resources to stay current with updates to specific guidelines, as changes are made based on research findings and practice standards.

Terminology

Healthcare providers must be familiar with terminology specific to infection prevention and control. The following section provides definitions for terminology related to content within this course.

- **Airborne infection isolation room (AIIR):** Formerly, negative pressure isolation room, an AIIR is a single-occupancy patient-care room used to isolate persons with a suspected or confirmed airborne infectious disease [6].
- **Airborne precautions:** A set of practices used to prevent transmission of infectious agents that remain infectious over long distances when suspended in the air [6].
- **Antibody:** Immunoglobulin produced by the body in response to a specific antigen [19].
- **Antigen:** Foreign material capable of inducing a specific immune response [19].
- **Antimicrobial:** Antibacterial agent that kills bacteria or suppresses their growth [4].
- **Antiseptic:** Substance that prevents or arrests the growth or action of microorganisms by inhibiting their activity or by destroying them [4].
- **Asymptomatic:** An absence of symptoms or signs of illness in an infected person, often called a carrier [19].
- **Bacteremia:** Laboratory-confirmed presence of bacteria in the bloodstream [1].
- **Bacteria:** These single-cell organisms are the most significant and most commonly observed infection-causing agents [19].
- **Bloodborne pathogens:** Microorganisms in blood that can cause illness in humans [24].
- **Carrier:** Person who has an organism but lacks apparent signs and symptoms; one who is able to transmit an infection to others [19].
- **Colonization:** Proliferation of microorganisms on or within body sites without detectable host immune response, cellular damage, or clinical expression; colonization and carriage are synonymous [6].
- **Cohorting:** The practice of grouping patients infected or colonized with the same infectious agent together to confine their care to one area and prevent contact with susceptible patients (cohorting patients) [14].
- **Common vehicle:** A contaminated material, product, or substance that serves as an intermediate means by which an infectious agent is introduced into a susceptible host through a suitable portal of entry [16].
- **Contact precautions:** A set of practices used to prevent transmission of infectious agents that are spread by direct or

indirect contact with the patient or the patient's environment [6].

- **Convalescent period:** The period during which recovery from an illness occurs [16].
- **Disinfection:** Process used to destroy microorganisms; destroys all pathogenic organisms except spores [4].
- **Droplet precautions:** A set of practices intended to prevent transmission of pathogens spread through close respiratory or mucous membrane contact with respiratory secretions [6].
- **Droplet nuclei:** Microscopic particles < 5 µm in size that are the residue of evaporated droplets and are produced when a person coughs, sneezes, shouts, or sings [6].
- **Endemic:** Something that occurs with predictability in one specific region or population and can appear in a different geographical location [16].
- **Endogenous:** Infection in which the causative organism comes from microbial life harbored within the person [16].
- **Engineering controls:** Removal or isolation of a workplace hazard through technology; AIIRs, a Protective Environment, engineered sharps injury prevention devices and sharps containers are examples of engineering controls [6].
- **Exogenous:** Infection in which the causative organism is acquired from outside the host [16].
- **Fomite:** An inanimate object, such as a stethoscope, sphygmomanometer, dish, doorknob, toilet seat, or an article of clothing that may be contaminated with infectious organisms and serve in their transmission [6].
- **Full stage of illness:** The presence of specific signs and symptoms related to a disease process [16].
- **Fungi:** Plant-like organisms (molds and yeasts) that can cause infection [16].
- **Hand hygiene:** A general term that applies to any one of the following: 1) handwashing with plain (non-antimicrobial) soap and water); 2) antiseptic hand wash (soap containing antiseptic agents and water); 3) antiseptic hand rub (waterless antiseptic product, most often alcohol-based, rubbed on all surfaces of hands); or 4) surgical hand antisepsis (antiseptic hand wash or antiseptic hand rub performed preoperatively by surgical personnel to eliminate transient hand flora and reduce resident hand flora) [14].
- **Healthcare-associated infection (HAI):** An infection that was not present on admission to a healthcare institution and develops during the course of treatment for other conditions; this term has replaced the term nosocomial infection [14].
- **Host:** Animal or person on or within which microorganisms live [16].
- **Immune:** Person with protection from a previous infection or vaccination who resists reinfection when re-exposed to the same agent [10].
- **Incubation period:** The time from the moment of exposure to an infectious agent until signs and symptoms of the disease appear [16].
- **Infection:** The transmission of microorganisms into a host after evading or overcoming defense mechanisms, resulting in the organism's proliferation and invasion within host tissue(s) [6].
- **Infection prevention and control program:** A multidisciplinary program that includes a group of activities to ensure that recommended practices for the prevention of healthcare-associated infections are implemented and followed by healthcare personnel, making the healthcare setting safe from infection for patients and healthcare personnel [14].
- **Infectious disease:** The consequences that result from invasion of the body by microorganisms that can produce harm to the body and potentially death [16].
- **Isolation:** Protective procedure designed to prevent the transmission of specific microorganisms; also called *p*rotective aseptic techniques and barrier techniques [6].
- **Methicillin-resistant Staphylococcus aureus (MRSA):** Staphylococcus aureus bacterium that is not susceptible to extended-penicillin antibiotic formulas, such as methicillin, oxacillin, or nafcillin; MRSA may occur in a healthcare or community setting [1].
- **Multidrug-resistant organisms (MDROs):** In general, bacteria (excluding M. tuberculosis) that are resistant to one or more classes of antimicrobial agents and usually are resistant to all but one or two commercially available antimicrobial agents [14].
- **Normal flora:** Persistent nonpathogenic organisms colonizing a host [16].
- **Parasites:** Organism that lives on or in a host and relies on it for nourishment [16].
- **Pathogen or infectious agent:** A biological, physical, or chemical entity capable of causing disease; biological agents may be bacteria, viruses, fungi, protozoa, helminthes, or prions; synonymous with the terms causative agent and etiologic agent [19].
- **Personal protective equipment (PPE):** A variety of barriers used alone or in combination to protect mucous membranes, skin, and clothing from contact with infectious agents. PPE includes gloves, masks, respirators, goggles, face shields, and gowns [6].
- **Portal of entry:** The path(s) by which an infectious agent enters the susceptible host, including eyes, nose, ears, mouth, breaks in the skin, needle pricks, wounds, injury, surgery, and intravenous sites [16].
- **Portal of exit:** The path(s) by which an infectious agent leaves the reservoir [16].
- **Prion:** A small infectious agent that is neither bacterial, fungal, nor viral and contains no genetic material [4].
- **Prodromal stage:** The period of early symptoms of a disease occurring after the incubation period and just before the appearance of the characteristic symptoms of the disease [16].
- **Reservoir:** A source of an infectious agent which may be a person, animal, plant, soil, substance, or combination of these, where a causative agent survives and multiplies in sufficient amounts to be transmitted to a new host [16].
- **Respiratory hygiene/cough etiquette:** A combination of measures designed to minimize the transmission of respiratory pathogens via droplet or airborne routes in healthcare settings [6].
- **Standard precautions:** A set of infection prevention guidelines that combine the major features of Universal Precautions and Body Substance Isolation guidelines and are based on the principle that all blood, body fluids, secretions, excretions (except sweat), nonintact skin, and mucous membranes may contain transmissible infectious agents [14].
- **Sterilization:** The process by which all microorganisms, including spores, are destroyed [4].
- **Susceptible host:** A person or animal not possessing sufficient resistance to a particular infectious agent to prevent contracting infection or disease when exposed to the agent [16].
- **Transmission:** Any mechanism by which a pathogen is spread by a source or reservoir to a person [16].
- **Transmission-based precautions:** Precautions used in patients known or suspected to be infected with pathogens that can be transmitted by airborne, droplet, or contact routes; used in addition to standard precautions [6].
- **Vaccination:** Suspensions of antigen preparations intended to produce a human immune response to protect the host from future encounters with the organism [10].
- **Vancomycin-resistant Enterococcus (VRE):** Enterococcus bacterium that is resistant to the antibiotic vancomycin [1].
- **Vancomycin-resistant Staphylococcus aureus (VRSA):** Staphylococcus aureus bacterium that is not susceptible to vancomycin [1].
- **Vector:** Nonhuman carriers such as mosquitoes, ticks, and lice that transmit organisms from one host to another [16].
- **Virulence:** Degree of pathogenicity of an organism [16].
- **Virus:** Smallest of all microorganisms; can be seen only by using an electron microscope [16].

The infectious disease process

Infectious diseases are caused by pathogenic microorganisms, commonly called germs, which include prions, viruses, bacteria, fungi, and parasites. These germs can be transmitted directly from person to person; from animal to person; or from mother to unborn child, or indirectly, when a person touches an object that contains germs. Once germs are transmitted to a susceptible host, infection can occur. The infectious disease process requires three elements: a source, or reservoir, of infectious agents; a mode of transmission for the agent(s); and a susceptible host with a receptive portal of entry [16].

Sources of infectious agents

Infectious agents present in healthcare settings are transmitted primarily from human sources, but are also present on inanimate environmental sources. Human reservoirs include patients, healthcare personnel, and family members or other visitors. Individuals may have active infections, may be in the asymptomatic or incubation period of an infectious disease, or may be transiently or chronically colonized with pathogenic microorganisms, particularly in the respiratory and gastrointestinal tracts. The endogenous flora of patients (e.g., bacteria residing in the respiratory or gastrointestinal tract) are also a source of healthcare-associated infections [16].

Modes of transmission

Several classes of pathogens can cause infection, including bacteria, bacterial spores, viruses, fungi, protozoa, parasites, and prions. The modes of transmission vary by type of organism and some infectious agents may be transmitted by more than one route. Importantly, not all infectious agents transmit from person to person. The three principal routes of transmission are contact, a common vehicle, and vector borne [16].

The most common mode of transmission, contact transmission, is divided into two subgroups: direct contact and indirect contact. Direct contact transmission occurs when microorganisms transfer from one infected person to another person without a contaminated intermediate object or person. Examples of infections transmitted via this route include the following [5] (specific microorganisms causing these infections are discussed in a later section of this course):

- Conjunctivitis.
- Cytomegalovirus.
- Diphtheria.
- Gastroenteritis.
- Hepatitis A.
- Hepatitis B.
- Hepatitis C.
- Herpes simplex.
- Human immunodeficiency virus (HIV).
- Measles.
- Meningococcal disease.
- Mumps.
- Parvovirus.
- Pertussis.
- Poliomyelitis.
- Rabies.
- Rubella.
- Scabies and pediculosis.
- Staphylococcal infection or carriage.
- Group A streptococcus infections.
- Tuberculosis.
- Vaccinia.
- Varicella.
- Viral respiratory infections.

Indirect contact transmission involves the transfer of an infectious agent through a contaminated intermediate object or person. Examples of opportunities for indirect contact transmission by healthcare providers include [6]:

- Hands of healthcare personnel may transmit pathogens after touching an infected or colonized body site on one patient or a contaminated inanimate object, if hand hygiene is not performed before touching another patient.
- Patient care devices (electronic thermometers, glucose-monitoring devices) may transmit pathogens if devices contaminated with blood or body fluids are shared between patients without cleaning and disinfecting between patients.
- Shared toys may become a vehicle for transmitting respiratory viruses among pediatric patients.
- Instruments that are inadequately cleaned between patients before disinfection or sterilization (endoscopes or surgical instruments) or that have manufacturing defects that interfere with the effectiveness of reprocessing may transmit bacterial and viral pathogens.
- Clothing, uniforms, laboratory coats, or isolation gowns used as personal protective equipment (PPE), may become contaminated with potential pathogens after care of a patient colonized or infected with an infectious agent. Although contaminated clothing has not been implicated directly in transmission, the potential exists for soiled garments to transfer infectious agents to successive patients.

The transmission of healthcare-associated pathogens from one patient to another via the hands of healthcare providers requires the following sequence of events [6]:

- Organisms present on the patient's skin, or that have been shed onto inanimate objects in close proximity to the patient, must be transferred to the hands of healthcare providers. Healthcare equipment, supplies, or surfaces can become contaminated with pathogens and become a fomite, or an inanimate object contaminated with infectious organisms.
- These organisms must then be capable of surviving for at least several minutes on the hands of personnel.
- Next, handwashing or hand antisepsis by the worker must be inadequate or omitted entirely, or the agent used for hand hygiene must be inappropriate.
- Finally, the contaminated hands of the caregiver must come in direct contact with another patient, or with an inanimate object that will come into direct contact with the patient.

Extensive evidence cited in the 2002 document "Guideline for Hand Hygiene in Health Care Settings" [7] published from the Centers for Disease Control and Prevention and outlined below, suggests that the contaminated hands of healthcare personnel are contributors to indirect contact transmission of agents capable of producing infection. This section mentions previously undiscussed microorganisms, and a later section provides an overview of healthcare-associated infections and the agents causing these infections.

> "Several investigators have studied transmission of infectious agents by using different experimental models. In one study, nurses were asked to touch the groins of patients heavily colonized with gram-negative bacilli for 15 seconds – as though they were taking a femoral pulse. Nurses then cleaned their hands by washing with plain soap and water or by using an alcohol hand rinse. After cleaning their hands, they touched a piece of urinary catheter material with their fingers, and the catheter segment was cultured. The study revealed that touching intact areas of moist skin of the patient transferred enough organisms to the nurses' hands to result in subsequent transmission to catheter material, despite handwashing with plain soap and water.
>
> The transmission of organisms from artificially contaminated "donor" fabrics to clean "recipient" fabrics via hand contact also has been studied. Results indicated that the number of organisms transmitted was greater if the donor fabric or the hands were wet upon contact. Overall, only 0.06 percent of the organisms obtained from the contaminated donor fabric were transferred to recipient fabric via hand contact. Staphylococcus saprophyticus, Pseudomonas aeruginosa, and Serratia spp. were also transferred in greater numbers than was Escherichia coli from contaminated fabric to clean fabric after hand contact. Organisms are transferred to various types of surfaces in much larger numbers (i.e., >104) from wet hands than from hands that are thoroughly dried.

Hand antisepsis reduces the incidence of health care-associated infections. An intervention trial using historical controls demonstrated in 1847 that the mortality rate among mothers who delivered in the First Obstetrics Clinic at the General Hospital of Vienna was substantially lower when hospital staff cleaned their hands with an antiseptic agent than when they washed their hands with plain soap and water. In the 1960s, a prospective, controlled trial sponsored by the National Institutes of Health and the Office of the Surgeon General demonstrated that infants cared for by nurses who did not wash their hands after handling an index infant colonized with S. aureus acquired the organism more often and more rapidly than did infants cared for by nurses who used hexachlorophene to clean their hands between infant contact. This trial provided evidence that, when compared with no handwashing, washing hands with an antiseptic agent between patient contacts reduces transmission of health care-associated pathogens.

Trials have studied the effects of handwashing with plain soap and water versus some form of hand antisepsis on health care-associated infection rates. Healthcare-associated infection rates were lower when antiseptic handwashing was performed by personnel. In another study, antiseptic handwashing was associated with lower health care-associated infection rates in certain intensive-care units, but not in others.

Health care-associated infection rates were lower after antiseptic handwashing using a chlorhexidine-containing detergent compared with handwashing with plain soap or use of an alcohol-based hand rinse. However, because only a minimal amount of the alcohol rinse was used during periods when the combination regimen also was in use and because adherence to policies was higher when chlorhexidine was available, determining which factor (i.e., the hand-hygiene regimen or differences in adherence) accounted for the lower infection rates was difficult. Investigators have determined also that health care-associated acquisition of MRSA was reduced when the antimicrobial soap used for hygienic handwashing was changed.

Increased handwashing frequency among hospital staff has been associated with decreased transmission of Klebsiella spp. among patients; these studies, however, did not quantitate the level of handwashing among personnel. In a recent study, the acquisition of various health care-associated pathogens was reduced when hand antisepsis was performed more frequently by hospital personnel; both this study and another documented that the prevalence of health care-associated infections decreased as adherence to recommended hand-hygiene measures improved.

Outbreak investigations have indicated an association between infections and understaffing or overcrowding; the association was consistently linked with poor adherence to hand hygiene. During an outbreak investigation of risk factors for central venous catheter-associated bloodstream infections, after adjustment for confounding factors, the patient-to-nurse ratio remained an independent risk factor for bloodstream infection, indicating that nursing staff reduction below a critical threshold may have contributed to this outbreak by jeopardizing adequate catheter care. The understaffing of nurses can facilitate the spread of MRSA in intensive-care settings through relaxed attention to basic control measures (e.g., hand hygiene). In an outbreak of Enterobacter cloacae in a neonatal intensive-care unit, the daily number of hospitalized children was above the maximum capacity of the unit, resulting in an available space per child below current recommendations. In parallel, the number of staff members on duty was substantially less than the number necessitated by the workload, which also resulted in relaxed attention to basic infection-control measures. Adherence to hand-hygiene practices before device contact was only 25 percent during the workload peak, but increased to 70 percent after the end of the understaffing and overcrowding period. Surveillance documented that being hospitalized during this period was associated with a fourfold increased risk of acquiring a healthcare-associated infection. This study not only demonstrates the association between workload and infections, but it also highlights the intermediate cause of antimicrobial spread: poor adherence to hand-hygiene policies."

Adapted from Centers for Disease Control and Prevention (2002).

Evidence-based practice! Research shows that the contaminated hands of healthcare personnel are contributors to indirect contact transmission of agents capable of producing infection. The implementation of stringent hand hygiene practices is of utmost importance to prevent the transmission of infectious agents to patients receiving care in healthcare settings [7].

Guideline for hand hygiene in healthcare settings. Retrieved from http://www.cdc.gov/mmwr/PDF/rr/rr5116.pdf [7].

Droplet transmission is a form of contact transmission, and the direct and indirect contact routes may transmit some infectious agents this way. However, in contrast to contact transmission, respiratory droplets carrying infectious pathogens transmit infection when they travel directly from the respiratory tract of the infectious individual to susceptible mucosal surfaces of the recipient, generally over short distances, necessitating facial protection. Respiratory droplets are generated when an infected person coughs, sneezes, or talks during procedures such as suctioning, endotracheal intubation, cough induction by chest physiotherapy, and cardiopulmonary resuscitation. Evidence for droplet transmission comes from epidemiological studies of disease outbreaks, experimental studies and from information on aerosol dynamics. Studies have shown that the nasal mucosa, conjunctivae, and, less frequently, the mouth, are susceptible portals of entry for respiratory viruses [16].

Airborne transmission, also a form of contact transmission, occurs by dissemination of either airborne droplet nuclei or small particles in the respirable size range containing infectious agents that remain infective over time and distance. Microorganisms carried in this manner may be dispersed over long distances by air currents and may be inhaled by susceptible individuals who have not had face-to-face contact with, or been in the same room with, the infectious individual [16].

Common vehicle transmission of infection occurs from sources other than infectious individuals, and includes common environmental sources or vehicles such as contaminated food, water, medications, or intravenous fluids. Vector-borne transmission of infection occurs from sources other than infectious individuals or environmental sources, such as mosquitoes, flies, rats, and other vermin [16].

Numerous factors influence differences in transmission risks including host factors, environmental factors, and pathogen or infectious agent factors. Host and environmental factors include the population characteristics, intensity of care, exposure to environmental sources, length of stay, and frequency of interaction between patients with each other and with healthcare personnel. Pathogens or infectious agent factors include variances in degrees of infectivity, pathogenicity, size of inoculums, route of exposure, and duration of exposure [16].

Host susceptibility [16]

Infection is the result of a complex interrelationship between a potential host and an infectious agent. Most of the factors that influence infection and the occurrence and severity of disease relate to the host. However, characteristics of the host-agent interaction as it relates to pathogenicity, virulence, and anti-genicity are also important, as are the infectious dose, mechanisms of disease production, and route of exposure.

There is a spectrum of possible outcomes following exposure to an infectious agent. Some people who are exposed to pathogenic microorganisms never develop symptomatic disease, while others become severely ill and even die. Some individuals are prone to becoming transiently or permanently colonized but remain asymptomatic. Still others progress from colonization to symptomatic disease either immediately following exposure or after a period of asymptomatic colonization. The immune state at the time of exposure to an infectious agent, interaction between pathogens and virulence factors intrinsic to the agent are important predictors of an individual's outcome.

Some hosts are more naturally resistant to infection because of stronger immune systems and more secure barriers to infection, such as healthy, intact skin, and mucous membranes. Humans are protected by mechanisms such as cilia (hair-like tendrils in the nose that filter inhaled air and trap microorganisms) and the acidic pH of the digestive tract, urinary tract, or vaginal area, which promotes a healthy balance of bodily flora and fauna. In the lungs, white blood cells (macrophages) devour microorganism in the process of phagocytosis.

Host factors such as extremes of age and underlying diseases such as diabetes, human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS), malignancy, and transplants can increase susceptibility to infection. A variety of medications that alter the normal body flora can also increase susceptibility to infection such as antimicrobial agents, gastric acid suppressants, corticosteroids, anti-rejection drugs, antineoplastic agents, and immunosuppressive drugs.

Surgical procedures and radiation therapy impair defenses of the skin and other involved organ systems. Indwelling devices such as urinary catheters, endotracheal tubes, central venous and arterial catheters, and synthetic implants facilitate development of healthcare-associated infections by allowing potential pathogens to bypass local defenses that would ordinarily impede their invasion. These devices also provide surfaces for development of biofilms that may facilitate adherence of microorganisms and protect from antimicrobial activity. Some infections associated with invasive procedures result from transmission within the healthcare facility while other arise from the patient's endogenous flora.

The transmission of infection can be demonstrated as a chain with six links as follows [16]:

1. The pathogen or causative agent.
2. The reservoir, which can be human, animal, or environmental, that serves as the source for the pathogen.
3. The portal of exit from the reservoir.
4. The mode of transmission.
5. The portal of entry into a susceptible host.
6. The host that is susceptible to the pathogen.

Stages of infection [16]

An infection may develop in a susceptible host when the chain of infection remains intact. Defined stages of infection include the incubation period, the prodromal stage, and the full stage of illness. The convalescent period follows these stages.

The incubation period occurs between the pathogen's invasion of the body and the appearance of symptoms of infection. During this stage, the organisms grow and multiply. The length of incubation may vary. For example, the common cold has an incubation period of one to two days, whereas tetanus has an incubation period ranging from two to twenty-one days.

A person is most infectious during the prodromal stage. During this stage, early signs and symptoms of disease are present but may be vague and nonspecific, ranging from fatigue and malaise to a low-grade fever. This period lasts from several hours to several days. During this phase, the patient often is unaware of being contagious. As a result, the infection has the potential to spread.

The presence of specific signs and symptoms indicates the full stage of illness. The type of infection determines the length of the illness and the severity of the manifestations. Symptoms that are limited, or occur in only one body area, are referred to as localized symptoms, whereas symptoms manifested throughout the entire body are referred to as systemic symptoms.

The convalescent period involves recovery from the infection. Convalescence may vary according to the severity of the infection and the patient's general condition. The signs and symptoms disappear, and the person returns to a healthy state. However, depending on the type of infection, there may be a temporary or permanent change in the patient's previous health state even after the convalescent period.

An infection's potential for reoccurrence depends on the infectious agent and its ability to repeat the cycle of stages within the same host. Host factors also influence reoccurrence of infection due to the body's ability to produce immune responses that may prevent a repeat of the same infection. The use of vaccinations also influences the infectious process when the host develops immunity to specific disease producing agents.

Healthcare-associated infections [18]

Healthcare-associated infections are infections that people acquire while they are receiving treatment for another condition in a healthcare setting. Healthcare-associated infections can be acquired anywhere healthcare is delivered, including inpatient acute care hospitals, outpatient settings such as ambulatory surgical centers and end-stage renal disease facilities, and long-term care facilities such as nursing homes and rehabilitation centers.

According to the Centers for Disease Control and Prevention, healthcare-associated infections include the following:

- Central line-associated bloodstream infections.
- Catheter-associated urinary tract infections.
- Ventilator-associated pneumonia.
- Surgical site infections.

These infections are associated with a variety of risk factors, including [18]:

- Use of indwelling medical devices such as bloodstream, endotracheal, and urinary catheters.
- Surgical procedures.
- Injections.
- Contamination of the healthcare environment.
- Transmission of communicable diseases between patients and healthcare providers.
- Overuse or improper use of antibiotics.

Nursing consideration: Many healthcare facilities have protocols that specify aspects of nursing care for patients at risk for, or already experiencing, healthcare-associated infections.

The following section describes diseases and organisms commonly associated with healthcare-associated infections and has been taken from the Centers for Disease Control and

Prevention webpage located at http://www.cdc.gov/HAI/organisms/organisms.html [1].

"**Acinetobacter** is a group of bacteria commonly found in soil and water. Outbreaks of *Acinetobacter* infections typically occur in intensive care units and healthcare settings housing very ill patients. While there are many types or "species" of *Acinetobacter* and all can cause human disease, *Acinetobacter baumannii* accounts for about 80 percent of reported infections. *Acinetobacter* infections rarely occur outside of healthcare settings.

Burkholderia cepacia, also called B. cepacial, is the name for a group or "complex" of bacteria that can be found in soil and water. *Burkholderia cepacia* bacteria are often resistant to common antibiotics. *Burkholderia cepacia* poses little medical risk to healthy people; however, it is a known cause of infections in hospitalized patients. People with certain health conditions, like weakened immune systems or chronic lung diseases (particularly cystic fibrosis), may be more susceptible to infections with *Burkholderia cepacia*.

Clostridium difficile is a bacterium that causes an inflammation of the colon; this condition is called colitis. Diarrhea and fever are the most common symptoms of *Clostridium difficile* infection. Overuse of antibiotics is the most important risk for getting *Clostridium difficile* infection. *Clostridium difficile is also called C. difficile, C. diff, and* CDI (*Clostridium difficile* infection), CDAD (*Clostridium difficile*-associated disease).

Clostridium sordellii is a rare bacterium that causes pneumonia, endocarditis, arthritis, peritonitis, and myonecrosis. *Clostridium sordellii* bacteremia and sepsis (bacteremia is when bacteria is present in the bloodstream; sepsis is when bacteremia or another infection triggers a serious body-wide response) occur rarely. Most cases of sepsis from *Clostridium sordellii* occur in patients with other health conditions. Severe toxic shock syndrome among previously healthy persons has been described in a small number of *Clostridium sordellii* cases, most often associated with gynecologic infections in women and infection of the umbilical stump in newborns. *Clostridium sordellii is also called C. sordellii.*

Carbapenem-resistant enterobacteriaceae (CRE) are a family of germs that are difficult to treat because they have high levels of resistance to antibiotics. *Klebsiella* species and *Escherichia coli (E. coli)* are examples of Enterobacteriaceae, a normal part of the human gut bacteria that can become carbapenem-resistant. In healthcare settings, CRE infections most commonly occur among patients who are receiving treatment for other conditions. Patients whose care requires devices like ventilators, urinary catheters, or intravenous catheters, and patients who are taking long courses of certain antibiotics are most at risk for CRE infections.

Gram-negative bacteria cause infections including pneumonia, bloodstream infections, wound or surgical site infections, and meningitis in healthcare settings. Gram-negative bacteria are resistant to multiple drugs and are increasingly resistant to most available antibiotics. Gram-negative infections include those caused by Klebsiella, Acinetobacter, Pseudomonas aeruginosa, and E. coli., as well as many other less common bacteria.

Hepatitis means inflammation of the liver and also refers to a group of viral infections that affect the liver. The most common types are hepatitis A, hepatitis B, and hepatitis C. The delivery of healthcare has the potential to transmit hepatitis to both healthcare workers and patients. Outbreaks have occurred in outpatient settings, hemodialysis units, long-term care facilities, and hospitals, primarily as a result of unsafe injection practices; reuse of needles, finger-stick devices, and syringes; and other lapses in infection control.

Human immunodeficiency virus (HIV) is the virus that can lead to acquired immune deficiency syndrome (AIDS). HIV destroys blood cells called CD4+ T cells, which are crucial to helping the body fight disease. This results in a weakened immune system, making persons with HIV or AIDS at risk for many different types of infections. Transmission of HIV to patients while in health care settings is rare. Most exposures do not result in infection.

Influenza is primarily a community-based infection that is transmitted in households and community settings. Each year, 5 percent to 20 percent of U.S. residents acquire an influenza virus infection, and many will seek medical care in ambulatory healthcare settings (e.g., pediatricians' offices, urgent-care clinics). In addition, more than 200,000 persons, on average, are hospitalized each year for influenza-related complications. Healthcare-associated influenza infections can occur in any health care setting and are most common when influenza is also circulating in the community. Therefore, influenza prevention measures should be implemented in all health care settings. Supplemental measures may need to be implemented during influenza season if outbreaks of healthcare-associated influenza occur within certain facilities, such as long-term care agencies and hospitals.

Klebsiella is a type of Gram-negative bacteria that can cause healthcare-associated infections including pneumonia, bloodstream infections, wound or surgical site infections, and meningitis. Increasingly, *Klebsiella* bacteria have developed antimicrobial resistance, most recently to the class of antibiotics known as carbapenems. *Klebsiella* bacteria are normally found in the human intestines (where they do not cause disease). They are also found in human feces. In healthcare settings, *Klebsiella* infections commonly occur among sick patients who are receiving treatment for other conditions. Patients who have devices like ventilators or intravenous catheters, and patients who are taking long courses of certain antibiotics are most at risk for *Klebsiella* infections. Healthy people usually do not get *Klebsiella* infections.

Methicillin-resistant *Staphylococcus aureus* **(MRSA)** is a type of staph bacteria that is resistant to certain antibiotics called beta-lactams. These antibiotics include methicillin and other more common antibiotics such as oxacillin, penicillin, and amoxicillin. In the community, most MRSA infections are skin infections. More severe or potentially life-threatening MRSA infections occur most frequently among patients in health care settings.

Mycobacterium abscessus, also called M. abscessus, is a bacterium distantly related to the ones that cause tuberculosis and leprosy. It is found in water, soil, and dust. It has been known to contaminate medications and products, including medical devices. Healthcare-associated *Mycobacterium abscessus* can cause a variety of infections that require medical attention. Infections due to this bacterium are usually of the skin and the soft tissues under the skin. It can also cause lung infections in persons with various chronic lung diseases.

Noroviruses are a group of viruses that cause gastroenteritis in people. Gastroenteritis is an inflammation of the lining of the stomach and intestines, causing an acute onset of severe vomiting and diarrhea. Norovirus illness is usually brief in people who are otherwise healthy. Young children, the elderly, and people with other medical illnesses are most at risk for more severe or prolonged infection. Like all viral infections, noroviruses are not affected by treatment with antibiotics.

Pseudomonas infection is caused by strains of bacteria found widely in the environment; the most common type causing infections in humans is called *Pseudomonas aeruginosa*. Serious *Pseudomonas* infections usually occur in people in the hospital and/or with weakened immune systems.

Staphylococcus aureus (staph), is a bacterium commonly found on the skin and in the nose of about 30 percent of individuals. Most of the time, staph does not cause any harm. These infections can look like pimples, boils, or other skin conditions and most are treatable.

Tuberculosis, also called TB is caused by a bacterium called *Mycobacterium tuberculosis*. Transmission of *Mycobacterium tuberculosis* is a recognized risk to patients and healthcare personnel in healthcare facilities. Transmission is most likely to occur from patients who have unrecognized pulmonary tuberculosis or tuberculosis related to their larynx, are not on effective anti-tuberculosis therapy, and have not been placed in tuberculosis isolation. Transmission of *Mycobacterium tuberculosis* in healthcare settings has been associated with close contact with persons who have infectious tuberculosis, particularly during the performance of cough-inducing procedures such as bronchoscopy and sputum induction. *Mycobacterium* tuberculosis is spread through the air and can travel long distances. Cases of multidrug-resistant tuberculosis (MDR-TB, which includes extensively drug-resistant tuberculosis [XDR-TB]), have been recognized and are more difficult to treat.

Vancomycin-intermediate *Staphylococcus aureus* (VISA) and vancomycin-resistant *Staphylococcus aureus* (VRSA) are specific staph bacteria that have developed resistance to the antimicrobial agent vancomycin. Persons who develop this type of staph infection may have underlying health conditions (such as diabetes and kidney disease), devices going into their bodies (such as catheters), previous infections with methicillin-resistant *Staphylococcus aureus*, and recent exposure to vancomycin and other antimicrobial agents.

Vancomycin-resistant Enterococci (VRE) are specific types of antimicrobial-resistant bacteria that are resistant to vancomycin, the drug often used to treat infections caused by enterococci. Enteroccocci are bacteria that are normally present in the human intestines and in the female genital tract and are often found in the environment. These bacteria can sometimes cause infections. Most vancomycin-resistant Enterococci infections occur in hospitals."

Taken from Centers for Disease Control and Prevention (2006). Diseases and Organisms in Healthcare Settings. Retrieved from http://www.cdc.gov/HAI/organisms/organisms.html

Multiple drug-resistant organisms

The previous section notes several antimicrobial-resistant bacteria such as **CRE**, **MRSA**, VISA and VRSA. These infectious agents are labeled as multiple drug-resistant organisms (MDROs), and according to the Centers for Disease Control and Prevention publication "Management of Multidrug-Resistant Organisms in Healthcare Settings, 2006," they have important infection control implications that either have not been addressed or received only limited consideration in previous isolation guidelines. This section uses excerpts from the CDC's publication to cover content related to the prevention and control of these infections. The full document, with reference citations, may be found at http://www.cdc.gov/hicpac/pdf/MDRO/MDROGuideline2006.pdf [14].

"MDROs are defined as microorganisms, predominantly bacteria, that are resistant to one or more classes of antimicrobial agents. Although the names of certain MDROs describe resistance to only one agent (e.g., MRSA, VRE), these pathogens are frequently resistant to most available antimicrobial agents. These highly resistant organisms deserve special attention in healthcare facilities. In addition to MRSA and VRE, certain gram-negative bacteria, including those producing extended spectrum beta-lactamases (ESBLs) and others that are resistant to multiple classes of antimicrobial agents, are of particular concern.

MDRO infections have clinical manifestations that are similar to infections caused by susceptible pathogens. However, options for treating patients with these infections are often extremely limited. For example, until recently, only vancomycin provided effective therapy for potentially life-threatening MRSA infections and during the 1990's there were virtually no antimicrobial agents to treat infections caused by VRE. Although antimicrobials are now available for treatment of MRSA and VRE infections, resistance to each new agent has already emerged in clinical isolates. Similarly, therapeutic options are limited for ESBL-producing isolates of gram-negative bacilli, strains of A. baumannii resistant to all antimicrobial agents except imipenem, and intrinsically resistant Stenotrophomonas sp. These limitations may influence antibiotic usage patterns in ways that suppress normal flora and create a favorable environment for development of colonization when exposed to potential MDR pathogens.

Increased lengths of stay, costs, and mortality also have been associated with MDROs. Two studies documented increased mortality, hospital lengths of stay, and hospital charges associated with multidrug-resistant gram-negative bacilli (MDR-GNBs), including an NICU outbreak of ESBL-producing Klebsiella pneumoniae and the emergence of third- generation cephalosporin resistance in Enterobacter spp. in hospitalized adults.

Vancomycin resistance has been reported to be an independent predictor of death from enterococcal bacteremia. Furthermore, VRE was associated with increased mortality, length of hospital stay, admission to the ICU, surgical procedures, and costs when VRE patients were compared with a matched hospital population.

However, MRSA may behave differently from other MDROs. When patients with MRSA have been compared to patients with methicillin-susceptible S. aureus (MSSA), MRSA- colonized patients more frequently develop symptomatic infections. Furthermore, higher case fatality rates have been observed for certain MRSA infections, including bacteremia, poststernotomy mediastinitis, and surgical site infections. These outcomes may be a result of delays in the administration of vancomycin, the relative decrease in the bactericidal activity of vancomycin, or persistent bacteremia associated with intrinsic characteristics of certain MRSA strains. Mortality may be increased further by S. aureus with reduced vancomycin susceptibility (VISA). Also some studies have reported an association between MRSA infections and increased length of stay, and healthcare costs, while others have not. Finally, some hospitals have observed an increase in the overall occurrence of staphylococcal infections following the introduction of MRSA into a hospital or special-care unit.

The prevalence of MDROs varies temporally, geographically, and by healthcare setting. For example, VRE emerged in the eastern United States in the early 1990s, but did not appear in the western United States until several years later, and varies in prevalence by state. The type and level of care also influence the prevalence of MDROs. ICUs, especially those at tertiary care facilities, may have a higher prevalence of MDRO infections than do non-ICU settings. Antimicrobial resistance rates are also strongly correlated with hospital size, tertiary-level care, and facility type (e.g., long-term care facilities, LTCFs). The frequency of clinical infection caused by these pathogens is low in LTCFs. Nonetheless, MDRO infections in LTCFs can cause serious disease and mortality, and colonized or infected LTCF residents

may serve as reservoirs and vehicles for MDRO introduction into acute care facilities. Another example of population differences in prevalence of target MDROs is in the pediatric population. Point prevalence surveys conducted by the Pediatric Prevention Network (PPN) in eight U.S. PICUs and 7 U.S. NICUs in 2000 found < 4 percent of patients were colonized with MRSA or VRE compared with 10-24 percent were colonized with ceftazidime- or aminoglycoside-resistant gram-negative bacilli; < 3 percent were colonized with ESBL-producing gram-negative bacilli. Despite some evidence that MDRO burden is greatest in adult hospital patients, MDRO require similar control efforts in pediatric populations as well.

During the last several decades, the prevalence of MDROs in U.S. hospitals and medical centers has increased steadily. MRSA was first isolated in the United States in 1968. By the early 1990s, MRSA accounted for 20-25 percent of Staphylococcus aureus isolates from hospitalized patients. In 1999, MRSA accounted for >50 percent of S. aureus isolates from patients in ICUs in the National Nosocomial Infection Surveillance (NNIS) system; in 2003, 59.5 percent of S. aureus isolates in NNIS ICUs were MRSA. A similar rise in prevalence has occurred with VRE. From 1990 to 1997, the prevalence of VRE in enterococcal isolates from hospitalized patients increased from <1 percent to approximately 15 percent. VRE accounted for almost 25 percent of enterococcus isolates in NNIS ICUs in 1999, and 28.5 percent in 2003.

There is ample epidemiologic evidence to suggest that MDROs are carried from one person to another via the hands of HCP. Hands are easily contaminated during the process of care-giving or from contact with environmental surfaces in close proximity to the patient. The latter is especially important when patients have diarrhea and the reservoir of the MDRO is the gastrointestinal tract. Without adherence to published recommendations for hand hygiene and glove use HCP are more likely to transmit MDROs to patients. Thus, strategies to increase and monitor adherence are important components of MDRO control programs.

Rarely, HCPs may introduce an MDRO into a patient care unit. Occasionally, HCP can become persistently colonized with an MDRO, but these HCP have a limited role in transmission, unless other factors are present. Additional factors that can facilitate transmission, include chronic sinusitis, upper respiratory infection, and dermatitis."

Adapted from Centers for Disease Control and Prevention (2006). Management of Multidrug-Resistant Organisms in Healthcare Settings. Retrieved from http://www.cdc.gov/hicpac/pdf/MDRO/MDROGuideline2006.pdf [14].

Nursing consideration: With the increase of multiple drug-resistant organisms in healthcare settings, it is vital that nurses utilize stringent hand hygiene and appropriate transmission precautions at all times.

Bloodborne pathogens

The Occupational Safety and Health Administration (OSHA) define bloodborne pathogens as "microorganisms that are present in human blood and can cause disease in humans" [24]. These pathogens may be transmitted via the following routes:

- Blood contact.
- Breast milk.
- Open wounds.
- Organ transplant.
- Percutaneous (sharps/needle sticks).
- Perinatal.
- Sexual contact.
- Transfusions.
- Transplacental.

Healthcare providers come in contact with body fluids that can spread infectious blood borne pathogens. These body fluids include the following [24]:

- Amniotic fluid.
- Blood (and any fluid from the body containing visible blood).
- Cerebrospinal fluid.
- Pericardial fluid.
- Peritoneal fluid.
- Pleural fluid.
- Semen.
- Synovial fluid.
- Vaginal secretions.
- Wound exudate.

It is important to note that feces, mucous, saliva, sweat, tears, urine, and vomit are not body fluids that spread bloodborne pathogens unless they have visible blood mixed with them.

There are three major pathogens associated with bloodborne infections. These include:

- Hepatitis B (HBV).
- Hepatitis C (HCV).
- Human immunodeficiency virus (HIV).

The following section contains excerpts from the Centers for Disease Control and Prevention publication titled "Exposure to Blood: What Healthcare Personnel Need to Know, 2003." The full document, with reference citations, may be found at http://www.cdc.gov/HAI/pdfs/bbp/Exp_to_Blood.pdf [2].

"Healthcare personnel are at risk for occupational exposure to bloodborne pathogens, including hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV). Most exposures do not result in infection. Following a specific exposure, the risk of infection may vary with factors such as these:

- The pathogen involved.
- The type of exposure.
- The amount of blood involved in the exposure.
- The amount of virus in the patient's blood at the time of exposure.

Healthcare personnel who have received hepatitis B vaccine and developed immunity to the virus are at virtually no risk for infection. For a susceptible person, the risk from a single needle stick or cut exposure to HBV-infected blood ranges from 6-30 percent and depends on the hepatitis B e antigen (HBeAg) status of the source individual. Hepatitis B surface antigen (HBsAg)-positive individuals who are HBeAg positive have more virus in their blood and are more likely to transmit HBV than those who are HBeAg negative. While there is a risk for HBV infection from exposures of mucous membranes or nonintact skin, there is no known risk for HBV infection from exposure to intact skin."

The average risk for infection after a needle stick or cut exposure to HCV- infected blood is approximately 1.8 percent. The risk following a blood exposure to the eye, nose or mouth is unknown, but is believed to be very small; however, HCV infection from blood splash to the eye has been reported. There also has been a report of HCV transmission that may have resulted from exposure to nonintact skin, but no known risk from exposure to intact skin.

The average risk of HIV infection after a needle stick or cut exposure to HIV-infected blood is 0.3 percent (i.e., three-tenths of 1 percent, or about 1 in 300). Stated another way, 99.7 percent of needle-stick/cut exposures do not lead to infection.

As mentioned above, hepatitis B vaccine has been available since 1982 to prevent HBV infection. All healthcare personnel who have a reasonable chance of exposure to blood or body fluids should receive hepatitis B vaccine. Vaccination ideally should occur during the healthcare worker's training period. Workers should be tested one to two months after the vaccine series is complete to make sure that vaccination has provided immunity to HBV infection. Hepatitis B immune globulin (HBIG) alone or in combination with vaccine (if not previously vaccinated) is effective in preventing HBV infection after an

exposure. The decision to begin treatment is based on several factors, such as:

- Whether the source individual is positive for hepatitis B surface antigen.
- Whether you have been vaccinated.
- Whether the vaccine provided immunity.

There is no vaccine against hepatitis C and no treatment after an exposure that will prevent infection. Neither immune globulin nor antiviral therapy is recommended after exposure. For these reasons, following recommended infection control practices to prevent percutaneous injuries is imperative.

There is no vaccine against HIV. However, results from a small number of studies suggest that the use of some antiretroviral drugs after certain occupational exposures may reduce the chance of HIV transmission. Post-exposure prophylaxis (PEP) is recommended for certain occupational exposures that pose a risk of transmission. However, for those exposures without risk of HIV infection, PEP is not recommended because the drugs used to prevent infection may have serious side effects.

Nursing consideration: Nurses should utilize standard precautions with all patients. This will prevent exposure to bloodborne pathogens [24].

Evidence-based practice! Healthcare personnel who have received the hepatitis B vaccine and developed immunity to the virus are at virtually no risk for infection despite exposure [2].

Adapted from Centers for Disease Control and Prevention. "Exposure to Blood: What Healthcare Personnel Need to Know." Retrieved from http://www.cdc.gov/HAI/pdfs/bbp/Exp_to_Blood.pdf [2].

Healthcare agencies should have written protocols to implement when a healthcare provider is exposed to a bloodborne pathogen. These protocols should include pathogen testing for both the source individual as well as the exposed healthcare provider, post-exposure treatment if indicated, and post-exposure follow-up.

National efforts for maintaining public health and security

Many national groups and agencies participate in efforts to protect the public and healthcare providers from infection. These include the Centers for Disease Control and Prevention, the National Healthcare Safety Network, the Healthcare Infection Control Practices Advisory Committee, the Society for Healthcare Epidemiology of America, and the National Institute of Occupational Safety and Health.

The Centers for Disease Control and Prevention

The Centers for Disease Control and Prevention (CDC) is tasked with increasing the health security of our nation by conducting research and providing health information. The organization protects the public from health, safety, and security threats in the United States and abroad [11]. To accomplish its mission, the Centers for Disease Control and Prevention has the following focus areas [11]:

- **Health security** – Confronting global disease threats through advanced computing and lab analysis of huge amounts of data to find solutions quickly.
- **Putting science into action** – Tracking disease and finding out what is making people sick and the most effective ways to prevent it.
- **Helping medical care** – Bringing new knowledge to individual healthcare and community health to save more lives and reduce waste.
- **Fighting diseases** – Detecting and confronting new germs and diseases around the globe to increase national security.
- **Nurturing public health** – Building strong, well-resourced public health leaders and capabilities at national, state, and local levels to protect Americans from health threats.

Healthcare-associated infection prevalence survey [22]

The Centers for Disease Control and Prevention's Healthcare-Associated Infection Prevalence Survey provides an updated national estimate of the overall problem in U.S. hospitals. Based on a large sample of acute care hospitals in the United States, the survey found that on any given day, about **1 in 25** hospital patients had at least one healthcare-associated infection. There were an estimated **722,000** healthcare-associated infections in United States acute care hospitals in 2011. About **75,000** hospital patients with healthcare-associated infections died during their hospitalizations. More than half of all healthcare-associated infections occurred outside of the intensive care unit. The table below provides a breakdown of the types of these infections.

Estimates of healthcare-associated infections occurring in acute care hospitals in the United States, 2011.

Major site of infection	Estimated numbers
Pneumonia.	157,500
Gastrointestinal illness.	123,100
Urinary tract infections.	93,300
Primary bloodstream infections.	71,900
Surgical site infections from any inpatient surgery.	157,500
Other types of infections.	118,500
Estimated total number of infections in hospitals	**721,800**

The full report is available online at: http://www.nejm.org/doi/full/10.1056/NEJMoa1306801 [22].

The National Healthcare Safety Network

The National Healthcare Safety Network (NHSN) is the nation's most widely used healthcare-associated infection tracking system. NHSN provides facilities, states, regions, and the nation with data needed to identify problem areas, measure progress of prevention efforts, and ultimately eliminate healthcare-associated infections [12]. In addition, NHSN allows healthcare facilities to track blood safety errors and important healthcare process measures such as healthcare personnel influenza vaccine status and infection control adherence rates [17].

The *National and State Healthcare-Associated Infections Progress Report* is an annual report that gives a closer look at the healthcare-associated infections most commonly reported using NHSN. The report describes national and state progress in preventing central line-associated bloodstream infections, catheter-associated urinary tract infections, select surgical site infections, hospital-onset *Clostridium difficile* infections (*C. difficile*), and hospital-onset methicillin-resistant *Staphylococcus aureus* bacteremia (bloodstream infections) [13].

The current report is based on 2013 data. On the national level, the report found the following [13]:

- A 46 percent decrease in central line-associated bloodstream infections between 2008 and 2013.
- A 19 percent decrease in surgical site infections related to the ten select procedures tracked in the report between 2008 and 2013.
- A 6 percent increase in catheter-associated urinary tract infections between 2009 and 2013; although initial data from

2014 seems to indicate that these infections have started to decrease.
- An 8 percent decrease in hospital-onset MRSA bacteremia between 2011 and 2013.
- A 10 percent decrease in hospital-onset *C. difficile* infections between 2011 and 2013.

The full report is available online at: http://www.cdc.gov/hai/progress-report/index.html [13].

The Healthcare Infection Control Practices Advisory Committee

The Healthcare Infection Control Practices Advisory Committee (HICPAC) is a group assembled to provide advice and guidance to the Centers for Disease Control and Prevention and the Secretary of the Department of Health and Human Services. This guidance and advice includes infection control practices; strategies for surveillance, prevention, and control of healthcare-associated infections; antimicrobial resistance; and other related events in United States healthcare settings. The group is comprised of infection control experts in the fields of infectious diseases, healthcare epidemiology, healthcare-associated infections and healthcare-related events, epidemiology, health policy, health services research, public health, and related fields [8]. The 1998 document titled "Guideline for Infection Control in Health Care Personnel" is the basis for current infection prevention and control is healthcare settings [8].

The Society for Healthcare Epidemiology of America [26]

The Society for Healthcare Epidemiology of America (SHEA) is a group that represents physicians and other healthcare providers with expertise in healthcare epidemiology, infection prevention, and antimicrobial stewardship. The group's mission is to promote the prevention of healthcare-associated infections and antibiotic resistance and to advance the fields of healthcare epidemiology and antibiotic stewardship. The expert findings that come from these efforts provide policy and practice guidelines that improve patient care and healthcare provider safety in all healthcare settings.

The National Institute of Occupational Safety and Health [25]

The National Institute of Occupational Safety and Health (NIOSH) was established as part of the Occupational Safety and Health Act of 1970 and is part of the Centers for Disease Control and Prevention. The group's mission is "to develop new knowledge in the field of occupational safety and health and to transfer that knowledge into practice." Its mandate is to provide "every man and woman in the nation safe and healthful working conditions and to preserve our human resources." The employees represent fields that include epidemiology, medicine, nursing, industrial hygiene, safety, psychology, chemistry, statistics, economics, and many branches of engineering. The strategic goals and objectives for 2016-2020 include the following:

- **Goal 1:** Conduct research to reduce worker illness and injury, and to advance worker well-being.
- **Goal 2:** Promote safe and healthy workers through interventions, recommendations and capacity building.
- **Goal 3:** Enhance international worker safety and health through global collaborations.

Many infection prevention and control guidelines are published by the groups or agencies described in the previous section. Healthcare providers can locate the current research, statistics and guidelines by utilizing the information provided by these resources.

Infection control prevention concepts [6]

All healthcare facilities are required to implement and monitor infection control prevention plans for healthcare providers and the patients for which they care. The Centers for Disease Control and Prevention provides guidance for both broad and specific infection control practices with an abundance of website-based information. One such document titled "2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings" provides the basis for this next section of the course, outlining various practices for both the prevention and control of infectious diseases. The full document, with reference citations, is available at http://www.cdc.gov/hicpac/2007IP/2007isolationPrecautions.html [6]. Selected excerpts from the document follow and provide information related to infection prevention and control.

PART II FUNDAMENTAL ELEMENTS TO PREVENT TRANSMISSION OF INFECTIOUS AGENTS IN HEALTHCARE SETTINGS

II.A. Healthcare system components that influence the effectiveness of precautions to prevent transmission

II.A.1. Administrative measures

Healthcare organizations can demonstrate a commitment to preventing transmission of infectious agents by incorporating infection control into the objectives of the organization's patient and occupational safety programs. An infrastructure to guide, support, and monitor adherence to Standard and Transmission-Based Precautions will facilitate fulfillment of the organization's mission and achievement of the Joint Commission on Accreditation of Healthcare Organization's patient safety goal to decrease HAIs. Policies and procedures that explain how Standard and Transmission-Based Precautions are applied, including systems used to identify and communicate information about patients with potentially transmissible infectious agents, are essential to ensure the success of these measures and may vary according to the characteristics of the organization.

A key administrative measure is provision of fiscal and human resources for maintaining infection control and occupational health programs that are responsive to emerging needs. Specific components include bedside nurse and infection prevention and control professional (ICP) staffing levels, inclusion of ICPs in facility construction and design decisions, clinical microbiology laboratory support, adequate supplies and equipment including facility ventilation systems, adherence monitoring, assessment and correction of system failures that contribute to transmission, and provision of feedback to healthcare personnel and senior administrators. The positive influence of institutional leadership has been demonstrated repeatedly in studies of healthcare providers' adherence to recommended hand hygiene practices. Healthcare administrator involvement in infection control processes can improve administrators' awareness of the rationale and resource requirements for following recommended infection control practices.

Several administrative factors may affect the transmission of infectious agents in healthcare settings: institutional culture, individual worker behavior, and the work environment. Each of these areas is suitable for performance improvement monitoring and incorporation into the organization's patient safety goals.

II.A.1.a. Scope of work and staffing needs for infection control professionals

The effectiveness of infection surveillance and control programs in preventing nosocomial infections in United States hospitals was assessed by the CDC through the Study on the Efficacy

of Nosocomial Infection Control (SENIC Project) conducted 1970-76. In a representative sample of US general hospitals, those with a trained infection control physician or microbiologist involved in an infection control program, and at least one infection control nurse per 250 beds, were associated with a 32 percent lower rate of four infections studied (CVC-associated bloodstream infections, ventilator-associated pneumonias, catheter-related urinary tract infections, and surgical site infections).

Since that landmark study was published, responsibilities of ICPs have expanded commensurate with the growing complexity of the healthcare system, the patient populations served, and the increasing numbers of medical procedures and devices used in all types of healthcare settings. The scope of work of ICPs was first assessed in 1982 by the Certification Board of Infection Control (CBIC), and has been re-assessed every five years since that time. The findings of these task analyses have been used to develop and update the Infection Control Certification Examination, offered for the first time in 1983. With each survey, it is apparent that the role of the ICP is growing in complexity and scope, beyond traditional infection control activities in acute care hospitals. Activities currently assigned to ICPs in response to emerging challenges include: 1) surveillance and infection prevention at facilities other than acute care hospitals e.g., ambulatory clinics, day surgery centers, long term care facilities, rehabilitation centers, home care; 2) oversight of employee health services related to infection prevention, e.g. assessment of risk and administration of recommended treatment following exposure to infectious agents, tuberculosis screening, influenza vaccination, respiratory protection fit testing, and administration of other vaccines as indicated, such as smallpox vaccine in 2003; 3) preparedness planning for annual influenza outbreaks, pandemic influenza, SARS, bioweapons attacks; 4) adherence monitoring for selected infection control practices; 5) oversight of risk assessment and implementation of prevention measures associated with construction and renovation; 6) prevention of transmission of MDROs; 7) evaluation of new medical products that could be associated with increased infection risk. e.g., intravenous infusion materials; 9) communication with the public, facility staff, and state and local health departments concerning infection control-related issues; and 10) participation in local and multi-center research projects.

None of the CBIC job analyses addressed specific staffing requirements for the identified tasks, although the surveys did include information about hours worked; the 2001 survey included the number of ICPs assigned to the responding facilities. There is agreement in the literature that 1 ICP per 250 acute care beds is no longer adequate to meet current infection control needs; a Delphi project that assessed staffing needs of infection control programs in the 21st century concluded that a ratio of 0.8 to 1.0 ICP per 100 occupied acute care beds is an appropriate level of staffing. A survey of participants in the National Nosocomial Infections Surveillance (NNIS) system found the average daily census per ICP was 115. Results of other studies have been similar: 3 per 500 beds for large acute care hospitals, 1 per 150-250 beds in long term care facilities, and 1.56 per 250 in small rural hospitals. The foregoing demonstrates that infection control staffing can no longer be based on patient census alone, but rather must be determined by the scope of the program, characteristics of the patient population, complexity of the healthcare system, tools available to assist personnel to perform essential tasks (e.g., electronic tracking and laboratory support for surveillance), and unique or urgent needs of the institution and community. Furthermore, appropriate training is required to optimize the quality of work performed.

II.A.1.a.i. Infection control nurse liaison

Designating a bedside nurse on a patient care unit as an infection control liaison or "link nurse" is reported to be an effective adjunct to enhance infection control at the unit level. Such individuals receive training in basic infection control and have frequent communication with the ICPs, but maintain their primary role as bedside caregiver on their units. The infection control nurse liaison increases the awareness of infection control at the unit level. He or she is especially effective in implementation of new policies or control interventions because of the rapport with individuals on the unit, an understanding of unit-specific challenges, and ability to promote strategies that are most likely to be successful in that unit. This position is an adjunct to, not a replacement for, fully trained ICPs. Furthermore, the infection control liaison nurses should not be counted when considering ICP staffing.

Nursing consideration: Infection control nursing is a specialty area that is responsible for recognizing, isolating, and preventing healthcare-associated infections that impact patient outcomes and the safety of healthcare providers [23].

II.A.1.b. Bedside nurse staffing

There is increasing evidence that the level of bedside nurse staffing influences the quality of patient care. If there are adequate nursing staff, it is more likely that infection control practices, including hand hygiene and Standard and Transmission-Based Precautions, will be given appropriate attention and applied correctly and consistently. A national multicenter study reported strong and consistent inverse relationships between nurse staffing and five adverse outcomes in medical patients, two of which were HAIs: urinary tract infections and pneumonia. The association of nursing staff shortages with increased rates of HAIs has been demonstrated in several outbreaks in hospitals and long-term care settings, and with increased transmission of hepatitis C virus in dialysis units. In most cases, when staffing improved as part of a comprehensive control intervention, the outbreak ended or the HAI rate declined. In two studies, the composition of the nursing staff ("pool" or "float" vs. regular staff nurses) influenced the rate of primary bloodstream infections, with an increased infection rate occurring when the proportion of regular nurses decreased and pool nurses increased.

II.A.1.c. Clinical microbiology laboratory support

The critical role of the clinical microbiology laboratory in infection control and healthcare epidemiology is described well and is supported by the Infectious Disease Society of America policy statement on consolidation of clinical microbiology laboratories published in 2001. The clinical microbiology laboratory contributes to preventing transmission of infectious diseases in healthcare settings by promptly detecting and reporting epidemiologically important organisms, identifying emerging patterns of antimicrobial resistance, and assisting in assessment of the effectiveness of recommended precautions to limit transmission during outbreaks. Outbreaks of infections may be recognized first by laboratorians. Healthcare organizations need to ensure the availability of the recommended scope and quality of laboratory services, a sufficient number of appropriately trained laboratory staff members, and systems to promptly communicate epidemiologically important results to those who will take action (e.g., providers of clinical care, infection control staff, healthcare epidemiologists, and infectious disease consultants). As concerns about emerging pathogens and bioterrorism grow, the role of the clinical microbiology laboratory takes on even greater importance. For healthcare organizations that outsource microbiology laboratory services (e.g., ambulatory care, home care, long-term care facilities, smaller acute care hospitals), it is important to specify by contract the types of services (e.g., periodic institution-specific aggregate susceptibility reports) required to support infection control.

Several key functions of the clinical microbiology laboratory are relevant to this guideline:

- Antimicrobial susceptibility by testing and interpretation in accordance with current guidelines developed by the National Committee for Clinical Laboratory Standards (NCCLS), known as the Clinical and Laboratory Standards

Institute (CLSI) since 2005, for the detection of emerging resistance patterns, and for the preparation, analysis, and distribution of periodic cumulative antimicrobial susceptibility summary reports. While not required, clinical laboratories ideally should have access to rapid genotypic identification of bacteria and their antibiotic resistance genes.
- Performance of surveillance cultures when appropriate (including retention of isolates for analysis) to assess patterns of infection transmission and effectiveness of infection control interventions at the facility or organization. Microbiologists assist in decisions concerning the indications for initiating and discontinuing active surveillance programs and optimize the use of laboratory resources.
- Molecular typing, on-site or outsourced, in order to investigate and control healthcare-associated outbreaks.
- Application of rapid diagnostic tests to support clinical decisions involving patient treatment, room selection, and implementation of control measures including barrier precautions and use of vaccine or chemoprophylaxis agents (e.g., influenza, B. pertussis, RSV, and enteroviruses). The microbiologist provides guidance to limit rapid testing to clinical situations in which rapid results influence patient management decisions, as well as providing oversight of point-of-care testing performed by non-laboratory healthcare workers.
- Detection and rapid reporting of epidemiologically important organisms, including those that are reportable to public health agencies.
- Implementation of a quality control program that ensures testing services are appropriate for the population served, and stringently evaluated for sensitivity, specificity, applicability, and feasibility.
- Participation in a multidisciplinary team to develop and maintain an effective institutional program for the judicious use of antimicrobial agents.

II.A.2. Institutional safety culture and organizational characteristics

Safety culture (or safety climate) refers to a work environment where a shared commitment to safety on the part of management and the workforce is understood and followed. The authors of the Institute of Medicine Report, "To Err is Human," acknowledge that causes of medical error are multifaceted but emphasize repeatedly the pivotal role of system failures and the benefits of a safety culture. A safety culture is created through 1) the actions management takes to improve patient and worker safety; 2) worker participation in safety planning; 3) the availability of appropriate protective equipment; 4) influence of group norms regarding acceptable safety practices; and 5) the organization's socialization process for new personnel. Safety and patient outcomes can be enhanced by improving or creating organizational characteristics within patient care units as demonstrated by studies of surgical ICUs. Each of these factors has a direct bearing on adherence to transmission prevention recommendations. Measurement of an institutional culture of safety is useful for designing improvements in healthcare. Several hospital-based studies have linked measures of safety culture with both employee adherence to safe practices and reduced exposures to blood and body fluids. One study of hand hygiene practices concluded that improved adherence requires integration of infection control into the organization's safety culture. Several hospitals that are part of the Veterans Administration Healthcare System have taken specific steps toward improving the safety culture, including error reporting mechanisms, performing root cause analysis on problems identified, providing safety incentives, and employee education.

II.A.3 Adherence of healthcare personnel to recommended guidelines

Adherence to recommended infection control practices decreases transmission of infectious agents in healthcare settings. However, several observational studies have shown limited adherence to recommended practices by healthcare personnel. Observed adherence to universal precautions ranged from 43 to 89 percent. However, the degree of adherence depended frequently on the practice that was assessed and, for glove use, the circumstance in which they were used. Appropriate glove use has ranged from a low of 15 percent to a high of 82 percent. However, 92 percent and 98 percent adherence with glove use have been reported during arterial blood gas collection and resuscitation, respectively, procedures where there may be considerable blood contact. Differences in observed adherence have been reported among occupational groups in the same healthcare facility and between experienced and non-experienced professionals. In surveys of healthcare personnel, self-reported adherence was generally higher than that reported in observational studies. Furthermore, where an observational component was included with a self-reported survey, self-perceived adherence was often greater than observed adherence. Among nurses and physicians, increasing years of experience is a negative predictor of adherence. Education to improve adherence is the primary intervention that has been studied. While positive changes in knowledge and attitude have been demonstrated, there often has been limited or no accompanying change in behavior. Self-reported adherence is higher in groups that have received an educational intervention. Educational interventions that incorporated videotaping and performance feedback were successful in improving adherence during the period of study; the long-term effect of these interventions is not known. The use of videotape also served to identify system problems (e.g., communication and access to personal protective equipment) that otherwise may not have been recognized.

Nursing consideration: There are multiple opportunities for nurses to implement and participate in research studies related to the use of engineering controls and adherence to infection control concepts.

Use of engineering controls and facility design concepts for improving adherence is gaining interest. While introduction of automated sinks had a negative impact on consistent adherence to hand washing, use of electronic monitoring and voice prompts to remind healthcare workers to perform hand hygiene, and improving accessibility to hand hygiene products, increased adherence and contributed to a decrease in HAIs in one study. More information is needed regarding how technology might improve adherence.

Improving adherence to infection control practices requires a multifaceted approach that incorporates continuous assessment of both the individual and the work environment. Using several behavioral theories, Kretzer and Larson concluded that a single intervention (e.g., a handwashing campaign or putting up new posters about transmission precautions) would likely be ineffective in improving healthcare personnel adherence. Improvement requires that the organizational leadership make prevention an institutional priority and integrate infection control practices into the organization's safety culture. A recent review of the literature concluded that variations in organizational factors (e.g., safety climate, policies and procedures, education and training) and individual factors (e.g., knowledge, perceptions of risk, past experience) were determinants of adherence to infection control guidelines for protection against SARS and other respiratory pathogens.

II.B. Surveillance for healthcare-associated infections (HAIs)

Surveillance is an essential tool for case-finding of single patients or clusters of patients who are infected or colonized with epidemiologically important organisms (e.g., susceptible bacteria such as S. aureus, S. pyogenes [Group A streptococcus] or Enterobacter-Klebsiella spp; MRSA, VRE, and other MDROs; C. difficile; RSV; influenza virus) for which transmission-based precautions may be required. Surveillance is defined as the ongoing, systematic collection, analysis, interpretation, and dissemination of data regarding a health-related event for use in public health action to reduce morbidity and mortality and to improve health. The work of Ignaz Semmelweis that described the role of person-to-person transmission in puerperal sepsis is the earliest example of the use of surveillance data to reduce transmission of infectious agents. Surveillance of both process measures and the infection rates to which they are linked are important for evaluating the effectiveness of infection prevention efforts and identifying indications for change.

The Study on the Efficacy of Nosocomial Infection Control (SENIC) found that different combinations of infection control practices resulted in reduced rates of nosocomial surgical site infections, pneumonia, urinary tract infections, and bacteremia in acute care hospitals; however, surveillance was the only component essential for reducing all four types of HAIs. Although a similar study has not been conducted in other healthcare settings, a role for surveillance and the need for novel strategies have been described in LTCFs and in home care. The essential elements of a surveillance system are: 1) standardized definitions; 2) identification of patient populations at risk for infection; 3) statistical analysis (e.g. risk-adjustment, calculation of rates using appropriate denominators, trend analysis using methods such as statistical process control charts); and 4) feedback of results to the primary caregivers. Data gathered through surveillance of high-risk populations, device use, procedures, and/or facility locations (e.g., ICUs) are useful for detecting transmission trends. Identification of clusters of infections should be followed by a systematic epidemiologic investigation to determine commonalities in persons, places, and time; and guide implementation of interventions and evaluation of the effectiveness of those interventions.

Targeted surveillance based on the highest risk areas or patients has been preferred over facility-wide surveillance for the most effective use of resources. However, surveillance for certain epidemiologically important organisms may need to be facility-wide. Surveillance methods will continue to evolve as healthcare delivery systems change and user-friendly electronic tools become more widely available for electronic tracking and trend analysis. Individuals with experience in healthcare epidemiology and infection control should be involved in selecting software packages for data aggregation and analysis to assure that the need for efficient and accurate HAI surveillance will be met. Effective surveillance is increasingly important as legislation requiring public reporting of HAI rates is passed and states work to develop effective systems to support such legislation.

II.C. Education of HCWs, patients, and families

Education and training of healthcare personnel are a prerequisite for ensuring that policies and procedures for Standard and Transmission-Based Precautions are understood and practiced. Understanding the scientific rationale for the precautions will allow HCWs to apply procedures correctly, as well as safely modify precautions based on changing requirements, resources, or healthcare settings. In one study, the likelihood of HCWs developing SARS was strongly associated with less than 2 hours of infection control training and lack of understanding of infection control procedures. Education about the important role of vaccines (e.g., influenza, measles, varicella, pertussis, pneumococcal) in protecting healthcare personnel, their patients, and family members can help improve vaccination rates.

Education on the principles and practices for preventing transmission of infectious agents should begin during training in the health professions and be provided to anyone who has an opportunity for contact with patients or medical equipment (e.g., nursing and medical staff; therapists and technicians, including respiratory, physical, occupational, radiology, and cardiology personnel; phlebotomists; housekeeping and maintenance staff; and students). In healthcare facilities, education and training on Standard and Transmission-Based Precautions are typically provided at the time of orientation and should be repeated as necessary to maintain competency; updated education and training are necessary when policies and procedures are revised or when there is a special circumstance, such as an outbreak that requires modification of current practice or adoption of new recommendations. Education and training materials and methods appropriate to the HCW's level of responsibility, individual learning habits, and language needs, can improve the learning experience.

Evidence-based practice! Requiring healthcare providers to update infection prevention and control training at regular intervals has been shown to increase compliance with protocols and policies[6].

Education programs for healthcare personnel have been associated with sustained improvement in adherence to best practices and a related decrease in device-associated HAIs in teaching and non-teaching settings and in medical and surgical ICUs. Several studies have shown that, in addition to targeted education to improve specific practices, periodic assessment and feedback of the HCWs knowledge, and adherence to recommended practices are necessary to achieve the desired changes and to identify continuing education needs. Effectiveness of this approach for isolation practices has been demonstrated for control of RSV.

Patients, family members, and visitors can be partners in preventing transmission of infections in healthcare settings. Information about Standard Precautions, especially hand hygiene, Respiratory Hygiene/Cough Etiquette, vaccination (especially against influenza) and other routine infection prevention strategies may be incorporated into patient information materials that are provided upon admission to the healthcare facility. Additional information about Transmission-Based Precautions is best provided at the time they are initiated. Fact sheets, pamphlets, and other printed material may include information on the rationale for the additional precautions, risks to household members, room assignment for Transmission-Based Precautions purposes, explanation about the use of personal protective equipment by HCWs, and directions for use of such equipment by family members and visitors. Such information may be particularly helpful in the home environment where household members often have primary responsibility for adherence to recommended infection control practices. Healthcare personnel must be available and prepared to explain this material and answer questions as needed.

II.D. Hand hygiene

Hand hygiene has been cited frequently as the single most important practice to reduce the transmission of infectious agents in healthcare settings and is an essential element of Standard Precautions. The term "hand hygiene" includes both handwashing with either plain or antiseptic-containing soap and water, and use of alcohol-based products (gels, rinses, foams) that do not require the use of water. In the absence of visible soiling of hands, approved alcohol- based products for hand disinfection are preferred over antimicrobial or plain soap and water because of their superior microbiocidal activity, reduced drying of the skin, and convenience. Improved hand hygiene practices have been associated with a sustained decrease in the incidence of MRSA and VRE infections primarily in the ICU. The scientific rationale, indications, methods, and products for hand hygiene are summarized in other publications.

Nursing consideration: The term "hand hygiene" includes both handwashing with either plain or antiseptic-containing soap and water, and use of alcohol-based products (gels, rinses, foams) that do not require the use of water.

Evidence-based practice! In the absence of visible soiling of hands, approved alcohol-based products for hand disinfection are preferred over antimicrobial or plain soap and water because of their superior microbiocidal activity, reduced drying of the skin, and convenience [6].

The effectiveness of hand hygiene can be reduced by the type and length of fingernails. Individuals wearing artificial nails have been shown to harbor more pathogenic organisms, especially gram-negative bacilli and yeasts, on the nails and in the subungual area than those with native nails. In 2002, CDC/HICPAC recommended (Category IA) that artificial fingernails and extenders not be worn by healthcare personnel who have contact with high-risk patients (e.g., those in ICUs, ORs) due to the association with outbreaks of gram-negative bacillus and candidal infections as confirmed by molecular typing of isolates. The need to restrict the wearing of artificial fingernails by all healthcare personnel who provide direct patient care or by healthcare personnel who have contact with other high risk groups (e.g., oncology, cystic fibrosis patients), has not been studied, but has been recommended by some experts. At this time such decisions are at the discretion of an individual facility's infection control program. There is less evidence that jewelry affects the quality of hand hygiene. Although hand contamination with potential pathogens is increased with ring-wearing, no studies have related this practice to HCW-to-patient transmission of pathogens.

Evidence-based practice! Individuals wearing artificial nails have been shown to harbor more pathogenic organisms, especially gram-negative bacilli and yeasts, on the nails and in the subungual area than individuals with native nails [6].

II.E. Personal protective equipment (PPE) for healthcare personnel

PPE refers to a variety of barriers and respirators used alone or in combination to protect mucous membranes, airways, skin, and clothing from contact with infectious agents. The selection of PPE is based on the nature of the patient interaction and/or the likely mode(s) of transmission. Guidance on the use of PPE is discussed in Part III. Designated containers for used disposable or reusable PPE should be placed in a location that is convenient to the site of removal to facilitate disposal and containment of contaminated materials. Hand hygiene is always the final step after removing and disposing of PPE. The following sections highlight the primary uses and methods for selecting this equipment.

II.E.1. Gloves

Gloves are used to prevent contamination of healthcare personnel hands when 1) anticipating direct contact with blood or body fluids, mucous membranes, nonintact skin and other potentially infectious material; 2) having direct contact with patients who are colonized or infected with pathogens transmitted by the contact route e.g., VRE, MRSA, RSV; or 3) handling or touching visibly or potentially contaminated patient care equipment and environmental surfaces. Gloves can protect both patients and healthcare personnel from exposure to infectious material that may be carried on hands. The extent to which gloves will protect healthcare personnel from transmission of bloodborne pathogens (e.g., HIV, HBV, HCV) following a needle stick or other puncture that penetrates the glove barrier has not been determined. Although gloves may reduce the volume of blood on the external surface of a sharp by 46-86 percent, the residual blood in the lumen of a hollowbore needle would not be affected; therefore, the effect on transmission risk is unknown.

Gloves manufactured for healthcare purposes are subject to FDA evaluation and clearance. Nonsterile disposable medical gloves made of a variety of materials (e.g., latex, vinyl, nitrile) are available for routine patient care. The selection of glove type for non-surgical use is based on a number of factors, including the task that is to be performed, anticipated contact with chemicals and chemotherapeutic agents, latex sensitivity, sizing, and facility policies for creating a latex-free environment. For contact with blood and body fluids during non-surgical patient care, a single pair of gloves generally provides adequate barrier protection. However, there is considerable variability among gloves; both the quality of the manufacturing process and type of material influence their barrier effectiveness. While there is little difference in the barrier properties of unused intact gloves, studies have shown repeatedly that vinyl gloves have higher failure rates than latex or nitrile gloves when tested under simulated and actual clinical conditions. For this reason either latex or nitrile gloves are preferable for clinical procedures that require manual dexterity and/or will involve more than brief patient contact. It may be necessary to stock gloves in several sizes. Heavier, reusable utility gloves are indicated for non-patient care activities, such as handling or cleaning contaminated equipment or surfaces.

During patient care, transmission of infectious organisms can be reduced by adhering to the principles of working from "clean" to "dirty," and confining or limiting contamination to surfaces that are directly needed for patient care. It may be necessary to change gloves during the care of a single patient to prevent cross-contamination of body sites. It also may be necessary to change gloves if the patient interaction also involves touching portable computer keyboards or other mobile equipment that is transported from room to room. Discarding gloves between patients is necessary to prevent transmission of infectious material. Gloves must not be washed for subsequent reuse because microorganisms cannot be removed reliably from glove surfaces and continued glove integrity cannot be ensured. Furthermore, glove reuse has been associated with transmission of MRSA and gram-negative bacilli.

When gloves are worn in combination with other PPE, they are put on last. Gloves that fit snugly around the wrist are preferred for use with an isolation gown because they will cover the gown cuff and provide a more reliable continuous barrier for the arms, wrists, and hands. Gloves that are removed properly will prevent hand contamination. Hand hygiene following glove removal further ensures that the hands will not carry potentially infectious

material that might have penetrated through unrecognized tears or that could contaminate the hands during glove removal.

Nursing consideration: Hand hygiene must be performed after glove removal to prevent the transmission of infectious material remaining on hands.

II.E.2. Isolation gowns

Isolation gowns are used as specified by Standard and Transmission-Based Precautions, to protect the HCW's arms and exposed body areas and prevent contamination of clothing with blood, body fluids, and other potentially infectious material. The need for and type of isolation gown selected is based on the nature of the patient interaction, including the anticipated degree of contact with infectious material and potential for blood and body fluid penetration of the barrier. The wearing of isolation gowns and other protective apparel is mandated by the OSHA Bloodborne Pathogens Standard. Clinical and laboratory coats or jackets worn over personal clothing for comfort and/or purposes of identity are not considered PPE.

When applying Standard Precautions, an isolation gown is worn only if contact with blood or body fluid is anticipated. However, when Contact Precautions are used (i.e., to prevent transmission of an infectious agent that is not interrupted by Standard Precautions alone and that is associated with environmental contamination), donning of both gown and gloves upon room entry is indicated to address unintentional contact with contaminated environmental surfaces. The routine donning of isolation gowns upon entry into an intensive care unit or other high-risk area does not prevent or influence potential colonization or infection of patients in those areas.

Isolation gowns are always worn in combination with gloves, and with other PPE when indicated. Gowns are usually the first piece of PPE to be donned. Full coverage of the arms and body front, from neck to the mid-thigh or below will ensure that clothing and exposed upper body areas are protected. Several gown sizes should be available in a healthcare facility to ensure appropriate coverage for staff members. Isolation gowns should be removed before leaving the patient care area to prevent possible contamination of the environment outside the patient's room. Isolation gowns should be removed in a manner that prevents contamination of clothing or skin (Figure). The outer, "contaminated," side of the gown is turned inward and rolled into a bundle, and then discarded into a designated container for waste or linen to contain contamination.

II.E.3. Face protection: Masks, goggles, face shields

II.E.3.a. Masks

Masks are used for three primary purposes in healthcare settings: 1) placed on healthcare personnel to protect them from contact with infectious material from patients e.g., respiratory secretions and sprays of blood or body fluids, consistent with Standard Precautions and Droplet Precautions; 2) placed on healthcare personnel when engaged in procedures requiring sterile technique to protect patients from exposure to infectious agents carried in a healthcare worker's mouth or nose, and 3) placed on coughing patients to limit potential dissemination of infectious respiratory secretions from the patient to others (i.e., Respiratory Hygiene/Cough Etiquette). Masks may be used in combination with goggles to protect the mouth, nose and eyes, or a face shield may be used instead of a mask and goggles, to provide more complete protection for the face, as discussed below. Masks should not be confused with particulate respirators that are used to prevent inhalation of small particles that may contain infectious agents transmitted via the airborne route as described below.

The mucous membranes of the mouth, nose, and eyes are susceptible portals of entry for infectious agents, as can be other skin surfaces if skin integrity is compromised (e.g., by acne, dermatitis). Therefore, use of PPE to protect these body sites is an important component of Standard Precautions. The protective effect of masks for exposed healthcare personnel has been demonstrated. Procedures that generate splashes or sprays of blood, body fluids, secretions, or excretions (e.g., endotracheal suctioning, bronchoscopy, invasive vascular procedures) require either a face shield (disposable or reusable) or mask and goggles. The wearing of masks, eye protection, and face shields in specified circumstances when blood or body fluid exposures are likely to occur is mandated by the OSHA Bloodborne Pathogens Standard. Appropriate PPE should be selected based on the anticipated level of exposure.

Two mask types are available for use in healthcare settings: surgical masks that are cleared by the FDA and required to have fluid-resistant properties, and procedure or isolation masks. No studies have been published that compare mask types to determine whether one mask type provides better protection than another. Since procedure/isolation masks are not regulated by the FDA, there may be more variability in quality and performance than with surgical masks. Masks come in various shapes (e.g., molded and non-molded), sizes, filtration efficiency, and method of attachment (e.g., ties, elastic, ear loops). Healthcare facilities may find that different types of masks are needed to meet individual healthcare personnel needs.

II.E.3.b. Goggles, face shields

Guidance on eye protection for infection control has been published. The eye protection chosen for specific work situations (e.g., goggles or face shield) depends upon the circumstances of exposure, other PPE used, and personal vision needs. Personal eyeglasses and contact lenses are NOT considered adequate eye protection (www.cdc.gov/niosh/topics/eye/eye-infectious.html). NIOSH states that, eye protection must be comfortable, allow for sufficient peripheral vision, and must be adjustable to ensure a secure fit. It may be necessary to provide several different types, styles, and sizes of protective equipment. Indirectly-vented goggles with a manufacturer's anti-fog coating may provide the most reliable practical eye protection from splashes, sprays, and respiratory droplets from multiple angles. Newer styles of goggles may provide better indirect airflow properties to reduce fogging, as well as better peripheral vision and more size options for fitting goggles to different workers. Many styles of goggles fit adequately over prescription glasses with minimal gaps. While effective as eye protection, goggles do not provide splash or spray protection to other parts of the face.

The role of goggles, in addition to a mask, in preventing exposure to infectious agents transmitted via respiratory droplets has been studied only for RSV. Reports published in the mid-1980s demonstrated that eye protection reduced occupational transmission of RSV. Whether this was due to preventing hand-eye contact or respiratory droplet-eye contact has not been determined. However, subsequent studies demonstrated that RSV transmission is effectively prevented by adherence to Standard plus Contact Precautions and that for this virus routine use of goggles is not necessary. It is important to remind healthcare personnel that even if Droplet Precautions are not recommended for a specific respiratory tract pathogen, protection for the eyes, nose and mouth by using a mask and goggles, or face shield alone, is necessary when it is likely that there will be a splash or spray of any respiratory secretions or other body fluids as defined in Standard Precautions.

Disposable or non-disposable face shields may be used as an alternative to goggles. As compared with goggles, a face shield can provide protection to other facial areas in addition to the eyes. Face shields extending from chin to crown provide better face and eye protection from splashes and sprays; face shields that wrap around the sides may reduce splashes around the edge of the shield.

Removal of a face shield, goggles and mask can be performed safely after gloves have been removed, and hand hygiene performed. The ties, earpieces and/or headband used to secure the equipment to the head are considered "clean" and therefore safe to touch with bare hands. The front of a mask, goggles and face shield are considered contaminated.

Nursing consideration: Face shields, goggles, and masks should be removed after gloves have been removed and hand hygiene has been performed.

II.E.4. Respiratory protection

The subject of respiratory protection as it applies to preventing transmission of airborne infectious agents, including the need for and frequency of fit-testing is under scientific review and was the subject of a CDC workshop in 2004. Respiratory protection currently requires the use of a respirator with N95 or higher filtration to prevent inhalation of infectious particles. Information about respirators and respiratory protection programs is summarized in the Guideline for Preventing Transmission of Mycobacterium tuberculosis in Healthcare Settings, 2005. Respiratory protection is broadly regulated by OSHA under the general industry standard for respiratory protection which requires that U.S. employers in all employment settings implement a program to protect employees from inhalation of toxic materials. OSHA program components include medical clearance to wear a respirator; provision and use of appropriate respirators, including fit-tested NIOSH-certified N95 and higher particulate filtering respirators; education on respirator use and periodic re-evaluation of the respiratory protection program. When selecting particulate respirators, models with inherently good fit characteristics (i.e., those expected to provide protection factors of 10 or more to 95 percent of wearers) are preferred and could theoretically relieve the need for fit testing. Issues pertaining to respiratory protection remain the subject of ongoing debate. Information on various types of respirators may be found at www.cdc.gov/niosh/npptl/respirators/respsars.html and in published studies. A user-seal check (formerly called a "fit check") should be performed by the wearer of a respirator each time a respirator is donned to minimize air leakage around the face piece. The optimal frequency of fit-testing has not been determined; re-testing may be indicated if there is a change in facial features of the wearer, onset of a medical condition that would affect respiratory function in the wearer, or a change in the model or size of the initially assigned respirator.

Respiratory protection was first recommended for protection of preventing U.S. healthcare personnel from exposure to M. tuberculosis in 1989. That recommendation has been maintained in two successive revisions of the Guidelines for Prevention of Transmission of Tuberculosis in Hospitals and other Healthcare Settings. The incremental benefit from respirator use, in addition to administrative and engineering controls (i.e., AIIRs, early recognition of patients likely to have tuberculosis and prompt placement in an AIIR, and maintenance of a patient with suspected tuberculosis in an AIIR until no longer infectious), for preventing transmission of airborne infectious agents (e.g., M. tuberculosis) is undetermined. Although some studies have demonstrated effective prevention of M. tuberculosis transmission in hospitals where surgical masks, instead of respirators, were used in conjunction with other administrative and engineering controls, CDC currently recommends N95 or higher level respirators for personnel exposed to patients with suspected for confirmed tuberculosis. Currently this is also true for other diseases that could be transmitted through the airborne route, including SARS and smallpox, until inhalational transmission is better defined or healthcare-specific protective equipment more suitable for preventing infection are developed. Respirators are also currently recommended to be worn during the performance of aerosol-generating procedures (e.g., intubation, bronchoscopy, suctioning) on patients with SARS Co-V infection, avian influenza and pandemic influenza (See Appendix A).

Although Airborne Precautions are recommended for preventing airborne transmission of measles and varicella-zoster viruses, there are no data upon which to base a recommendation for respiratory protection to protect susceptible personnel against these two infections; transmission of varicella-zoster virus has been prevented among pediatric patients using negative pressure isolation alone. Whether respiratory protection (i.e., wearing a particulate respirator) would enhance protection from these viruses has not been studied. Since the majority of healthcare personnel have natural or acquired immunity to these viruses, only immune personnel generally care for patients with these infections. Although there is no evidence to suggest that masks are not adequate to protect healthcare personnel in these settings, for purposes of consistency and simplicity, or because of difficulties in ascertaining immunity, some facilities may require the use of respirators for entry into all AIIRs, regardless of the specific infectious agent.

Procedures for safe removal of respirators are provided. In some healthcare settings, particulate respirators used to provide care for patients with M. tuberculosis are reused by the same HCW. This is an acceptable practice providing the respirator is not damaged or soiled, the fit is not compromised by change in shape, and the respirator has not been contaminated with blood or body fluids. There are no data on which to base a recommendation for the length of time a respirator may be reused.

Nursing consideration: Nurses must be aware of the steps for donning and removing personal protective equipment. The following charts outline these steps [15].

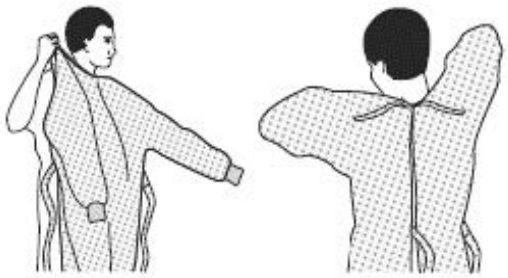
Reprinted from Centers for Disease Control and Prevention. Poster: Sequence for Donning and Removing Personal Protective Equipment. Retrieved from http://www.cdc.gov/HAI/prevent/ppe.html [3].

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



2. MASK OR RESPIRATOR

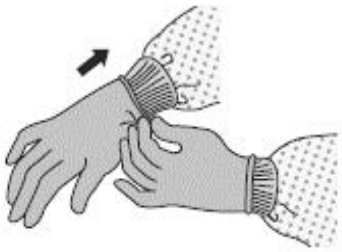
- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator

3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit

4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene

HOWTO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container

2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

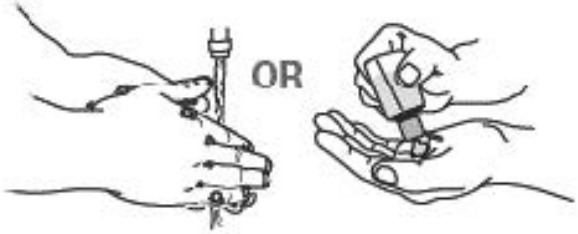
3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container

4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container

5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



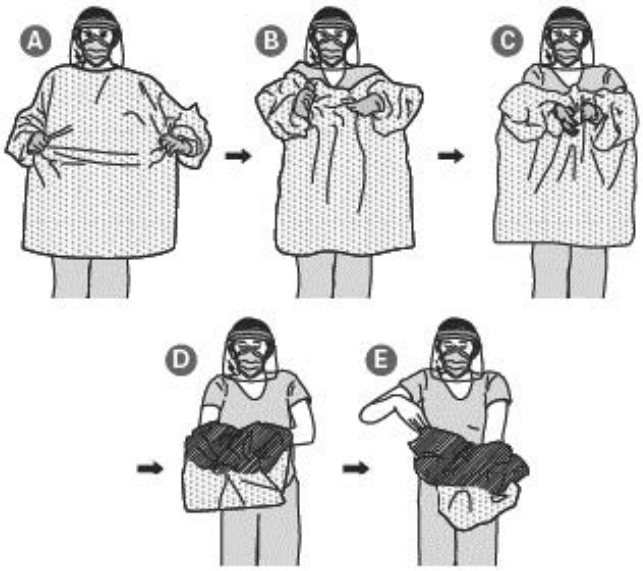
PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 2

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GOWN AND GLOVES

- Gown front and sleeves and the outside of gloves are contaminated!
- If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into a waste container



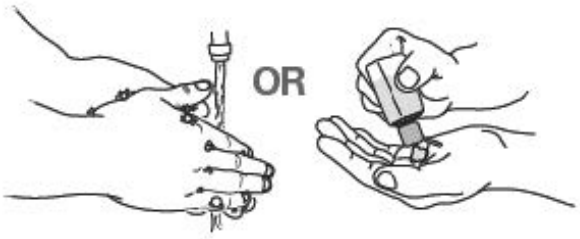
2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

3. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container

4. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

II.F. Safe work practices to prevent HCW exposure to bloodborne pathogens

II.F.1. Prevention of needlesticks and other sharps-related injuries

Injuries due to needles and other sharps have been associated with transmission of HBV, HCV, and HIV to healthcare personnel. The prevention of sharps injuries has always been an essential element of Universal and now Standard Precautions. These include measures to handle needles and other sharp devices in a manner that will prevent injury to the user and to others who may encounter the device during or after a procedure. These measures apply to routine patient care and do not address the prevention of sharps injuries and other blood exposures during surgical and other invasive procedures that are addressed elsewhere.

Since 1991, when OSHA first issued its Bloodborne Pathogens Standard to protect healthcare personnel from blood exposure, the focus of regulatory and legislative activity has been on implementing a hierarchy of control measures. This has included focusing attention on removing sharps hazards through the development and use of engineering controls. The federal Needlestick Safety and Prevention Act signed into law in November, 2000 authorized OSHA's revision of its Bloodborne Pathogens Standard to more explicitly require the use of safety-engineered sharp devices. CDC has provided guidance on sharps injury prevention, including for the design, implementation and evaluation of a comprehensive sharps injury prevention program.

II.F.2. Prevention of mucous membrane contact

Exposure of mucous membranes of the eyes, nose and mouth to blood and body fluids has been associated with the transmission of bloodborne viruses and other infectious agents to healthcare personnel. The prevention of mucous membrane exposures has always been an element of Universal and now Standard Precautions for routine patient care and is subject to OSHA bloodborne pathogen regulations. Safe work practices, in addition to wearing PPE, are used to protect mucous membranes and non-intact skin from contact with potentially infectious material. These include keeping gloved and ungloved hands that are contaminated from touching the mouth, nose, eyes, or face; and positioning patients to direct sprays and splatter away from the face of the caregiver. Careful placement of PPE before patient contact will help avoid the need to make PPE adjustments and possible face or mucous membrane contamination during use.

In areas where the need for resuscitation is unpredictable, mouthpieces, pocket resuscitation masks with one-way valves, and other ventilation devices provide an alternative to mouth-to-mouth resuscitation, preventing exposure of the caregiver's nose and mouth to oral and respiratory fluids during the procedure.

II.F.2.a. Precautions during aerosol-generating procedures

The performance of procedures that can generate small particle aerosols (aerosol-generating procedures), such as bronchoscopy, endotracheal intubation, and open suctioning of the respiratory tract, have been associated with transmission of infectious agents to healthcare personnel, including M. tuberculosis, SARS- CoV and N. meningitidis. Protection of the eyes, nose and mouth, in addition to gown and gloves, is recommended during performance of these procedures in accordance with Standard Precautions. Use of a particulate respirator is recommended during aerosol-generating procedures when the aerosol is likely to contain M. tuberculosis, SARS-CoV, or avian or pandemic influenza viruses.

II.G.Patient placement

II.G.1. Hospitals and long-term care settings

Options for patient placement include single patient rooms, two patient rooms, and multi-bed wards. Of these, single patient rooms are preferred when there is a concern about transmission of an infectious agent. Although some studies have failed to demonstrate the efficacy of single patient rooms to prevent HAIs, other published studies, including one commissioned by the American Institute of Architects and the Facility Guidelines Institute, have documented a beneficial relationship between private rooms and reduction in infectious and noninfectious adverse patient outcomes. The AIA notes that private rooms are the trend in hospital planning and design. However, most hospitals and long-term care facilities have multi-bed rooms and must consider many competing priorities when determining the appropriate room placement for patients (e.g., reason for admission; patient characteristics, such as age, gender, mental status; staffing needs; family requests; psychosocial factors; reimbursement concerns). In the absence of obvious infectious diseases that require specified airborne infection isolation rooms (e.g., tuberculosis, SARS, chickenpox), the risk of transmission of infectious agents is not always considered when making placement decisions. When there are only a limited number of single-patient rooms, it is prudent to prioritize them for those patients who have conditions that facilitate transmission of infectious material to other patients (e.g., draining wounds, stool incontinence, uncontained secretions) and for those who are at increased risk of acquisition and adverse outcomes resulting from HAI (e.g., immunosuppression, open wounds, indwelling catheters, anticipated prolonged length of stay, total dependence on HCWs for activities of daily living).

Single-patient rooms are always indicated for patients placed on Airborne Precautions and in a Protective Environment and are preferred for patients who require Contact or Droplet Precautions. During a suspected or proven outbreak caused by a pathogen whose reservoir is the gastrointestinal tract, use of single patient rooms with private bathrooms limits opportunities for transmission, especially when the colonized or infected patient has poor personal hygiene habits, fecal incontinence, or cannot be expected to assist in maintaining procedures that prevent transmission of microorganisms (e.g., infants, children, and patients with altered mental status or developmental delay). In the absence of continued transmission, it is not necessary to provide a private bathroom for patients colonized or infected with enteric pathogens as long as personal hygiene practices and Standard Precautions, especially hand hygiene and appropriate environmental cleaning, are maintained. Assignment of a dedicated commode to a patient, and cleaning and disinfecting fixtures and equipment that may have fecal contamination (e.g., bathrooms, commodes, scales used for weighing diapers) and the adjacent surfaces with appropriate agents may be especially important when a single-patient room cannot be used since environmental contamination with intestinal tract pathogens is likely from both continent and incontinent patients. Results of several studies to determine the benefit of a single-patient room to prevent transmission of Clostridium difficile are inconclusive. Some studies have shown that being in the same room with a colonized or infected patient is not necessarily a risk factor for transmission. However, for children, the risk of healthcare-associated diarrhea is increased with the increased number of patients per room. Thus, patient factors are important determinants of infection transmission risks, and the need for a single-patient room and/or private bathroom for any patient is best determined on a case-by-case basis.

Cohorting is the practice of grouping together patients who are colonized or infected with the same organism to confine their care to one area and prevent contact with other patients. Cohorts are created based on clinical diagnosis, microbiologic confirmation when available, epidemiology, and mode of transmission of the infectious agent. It is generally preferred not to place severely immunosuppressed patients in rooms with other patients. Cohorting has been used extensively for managing outbreaks of MDROs including MRSA, VRE, MDR-

ESBLs; Pseudomonas aeruginosa; methicillin-susceptible Staphylococcus aureus; RSV; adenovirus keratoconjunctivitis; rotavirus; and SARS. Modeling studies provide additional support for cohorting patients to control outbreaks Talon. However, cohorting often is implemented only after routine infection control measures have failed to control an outbreak. Assigning or cohorting healthcare personnel to care only for patients infected or colonized with a single target pathogen limits further transmission of the target pathogen to uninfected patients but is difficult to achieve in the face of current staffing shortages in hospitals and residential healthcare sites. However, when continued transmission is occurring after implementing routine infection control measures and creating patient cohorts, cohorting of healthcare personnel may be beneficial.

During the seasons when RSV, human metapneumovirus, parainfluenza, influenza, other respiratory viruses, and rotavirus are circulating in the community, cohorting based on the presenting clinical syndrome is often a priority in facilities that care for infants and young children. For example, during the respiratory virus season, infants may be cohorted based solely on the clinical diagnosis of bronchiolitis due to the logistical difficulties and costs associated with requiring microbiologic confirmation prior to room placement, and the predominance of RSV during most of the season. However, when available, single patient rooms are always preferred since a common clinical presentation (e.g., bronchiolitis), can be caused by more than one infectious agent. Furthermore, the inability of infants and children to contain body fluids, and the close physical contact that occurs during their care, increases infection transmission risks for patients and personnel in this setting.

II.G.2. Ambulatory settings

Patients actively infected with or incubating transmissible infectious diseases are seen frequently in ambulatory settings (e.g., outpatient clinics, physicians' offices, emergency departments) and potentially expose healthcare personnel and other patients, family members and visitors. In response to the global outbreak of SARS in 2003 and in preparation for pandemic influenza, healthcare providers working in outpatient settings are urged to implement source containment measures (e.g., asking coughing patients to wear a surgical mask or cover their coughs with tissues) to prevent transmission of respiratory infections, beginning at the point of initial patient encounter as described below in section III.A.1.a. Signs can be posted at the entrance to facilities or at the reception or registration desk requesting that the patient or individuals accompanying the patient promptly inform the receptionist if there are symptoms of a respiratory infection (e.g., cough, flu-like illness, increased production of respiratory secretions). The presence of diarrhea, skin rash, or known or suspected exposure to a transmissible disease (e.g., measles, pertussis, chickenpox, tuberculosis) also could be added. Placement of potentially infectious patients without delay in an examination room limits the number of exposed individuals, e.g., in the common waiting area.

In waiting areas, maintaining a distance between symptomatic and non- symptomatic patients (e.g., >3 feet), in addition to source control measures, may limit exposures. However, infections transmitted via the airborne route (e.g., M tuberculosis, measles, chickenpox) require additional precautions. Patients suspected of having such an infection can wear a surgical mask for source containment, if tolerated, and should be placed in an examination room, preferably an AIIR, as soon as possible. If this is not possible, having the patient wear a mask and segregate him/herself from other patients in the waiting area will reduce opportunities to expose others. Since the person(s) accompanying the patient also may be infectious, application of the same infection control precautions may need to be extended to these persons if they are symptomatic. For example, family members accompanying children admitted with suspected M. tuberculosis have been found to have unsuspected pulmonary tuberculosis with cavitary lesions, even when asymptomatic.

Patients with underlying conditions that increase their susceptibility to infection (e.g., those who are immunocompromised or have cystic fibrosis) require special efforts to protect them from exposures to infected patients in common waiting areas. By informing the receptionist of their infection risk upon arrival, appropriate steps may be taken to further protect them from infection. In some cystic fibrosis clinics, in order to avoid exposure to other patients who could be colonized with B. cepacia, patients have been given beepers upon registration so that they may leave the area and receive notification to return when an examination room becomes available.

II.G.3. Home care

In home care, the patient placement concerns focus on protecting others in the home from exposure to an infectious household member. For individuals who are especially vulnerable to adverse outcomes associated with certain infections, it may be beneficial to either remove them from the home or segregate them within the home. Persons who are not part of the household may need to be prohibited from visiting during the period of infectivity. For example, if a patient with pulmonary tuberculosis is contagious and being cared for at home, very young children (<4 years of age) and immunocompromised persons who have not yet been infected should be removed or excluded from the household. During the SARS outbreak of 2003, segregation of infected persons during the communicable phase of the illness was beneficial in preventing household transmission.

II.H. Transport of patients

Several principles are used to guide transport of patients requiring Transmission-Based Precautions. In the inpatient and residential settings these include 1) limiting transport of such patients to essential purposes, such as diagnostic and therapeutic procedures that cannot be performed in the patient's room; 2) when transport is necessary, using appropriate barriers on the patient (e.g., mask, gown, wrapping in sheets or use of impervious dressings to cover the affected area(s) when infectious skin lesions or drainage are present, consistent with the route and risk of transmission; 3) notifying healthcare personnel in the receiving area of the impending arrival of the patient and of the precautions necessary to prevent transmission; and 4) for patients being transported outside the facility, informing the receiving facility and the medi-van or emergency vehicle personnel in advance about the type of Transmission-Based Precautions being used. For tuberculosis, additional precautions may be needed in a small shared air space such as in an ambulance.

II.I. Environmental measures

Cleaning and disinfecting non-critical surfaces in patient-care areas are part of Standard Precautions. In general, these procedures do not need to be changed for patients on Transmission-Based Precautions. The cleaning and disinfection of all patient-care areas is important for frequently touched surfaces, especially those closest to the patient, that are most likely to be contaminated (e.g., bedrails, bedside tables, commodes, doorknobs, sinks, surfaces and equipment in close proximity to the patient). The frequency or intensity of cleaning may need to change based on the patient's level of hygiene and the degree of environmental contamination and for certain for infectious agents whose reservoir is the intestinal tract. This may be especially true in LTCFs and pediatric facilities where patients with stool and urine incontinence are encountered more frequently. Also, increased frequency of cleaning may be needed in a Protective Environment to minimize dust accumulation.

Special recommendations for cleaning and disinfecting environmental surfaces in dialysis centers have been published. In all healthcare settings, administrative, staffing and scheduling activities should prioritize the proper cleaning and disinfection of surfaces that could be implicated in transmission. During a suspected or proven outbreak where an environmental reservoir is suspected, routine cleaning procedures should be reviewed, and the need for additional trained cleaning staff should be assessed. Adherence should be monitored and reinforced to promote consistent and correct cleaning is performed.

EPA-registered disinfectants or detergents/disinfectants that best meet the overall needs of the healthcare facility for routine cleaning and disinfection should be selected. In general, use of the existing facility detergent/disinfectant according to the manufacturer's recommendations for amount, dilution, and contact time is sufficient to remove pathogens from surfaces of rooms where colonized or infected individuals were housed. This includes those pathogens that are resistant to multiple classes of antimicrobial agents (e.g., C. difficile, VRE, MRSA, MDR-GNB). Most often, environmental reservoirs of pathogens during outbreaks are related to a failure to follow recommended procedures for cleaning and disinfection rather than the specific cleaning and disinfectant agents used.

Certain pathogens (e.g., rotavirus, noroviruses, C. difficile) may be resistant to some routinely used hospital disinfectants. The role of specific disinfectants in limiting transmission of rotavirus has been demonstrated experimentally. Also, since C. difficile may display increased levels of spore production when exposed to non-chlorine-based cleaning agents, and the spores are more resistant than vegetative cells to commonly used surface disinfectants, some investigators have recommended the use of a 1:10 dilution of 5.25 percent sodium hypochlorite (household bleach) and water for routine environmental disinfection of rooms of patients with C. difficile when there is continued transmission. In one study, the use of a hypochlorite solution was associated with a decrease in rates of C. difficile infections. The need to change disinfectants based on the presence of these organisms can be determined in consultation with the infection control committee.

Detailed recommendations for disinfection and sterilization of surfaces and medical equipment that have been in contact with prion-containing tissue or high risk body fluids, and for cleaning of blood and body substance spills, are available in the "Guidelines for Environmental Infection Control in Healthcare Facilities" and in the "Guideline for Disinfection and Sterilization."

II.J. Patient care equipment and instruments/devices

Medical equipment and instruments/devices must be cleaned and maintained according to the manufacturers' instructions to prevent patient-to-patient transmission of infectious agents. Cleaning to remove organic material must always precede high level disinfection and sterilization of critical and semi-critical instruments and devices because residual proteinacous material reduces the effectiveness of the disinfection and sterilization processes. Noncritical equipment, such as commodes, intravenous pumps, and ventilators, must be thoroughly cleaned and disinfected before use on another patient. All such equipment and devices should be handled in a manner that will prevent HCW and environmental contact with potentially infectious material. It is important to include computers and personal digital assistants (PDAs) used in patient care in policies for cleaning and disinfection of non-critical items. The literature on contamination of computers with pathogens has been summarized and two reports have linked computer contamination to colonization and infections in patients. Although keyboard covers and washable keyboards that can be easily disinfected are in use, the infection control benefit of those items and optimal management have not been determined.

In all healthcare settings, providing patients who are on Transmission-Based Precautions with dedicated noncritical medical equipment (e.g., stethoscope, blood pressure cuff, electronic thermometer) has been beneficial for preventing transmission. When this is not possible, disinfection after use is recommended. Consult other guidelines for detailed guidance in developing specific protocols for cleaning and reprocessing medical equipment and patient care items in both routine and special circumstances. In home care, it is preferable to remove visible blood or body fluids from durable medical equipment before it leaves the home. Equipment can be cleaned on-site using a detergent/disinfectant and, when possible, should be placed in a single plastic bag for transport to the reprocessing location.

Nursing consideration: Patients on transmission-based precautions need to have dedicated noncritical medical equipment (e.g., stethoscope, blood pressure cuff, electronic thermometer) to prevent transmission of infectious organisms.

II.K. Textiles and laundry

Soiled textiles, including bedding, towels, and patient or resident clothing may be contaminated with pathogenic microorganisms. However, the risk of disease transmission is negligible if they are handled, transported, and laundered in a safe manner. Key principles for handling soiled laundry are 1) not shaking the items or handling them in any way that may aerosolize infectious agents; 2) avoiding contact of one's body and personal clothing with the soiled items being handled; and 3) containing soiled items in a laundry bag or designated bin. When laundry chutes are used, they must be maintained to minimize dispersion of aerosols from contaminated items. The methods for handling, transporting, and laundering soiled textiles are determined by organizational policy and any applicable regulations; guidance is provided in the Guidelines for Environmental Infection Control. Rather than rigid rules and regulations, hygienic and common sense storage and processing of clean textiles is recommended.

When laundering occurs outside of a healthcare facility, the clean items must be packaged or completely covered and placed in an enclosed space during transport to prevent contamination with outside air or construction dust that could contain infectious fungal spores that are a risk for immunocompromised patients.

Institutions are required to launder garments used as personal protective equipment and uniforms visibly soiled with blood or infective material. There are few data to determine the safety of home laundering of HCW uniforms, but no increase in infection rates was observed in the one published study and no pathogens were recovered from home- or hospital-laundered scrubs in another study. In the home, textiles and laundry from patients with potentially transmissible infectious pathogens do not require special handling or separate laundering, and may be washed with warm water and detergent.

II.L. Solid waste

The management of solid waste emanating from the healthcare environment is subject to federal and state regulations for medical and non-medical waste. No additional precautions are needed for non-medical solid waste that is being removed from rooms of patients on transmission-based precautions. Solid waste may be contained in a single bag (as compared to using two bags) of sufficient strength.

II.M. Dishware and eating utensils

The combination of hot water and detergents used in dishwashers is sufficient to decontaminate dishware and eating utensils. Therefore, no special precautions are needed for dishware (e.g., dishes, glasses, cups) or eating utensils; reusable dishware and utensils may be used for patients requiring transmission-based precautions. In the home and other communal settings, eating utensils and drinking vessels that are being used should not be shared, consistent with principles of good personal hygiene and for the purpose of preventing transmission of respiratory viruses, Herpes simplex virus, and infectious agents that infect the gastrointestinal tract and are transmitted by the fecal/oral route (e.g., hepatitis A virus, noroviruses). If adequate resources for cleaning utensils and dishes are not available, disposable products may be used.

II.N. Adjunctive measures

Important adjunctive measures that are not considered primary components of programs to prevent transmission of infectious agents, but improve the effectiveness of such programs, include 1) antimicrobial management programs; 2) postexposure chemoprophylaxis with antiviral or antibacterial agents; 3) vaccines used both for pre and postexposure prevention; and 4) screening and restricting visitors with signs of transmissible infections. Detailed discussion of judicious use of antimicrobial agents is beyond the scope of this document; however the topic is addressed in the MDRO section (Management of Multidrug-Resistant Organisms in Healthcare Settings 2006. www.cdc.gov/ncidod/dhqp/pdf/ar/mdroGuideline2006.pdf).

II.N.1. Chemoprophylaxis

Antimicrobial agents and topical antiseptics may be used to prevent infection and potential outbreaks of selected agents. Infections for which postexposure chemoprophylaxis is recommended under defined conditions include B. pertussis, N. meningitidis, B. anthracis after environmental exposure to aeosolizable material, influenza virus, HIV, and group A streptococcus. Orally administered antimicrobials may also be used under defined circumstances for MRSA decolonization of patients or healthcare personnel.

Another form of chemoprophylaxis is the use of topical antiseptic agents. For example, triple dye is used routinely on the umbilical cords of term newborns to reduce the risk of colonization, skin infections, and omphalitis caused by S. aureus, including MRSA, and group A streptococcus. Extension of the use of triple dye to low birth weight infants in the NICU was one component of a program that controlled one longstanding MRSA outbreak. Topical antiseptics are also used for decolonization of healthcare personnel or selected patients colonized with MRSA, using mupirocin as discussed in the MDRO guideline 867, 871-873.

II.N.2. Immunoprophylaxis

Certain immunizations recommended for susceptible healthcare personnel have decreased the risk of infection and the potential for transmission in healthcare facilities. The OSHA mandate that requires employers to offer hepatitis B vaccination to HCWs played a substantial role in the sharp decline in incidence of occupational HBV infection. The use of varicella vaccine in healthcare personnel has decreased the need to place susceptible HCWs on administrative leave following exposure to patients with varicella. Also, reports of healthcare-associated transmission of rubella in obstetrical clinics and measles in acute care settings demonstrate the importance of immunization of susceptible healthcare personnel against childhood diseases. Many states have requirements for HCW vaccination for measles and rubella in the absence of evidence of immunity. Annual influenza vaccine campaigns targeted to patients and healthcare personnel in LTCFs and acute-care settings have been instrumental in preventing or limiting institutional outbreaks and increasing attention is being directed toward improving influenza vaccination rates in healthcare personnel.

Transmission of B. pertussis in healthcare facilities has been associated with large and costly outbreaks that include both healthcare personnel and patients. HCWs who have close contact with infants with pertussis are at particularly high risk because of waning immunity and, until 2005, the absence of a vaccine that could be used in adults. However, two acellular pertussis vaccines were licensed in the United States in 2005, one for use in individuals aged 11-18 and one for use in ages 10-64 years. Provisional ACIP recommendations at the time of publication of this document include adolescents and adults, especially those with contact with infants < 12 months of age and healthcare personnel with direct patient contact.

Immunization of children and adults will help prevent the introduction of vaccine- preventable diseases into healthcare settings. The recommended immunization schedule for children is published annually in the January issues of the Morbidity Mortality Weekly Report with interim updates as needed. An adult immunization schedule also is available for healthy adults and those with special immunization needs due to high-risk medical conditions.

Some vaccines are also used for postexposure prophylaxis of susceptible individuals, including varicella, influenza, hepatitis B, and smallpox vaccines. In the future, administration of a newly developed S. aureus conjugate vaccine (still under investigation) to selected patients may provide a novel method of preventing healthcare-associated S. aureus, including MRSA, infections in high-risk groups (e.g., hemodialysis patients and candidates for selected surgical procedures).

Immune globulin preparations also are used for postexposure prophylaxis of certain infectious agents under specified circumstances (e.g., varicella-zoster virus [VZIG], hepatitis B virus [HBIG], rabies [RIG], measles and hepatitis A virus [IG]). The RSV monoclonal antibody preparation, Palivizumab, may have contributed to controlling a nosocomial outbreak of RSV in one NICU, but there is insufficient evidence to support a routine recommendation for its use in this setting.

II.N.3. Management of visitors

II.N.3.a. Visitors as sources of infection

Visitors have been identified as the source of several types of HAIs (e.g., pertussis, M. tuberculosis, influenza, and other respiratory viruses and SARS). However, effective methods for visitor screening in healthcare settings have not been studied. Visitor screening is especially important during community outbreaks of infectious diseases and for high risk patient units. Sibling visits are often encouraged in birthing centers, postpartum rooms and in pediatric inpatient units, ICUs, and in residential settings for children; in hospital settings, a child visitor should visit only his or her own sibling. Screening of visiting siblings and other children before they are allowed into clinical areas is necessary to prevent the introduction of childhood illnesses and common respiratory infections. Screening may be passive through the use of signs to alert family members and visitors with signs and symptoms of communicable diseases not to enter clinical areas. More active screening may include the completion of a screening tool or questionnaire which elicits information related to recent exposures or current symptoms. That information is reviewed by the facility staff and the visitor is either permitted to visit or is excluded.

Family and household members visiting pediatric patients with pertussis and tuberculosis may need to be screened for a history of exposure as well as signs and symptoms of current infection. Potentially infectious visitors are excluded until they receive appropriate medical screening, diagnosis, or treatment. If exclusion is not considered to be in the best interest of the patient or family (i.e., primary family members of critically or terminally ill patients), then the symptomatic visitor must wear a mask while in the healthcare facility and remain in the patient's

room, avoiding exposure to others, especially in public waiting areas and the cafeteria.

Visitor screening is used consistently on HSCT units. However, considering the experience during the 2003 SARS outbreaks and the potential for pandemic influenza, developing effective visitor screening systems will be beneficial. Education concerning Respiratory Hygiene/Cough Etiquette is a useful adjunct to visitor screening.

II.N.3.b. Use of barrier precautions by visitors

The use of gowns, gloves, or masks by visitors in healthcare settings has not been addressed specifically in the scientific literature. Some studies included the use of gowns and gloves by visitors in the control of MDRO's, but did not perform a separate analysis to determine whether their use by visitors had a measurable impact. Family members or visitors who are providing care or having very close patient contact (e.g., feeding, holding) may have contact with other patients and could contribute to transmission if barrier precautions are not used correctly. Specific recommendations may vary by facility or by unit and should be determined by the level of interaction.

SECTION III: PRECAUTIONS TO PREVENT TRANSMISSION OF INFECTIOUS AGENTS

There are two tiers of HICPAC/CDC precautions to prevent transmission of infectious agents, standard precautions and transmission-based precautions. Standard precautions are intended to be applied to the care of all patients in all healthcare settings, regardless of the suspected or confirmed presence of an infectious agent. Implementation of standard precautions constitutes the primary strategy for the prevention of healthcare-associated transmission of infectious agents among patients and healthcare personnel.

Evidence-based practice! Standard precautions must be used for all patients to prevent the transmission of infectious agents among patients and healthcare personnel [6].

Transmission-based precautions are for patients who are known or suspected to be infected or colonized with infectious agents, including certain epidemiologically important pathogens, which require additional control measures to effectively prevent transmission. Since the infecting agent often is not known at the time of admission to a healthcare facility, transmission-based precautions are used empirically, according to the clinical syndrome and the likely etiologic agents at the time, and then modified when the pathogen is identified or a transmissible infectious etiology is ruled out. Examples of this syndromic approach are presented in Table 2. The HICPAC/CDC Guidelines also include recommendations for creating a protective environment for allogeneic HSCT patients.

The specific elements of standard and transmission-based precautions are discussed in Part II of this guideline. In Part III, the circumstances in which standard precautions, transmission-based precautions, and a protective environment are applied are discussed. See Tables 4 and 5 for summaries of the key elements of these sets of precautions.

III.A. Standard precautions

Standard precautions combine the major features of universal precautions (UP) and body substance isolation (BSI) and are based on the principle that all blood, body fluids, secretions, excretions except sweat, nonintact skin, and mucous membranes may contain transmissible infectious agents. Standard precautions include a group of infection prevention practices that apply to all patients, regardless of suspected or confirmed infection status, in any setting in which healthcare is delivered (Table 4). These include: hand hygiene; use of gloves, gown, mask, eye protection, or face shield, depending on the anticipated exposure; and safe injection practices. Also, equipment or items in the patient environment likely to have been contaminated with infectious body fluids must be handled in a manner to prevent transmission of infectious agents (e.g. wear gloves for direct contact, contain heavily soiled equipment, properly clean and disinfect or sterilize reusable equipment before use on another patient).

Nursing consideration: Standard precautions must be used on all patients and include: hand hygiene; use of gloves, gown, mask, eye protection, or face shield, depending on the anticipated exposure; and safe injection practices.

The application of standard precautions during patient care is determined by the nature of the HCW-patient interaction and the extent of anticipated blood, body fluid, or pathogen exposure. For some interactions (e.g., performing venipuncture), only gloves may be needed; during other interactions (e.g., intubation), use of gloves, gown, and face shield or mask and goggles is necessary. Education and training on the principles and rationale for recommended practices are critical elements of standard precautions because they facilitate appropriate decision-making and promote adherence when HCWs are faced with new circumstances. An example of the importance of the use of standard precautions is intubation, especially under emergency circumstances when infectious agents may not be suspected, but later are identified (e.g., SARS-CoV, N. meningitides). The application of standard precautions is described below and summarized in Table 4. Standard precautions are also intended to protect patients by ensuring that healthcare personnel do not carry infectious agents to patients on their hands or via equipment used during patient care.

III.A.1. New elements of standard precautions

Infection control problems that are identified in the course of outbreak investigations often indicate the need for new recommendations or reinforcement of existing infection control recommendations to protect patients. Because such recommendations are considered a standard of care and may not be included in other guidelines, they are added here to standard precautions. Three such areas of practice that have been added are: Respiratory yygiene/cough etiquette, safe injection practices, and use of masks for insertion of catheters or injection of material into spinal or epidural spaces via lumbar puncture procedures (e.g., myelogram, spinal or epidural anesthesia). While most elements of standard precautions evolved from universal precautions that were developed for protection of healthcare personnel, these new elements of standard precautions focus on protection of patients.

III.A.1.a. Respiratory hygiene/cough etiquette

The transmission of SARS- CoV in emergency departments by patients and their family members during the widespread SARS outbreaks in 2003 highlighted the need for vigilance and prompt implementation of infection control measures at the first point of encounter within a healthcare setting (e.g., reception and triage areas in emergency departments, outpatient clinics, and physician offices). The strategy proposed has been termed respiratory hygiene/cough etiquette and is intended to be incorporated into infection control practices as a new component of standard precautions. The strategy is targeted at patients and accompanying family members and friends with undiagnosed transmissible respiratory infections, and applies to any person with signs of illness including cough, congestion, rhinorrhea, or increased production of respiratory secretions when entering a healthcare facility. The term cough etiquette is derived from recommended source control measures for M. tuberculosis.

The elements of respiratory hygiene/cough etiquette include 1) education of healthcare facility staff, patients, and visitors; 2) posted signs, in language(s) appropriate to the population served, with instructions to patients and accompanying family members or friends; 3) source control measures (e.g., covering the mouth/nose with a tissue when coughing and prompt disposal of used tissues, using surgical masks on the coughing person when tolerated and appropriate); 4) hand hygiene after contact with respiratory secretions; and 5) spatial separation, ideally >3 feet, of persons with respiratory infections in common waiting areas when possible. Covering sneezes and coughs and placing masks on coughing patients are proven means of source containment that prevent infected persons from dispersing respiratory secretions into the air. Masking may be difficult in some settings, (e.g., pediatrics, in which case, the emphasis by necessity may be on cough etiquette. Physical proximity of <3 feet has been associated with an increased risk for transmission of infections via the droplet route (e.g., N. meningitidis and group A streptococcus and therefore supports the practice of distancing infected persons from others who are not infected. The effectiveness of good hygiene practices, especially hand hygiene, in preventing transmission of viruses and reducing the incidence of respiratory infections both within and outside healthcare settings is summarized in several reviews.

These measures should be effective in decreasing the risk of transmission of pathogens contained in large respiratory droplets (e.g., influenza virus, adenovirus, B. pertussis and mycoplasma pneumoniae. Although fever will be present in many respiratory infections, patients with pertussis and mild upper respiratory tract infections are often afebrile. Therefore, the absence of fever does not always exclude a respiratory infection. Patients who have asthma, allergic rhinitis, or chronic obstructive lung disease also may be coughing and sneezing. While these patients often are not infectious, cough etiquette measures are prudent.

Healthcare personnel are advised to observe droplet precautions (i.e., wear a mask) and hand hygiene when examining and caring for patients with signs and symptoms of a respiratory infection. Healthcare personnel who have a respiratory infection are advised to avoid direct patient contact, especially with high risk patients. If this is not possible, then a mask should be worn while providing patient care.

III.A.1.b Safe injection practices

The investigation of four large outbreaks of HBV and HCV among patients in ambulatory care facilities in the United States identified a need to define and reinforce safe injection practices. The four outbreaks occurred in a private medical practice, a pain clinic, an endoscopy clinic, and a hematology/oncology clinic. The primary breaches in infection control practice that contributed to these outbreaks were 1) reinsertion of used needles into a multiple-dose vial or solution container (e.g., saline bag) and 2) use of a single needle/syringe to administer intravenous medication to multiple patients. In one of these outbreaks, preparation of medications in the same workspace where used needle/syringes were dismantled also may have been a contributing factor. These and other outbreaks of viral hepatitis could have been prevented by adherence to basic principles of aseptic technique for the preparation and administration of parenteral medications. These include the use of a sterile, single-use, disposable needle and syringe for each injection given and prevention of contamination of injection equipment and medication. Whenever possible, use of single-dose vials is preferred over multiple-dose vials, especially when medications will be administered to multiple patients.

Outbreaks related to unsafe injection practices indicate that some healthcare personnel are unaware of, do not understand, or do not adhere to basic principles of infection control and aseptic technique. A survey of US healthcare workers who provide medication through injection found that 1 percent to 3 percent reused the same needle and/or syringe on multiple patients. Among the deficiencies identified in recent outbreaks were a lack of oversight of personnel and failure to follow-up on reported breaches in infection control practices in ambulatory settings. Therefore, to ensure that all healthcare workers understand and adhere to recommended practices, principles of infection control and aseptic technique need to be reinforced in training programs and incorporated into institutional polices that are monitored for adherence.

III.A.1.c. Infection control practices for special lumbar puncture procedures

In 2004, CDC investigated eight cases of post-myelography meningitis that either were reported to CDC or identified through a survey of the Emerging Infections Network of the Infectious Disease Society of America. Blood and/or cerebrospinal fluid of all eight cases yielded streptococcal species consistent with oropharyngeal flora and there were changes in the CSF indices and clinical status indicative of bacterial meningitis. Equipment and products used during these procedures (e.g., contrast media) were excluded as probable sources of contamination. Procedural details available for seven cases determined that antiseptic skin preparations and sterile gloves had been used. However, none of the clinicians wore a face mask, giving rise to the speculation that droplet transmission of oralpharyngeal flora was the most likely explanation for these infections. Bacterial meningitis following myelogram and other spinal procedures (e.g., lumbar puncture, spinal and epidural anesthesia, intrathecal chemotherapy) has been reported previously. As a result, the question of whether face masks should be worn to prevent droplet spread of oral flora during spinal procedures (e.g., myelogram, lumbar puncture, spinal anesthesia) has been debated. Face masks are effective in limiting the dispersal of oropharyngeal droplets and are recommended for the placement of central venous catheters. In October 2005, the Healthcare Infection Control Practices Advisory Committee (HICPAC) reviewed the evidence and concluded that there is sufficient experience to warrant the additional protection of a face mask for the individual placing a catheter or injecting material into the spinal or epidural space.

III.B. Transmission-based precautions

There are three categories of transmission-based precautions: contact precautions, droplet precautions, and airborne precautions. transmission-based precautions are used when the route(s) of transmission is (are) not completely interrupted using standard precautions alone. For some diseases that have multiple routes of transmission (e.g., SARS), more than one transmission-based precautions category may be used. When used either singly or in combination, they are always used in addition to standard precautions. When transmission-based precautions are indicated, efforts must be made to counteract possible adverse effects on patients (i.e., anxiety, depression and other mood disturbances, perceptions of stigma, reduced contact with clinical staff, and increases in preventable adverse events in order to improve acceptance by the patients and adherence by HCWs).

Nursing consideration: Transmission-based precautions, which include contact precautions, droplet precautions, and airborne precautions, are used when the route(s) of transmission is (are) not completely interrupted using standard precautions alone.

III.B.1. Contact precautions

Contact precautions are intended to prevent transmission of infectious agents, including epidemiologically important microorganisms, which are spread by direct or indirect contact with the patient or the patient's environment as described in I.B.3.a. The application of contact precautions for patients infected or colonized with MDROs is described in the 2006 HICPAC/CDC MDRO guideline. Contact precautions also apply where the presence of excessive wound drainage, fecal

incontinence, or other discharges from the body suggest an increased potential for extensive environmental contamination and risk of transmission. A single- patient room is preferred for patients who require contact precautions. When a single-patient room is not available, consultation with infection control personnel is recommended to assess the various risks associated with other patient placement options (e.g., cohorting, keeping the patient with an existing roommate). In multi-patient rooms, >3 feet spatial separation between beds is advised to reduce the opportunities for inadvertent sharing of items between the infected/colonized patient and other patients. Healthcare personnel caring for patients on contact precautions wear a gown and gloves for all interactions that may involve contact with the patient or potentially contaminated areas in the patient's environment. Donning PPE upon room entry and discarding before exiting the patient room is done to contain pathogens, especially those that have been implicated in transmission through environmental contamination (e.g., VRE, C. difficile, noroviruses and other intestinal tract pathogens; RSV).

Nursing consideration: Caring for patients on contact precautions requires the healthcare worker to wear a gown and gloves for all interactions that may involve contact with the patient or potentially contaminated areas in the patient's environment.

III.B.2. Droplet precautions

Droplet precautions are intended to prevent transmission of pathogens spread through close respiratory or mucous membrane contact with respiratory secretions as described in I.B.3.b. Because these pathogens do not remain infectious over long distances in a healthcare facility, special air handling and ventilation are not required to prevent droplet transmission. Infectious agents for which droplet precautions include B. pertussis, influenza virus, adenovirus, rhinovirus, N. meningitides, and group A streptococcus (for the first 24 hours of antimicrobial therapy). A single patient room is preferred for patients who require droplet precautions. When a single-patient room is not available, consultation with infection control personnel is recommended to assess the various risks associated with other patient placement options (e.g., cohorting, keeping the patient with an existing roommate). Spatial separation of > 3 feet and drawing the curtain between patient beds is especially important for patients in multi-bed rooms with infections transmitted by the droplet route. Healthcare personnel wear a mask (a respirator is not necessary) for close contact with infectious patient; the mask is generally donned upon room entry. Patients on droplet precautions who must be transported outside of the room should wear a mask if tolerated and follow respiratory hygiene/cough etiquette.

Nursing consideration: Caring for patients on droplet precautions requires the healthcare worker to wear a mask (a respirator is not necessary) for close contact with patients; the mask is generally donned upon room entry.

III.B.3. Airborne precautions

Airborne precautions prevent transmission of infectious agents that remain infectious over long distances when suspended in the air (e.g., rubeola virus [measles], varicella virus [chickenpox], M. tuberculosis, and possibly SARS-CoV) as described in I.B.3.c and Appendix A. The preferred placement for patients who require Airborne Precautions is in an airborne infection isolation room (AIIR). An AIIR is a single-patient room that is equipped with special air handling and ventilation capacity that meet the American Institute of Architects/Facility Guidelines Institute (AIA/FGI) standards for AIIRs (i.e., monitored negative pressure relative to the surrounding area, 12 air exchanges per hour for new construction and renovation and 6 air exchanges per hour for existing facilities, air exhausted directly to the outside or recirculated through HEPA filtration before return). Some states require the availability of such rooms in hospitals, emergency departments, and nursing homes that care for patients with M. tuberculosis. A respiratory protection program that includes education about use of respirators, fit-testing, and user seal checks is required in any facility with AIIRs. In settings where Airborne Precautions cannot be implemented due to limited engineering resources (e.g., physician offices), masking the patient, placing the patient in a private room (e.g., office examination room) with the door closed, and providing N95 or higher level respirators or masks if respirators are not available for healthcare personnel will reduce the likelihood of airborne transmission until the patient is either transferred to a facility with an AIIR or returned to the home environment, as deemed medically appropriate. Healthcare personnel caring for patients on Airborne Precautions wear a mask or respirator, depending on the disease-specific recommendations (Respiratory protection II.E.4, Table 2, and Appendix A), that is donned prior to room entry. Whenever possible, non-immune HCWs should not care for patients with vaccine-preventable airborne diseases (e.g., measles, chickenpox, and smallpox)."

Nursing consideration: Caring for patients on airborne precautions requires the healthcare worker to don a mask or respirator prior to entering an airborne infection isolation room.

Adapted from Centers for Disease Control and Prevention (2007). Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings. Retrieved from http://www.cdc.gov/hicpac/2007IP/2007isolationPrecautions.html [6].

TABLE 4: Recommendations for application of standard precautions for the care of all patients in all healthcare settings
(See Sections II.D.-II.J. and III.A.1)

Component	Recommendations
Hand hygiene.	After touching blood, body fluids, secretions, excretions, contaminated items; immediately after removing gloves; between patient contacts.
Personal protective equipment	
Gloves.	For touching blood, body fluids, secretions, excretions, contaminated items; for touching mucous membranes and nonintact skin.
Gown.	During procedures and patient-care activities when contact of clothing/exposed skin with blood/body fluids, secretions, and excretions is anticipated.
Mask, eye protection (goggles), face shield*.	During procedures and patient-care activities likely to generate splashes or sprays of blood, body fluids, secretions, especially suctioning, endotracheal intubation.
Soiled patient-care equipment.	Handle in a manner that prevents transfer of microorganisms to others and to the environment; wear gloves if visibly contaminated; perform hand hygiene.

Environmental control.	Develop procedures for routine care, cleaning, and disinfection of environmental surfaces, especially frequently touched surfaces in patient-care areas.
Textiles and laundry.	Handle in a manner that prevents transfer of microorganisms to others and to the environment.
Needles and other sharps.	Do not recap, bend, break, or hand-manipulate used needles; if recapping is required, use a one-handed scoop technique only; use safety features when available; place used sharps in puncture-resistant container.
Patient resuscitation.	Use mouthpiece, resuscitation bag, other ventilation devices to prevent contact with mouth and oral secretions.
Patient placement.	Prioritize for single-patient room if patient is at increased risk of transmission, is likely to contaminate the environment, does not maintain appropriate hygiene, or is at increased risk of acquiring infection or developing adverse outcome following infection.
Respiratory hygiene/ cough etiquette (source containment of infectious respiratory secretions in symptomatic patients, beginning at initial point of encounter [e.g., triage and reception areas in emergency departments and physician offices).	Instruct symptomatic persons to cover mouth/nose when sneezing/ coughing; use tissues and dispose in no-touch receptacle; observe hand hygiene after soiling of hands with respiratory secretions; wear surgical mask if tolerated or maintain spatial separation, >3 feet if possible.

**During aerosol-generating procedures on patients with suspected or proven infections transmitted by respiratory aerosols (e.g., SARS), wear a fit-tested N95 or higher respirator in addition to gloves, gown, and face/eye protection.*

Taken from Centers for Disease Control and Prevention (2007). Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings. Retrieved from http://www.cdc.gov/hicpac/2007IP/2007isolationPrecautions.html [6].

Preventing infection in the community

The CDC and state and local public health departments share responsibility for prevention and control of infection in the community. Methods of infection prevention include sanitation techniques (e.g., water purification, disposal of sewage and other potentially infectious materials), regulated health practices (e.g., the handling, storage, packaging, and preparation of food by institutions), and immunization programs. In the United States, immunization, or vaccination programs, have markedly decreased the incidence of infectious diseases. The final section of this course discusses vaccination programs for both the public and for healthcare providers.

Vaccination programs [10]

Vaccines are suspensions of antigen preparations that are intended to produce a human immune response to protect the host from future encounters with the organism. Vaccines provide immunity, or protection from an infectious disease. The goal of vaccination programs is to use wide-scale efforts to prevent specific infectious diseases from occurring in a population. Public health decisions about vaccination efforts are complex.

When administered, vaccinations utilize antigens from a specific infectious material to stimulate an immune response by the recipient, or host. The host becomes immune by producing antibodies, which recognize a subsequent exposure to the infection. This enables a resistance to the disease by the host. Vaccinations will not cause illness or disease in the recipient and are continually studied for effectiveness and complications.

Risks and benefits for the person and the community must be evaluated in terms of morbidity, mortality, and financial cost and benefit. Because no vaccine is completely safe for all recipients, contraindications on package inserts of a vaccine and the CDC-produced "Vaccine Information Statements" must be heeded. These documents provide details about studied experiences with allergy and other complications and provide crucial information about refrigeration, storage, dosage, and administration.

More than fifty vaccines are currently licensed in the United States. The table below lists the most common vaccinations as well as information relating to the disease the vaccines prevent [3].

Vaccine-preventable diseases and the vaccines that prevent them

Disease	Vaccine	Disease transmission	Disease symptoms	Disease complications
Chickenpox.	Varicella.	Air, direct contact.	Rash, tiredness, headache, fever.	Infected blisters, bleeding disorders, encephalitis, pneumonia.
Diphtheria.	DTaP.	Air, direct contact.	Sore throat, mild fever, weakness, swollen glands in neck.	Enlarged heart muscle, heart failure, coma, paralysis, death.
Haemophilus influenzae type b.	Hib.	Air, direct contact.	Asymptomatic unless bacteria enter the blood.	Meningitis , mental retardation, epiglottis pneumonia, death.
Hepatitis A.	HepA.	Personal contact, contaminated food or water.	Fever, stomach pain, loss of appetite, fatigue, vomiting, jaundice, dark urine.	Liver failure.

Hepatitis B.	HepB.	Contact with blood or body fluids.	Fever, headache, weakness, vomiting, jaundice joint pain.	Chronic liver infection , liver failure, liver cancer.
Influenza.	Flu.	Air, direct contact.	Fever, muscle pain, sore throat, cough, extreme fatigue.	Pneumonia.
Measles.	MMR.	Air, direct contact.	Rash, fever, cough, rhinorrhea, pinkeye.	Encephalitis, pneumonia, death.
Mumps.	MMR.	Air, direct contact.	Swollen salivary glands, fever, headache, tiredness, muscle pain.	Meningitis, encephalitis, inflammation of testicles or ovaries, deafness.
Pertussis.	DTaP.	Air, direct contact.	Severe cough, runny nose, apnea.	Pneumonia, death.
Polio.	IPV.	Through the mouth.	Sore throat, fever, nausea, headache.	Paralysis, death.
Pneumococcal.	PCV.	Air, direct contact.	Pneumonia.	Bacteremia, meningitis, death.
Rotavirus.	RV.	Through the mouth.	Diarrhea, fever, vomiting.	Severe diarrhea , dehydration.
Rubella.	MMR.	Air, direct contact.	Rash, fever, and swollen lymph nodes.	Very serious in pregnant women-can lead to miscarriage, stillbirth, premature delivery, and birth defects.
Tetanus.	DTaP.	Exposure through cuts in skin.	Stiffness in neck and abdominal muscles, difficulty swallowing, muscle spasms, fever.	Broken bones, breathing difficulty, death.

Adapted from Centers for Disease Control and Prevention. Facts for Parents: Diseases & the Vaccines that Prevent Them. Retrieved from http://www.cdc.gov/vaccines/vpd-vac/fact-sheet-parents.html [3].

Evidence-based practice*[20]*! Nearly everyone in the U.S. got measles before there was a vaccine, and hundreds died from it each year. Today, most doctors have never seen a case of measles.
More than 15,000 died from diphtheria in 1921, before there was a vaccine. Only one case of diphtheria has been reported to the CDC since 2004.
An epidemic of rubella (German measles) in 1964-65 infected 12.5 million Americans, killed 2,000 babies, and caused 11,000 miscarriages. In 2012, nine cases of rubella were reported to the CDC.

Immunizations for healthcare providers [9]

Because of their contact with patients or infective material from patients, many healthcare providers (e.g., physicians, nurses, emergency medical personnel, dental professionals and students, medical and nursing students, laboratory technicians, hospital volunteers, and administrative staff) are at risk for exposure to and possible transmission of vaccine-preventable diseases. The following section outlines recommendations from the CDC using a document titled "Immunization of Healthcare Personnel: Recommendations of the Advisory Committee on Immunization Practices (ACIP)." The full document, with reference citations, is available at http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6007a1.htm [9].

DISEASES FOR WHICH VACCINATION IS RECOMMENDED

On the basis of documented nosocomial transmission, HCP are considered to be at substantial risk for acquiring or transmitting hepatitis B, influenza, measles, mumps, rubella, pertussis, and varicella. Current recommendations for vaccination are provided below.

Hepatitis B

Epidemiology and risk factors
Hepatitis B is an infection caused by the hepatitis B virus (HBV), which is transmitted through percutaneous (i.e., breaks in the skin) or mucosal (i.e., direct contact with mucous membranes) exposure to infectious blood or body fluids. The virus is highly infectious; for nonimmune persons, disease transmission from a needle stick exposure is up to 100 times more likely for exposure to hepatitis B e antigen (HBeAg)-positive blood than to HIV-positive blood. HBV infection is a well recognized occupational risk for U.S. HCP and globally. The risk for HBV is associated with degree of contact with blood in the work place and with the hepatitis B e-antigen status of the source persons. The virus is also environmentally stable, remaining infectious on environmental surfaces for at least 7 days.

Nursing consideration: The hepatitis B virus is highly infectious and can remain infectious on environment surfaces for at least seven days.

In 2009 in the United States, 3,371 cases of acute HBV infection were reported nationally, and an estimated 38,000 new cases of HBV infection occurred after accounting for underreporting and underdiagnosis. Of 4,519 persons reported with acute HBV infection in 2007, approximately 40 percent were hospitalized

and 1.5 percent died. HBV can lead to chronic infection, which can result in cirrhosis of the liver, liver failure, liver cancer, and death. An estimated 800,000-1.4 million persons in the United States are living with chronic HBV infection; these persons serve as the main reservoir for continued HBV transmission.

Evidence-based practice! Disease transmission from a needle-stick exposure to hepatitis B positive blood is up to 100 times more likely than that from HIV-positive blood [9].

Vaccines to prevent hepatitis B became available in the United States in 1981; a decade later, a national strategy to eliminate HBV infection was implemented, and the routine vaccination of children was recommended. During 1990-2009, the rate of new HBV infections declined approximately 84 percent, from 8.5 to 1.1 cases per 100,000 population; the decline was greatest (98 percent) among persons aged <19 years, for whom recommendations for routine infant and adolescent vaccination have been applied. Although hepatitis B vaccine coverage is high in infants, children, and adolescents (91.8 percent in infants aged 19-35 months and 91.6 percent in adolescents aged 13-17 years), coverage remains lower (41.8 percent in 2009) for certain adult populations, including those with behavioral risks for HBV infection (e.g., men who have sex with men and persons who use injection drugs).

Hepatitis B in healthcare settings

During 1982, when hepatitis B vaccine was first recommended for HCP, an estimated 10,000 infections occurred among persons employed in a medical or dental field. By 2004, the number of HBV infections among HCP had decreased to an estimated 304 infections, largely resulting from the implementation of routine pre-exposure vaccination and improved infection-control precautions.

The risk for acquiring HBV infection from occupational exposures is dependent on the frequency of percutaneous and mucosal exposures to blood or body fluids (e.g., semen, saliva, and wound exudates) containing HBV, particularly fluids containing HBeAg (a marker for high HBV replication and viral load). The risk is higher during the professional training period and can vary throughout a person's career. Depending on the tasks performed, healthcare or public safety personnel might be at risk for HBV exposure; in addition, personnel providing care and assistance to persons in outpatient settings and those residing in long-term-care facilities (e.g., assisted living) might be at risk for acquiring or facilitating transmission of HBV infection when they perform procedures that expose them to blood (e.g., assisted blood-glucose monitoring and wound care).

A Federal Standard issued in December 1991 under the Occupational Safety and Health Act mandates that hepatitis B vaccine be made available at the employer's expense to all healthcare personnel who are exposed occupationally to blood or other potentially infectious materials. The Federal Standard defines occupational exposure as reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that might result from the performance of an employee's duties. Occupational Safety and Health Administration (OSHA) vaccination practice requirements (e.g., preexposure and postexposure antibody testing) are based on current ACIP recommendations. OSHA regulations might have accelerated the use of hepatitis B vaccine in HCP.

Nursing consideration: Healthcare employers must offer the hepatitis B vaccine to healthcare providers at risk for exposure to blood or other infectious materials.

Data from a national, cross-sectional survey demonstrated that during 2002-2003, an estimated 75 percent of HCP had received the 3-dose hepatitis B vaccination series. Since 2002, rates of 1-dose and 3-dose vaccination coverage have remained stable. Data obtained through the National Health Interview Survey (NHIS) in 2009 demonstrated a ≥1-dose coverage rate of 75-77 percent and a ≥3-dose rate of 67-68 percent among HCP aged 18-49 years. Similarly, data obtained through the National Immunization Survey-Adult (NIS-Adult) in 2007 demonstrated a ≥3-dose coverage of 62 percent among HCP aged 18-64 years. The Healthy People 2020 goal (objective no. IID-15.3) of a hepatitis B vaccination coverage rate of 90 percent among HCP has not been achieved.

Recommendations

Two single-antigen hepatitis B vaccines, Recombivax HB (Merck & Co., Inc., Whitehouse Station, New Jersey) and Engerix-B (GlaxoSmithKline Biologicals, Rixensart, Belgium) and one combination hepatitis A and hepatitis B vaccine, Twinrix (GlaxoSmithKline Biologicals), are available in the United States. Primary vaccination consists of ≥3 intramuscular doses of hepatitis B vaccine or of the combined hepatitis A and hepatitis B vaccine. The hepatitis vaccine series does not need to be restarted if the second or third dose is delayed. Detailed vaccination recommendations are available in previously published guidelines. Vaccine schedules are available at http://www.cdc.gov/vaccines/recs/schedules/adult-schedule.htm#HCWs. In adults, hepatitis B vaccine always should be administered into the deltoid muscle. Longer needles (up to 1.5 inches in length) might be required for obese adults.

Influenza

Epidemiology and risk factors

Influenza causes an estimated average of >200,000 hospitalizations and 3,000-49,000 deaths annually in the United States. The majority of influenza-related severe illnesses and deaths occur among persons with chronic medical conditions, infants and young children, seniors, and pregnant women. Reducing the risk for influenza among persons at higher risk for complications is a major focus of influenza prevention strategies.

Influenza transmission in healthcare settings

HCP are exposed to patients with influenza in the workplace and are thus at risk of occupationally acquired influenza and of transmitting influenza to patients and other HCP. In a cross-sectional survey of hospital house staff (physicians in training), 37 percent reported influenza-like illness during September-April, and 9 percent reported more than one respiratory illness. Length of illness varied (range: 1-10 days; mean: 7 days), as did days of work missed (range: 0-10 days; mean: 0.7 days). Infected HCP who continue to work while ill might transmit influenza to patients, many of whom are at increased risk for severe outcomes from influenza. HCP are therefore recommended for routine annual influenza vaccination.

Few randomized trials of the effect that influenza vaccination has on illness in HCP have been conducted. In one randomized trial of 427 HCP, influenza vaccination of HCP failed to decrease episodes of respiratory infection or duration of illness but was associated with a 28 percent decrease in absenteeism (from 1.4 days to 1.0 day) attributable to respiratory infections. No laboratory confirmation of influenza was obtained in this study. In another randomized trial among HCP, vaccination was associated with a significantly lower rate of serological evidence of influenza infection, with a vaccine efficacy rate of 88 percent for influenza A and 89 percent for influenza B ($p<0.05$); however, no significant differences were noted in days of febrile respiratory illness or absenteeism.

Influenza can cause outbreaks of severe respiratory illness among hospitalized persons and long-term-care residents. Influenza outbreaks in hospitals and long-term-care facilities have been associated with low vaccination rates among HCP. One nonrandomized study demonstrated an increase in HCW vaccination rates and decrease in nosocomially acquired, laboratory-confirmed influenza in a hospital after a mobile cart-based HCP vaccination program was introduced. Several

randomized controlled studies of the impact of HCP vaccination on morbidity and mortality in long-term care facilities have been performed. These studies have demonstrated substantial decreases in all-cause mortality and influenza-like illness. However, studies which examine and demonstrate efficacy in preventing more specific outcomes (e.g., laboratory-confirmed influenza illness and mortality) are lacking. Recent systematic reviews suggest that vaccination of HCP in settings in which patients also were vaccinated provided significant reductions in deaths among elderly patients from all causes and deaths from pneumonia, but also note that additional randomized controlled trials are warranted, as are examination of more specific outcomes.

Preventing influenza among HCP who might serve as sources of influenza virus transmission provides additional protection to patients at risk for influenza complications. Vaccination of HCP can specifically benefit patients who cannot receive vaccination (e.g., infants aged <6 months or those with severe allergic reactions to prior influenza vaccination), patients who respond poorly to vaccination (e.g., persons aged ≥85 years and immune-compromised persons), and persons for whom antiviral treatment is not available (e.g., persons with medical contraindications). Although annual vaccination has long been recommended for HCP and is a high priority for reducing morbidity associated with influenza in healthcare settings, national survey data have demonstrated that the vaccination coverage level during the 2008-09 season was 52.9 percent.

Considerations regarding influenza vaccination of HCP
Barriers to HCP acceptance of influenza vaccination have included fear of vaccine side effects (particularly influenza-like symptoms), insufficient time or inconvenience, perceived ineffectiveness of the vaccine, perceived low likelihood of contracting influenza, avoidance of medications, and fear of needles. Factors demonstrated to increase vaccine acceptance include a desire for self-protection, previous receipt of influenza vaccine, a desire to protect patients, and perceived effectiveness of vaccine. Strategies that have demonstrated improvement in HCP vaccination rates have included campaigns to emphasize the benefits of HCP vaccination for staff and patients, vaccination of senior medical staff or opinion leaders, removing administrative barriers (e.g., costs), providing vaccine in locations and at times easily accessible by HCP, and monitoring and reporting HCP influenza vaccination rates. Intranasally administered live attenuated influenza vaccine (LAIV) is an option for healthy, nonpregnant adults aged <50 years who dislike needles.

The practice of obtaining signed declinations from HCP offered influenza vaccination has been adopted by some institutions but has not yet been demonstrated to exceed coverage rates of >70-80 percent. Institutions that require declination statements from HCP who refuse influenza vaccination should educate and counsel these HCP about benefits of the vaccine.

Each healthcare facility should develop a comprehensive influenza vaccination strategy that includes targeted education about the disease, including disease risk among HCP and patients, and about the vaccine. In addition, the program should establish easily accessible vaccination sites and inform HCP about their locations and schedule. Facilities that employ HCP should provide influenza vaccine at no cost to personnel. The most effective combination of approaches for achieving high influenza vaccination coverage among HCP likely varies by institution. Hospitals and healthcare organizations in the United States traditionally have employed an immunization strategy that includes one or more of the following components: education about influenza, easy access to vaccine, incentives to encourage immunization, organized campaigns, institution of declination policies, and legislative and regulatory efforts (e.g., vaccination requirements).

Beginning January 1, 2007, the Joint Commission on Accreditation of Healthcare Organizations required accredited organizations to offer influenza vaccinations to staff, including volunteers and licensed independent practitioners and to report coverage levels among HCP. Standards are available for measuring vaccination coverage among HCP as a measure of program performance within a healthcare setting. Beginning January 2013, the Centers for Medicaid Services will require acute care hospitals to report HCP influenza vaccine as part of its hospital inpatient quality reporting program.

Recommendations
Vaccination
Annual influenza vaccination is recommended for all persons aged ≥6 months who have no medical contraindication; therefore, vaccination of all HCP who have no contraindications is recommended. The influenza vaccine is evaluated annually with one or more vaccine strains updated almost every year. In addition, antibody titers decline during the year after vaccination. Thus, annual vaccination with the current season's formulation is recommended. Annual vaccination is appropriate and safe to begin as early in the season as vaccine is available. HCP should be among the groups considered for prioritized receipt of influenza vaccines when vaccine supply is limited.

Two types of influenza vaccines are available. LAIV is administered intranasally and is licensed for use in healthy nonpregnant persons aged 2-49 years. The trivalent inactivated vaccine (TIV) is administered as an intramuscular injection and can be given to any person aged ≥6 months. Both vaccine types contain vaccine virus strains that are selected to stimulate a protective immune response against the wild-type viruses that are thought to be most likely in circulation during the upcoming season. Use of LAIV for HCP who care for patients housed in protective inpatient environments has been a theoretic concern, but transmission of LAIV in healthcare settings has not been reported. LAIV can be used for HCP who work in any setting, except those who care for severely immunocompromised hospitalized persons who require care in a protective environment. HCP who themselves have a condition that confers high risk for influenza complications, who are pregnant, or who are aged ≥50 years should not receive LAIV and should be administered TIV instead. An inactivated trivalent vaccine containing 60 mcg of hemagglutinin antigen per influenza vaccine virus strain (Fluzone High-Dose [sanofi pasteur]) is an alternative inactivated vaccine for persons aged ≥65 years. Persons aged ≥65 years may be administered any of the standard-dose TIV preparations or Fluzone High-Dose. The majority of TIV preparations are administered intramuscularly. An intradermally administered TIV was licensed in May 2011 and is an alternative to other TIV preparations for persons aged 18-64 years.

Nursing consideration: Nurses must be able to differentiate between HBV and HAV including modes of transmission, pathophysiology, treatment, and types of vaccines available [24,69,70].

Measles

Epidemiology and risk factors
Measles is a highly contagious rash illness that is transmitted by respiratory droplets and airborne spread. Severe complications, which might result in death, include pneumonia and encephalitis. Before the national measles vaccination program was implemented in 1963, almost every person acquired measles before adulthood; an estimated 3-4 million persons in the United States acquired measles each year. Approximately 500,000 persons were reported to have had measles annually, of whom 500 persons died, 48,000 were hospitalized, and another 1,000 had permanent brain damage from measles encephalitis.

Through a successful 2-dose measles vaccination program (i.e., a first dose at age 12-15 months and a second dose between ages 4-6 years) and better measles control throughout the region of the Americas, endemic transmission of measles was interrupted in the United States, and measles was declared eliminated from the country in 2000. However, measles remains widespread in the majority of countries outside the Western Hemisphere, with an estimated 20 million measles cases occurring worldwide and approximately 164,000 related deaths. Thus, the United States continues to experience international importations that might lead to transmission among U.S. residents and limited outbreaks, especially in unvaccinated populations.

During 2001-2008, a total of 557 confirmed measles cases were reported in the United States from 37 states and the District of Columbia (annual median: 56; range: 37 in 2004 to 140 in 2008), representing an annual incidence of less than one case per million population. Of the 557 reported case-patients, 126 (23 percent) were hospitalized (annual median: 16; range: 5-29); of these, at least five case-patients were admitted to intensive care. Two deaths were reported, both in 2003.

Of the 557 reported case-patients during 2001-2008, a total of 223 (40%) were adults, including 156 (28 percent) aged 20-39 years and 67 (12 percent) aged ≥40 years. Of the 438 measles cases among U.S. residents, 285 (65 percent) cases were considered preventable (i.e., occurred among persons who were eligible for vaccination but were unvaccinated). The remaining 153 (35 percent) cases were considered nonpreventable. Cases were defined as nonpreventable if they occurred among U.S. resident case-patients who had received ≥1 dose of measles-containing vaccine, if patients were vaccinated as recommended if traveling internationally, or if they were not vaccinated but had other evidence of immunity (i.e., were born before 1957 and therefore presumed immune from natural disease in childhood, had laboratory evidence of immunity, or had documentation of physician-diagnosed disease) or for whom vaccination is not recommended. During 2001-2008, a total of 12.5 percent (one of eight) of measles cases reported to CDC among HCP occurred in persons born before 1957; the other seven cases occurred among HCP born after 1957.

Measles-mumps-rubella (MMR) vaccination policies have been enforced with variable success in United States healthcare facilities over the past decade. Even though medical settings were a primary site of measles transmission during the 1989-1991 measles resurgence, as of September 2011, only three states (New York, Oklahoma, and Rhode Island) had laws mandating that all hospital personnel have proof of measles immunity and did not allow for religious or philosophic exemptions.

Vaccine coverage in the United States is high; in 2010, a total of 91.5 percent of children aged 19-35 months had received 1 dose of MMR vaccine; during 2009-2010, a total of 94.8 percent of kindergartners had evidence of two doses; and in 2010, a total of 90.5 percent of adolescents had evidence of two doses. Nationally representative data on MMR vaccine coverage of U.S. HCP are not available.

Measles transmission and the costs of mitigating measles exposures in healthcare settings

Healthcare-associated cases of measles are of public health concern. Because of the severity of measles, infected persons are likely to seek medical care in primary healthcare facilities, emergency departments, or hospitals. Medical settings played a prominent role in perpetuating outbreaks of measles transmission during the 1989-1991 measles resurgence and were a primary site of measles transmission in a healthcare-associated outbreak in 2008. During 2001-2008, a total of twenty-seven reported measles cases were transmitted in U.S. healthcare facilities, accounting for 5 percent of all reported U.S. measles cases.

Because of the greater opportunity for exposure, HCP are at higher risk than the general population for becoming infected with measles. A study conducted in 1996 in medical facilities in a county in Washington state indicated that HCP were nineteen times more likely to develop measles than other adults. During 2001-2008, in the twenty-three healthcare settings in which measles transmission was reported, eight cases occurred among HCP, six (75 percent) of whom were unvaccinated or had unknown vaccination status. One healthcare provider was hospitalized in an intensive care unit for 6 days from severe measles complications. During a healthcare-associated measles outbreak in Arizona in 2008 with fourteen cases, six cases were acquired in hospitals, and one was acquired in an outpatient setting. One unvaccinated healthcare worker developed measles and infected a hospital emergency room patient who required intensive care following hospital admission for measles.

High costs also are involved in evaluating and containing exposures and outbreaks in healthcare facilities, as well as a substantial disruption of regular hospital routines when control measures are instituted, especially if hospitals do not have readily available data on the measles immunity status of their staff and others included in the facility vaccination program. In 2005 in Indiana, one hospital spent more than $113,000 responding to a measles outbreak, and in 2008 in Arizona, two hospitals spent $799,136 responding to and containing cases in their facilities. The Arizona outbreak response required rapid review of measles documentation of 14,844 HCP at seven hospitals and emergency vaccination of approximately 4,500 HCP who lacked documentation of measles immunity. Serologic testing at two hospitals among 1,583 HCP without documented history of vaccination or without documented laboratory evidence of measles immunity revealed that 138 (9 percent) of these persons lacked measles IgG antibodies.

Recommendations

Vaccination

All persons who work in healthcare facilities should have presumptive evidence of immunity to measles. This information should be documented and readily available at the work location. Recently vaccinated HCP do not require any restriction in their work activities.

Presumptive evidence of immunity to measles for persons who work in healthcare facilities includes any of the following:

- Written documentation of vaccination with two doses of live measles or MMR vaccine administered at least 28 days apart.
- Laboratory evidence of immunity.
- Laboratory confirmation of disease.
- Birth before 1957.

Mumps

Epidemiology and risk factors

Mumps is an acute viral infection characterized by fever and inflammation of the salivary glands (usually parotitis). The spectrum of illness ranges from subclinical infection (20-40 percent) to nonspecific respiratory illness, sialadenitis including classic parotitis, deafness, orchitis, and meningoencephalitis; severity increases with age. In the prevaccine era, mumps was a common childhood illness, with approximately 186,000 mumps cases reported in the United States per year. After the introduction of the Jeryl Lynn strain mumps vaccine in 1967 and the implementation of the 1-dose mumps vaccine policy for children in 1977, reports of mumps cases in the United States declined 99%. During 1986-1987, an increase in reported mumps cases occurred, primarily affecting unvaccinated adolescents and young adults. In the late 1980s, sporadic outbreaks continued to occur that affected both unvaccinated

and 1-dose vaccinated adolescents and young adults. In 1989, a second dose of MMR vaccine was recommended nationwide for better measles control among school-aged children. Historically low rates of mumps followed with only several hundred reported cases per year in the United States during 2000-2005.

In 1998, a national goal to eliminate mumps was set for 2010. However, in 2006, a total of 6,584 mumps cases were reported in the United States, the largest U.S. mumps outbreak in nearly twenty years. Whereas overall national mumps incidence was 2.2 per 100,000 population, eight states in the Midwest were the most affected, with 2.5-66.1 cases per 100,000 population. The highest incidence (31.1 cases per 100,000 population) was among persons aged 18-24 years (e.g., college-aged students), the majority of whom had received two doses of mumps-containing vaccine. Of the 4,017 case-patients for whom age and vaccination status were known, 1,786 (44 percent) were aged ≥25 years (incidence: 7.2 cases per 100,000 persons); of these 1,786 patients, 351 (20 percent) received at least two doses, 444 (25 percent) received one dose, 336 (19 percent) were unvaccinated, and 655 (37 percent) had unknown vaccination status.

Since the 2006 resurgence, two additional large U.S. mumps outbreaks have occurred, both during 2009-2010, one among members of a religious community with cases occurring throughout the northeastern United States and the other in Guam; both outbreaks primarily affected children and adolescents in crowded environments who had received two doses of vaccine.

Vaccine coverage in the United States is high; in 2010, approximately 91.5 percent of children aged 19-35 months had received one dose of MMR vaccine; during 2009-2010, a total of 94.8 percent of kindergartners had evidence of two doses. In 2010, a total of 90.5 percent of adolescents had evidence of two doses. Nationally representative data on MMR vaccine coverage of U.S. HCP are not available.

Mumps transmission and the costs of mitigating mumps exposures in healthcare settings

Although healthcare-associated transmission of mumps is infrequent, it might be underreported because of the high percentage (~20-40 percent) of infected persons who might be asymptomatic. In a survey of 9,299 adults in different professions conducted in 1968, before vaccine was used routinely, the rate of mumps acquisition was highest among dentists and HCP, with rates of 18 percent among dentists and 15 percent among physicians (37 percent for pediatricians), compared with 9 percent among primary and secondary school teachers and 2 percent among university staff members.

In the post-vaccine era, mumps transmission also has been documented in medical settings. During a Tennessee mumps outbreak during 1986-1987, a total of 17 (12 percent) of 146 hospitals and three (50 percent) of six long-term-care facilities reported one or more practices that could contribute to the spread of mumps, including not isolating patients with mumps, assigning susceptible staff to care for patients with mumps, and not immunizing susceptible employees. Healthcare-associated transmission resulted in six cases of mumps infections among healthcare providers and nine cases of mumps infections among patients. In Utah in 1994, two healthcare providers in a hospital developed mumps after they had contact with an infected patient. During the 2006 outbreak, one healthcare facility in Chicago experienced ongoing mumps transmission lasting 4 weeks.

During the 2006 multistate U.S. outbreak, 144 (8.5 percent) of 1,705 adult case-patients in Iowa for whom occupation was known were healthcare providers (Iowa Department of Public Health, unpublished data, 2006). Whether transmission occurred from patients, coworkers, or persons in the community is unknown. During the 2009-2010 outbreak in the northeastern region of the United States, seven (0.2 percent) of the 3,400 case-patients were healthcare providers, six of whom likely were infected by patients because they had no other known exposure.

Exposures to mumps in healthcare settings also can result in added economic costs because of furlough or reassignment of staff members from patient-care duties or closure of wards. In 2006, a Kansas hospital spent $98,682 containing a mumps outbreak. During a mumps outbreak in Chicago in 2006, one healthcare facility spent $262,788 controlling the outbreak.

Recommendations

Vaccination

All persons who work in healthcare facilities should have presumptive evidence of immunity to mumps. This information should be documented and readily available at the work location. Recently vaccinated HCP do not require any restriction in their work activities.

Presumptive evidence of immunity to mumps for persons who work in healthcare facilities includes any of the following:

- Written documentation of vaccination with two doses of live mumps or MMR vaccine administered at least twenty-eight days apart.
- Laboratory evidence of immunity.
- Laboratory confirmation of disease.
- Birth before 1957.

Rubella

Epidemiology and risk factors

Rubella (German measles) is a viral disease characterized by rash, low-grade fever, lymphadenopathy, and malaise. Although rubella is considered a benign disease, transient arthralgia and arthritis are observed commonly in infected adults, particularly among postpubertal females. Chronic arthritis has been reported after rubella infection, but such reports are rare, and evidence of an association is weak. Other complications that occur infrequently are thrombocytopenia and encephalitis. Infection is asymptomatic in 25-50 percent of cases. Clinical diagnosis of rubella is unreliable and should not be considered in assessing immune status. Many rash illnesses might mimic rubella infection and many rubella infections are unrecognized. The only reliable evidence of previous rubella infection is the presence of serum rubella IgG antibody.

Of primary concern are the effects that rubella can have when a pregnant woman becomes infected, especially during the first trimester, which can result in miscarriages, stillbirths, therapeutic abortions, and congenital rubella syndrome (CRS), a constellation of birth defects that often includes blindness, deafness, mental retardation, and congenital heart defects.

Postnatal rubella is transmitted through direct or droplet contact from nasopharyngeal secretions. The incubation period ranges from twelve to twenty-three days. An ill person is most contagious when the rash first appears, but the period of maximal communicability extends from a few days before to seven days after rash onset. Rubella is less contagious than measles.

In the prevaccine era, rubella was an endemic disease globally with larger epidemics that occurred; in the United States, rubella epidemics occurred approximately every seven years. During the 1964-1965 global rubella epidemic, an estimated 12.5 million cases of rubella occurred in the United States, resulting in approximately 2,000 cases of encephalitis, 11,250 fetal deaths attributable to spontaneous or surgical abortions, 2,100 infants who were stillborn or died soon after birth, and 20,000 infants born with CRS. The economic impact of this epidemic in the United States alone was estimated at $1.5 billion in 1965 dollars ($10 billion in 2010 dollars).

Evidence-based practice! The incubation period for rubella ranges from twelve to twenty-three days. An ill person is most contagious when the rash first appears, but the period of communicability begins a few days before the rash onset, resulting in transmission of the disease without knowledge [9].

After the rubella vaccine was licensed in the United States in 1969, reported rubella cases decreased from 57,686 in 1969 to 12,491 in 1976, and CRS cases reported nationwide decreased from 68 in 1970 to 23 in 1976. Declines in rubella age-specific incidence occurred in all age groups, including adolescents and adults, but the greatest declines were among children aged <15 years. During 1977-1978, a resurgence of rubella occurred, primarily among older adolescents and young adults, because the initial vaccination strategy targeted children. During this resurgence, 62 percent of reported rubella cases occurred among persons aged >15 years compared with 23 percent of cases during 1966-1968. As a result of the change in the epidemiologic profile of rubella, in 1977, ACIP modified its recommendations to include the vaccination of susceptible postpubertal girls and women. In 1989, a second MMR vaccination dose was recommended in response to large measles outbreaks nationwide. During 2001-2004, the annual numbers of rubella and CRS cases were extremely low, with twenty-three reported rubella cases in 2001, a total of eighteen in 2002, a total of seven in 2003, and a total of nine in 2004.

Rubella was declared eliminated from the United States in 2004. During 2005-2009, a total of fifty-four cases of rubella were reported; the majority of the cases occurred among persons aged >20 years. Of the reported cases, twenty-three (43 percent) were import-associated; only two outbreaks of rubella were reported during this time, and both involved only three cases (CDC, unpublished data, 2009). Since 2005, only four cases of CRS have been reported, with two cases reported in 2009; three (75 percent) cases were acquired internationally, and the other had an unknown source (CDC, unpublished data, 2009). Rubella importations are expected to continue in the immediate future.

As of September 2011, only three states (i.e., New York, Oklahoma, and Rhode Island) had laws mandating that all hospital personnel have proof of rubella immunity and did not allow for religious or philosophical exemptions. Additional states had requirements for specific types of facilities or for certain employees within those facilities, but they did not have universal laws mandating proof of rubella immunity for all hospital personnel.

MMR vaccine coverage in the United States is high; in 2010, an estimated 91.5 percent of children aged 19-35 months had received 1 dose of MMR vaccine; during 2009-2010, a total of 94.8 percent of kindergartners had evidence of two doses (148); and in 2010, a total of 90.5 percent of adolescents had evidence of two doses. Nationally representative data on MMR vaccine coverage of U.S. HCP are not available.

Rubella transmission and the costs of mitigating rubella exposures in healthcare settings

No documented transmission of rubella to HCP or other hospital staff or patients in U.S. healthcare facilities has occurred since elimination was declared. However, in the decades before elimination, rubella transmission was documented in at least ten U.S. medical settings and led to outbreaks with serious consequences, including pregnancy terminations, disruption of hospital routine, absenteeism from work, expensive containment measures, negative publicity, and the threat of litigation. In these outbreaks, transmission occurred from HCP to susceptible coworkers and patients, as well as from patients to HCP and other patients. No data are available on whether HCP are at increased risk for acquiring rubella compared with other professions.

Recommendations

Vaccination

All persons who work in healthcare facilities should have presumptive evidence of immunity to rubella. Adequate rubella vaccination for HCP consists of one dose of MMR vaccine. However, because of the two-dose vaccination requirements for measles and mumps, the use of the combined MMR vaccine will result in the majority of HCP receiving two doses of rubella-containing vaccine, which should provide an additional safeguard against primary rubella vaccine failure. Recently vaccinated HCP do not require any restriction in their work activities.

Presumptive evidence of immunity to rubella for persons who work in healthcare facilities includes any of the following:

- Written documentation of vaccination with one dose of live rubella or MMR vaccine.
- Laboratory evidence of immunity.
- Laboratory confirmation of rubella infection or disease.
- Birth before 1957 (except women of childbearing potential who could become pregnant, although pregnancy in this age group would be exceedingly rare).

Pertussis

Epidemiology and risk factors

Pertussis is a highly contagious bacterial infection. Secondary attack rates among susceptible household contacts exceed 80 percent. Transmission occurs by direct contact with respiratory secretions or large aerosolized droplets from the respiratory tract of infected persons. The incubation period is generally seven to ten days but can be as long as twenty-one days. The period of communicability starts with the onset of the catarrhal stage and extends into the paroxysmal stage. Symptoms of early pertussis (catarrhal phase) are indistinguishable from other upper respiratory infections.

Nursing consideration: The symptoms of early pertussis (catarrhal phase) are indistinguishable from other upper respiratory infections; therefore, the risk of exposure to the infection prior to diagnosis is high.

Vaccinated adolescents and adults, whose immunity from childhood vaccinations wanes five to ten years after the most recent dose of vaccine (usually administered at age 4-6 years), are an important source of pertussis infection for susceptible infants. Infants too young to be vaccinated are at greatest risk for severe pertussis, including hospitalization and death. The disease can be transmitted from adults to close contacts, especially unvaccinated children.

Vaccination coverage among infants and children for diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine remains high. In 2010, coverage for children aged 19-35 months who have received ≥4 doses of DTaP/diphtheria and tetanus toxoids and pertussis vaccine (DTP)/diphtheria and tetanus toxoids vaccine (DT) was 84 percent. Among children entering kindergarten for the 2009-2010 school year, DTaP coverage was 93 percent. Vaccination coverage for tetanus toxoid, reduced diphtheria toxoid and acellular pertussis (Tdap) vaccine was 68.7 percent among adolescents in 2010 and <7 percent among adults in 2009. Tdap vaccination coverage among HCP was 17.0 percent in 2009.

Disease in healthcare settings and impact on healthcare personnel and patients

In hospital settings, transmission of pertussis has occurred from hospital visitors to patients, from HCP to patients, and from patients to HCP. Although of limited size (range: 2-17 patients and 5-13 staff), documented outbreaks were costly and disruptive. In each outbreak, HCP were evaluated for cough illness and required diagnostic testing, prophylactic antibiotics, and exclusion from work.

During outbreaks that occur in hospitals, the risk for contracting pertussis among patients or staff is often difficult to quantify because exposure is not well defined. Serologic studies conducted among hospital staff indicate that exposure to pertussis is much more frequent than suggested by attack rates of clinical disease. In one outbreak, seroprevalence of pertussis agglutinating antibodies among HCP correlated with the degree of patient contact and was highest among pediatric house staff (82 percent) and ward nurses (71 percent) and lowest among nurses with administrative responsibilities (35 percent).

A model to estimate the cost of vaccinating HCP and the net return from preventing nosocomial pertussis was constructed using probabilistic methods and a hypothetical cohort of 1,000 HCP with direct patient contact followed for ten years. Baseline assumptions, determined from data in the literature, included incidence of pertussis in HCP, ratio of identified exposures per HCP case, symptomatic percentage of seroconfirmed pertussis infections in HCP, cost of infection-control measures per exposed person, vaccine efficacy, vaccine coverage, employment turnover rate, adverse events, and cost of vaccine. In a ten-year period, the cost of infection control would be $388,000 without Tdap vaccination of HCP compared with $69,000 with such a program. Introduction of a vaccination program would result in a net savings as high as $535,000 and a benefit-cost ratio of 2.38 (i.e., for every dollar spent on the vaccination program, the hospital would save $2.38 on control measures).

Recommendations

Vaccination

Regardless of age, HCP should receive a single dose of Tdap as soon as feasible if they have not previously received Tdap and regardless of the time since their most recent Td vaccination. Vaccinating HCP with Tdap will protect them against pertussis and is expected to reduce transmission to patients, other HCP, household members, and persons in the community. Tdap is not licensed for multiple administrations; therefore, after receipt of Tdap, HCP should receive Td for future booster vaccination against tetanus and diphtheria. Hospitals and ambulatory-care facilities should provide Tdap for HCP and use approaches that maximize vaccination rates (e.g., education about the benefits of vaccination, convenient access, and the provision of Tdap at no charge).

Varicella

Epidemiology and risk factors

Varicella is a highly infectious disease caused by primary infection with varicella-zoster virus (VZV). VZV is transmitted from person to person by direct contact, inhalation of aerosols from vesicular fluid of skin lesions of varicella or herpes zoster (HZ), a localized, generally painful vesicular rash commonly called shingles, or infected respiratory tract secretions that also might be aerosolized. The average incubation period is fourteen to sixteen days after exposure to rash (range: ten to twenty-one days). Infected persons are contagious an estimated one to two days before rash onset until all lesions are crusted, typically four to seven days after rash onset). Varicella secondary attack rates can reach 90 percent among susceptible contacts. Typically, primary infection with VZV results in lifetime immunity. VZV remains dormant in sensory-nerve ganglia and can reactivate at a later time, causing HZ. Before the U.S. childhood varicella vaccination program began in 1995, approximately 90 percent of varicella disease occurred among children aged <15 years. During 1997-2009, national varicella vaccine coverage among children aged 19-35 months increased from 27 to 90 percent, leading to dramatic declines of >85 percent in varicella incidence, hospitalizations, and deaths. The decline in disease incidence was greatest among children for whom vaccination was recommended; however, declines occurred in every age group including infants too young to be vaccinated and adults, indicating reduced community wide transmission of VZV.

Current incidence of varicella among adults is low (<0.1/1,000 population), and adult cases represent <10 percent of all reported varicella cases. National seroprevalence data from 1999-2004 demonstrated that, in the early vaccine era, adults continued to have high immunity to varicella. In this study, 98 percent of persons aged 20-49 years had VZV-specific IgG antibodies. However, with declining likelihood of exposure to VZV, children and adolescents who did not receive two doses of varicella vaccine could remain susceptible to VZV infection as they age into adulthood, when varicella can be more severe.

The clinical presentation of varicella has changed since the implementation of the varicella vaccination program, with more than half of varicella cases reported in 2008 occurring among persons who were vaccinated previously, the majority of them children. Varicella disease in vaccinated children (breakthrough varicella) usually has a modified or atypical presentation; the rash is typically mild, with <50 lesions that are more likely to be predominantly maculopapular than vesicular. Fever is less common, and the duration of illness is shorter. Nevertheless, breakthrough varicella is infectious. One study indicated that vaccinated children with varicella with <50 lesions were only one third as infectious as unvaccinated children whereas those with ≥50 lesions were as infectious as unvaccinated children. Because the majority of adults are immune and few need vaccination, fewer breakthrough cases have been reported among adults than among children, and breakthrough varicella in adults has tended to be milder than varicella in unvaccinated adults.

The epidemiology of varicella in tropical and subtropical regions differs from that in the United States. In these regions, a higher proportion of VZV infections are acquired later in life. Persons emigrating from these regions might be more likely to be susceptible to varicella compared to U.S.-born persons and, therefore, are at a higher risk for developing varicella if unvaccinated and exposed.

Disease in healthcare settings and impact on healthcare personnel and patients

Although relatively rare in the United States since introduction of varicella vaccine, nosocomial transmission of VZV is well recognized and can be life-threatening to certain patients. In addition to hospital settings, nosocomial VZV transmission has been reported in long-term-care facilities and a hospital-associated residential facility. Sources of nosocomial exposure that have resulted in transmission include patients, HCP, and visitors with either varicella or HZ. Both localized and disseminated HZ in immunocompetent as well as immunocompromised patients have been identified as sources of nosocomial transmission of VZV. Localized HZ has been demonstrated to be much less infectious than varicella; disseminated HZ is considered to be as infectious as varicella. Nosocomial transmission has been attributed to delays in the diagnosis or reporting of varicella or HZ and in failures to implement control measures promptly. In hospitals and other healthcare settings, airborne transmission of VZV from patients with either varicella or HZ has resulted in varicella in HCP and patients who had no direct contact with the index case-patient. Although all susceptible patients in healthcare settings are at risk for severe varicella disease with complications, certain patients without evidence of immunity are at increased risk: pregnant women, premature infants born to susceptible mothers, infants born at <28 weeks' gestation or who weigh ≤1,000 grams regardless of maternal immune status, and immunocompromised persons of all ages (including persons who are undergoing immunosuppressive therapy, have malignant disease, or are immunodeficient).

VZV exposures among patients and HCP can be disruptive to patient care, time-consuming, and costly even when they do not result in VZV transmission. Studies of VZV exposure in healthcare settings have documented that a single provider with unrecognized varicella can result in the exposure of >30 patients

and >30 employees. Identification of susceptible patients and staff, medical management of susceptible exposed patients at risk for complications of varicella, and furloughing of susceptible exposed HCP are time-consuming and costly.

With the overall reduction in varicella disease attributable to the success of the vaccination program, the risk for exposure to VZV from varicella cases in healthcare settings is likely declining. In addition, an increasing proportion of varicella cases occur in vaccinated persons who are less contagious. Diagnosis of varicella has become increasingly challenging as a growing proportion of cases occur in vaccinated persons in whom disease is mild, and HCP encounter patients with varicella less frequently. Although not currently routinely recommended for the diagnosis and management of varicella, laboratory testing of suspected varicella cases is likely to become increasingly useful in healthcare settings, especially as the positive predictive value of clinical diagnosis declines.

Recommendations

Vaccination

Healthcare institutions should ensure that all HCP have evidence of immunity to varicella. This information should be documented and readily available at the work location. HCP without evidence of immunity to varicella should receive two doses of varicella vaccine administered four to eight weeks apart. If >8 weeks elapse after the first dose, the second dose may be administered without restarting the schedule. Recently vaccinated HCP do not require any restriction in their work activities; however, HCP who develop a vaccine-related rash after vaccination should avoid contact with persons without evidence of immunity to varicella who are at risk for severe disease and complications until all lesions resolve (i.e., are crusted over) or, if they develop lesions that do not crust (macules and papules only), until no new lesions appear within a twenty-four-hour period.

Evidence of immunity for HCP includes any of the following:

- Written documentation of vaccination with two doses of varicella vaccine.
- Laboratory evidence of immunity or laboratory confirmation of disease.
- Diagnosis or verification of a history of varicella disease by a healthcare provider.
- Diagnosis or verification of a history of HZ by a healthcare provider.

Adapted from Centers for Disease Control and Prevention (2011). Immunization of Healthcare Personnel: Recommendations of the Advisory Committee on Immunization Practices (ACIP). Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6007a1.htm [9].

Conclusion

Healthcare providers, specifically nurses, have an important role in the prevention and control of infectious diseases. In all healthcare settings, patient safety and protection is dependent upon healthcare providers understanding and being vigilant in the practices related to infection prevention and control.

This course has covered basic concepts related to infection prevention and control in healthcare settings and has provided information to help nurses advocate for the safety and protection of the patients and others for which they care. The course outlined key information to enable nurses to be current with practice guidelines that have been based on research findings and professional standards of care. However, it is critical that healthcare providers utilize updated resources to stay current with specific guidelines as changes are made based on additional research findings and changes to practice standards.

References

1. Centers for Disease Control and Prevention. Diseases and Organisms in Healthcare Settings. Retrieved from http://www.cdc.gov/HAI/organisms/organisms.html
2. Centers for Disease Control and Prevention. Exposure to Blood: What Healthcare Personnel Need to Know. Retrieved from http://www.cdc.gov/HAI/pdfs/bbp/Exp_to_Blood.pdf
3. Centers for Disease Control and Prevention. Facts for Parents: Diseases & the Vaccines that Prevent Them. Retrieved from http://www.cdc.gov/vaccines/vpd-vac/fact-sheet-parents.html
4. Centers for Disease Control and Prevention (2008). Guideline for Disinfection and Sterilization in Healthcare Facilities. Retrieved from http://www.cdc.gov/hicpac/pdf/guidelines/Disinfection_Nov_2008.pdf
5. Centers for Disease Control and Prevention (1998). Guideline for Infection Control in Health Care Personnel. Retrieved from http://www.cdc.gov/hicpac/pdf/InfectControl98.pdf
6. Centers for Disease Control and Prevention (2007). Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings. Retrieved from http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf
7. Centers for Disease Control and Prevention (2002). Guideline for Hand Hygiene in Healthcare Settings. Retrieved from http://www.cdc.gov/mmwr/PDF/rr/rr5116.pdf
8. Centers for Disease Control and Prevention. Healthcare Infection Control Practices Advisory Committee. Retrieved from http://www.cdc.gov/hicpac/about.html
9. Centers for Disease Control and Prevention (2011). Immunization of Healthcare Personnel: Recommendations of the Advisory Committee on Immunization Practices (ACIP). Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6007a1.htm
10. Centers for Disease Control and Prevention. Immunization: The Basics. Retrieved from http://www.cdc.gov/vaccines/vac-gen/imz-basics.htm
11. Centers for Disease Control and Prevention. Mission, Role and Pledge. Retrieved from http://www.cdc.gov/about/organization/mission.htm
12. Centers for Disease Control and Prevention. National Healthcare Safety Network (NHSN). Retrieved from http://www.cdc.gov/nhsn/index.html
13. Centers for Disease Control and Prevention. National and State Healthcare-Associated Infections Progress Report. Retrieved from http://www.cdc.gov/hai/progress-report/index.html
14. Centers for Disease Control and Prevention (2006). Management of Multidrug-Resistant Organisms in Healthcare Settings. Retrieved from http://www.cdc.gov/hicpac/pdf/MDRO/MDROGuideline2006.pdf
15. Centers for Disease Control and Prevention. Poster: Sequence for Donning and Removing Personal Protective Equipment. Retrieved from http://www.cdc.gov/HAI/prevent/ppe.html
16. Centers for Disease Control and Prevention (2006, 2012). Principles of Epidemiology in Public Health Practice: An Introduction to Applied Epidemiology and Biostatistics. Retrieved from http://www.cdc.gov/ophss/csels/dsepd/ss1978/lesson1/section10.html
17. Centers for Disease Control and Prevention (2013). Prevention Status Reports. Retrieved from http://www.cdc.gov/psr/hai/index.html
18. Centers for Disease Control and Prevention. Types of Healthcare-associated Infections. Retrieved from http://www.cdc.gov/HAI/infectionTypes.html
19. Centers for Disease Control and Prevention. Vaccines and Immunizations: Glossary. Retrieved from http://www.cdc.gov/vaccines/about/terms/glossary.htm
20. Centers for Disease Control and Prevention. What Would Happen If We Stopped Vaccinations? Retrieved from http://www.cdc.gov/vaccines/vac-gen/whatifstop.htm
21. Centers for Disease Control and Prevention. Winnable Battles: Healthcare-Associated Infections. Retrieved from http://www.cdc.gov/winnablebattles/healthcareassociatedinfections/
22. Emerging Infections Program Healthcare-Associated Infections and Antimicrobial Use Prevalence Survey Team. (2014). Multistate Point-Prevalence Survey of Health Care–Associated Infections. The New England Journal of Medicine, 370:1198-1208 March 27, 2014. Retrieved from http://www.nejm.org/doi/full/10.1056/NEJMoa1306801
23. GraduateNursingEDU.Org. Infection Control Nurse. Retrieved from http://www.graduatenursingedu.org/infection-control/
24. Occupational Safety & Health Administration. Bloodborne Pathogens and Needlestick Prevention. Retrieved from https://www.osha.gov/SLTC/bloodbornepathogens/index.html
25. The National Institute of Occupational Safety and Health. About NIOSH. Retrieved from http://www.cdc.gov/niosh/about/default.html
26. The Society for Healthcare Epidemiology of America. Mission and History. Retrieved from http://www.shea-online.org/About/MissionHistory.aspx

Chapter 8: Preventing Medical Errors for Florida Nurses

2 Contact Hours

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Learning objectives

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

- Analyze factors that contribute to medication errors.
- Discuss common medication errors that can happen in the work environment.
- Identify concepts and techniques that may help to prevent medication errors.
- Discuss ethical considerations impacting patient safety and medication errors.
- Acknowledge the Florida Board of Nursing licensure requirement on medication errors.

INTRODUCTION

Medical errors have been defined by Enchev (2015) as "avoidable adverse effects of medical care regardless of whether or not they are obvious or damaging for the patient" (p. 338). The U.S. Food and Drug Administration (FDA) cites the National Coordinating Council for Medication Error Reporting and Prevention (2020) definition of medical errors, noting it goes further when discussing responsibility, stating that medical errors are "any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the healthcare professional, patient, or consumer" (para. 1).

Have you ever considered the impact of medication errors? With today's technology, the patient waiting to undergo a healthcare procedure should feel comfortable that a diagnostic, procedure, or medical error will not occur. However, healthcare providers are humans who are working with human patients; therefore, potential for error remains. Medical errors are estimated to be the third leading cause of death in the U.S. (Kim et al., 2020). Thus, preventing medical errors should remain a major focus for nursing care.

In 1970, the Institute of Medicine (IOM) was formed to provide independent and evidence-based medical advice to healthcare providers, policymakers, and the private and public sectors (Dzau, 2016). In 1999, the IOM released a report, "To Err Is Human: Building a Safer Health System," which is still considered a classic report in healthcare. The report focused on patient safety and building a culture of trust. In the same year, the IOM found there were between 44,000 and 98,000 medical error–related deaths, which added to the importance of the released narrative (Banja, 2020). Banja cited Makary and Daniel from 2016 stating, unfortunately, that number was felt to be low by a factor of 2 or 3. Currently, it is estimated that a preventable medical error occurs 115 times out of 1,000 hospitalizations, averaging approximately $8,000 per admission (Palmer, 2019). The World Health Organization (WHO) in 2019 stated that globally about 4 in 10 patients experience errors and harm during their healthcare, with 80% of these errors being preventable. "The most detrimental errors are related to diagnosis, prescription, and the use of medications" (WHO, 2019b, para 5). Currently, the WHO estimates that $42 billion is spent annually as a result of medication errors (WHO, 2019b).

BUILDING TRUST

Errors during care also endanger the trust between healthcare personnel and patients. Can you imagine having an exploratory abdominal surgery without anesthesia? Sherman Sizemore did just that. He underwent abdominal surgery for 16 minutes without anesthesia because of a major medical error. While undergoing surgery, the nurse anesthetist gave a neuromuscular blocker preventing the patient from being able to move or talk but failed to give the inhalation anesthesia that would have allowed the patient to go unconscious so that pain during the surgery would not be felt. In the end, the patient developed strange ideas of being buried alive or fear of being left alone (thought to be related to this medication error) and committed suicide (Fox News, 2015).

Nursing Consideration: Building rapport and trust with patients is essential when communicating with them to make sure that they are engaged and work collaboratively with the healthcare provider. Confirming each procedure or medication with the patient can help to promote trust and avoid errors.

Evidence-based practice! Millions of patients suffer from errors in patient safety or unsafe healthcare, with approximately 2.6 million people dying annually as a result, especially in low- and middle-income countries (WHO, 2019a).

In 1966, more than 75% of Americans had great confidence in medical leaders; today, only 34% do. Compared with people in other developed countries, Americans are considerably less likely to trust doctors, and only 25% express confidence in the health system (Khullar, 2018). Building trust can be accomplished through transparent communication, disclosing conflicts of interests, promoting shared interests, and allowing patients to easily access their own data. Making sure the patient is informed, engaged, and in charge of their health team allows them to ask questions and make decisions that are in the best interest of their health and demonstrates an acceptance of what they wish (whether this is what the provider considers in the best interest of the patient or not). When patients feel they are working collaboratively with their provider, negative outcomes are less likely to occur.

MEDICATION ERRORS

10 top reasons for medication errors

In 2020, the Institute for Safe Medication Practices (ISMP) published the following top 10 reasons for medication errors and hazards (ISMP, 2020):

1. Selecting the wrong medication from computer screens by simply placing the first few letters of the medication name from which to choose
2. Daily versus weekly administration, especially chemotherapeutics

3. Look-alike labels
4. Misheard communication of actual drug ordered
5. Unsafe "overrides" of medication-dispensing units
6. Unsafe administration of intravenous push medications
7. Wrong route
8. Unsafe labelling by 503B compounders (these facilities produce large batches of medication in an attempt to reduce the unit cost of the medication)
9. Unsafe use of vinca alkaloid syringes
10. 1,000-fold overdoses with zinc, especially with pediatric patients

Evidence-based practice! The Institute for Safe Medication Practices is a nonprofit organization that promotes knowledge related to medication errors to encourage a better understanding of how the error may have occurred from a systems perspective. It does this by collecting data and later disseminating that knowledge to prevent future similar occurrences.

In 2014, more than $1 trillion in cost was associated with medical errors in the U.S. (Zikhani, 2016), with this number quoted as $210,000,000,000 annually (My Medical Score, 2020), and with expectations it would grow each year. Even though reasons for medical errors have been identified, there are also four major areas of concern in the healthcare arena including:

- Diagnostic errors.
- Treatment errors.
- Preventative errors.
- Communication, equipment, or system failures.

Zikhani (2016) wrote that psychology research has further revealed medication errors as either human tasks of schematic or attentional behaviors. Schematic behavior is actions performed reflexively without focused concentration, whereas attentional behaviors require thinking and analysis. Attentional errors from schematic behavior are often a result of distraction, lapse of concentration, or fatigue. Attentional errors typically occur from a lack of experience or education. Controlling errors with increased education is challenging but helpful in guarding against fatigue, distraction, and lack of concentration when administering or prescribing medications.

MEDICATION FIVE RS

Nurses practice medication administration under the concept of the five Rs of medication administration:

- Right drug.
- Right patient.
- Right dose.
- Right route.
- Right time.

The ISMP advances patient safety by increasing knowledge about medication-related errors. ISMP developed the five Rs as a guide to help reduce medication administration errors. Adding additional Rs to this list will not help. The provider must always be aware of these principles, remembering that the protocol does not tell us how to accomplish this goal.

To help reduce medication errors, the ISMP (2018) also developed and adopted interventions that are currently being used in healthcare facilities. These include asking for two separate patient identifiers when receiving telephone medication orders; encouraging staff participation in ongoing medication error prevention education; using prescription or phone pads that remind the provider to ask about patient allergies and include the diagnosis associated with the medication; using dividers to separate look-alike or similar labels of medication; using a stocking program that clearly separates optic from otic solutions; and incorporating teach-back methods with patients when teaching them about specialized monitoring devices. In addition, they also identified high-risk pediatric medications that require dosage calculation.

In 2018, the ISMP identified top medication safety issues that should be addressed by all healthcare providers. These items are based on error rates or national problems (ISMP, 2018) including:

- Labeling and packaging concerns.
- Identifying drug allergies and interactions.
- Vaccination errors.
- Reviewing medication errors related to calculations based on patient weight.
- Investigational safety issues.
- Methotrexate errors.
- Errors associated with residual drugs in intravenous lines.
- Improving safety associated with medication infusion pumps.

Case study 1

A newly graduated nurse is working the evening shift on a busy medical-surgical floor. She has not completed her 12-month residency program when she is asked to stay and help out on the nightshift because of the many nurse call-outs. Although she is tired, she agrees because she wants to make a good impression with her manager. She is assigned the task of giving medications to 10 patients that are all due between 11 p.m. and midnight. She was doing well with the task until she reached her last couple of patients, who were asleep. She knew from report that both would probably awaken throughout the night, so she thought she would wait until they woke up to give them their medication. After all, sleep is as important as medications when you are talking about health. When she left, she forgot to tell the oncoming nurse the medications had not been administered due to running out of time since patients were resting. How many errors can you see in this scenario?

Case study 1 discussion

Although the new nurse wanted to be helpful, care for her patients, and help out her teammates, she was still in a residency program and should not be asked to work overtime (problem one). While giving medications, the nurse ran out of time and failed to administer the medications as prescribed (problem two). The nurse failed to provide report to the next nurse taking care of these patients (problem three). The nurse did not write a report of contact so that the incident could be investigated more thoroughly, allowing identification of system failures (problem four). Although the nurse failed to perform these activities, it was not her fault. Many circumstances combined to cause this failure. Assigning blame discourages reporting and creates additional stress that interferes with the nurse being able to learn from the experience.

MEDICATION ERROR TERMS

When reviewing medication errors, specific terms are used, and definitions need to be understood, including the following:

- Side effect—a known response from the pharmacological property of a drug
- Adverse reaction—an unexpected harm when the correct process was followed but an event occurred Error—an action that was mistakenly carried out, carried out incorrectly, or not carried out
- Adverse event—an incident where a patient was harmed (may or may not be preventable)

MEDICAL-DEVICE ERRORS

Not all medical errors are medication errors. Medical-device errors have also been shown to cause harm to patients. Although some medical- device errors have been human related—meaning they were caused by a lack of education on the part of the user, taking shortcuts, or simply not following the guidelines or institutions developed for using the device—many devices were developed with design problems. Swayze and Rich (2012) define a medical device as "any item used to diagnose, treat, or prevent disease, injury, or any other condition that is not a drug, biologic, or food" (para. 1).

The development of medical devices is monitored by the U.S. Food and Drug Administration's Food, Drug, and Cosmetic Act (2019a). Newly developed devices are presented to the FDA to be granted clearance for use; however, the FDA depends on the manufacturers to report problems associated with the devices once they are released for use. Postmarket usage and errors are documented through medical-device reporting (Swayze & Rich, 2012).

Consider the true story of Lorraine Bonner (Bonner v. Covidien and Medtronic, Inc., 2019). She underwent a sigmoidectomy (an abdominal surgery), and medical staples were used to close her incision. She was slow to develop return of bowel function and showed leakage from the surgical site around the staples, ultimately resulting in the need for a second surgery because of stapler malfunction. Several months after the event, the manufacturer recalled the stapler device for problems that had been noted with misfiring. Since 2019, the FDA has reported at least 41,000 events, including 366 deaths, related to the stapler misfiring (Jackson, 2019). The surgeon is responsible for removing surgical devices that have failed, but any signs of failure or complications should be reported by the nurse immediately. When medical devices such as infusion systems fail, nurses are instructed to remove the device and tag it with appropriate labels so that it can be evaluated by the institution and reported to the manufacturer.

ERRORS OF OMISSION AND COMMISSION

Two major types of medical errors are errors of omission and errors of commission. Errors of omission occur when acts of care that should have been done or prescribed were not performed. Errors of commission occur when an act of ordered care was incorrectly performed. The Agency for Healthcare Research and Quality (AHRQ; 2019c) defined omission of care as the act of "not doing" or failure to provide care required for a person's health and well-being.

Here are some examples of errors of omission (Carvalho et al., 2020):

- Not performing oral hygiene for patients.
- Not ambulating patients as ordered.
- Not providing education to a patient during hospitalization.
- Failing to communicate a change in patient status to the oncoming nurse

Here are some examples of errors of commission:

- Not checking a PT level before administering Coumadin.
- Failing to provide discharge instructions.
- Not checking allergy status before prescribing or administering medications.
- Giving a patient mismatched blood.

PATIENT SAFETY

Patient safety is a healthcare discipline that focuses on the potential risks and harms occurring in healthcare. The professional in this discipline analyzes data to monitor for trends impacting patient safety, implements new interventions and safety improvements for promotion of safe patient care, develops policies for organizations, and provides education to healthcare professionals about ways to enhance patient safety. The WHO (2019a) analyzed upcoming patient safety issues based on prior data and emerging critical situations. Below are some of the situations creating concerns:

- Medication errors—multiple causes that may lead to patient harm.
- Healthcare-associated infections—nosocomial, poor practices in care.
- Unsafe surgical care procedures—wrong patient; wrong site; complications from surgery.
- Unsafe injection practices—unsafe practices may lead to hepatitis B or C, or HIV.
- Diagnostic errors—ordered incorrectly; performed incorrectly; misinterpreted.
- Unsafe transfusion practices—risk of transfusion reactions or errors with transfusion.
- Radiation errors—overexposure to radiation and cases of wrong patient and wrong site.
- Sepsis—usually not diagnosed in a timely manner.
- Venous thromboembolism—a preventable situation that may occur from lack of anticoagulant medication or nonambulation of a patient.

Case study 2

An unfortunately true story concerning an elderly patient awaiting surgery in 2017 occurred when a nurse injected the paralytic anesthetic vecuronium instead of Versed, a sedative. The nurse who administered the medication typed in "VE" in the medication cabinet and selected the first medication name that came up on the list. This act resulted in death of the patient (ISMP, 2019).

Case study 2 discussion

There are many issues with this case study. The nurse failed to check the medication name against the ordered medication and overrode the medication system. Possibly the nurse felt rushed or overwhelmed, or simply did not pay attention. The case went to court, and the nurse was found guilty of reckless homicide. Systems today should be in place to prevent this type of override of systems, but errors can always find a way of happening if proper procedures are not followed (Ross, 2019). Nurses can use a second person to verify a medication or dose before administering any high-risk medication.

PATIENT SAFETY TERMINOLOGY

- Adverse events—refers to incidents resulting in an undesirable experience associated with the use of a medical product or medication in a patient. A serious adverse event can result in life-threatening situations, death, prolonged hospitalizations, permanent disability, birth defects, or medical devices that could cause permanent damage (U.S. Food and Drug Administration, 2016).
- Near misses—refers to situations where patients are exposed to potential danger but do not experience any harm, due to either early detection or luck (AHRQ, 2019b).
- Sentinel events—The Joint Commission International states that sentinel events are types of negative patient outcomes that result in unexpected death or loss of function. "Such an event is called sentinel because it signals a need for an immediate investigation and response" (VanOstenberg & Reis, 2008, para. 3).

Nursing Consideration: Nursing errors may occur because of fatigue, user error, lack of knowledge, or failure to follow policy. The adverse events can be self-limiting or possibly even lead to death. Utmost care and avoidance of interruptions needs to be practiced when administering medications to patients and when using medical devices.

Evidence-based practice! Sentinel events are potentially life threatening and can be associated with a patient's health status, or they may be surgical errors such as wrong site, wrong procedure, or wrong patient. When reviewing these events, healthcare organizations need to promote a culture of safety to encourage early identification of potential problems before they occur and ensure that people who are reporting events know that a thorough blameless investigation will occur.

Case study 3

A 78-year-old male is admitted to the rehabilitation unit with a diagnosis of failure to thrive. He lost approximately 40 pounds over the past three months despite receiving tube feedings four times daily. When the nurse reviewed the admitting orders, the patient was ordered a soft diet, but no orders for tube feedings were found. The nurse contacts the provider for clarification regarding the diet. What type of error or event is this?

Case study 3 discussion

The error was considered a near miss, as the problem was identified before any harm actually occurred to the patient. Often items are left out when writing admitting or discharge orders. To promote the health and safety of the patient, it is always good practice to review each order and call the provider should there be any questions or misunderstandings (although it may be stressful at times to question orders).'

Case study 4

A 55-year-old female was assessed for control of her blood pressure. She was taking Valsartan 160 mg. Upon exam, her BP was 122/66, but her heart rate was 126. Although asymptomatic, she was prescribed metoprolol to help decrease the BP and, specifically, to decrease the elevated heart rate. She was scheduled for follow-up in six months. After four months, she returned to the office, stating she was dizzy and having episodes of near syncope. Her BP was 92/46, and her heart rate was 42. She was instructed to go to the emergency department for hydration. While in the ED, hydration was provided intravenously. Her BP came up to 120/100, but her heart rate remained in 40s and 50s. The ED provider asked the patient about any changes in her diet and found that she had been a heavy drinker of caffeinated sodas but had recently given this practice up in hopes of losing weight. She was taken off the metoprolol, and her heart rate came back to baseline in the 60s.

Case study 4 discussion

What happened and what went wrong? The ultimate etiology of the patient's elevated heart rate was related to her intake of caffeinated beverages. This was never discussed with her primary provider. Also, when adding blood pressure medications, it would be best practice to follow up in one month, not six months. There were a few reasons this incident happened, but if proper systems had been in place, the outcome could have been different and saved the patient the cost of an ED visit, unneeded medications, and the physical suffering that occurred. What this case study demonstrates is that the provider should be more thorough in assessment, the patient should have provided information about the caffeine she was consuming, and there should have been an earlier follow-up, especially considering new medications were added to the patient's profile.

CULTURAL CONSIDERATIONS AND MEDICAL ERRORS

Culture may be defined as the collective thoughts and feelings or personal identification shared by a specific group that may encompass ethnic, racial, religious, geographic, and social components. The habits of healthcare or medication usage can be influenced by a person's culture. However, the healthcare provider also has a specific cultural influence that can impact how medications are used.

Cultural competence in healthcare refers to the ". . . ability of systems to provide care to patients with diverse values, beliefs and behaviors, including the tailoring of healthcare delivery to meet patients' social, cultural, and linguistic needs. Being a culturally competent health system requires behaviors, attitudes, and policies that support effective interactions in cross-cultural situations" (Agency for Healthcare Research and Quality, 2019b).

Cultural competence and healthcare disparities have been an increasing problem, with renewed awareness during the time of the COVID-19 pandemic, because trust in healthcare providers may be influenced by culture. Some cultural groups may be reluctant to seek care or feel that their care will not be provided without error. For example, the many in the African American population have a lack of trust in healthcare, most likely related to the Tuskegee syphilis study, which was conducted from 1932 to 1972 (Centers for Disease Control and Prevention [CDC], 2020), or Henrietta Lacks's story. A human cell line was taken from Ms. Lacks without her knowledge and used in various medical research studies (Johns Hopkins Medicine, n.d.).

Culturally, many in the LGBTQIA+ population feel unaccepted by healthcare providers at times, thus adding to the problem of medication errors (Whitehead et al., 2016). When people are not comfortable with the provider, they are less likely to ask questions about medications, leading to possible safety errors. A lack of education on the special needs of the LGBTQ population also compounds the issue because limited information has been shared on this population in medical and nursing schools in the past. Also, consider patient populations that may be using herbs or supplements that can interfere with prescribed medications, as well as those with language barriers or low health illiteracy, which can all contribute to medication errors. The Agency for Healthcare Research and Quality (2019a) stated that when cultural incompetence is present, lack of patient engagement is present. If patients miss appointments, do not understand instructions, or simply cannot communicate their needs to the healthcare provider, these cultural issues will impede care and lead to potential medication errors (Agency for Healthcare Research and Quality, 2019a). The need for additional research on these vulnerable groups has been identified as a goal with Healthy People 2030.

SAFETY NEEDS OF SPECIAL POPULATIONS

Joszt (2018) identified special populations at risk for medical errors:

- The chronically ill.
- Unhoused or low-income individuals.
- Those with specific disparities based on geographical areas.
- LGBTQ population.
- Geriatric and pediatric patients.

Chronically ill patients

The chronically ill spend more time in the healthcare system; thus, the risk of medication error and patient safety risks increase. The chronically ill patient often finds it difficult to access healthcare, thus delaying necessary treatment. In addition, they may be taking multiple medications that increase the risk of medication error related to drug–drug interactions (Joszt, 2018).

Unhoused/low income

The unhoused and low-income populations often wait until their health deteriorates significantly before seeking care. Unhoused individuals may have psychiatric or abuse disorders, limited financial resources, lack of transportation, or trust concerns that discourage access to the healthcare system or prevent patient safety based on the patient not being compliant with therapy. Low-income patients may have comorbidities that make treatment difficult (Joszt, 2018). In 2017, the U.S. Department of Housing and Urban Development reported that approximately 554,000 individuals were unhoused on any given night (Joszt, 2018). Being on the streets may prevent treatment from being prescribed or taken as instructed, leading to errors. Also, unhoused patients may not report complete histories, making safe medication decisions difficult. They may often be lost to follow-up, again creating a major patient safety concern.

Geographical disparities

Disparities based on geographic location can be related to issues with access to safe healthcare. Citing the New York Times, Joszt (2018) stated that in 2010, 85 rural hospitals had to close, which contributed to the concern for healthcare in rural areas. Taylor (2019) wrote that the lack of Medicaid expansion in certain states, along with healthcare provider shortages, are common in the South and often affect African American populations.

LGBTQ populations

Joszt (2018) wrote that one out of five LGBTQ individuals has avoided healthcare encounters for fear of facing discrimination. Often this population has reported mental health issues such as depression, anxiety, substance abuse, and suicidal tendencies. The female transgender population may also be taking estrogen obtained from the streets or online so that they can take higher doses than recommended to assist with breast augmentation (Chalmers, 2020). If this information is not shared with their healthcare provider, it can potentially lead to major safety concerns related to prescribing or detection of side effects.

Geriatric and pediatric patients

Pharmacokinetics is important when thinking about these two age groups. Pediatric dosages are often calculated based on kg/mg formulas, which creates potential calculation errors. In addition, Florida has a high percentage of elderly citizens, and safety consequences can endanger their lives more readily, so this age group warrants particular safety emphasis. Body weight, distribution, absorption, and elimination are important factors to consider for the elderly, making them at risk for medication errors and patient safety risks when prescribing medications. Also, possible constraints on income may not allow the elderly to purchase needed medications, or they may try to "stretch out the pills" by taking less than prescribed. Lastly, the pharmacy should be aware of packaging issues for the elderly and ask if there are any mobility issues that would prevent the patient from opening childproof caps or blister packages. Some elderly patients may have memory problems or cannot report a complete history of medications, supplement use, or diet that could influence their safe use of medications. Special instructions, written reminders, caretaker education, or more frequent follow-up may be needed to avoid the risk of consequences.

Patients with mental health and psychiatric concerns

Grasso and colleagues (2007) identified several reasons that medical errors may occur with patients who have psychiatric and mental health concerns. These concerns are still relevant today. The reasons for potential medical errors are many, including:

- The large number of patients with a mental health disorder that seek care in various facilities where medical records are not carried forward to the receiving facility.
- A large number of prescriptions written by both mental health providers and primary care providers.
- Use of psychiatric medications in pediatric patients with significant side effects or even possible suicide attempts.
- Possible use of psychiatric medications to treat behavioral disturbances in patients with dementia (often related to the side effects of heart- related events).
- Complementary or alternative medications used in addition to prescription medications that may create drug–drug interactions.
- Fiscal factors that may increase the risk of error.

Grasso and colleagues (2007) stated, "Increased fiscal pressure to curb Medicaid costs and to increase private insurers' shareholder earnings is a risk factor for medical errors of omission. Formulary restrictions diminish medication access for prescribers, which increases the possibility of suboptimal care or overt harm" (p. 46). Especially when giving hospital discharge instructions, interactions with patient should include questions about the patient's ability to afford and access prescribed medications and treatment supplies.

Other populations who should be considered are patients with developmental disabilities, surgical patients, patients with alcohol and/or drug abuse disorders, and patients with sensory deficits or rehabilitation needs—as they may all have difficulty communicating with the provider.

Solutions offered by the AHRQ (2019b) to promote safety include language assistance and use of cultural brokers, along with cultural competence training. Use of an interpreter can also help when language barriers are present. Staff may be multilingual, and some facilities have people trained in various languages, including sign language, to assist providers in ensuring information is received appropriately and questions can be answered. Another solution is the use of cultural brokers who are trained to serve as "partners" for the patients and providers to help mediate between traditional medicine and the health beliefs and practices of a specific culture. Since providers cannot be knowledgeable about all cultures, a cultural broker can be invaluable in this particular setting (AHRQ, 2019b).

ETHICAL CONSIDERATIONS ASSOCIATED WITH MEDICAL ERRORS PER THE AMERICAN NURSES ASSOCIATION (ANA)

Medical errors are highly preventable and have been addressed by the American Nurses Association (ANA). Data gathered from multiple countries "showed that the U.S. had the highest number of preventable deaths in comparison to nine other countries, with France and Australia being the lowest" (Sorrell, 2017, para. 1).

The American Nurses Association wrote that medical errors could be related to four primary ethical principles. The following principles need to be considered when reviewing ethical situations related to medication safety and error prevention (Bonney, 2013; Sorrell, 2017):

- Autonomy and right to self-determination.
- Beneficence and nonmaleficence.
- Disclosure and right to knowledge.
- Veracity.

Autonomy and right to self-determination

This principal guides healthcare providers to follow moral and ethical rules to make sure the patient's privacy is protected, obtain informed consent before treatment; and assist patients/families to make important healthcare decisions; respecting the patient's decision even when the provider may disagree.

Example: Instructing a patient on the potential side effects of a vaccination. The provider knows this is needed to enable the patient to make an informed decision about the vaccination. After discussing side effects, if the patient refuses the vaccination, the provider should accept the patient's decision without trying to coerce the patient to change their mind.

Beneficence and nonmaleficence

This principle attempts to promote what is best for the patient while minimizing the risks as much as possible. Healthcare providers have the ethical and moral duty to try to prevent harm to the patient when possible. Nurses have an ethical duty that is clearly identified in the Code of Ethics from the National Council of State Boards, Use of Code of Ethics, and the Nurse Practice Act (Gaines, 2022.

Example: Knowing that a needed vaccination may cause pain at the injection site or that residual side effects of a low-grade temperature or muscle joint pain may occur from the vaccination is the risk part of a benefit versus risk ethical decision. However, long-term immunity will benefit the patient by helping to prevent a serious condition after the vaccination. The beneficence that is shown by educating the patient helps to prevent errors by making the patient a partner in their own care.

Disclosure and right to knowledge

This principle mandates that a patient have full knowledge about a planned treatment option. Time is allotted for the patient to discuss what is known about the treatment, and nothing should be disguised or held back from the patient when reviewing the planned treatment. Also, all treatments should be based on the strongest evidence-based practice possible, putting ownership of staying abreast of new information that can be shared with the patient on the provider.

Example: When agreeing to a planned vaccination, the patient should be told of adverse effects (even those with low percentage risks) that have been noted in those who have received this vaccination, such as Guillain–Barré syndrome. If all information about the vaccine is not disclosed, the patient may feel the provider is hiding something or "caused" the side effects due to poor provider skill, thus placing the provider and the organization at risk for liability.

Veracity

Veracity is displayed when the provider fosters the patient's ability to understand the information provided in a comprehensive, accurate, and objective manner. Veracity helps to seal the patient–provider relationship based on trust. It establishes a trusting and empathetic rapport between the patient and the provider.

Example: When the patient received a vaccination, mild side effects were noted as the provider had described. However, no major health issues arose. The patient was thankful when the provider called them the following day to check on how they were feeling.

Evidence-based practice! Healthcare organizations are complex and vulnerable to patient safety errors because of their decentralized and fragmented systems. Thus, when negative patient safety outcomes are present, they often have serious consequences for the patient, the organization, and society.

MISCOMMUNICATION BETWEEN NURSES AND PHYSICIANS

Since the beginning of nursing history, nurses and physicians "have shared a complicated relationship" (Amudha et al., 2018, para 4). The working relationship has been influenced by social status, gender (most nurses being female and most physicians being male), and perceived authority. Often physicians demonstrate an authoritarian attitude—they are used to writing orders and telling patients what must be done. Communication skills among physicians and nurses have been referred to as exhibiting an imbalance of hierarchical power (Howley, 2018). Lagasse (2018) wrote that occasionally the hospital hierarchy can place nurses at a "power disadvantage," which can contribute to nurses feeling fearful of questioning physicians about potential medical errors. The power disadvantage can lead to nurses feeling their thoughts and concerns are less valuable than the thoughts of physicians who practice within the organization. Lagasse wrote that nurses and physicians communicate differently, further stating that some nurses do not directly ask or state their needs, which can confuse physicians, who also may not ask for clarification on what is being said, leading to possible medical errors. Many physicians prefer facts only for a quick summary of what is happening in a specific situation, whereas nurses tend to prefer more holistic, in-depth conversations to understand what is happening. These different types of communication styles can make nurses feel they are not being listened to or make the physician appear aloof (Amudha et al., 2018).

In nurses' official training, little is taught about communication skills with physicians. Nurses focus on communicating with patients, but little is said about communication with peers and other healthcare providers. Howley (2018) wrote that some factors related to poor communication among healthcare providers are related to patient load, individual personalities, and—again—the hierarchical imbalance between nurses and physicians. However, when this imbalance is pointed out to

the organization and to healthcare providers, communication improves. It has also been pointed out that many people in healthcare have various cultures, a situation that also contributes to miscommunication. This is an area that needs to be incorporated into nurses' (and physicians') training so that medical errors based on miscommunication can be prevented.

Wang and colleagues (2017) reported that nurse–physician miscommunication can also lead to decreased patient satisfaction; increased healthcare costs; and, most important, deleterious effects on patient safety. In addition, poor communication can lead to issues in nursing such as nursing burnout from work dissatisfaction, decreased autonomy, and increased turnover rates—all of which can suppress the quality of care and patient safety.

Amudha and fellow researchers (2018) conducted a qualitative study examining factors that influenced the "communication gap" between nurses and other medical providers. Themes that developed included the following:

- Lack of knowledge regarding a specific specialty: Nurses were unable to answer questions being asked by the physician.
- Lack of experience: Nurses did not have training on specific procedures.
- Problems with time management skills.
- Theoretical versus practical training: Different orders maybe written for the same procedure by various physicians, such as for wound care.
- Perception of work environment, being short staffed, or being underappreciated.
- Power of authority: Physicians may be seen as "bossy."
- Personality traits: Some physicians are perceived as loud or soft spoken.
- Mood variations: There are various ways that physicians handle stress.
- Handwriting skills.

This study demonstrated how nurses perceived barriers to communication and helped to identify strategies to enhance effective communication, such as the need for additional training, enhancement of the work environment, and the importance of collaboration among all healthcare providers.

Always seek clarification on words, phrases, or other items that are not understood. Where barriers may exist, contemplate whether a family member or assistive device is needed for people who are hearing impaired or speak a different language. Another consideration of communicating effectively is thinking about the mode of communication. While working with various modalities such as emails, telehealth, telephone, or face-to-face visits, think how this may impact communication. Because of the COVID-19 pandemic, more patient visits are being done via telehealth. What if you were elderly and did not know how to use telehealth via a computer? What if you had vision issues that prevented you from participating in a telehealth conference? Confirm the patient's comfort level before suggesting a mode of care delivery. Also, do not assume that the person is literate or is able to read English, even if they are speaking English.

One additional factor to consider when improving communication skills is avoiding nonstandard abbreviations. Time is a valuable commodity in healthcare. Providers look for abbreviations to help decrease the time it takes to write orders, especially for medications. However, because of legibility issues and transfer of care, abbreviations can be problematic. The Joint Commission has issued a list of abbreviations that should not be used (see Table 1).

Table 1. Official "Do Not Use" List of Abbreviations

Abbreviation	Rationale	Corrective Action
U, u (unit)	Mistaken for 0 (zero), the number 4, or cc	Write out "unit"
IU (international unit)	Mistaken for IV (intravenous) or the number 10	Write out "international unit"
Q.D., QD, q.d., or qd (daily) Q.O.D, QOD, q.o.d., or qod.	Mistaken for each other Period after Q interpreted as I and O mistaken for I	Write out "daily" Write out "every other day"
Trailing zero (X.0 mg) Lack of leading zero (.X mg)	Decimal point is missing	Write "X mg" Write "0.X mg"
MS MSO4 and MgSO4	Can mean morphine sulfate or magnesium sulfate Confused for one another	Write "morphine sulfate" Write "magnesium sulfate"

From The Joint Commission. (2019). Official "Do Not Use" List https://www.jointcommission.org/-/media/tjc/documents/resources/patient-safety-topics/patient- safety/do_not_use_list_9_14_18.pdf

MEDICATION RECONCILIATION

"The Joint Commission defines medication reconciliation as the process of comparing a patient's medication orders to all of the medications that the patient has been taking" (Smith et al., 2018, para. 1). It has been suggested that 66% of medication errors occur while the patient is being admitted to or discharged from a facility or during outpatient visits. Of this figure, 25% of the medication errors occur when medications are overlooked (Smith et al., 2018). However, Kelly (2016) cited research done by Rand, who stated that 7% to 10% of patients are incorrectly identified. This occurrence is completely preventable. Although errors may occur when incomplete medication lists or incorrect patients are identified, biometric markers have been suggested as an intervention to enable all of a patient's medical data to be found via one easy record retrieval. This would help the admitting team, regardless of where they work, prevent unnecessary medical errors.

The WHO (2020) wrote that errors in medication prescribing and administration occur when providers are fatigued; a poor working environment is present; providers are frequently distracted or interrupted; there are staff shortages; monitoring practices are ignored; prescribing/transcribing errors occur because of hurriedly writing orders; and providers' lack of technological knowledge.

THE NATIONAL COORDINATING COUNSEL FOR MEDICATION ERROR REPORTING AND PREVENTION

The National Coordinating Counsel for Medication Error Reporting and Prevention's (2020) goal is to increase awareness of medication errors through open communication and reporting while evaluating and developing new prevention strategies. The organization categorizes medication errors as "no error"; "error, no harm"; "error, harm"; and "error, death." With these definitions, the following scale categories were developed:

A. Circumstances that may lead to error
B. Error occurred but did not reach the patient
C. Error occurred with patient but did not cause harm
D. Error occurred, with patient requiring ongoing monitoring to see if harm would result
E. Error occurred that may have resulted in temporary harm to patient, requiring interventions
F. Error occurred that may have resulted in temporary harm and required initial or prolonged hospitalization
G. Error occurred that may have contributed to permanent patient harm
H. Error occurred that required intervention to sustain life
I. Error occurred that may have contributed to or resulted in the patient's death

It is widely accepted that when an error becomes known, the provider should be honest and admit the mistake to the patient and family. Even though patients and families may at first be angry, they usually are thankful the mistake was made known, especially if there is discussion on how the mistake will be prevented in the future. Providing a sincere apology and saying "I'm sorry" does help. Some providers, however, hesitate to admit a mistake for fear of reprisals, professional rejection, and/or liability. Although this can be a stressful time, "apology laws" are found to be helpful in making sure providers are transparent about the medical care received. In addition to the District of Columbia and Guam, 36 states now have apology laws, which prohibit a provider's statement of apology or concern from being used against them in a courtroom as an admission of guilt (Morton, 2020).

Nursing Consideration: When patient errors happen, it can be challenging and stressful for the individuals involved. Providing a sincere apology is helpful in decreasing fear and helps to make amends for what happened. Providers should be aware that in many states, apologies cannot be used in a court of law to suggest personal liability. Errors must be reported for changes to be made to support nurses in avoiding future errors. Reporting is a legal requirement and an ethical responsibility. Nursing supervisors can encourage reporting and error prevention by praising the nurse, offering support for the guilt or remorse the nurse may feel, and helping to identify contributing factors that may be minimized in the future.

FOOD AND DRUG ADMINISTRATION

One safeguard to help prevent medical errors is the U.S. Food and Drug Administration. The agency reviews medications before they are approved for marketing, making sure the product is designed to help prevent errors through proper labeling, spelling, packaging, and appropriate design. The medication is reviewed to see how it is labeled, packaged, and supplied in regard to strength. In addition, patient instructions are reviewed to make sure they can easily be understood by the consumer. After the medication is released, the FDA monitors drug reports to look for possible trends of concern. For example, the FDA has required changes in label design after medications containing the same drug, but different concentrations, created confusion that resulted in medication errors (FDA, 2019b).

LESSONS LEARNED: WAYS TO PROMOTE MEDICATION SAFETY

Research and experience have provided knowledge on ways to promote medication safety, including the following:

- Use generic names for medications.
- Prescribe medications individualized to the patient.
- Collect complete medication histories.
- Take precautions with high-risk medications.
- Familiarize yourself with medications given.
- Apply the five Rs.
- Communicate clearly, both verbally and in writing.
- Double-check medication labels, especially high-risk medications.
- Encourage patient participation.
- Learn from others.
- Minimize distractions during medication preparation and administration.

Patients also have an obligation when taking medications. They should always know the name and dosage of the medication they are taking, common side effects, and who they should contact if they have questions about their medication. In many pharmacies, pharmacist consultations are available so that patients can ask questions if needed. Should patients require hospitalization, all medications should be brought with them for review.

FLORIDA MANDATES: REPORTING ERRORS

Florida mandates sentinel events be reported to The Joint Commission. Florida's Comprehensive Medical Malpractice Reform Act of 1985 (Florida Senate, 2021) mandates that healthcare organizations implement a risk management and reporting system to collect data on potential and real errors. Oversight is provided by the Florida Agency for Health Care Administration (AHCA), which also ensures that each licensed healthcare facility has a risk manager who can plan programs and evaluate the current system for potential risks related to patient safety. These risks go beyond those related to medication, as they also consider medical devices, procedures (especially surgical procedures), and other types of injuries (Florida Senate, 2021).

Florida statutes mandate reporting of sentinel events within three days to one's internal organization. There are two types of reports (Code 15 and annual reports) that are developed and employed by licensed facilities to report adverse events. Code 15 reports are due within 15 days of an identified error. The following are examples events requiring Code 15 reports:

- Unexpected death of a patient.
- Brain or spinal damage.
- Surgical procedure on the wrong patient.
- Wrong-site surgical procedure.
- Surgical procedure that is medically unnecessary.
- Surgical damage resulting from a scheduled planned surgery where the damage was not expected.
- Procedures performed to remove unplanned foreign objects remaining postoperatively.

Annual reports provide data maintained by the facility showing the number of Code 15 reports completed, types of adverse events and the categories of these errors, along with any pending or completed malpractice claims (F.S. Title XXIX, Chp. 395-10974). Actions taken to investigate the events and to remedy any contributing factors are also included (Jones & Slosburg, 2015).

MANDATORY EDUCATION

Renewal for RN and LPN licenses in Florida requires two continuing education units (CEU) hours every two years on medical-error prevention. Advanced practice nurses are mandated to earn two CEU hours every two years on medical error prevention, along with three hours on safe and effective prescription of controlled substances (Lippincott NursingCenter, n.d.).

Nursing Consideration: Mandates for licensure renewal vary from state to state. Nurses must be aware of what continuing education credits are required for each state of licensure by consulting that state's board of nursing. Continuing education providers must be approved by the board.

Conclusion

Medical errors affect everyone—patients, providers, pharmacists, physical therapists, healthcare administrators, and anyone else who has contact with the patient. Errors involve not only medications but also surgery, the development of incorrect diagnoses, laboratory results, lack of proper documentation, failure to review laboratory result (or not having results available), poor communication (or lack of communication), poor staffing issues, poor attention to details, lack of adherence to policies or procedures, lack of consideration of cultural issues such as language barriers, patient reluctance to discuss alternative therapies, and lack of trust in the provider. Adhering to the five Rs, minimizing interruptions, and ensuring proper education of all healthcare professionals can greatly reduce the risk of medical errors. Increasing knowledge and awareness enhances the provider's mantra of "Do no harm," which is ethical, moral, and—most important—the right thing to do.

References

- Agency for Healthcare Research and Quality (AHRQ). (2019a). *Adverse events, near misses, and errors.* https://psnet.ahrq.gov/primer/adverse-events-near-misses-and-errors
- Agency for Healthcare Research and Quality (AHRQ). (2019b). *Cultural competence and patient safety.* https://www.psnet.ahrq.gov/perspective/cultural-competence-and-patient-safety
- Agency for Healthcare Research and Quality (AHRQ). (2019c). *Omissions of care in nursing homes.* https://www.ahrq.gov/sites/default/files/wysiwyg/patient-safety/omissionsofcare-envscan.pdf
- Amudha, P., Hamidah, H., Annamma, K., & Anath, N. (2018). Effective communication between nurses and doctors: Barriers as perceived by nurses. *Journal of Nursing & Care, 7*(3). https://doi.org/10.4172/2167-1168.1000455
- Banja, J. (2018). Death from medical errors: What to believe, what to think? *American Society for Health Care Risk Management.* https://forum.ashrm.org/2018/01/11/deaths-from-medical-errors-what-to-believe-what-to-think/
- *Bonner v. Covidien and Medtronic, Inc.*, Case 3:19-cv-05841, 1-12. (2019). https://pittsburgh.legalexaminer.com/wp- content/uploads/sites/229/2019/11/11.8.19-Stapler-Complaint.pdf
- Bonney, W. (2013). Medical errors: Moral and ethical considerations. *Journal of Hospital Administration, 3*(2). https://doi.org/10.5430/jha.v3n2p80
- Carvalho, J., Silva, A., & Clairi, M. (2020). Omission of nursing care in hospitalization units. *Revista Latino-Americana de Enfermagem*, 28. https://doi.org/10.1590/1518-8345.3138.3233
- Centers for Disease Control and Prevention (CDC). (2020). *The Tuskegee timeline.* https://www.cdc.gov/tuskegee/timeline.htm
- Chalmers, V. (2020). Transgender patients are "forced" to buy hormones online to help them transition because NHS waiting lists are up to three years long. *DailyMail.com.* https://www.dailymail.co.uk/health/article-8015559/Transgender-patients-forced-buy-hormones-online-NHS-wait-lists-years-long.html
- Dzau, V. (2016). The Institute of Medicine: Ensuring integrity and independence in scientific advice on health. *Lancet, 387*, 1686-1692. Enchev, Y. (2015). Checklists in neurosurgery to decrease preventable medical errors: A review. *Balkan Medical Journal, 32*, 337-346. Florida Senate. (2021). *The 2020 Florida Statutes. Title XXIV, Chapter 395 Hospital Licensing and Regulation* (F.S. 395-10974). http://www.leg.state.fl.us/statutes/index.cfm? mode=View%20Statutes&SubMenu=1&App_mode=Display_Statute&Search_String=395.0197&URL=0300-0399/0395/Sections/0395.0197.html
- Fox News. (2015). *Family claims wide-awake surgery led to minister's suicide.* https://www.foxnews.com/story/family-claims-wide-awake- surgery-led-to-ministers-suicide
- Gaines, K. (2022). *What is the Nursing Code of Ethics?* Nurse.org. https://nurse.org/education/nursing-code-of- ethics/#:~:text=What%20are%20the%20five%20codes,justice%2C%20and%20privacy%2Fconfidentiality
- Grasso, B., Bates, D., & Shore, M. (2007). Medication errors in psychiatric care: Incidence and reduction strategies. *Medscape Psychiatry.* https://www.medscape.org/viewarticle/558689
- Howley, E. (2018). How communications issues between doctors and nurses can affect your health. *U.S. News.* https://usnews.com/health- care/patient-advice/articles/2018-09-05/how-communications-issues-between-doctors-and-nurses-can-affect-your-health
- Institute for Safe Medication Practices (ISMP). (2018). *ISMP update on top medication safety issues from 2018.* https://www.ismp.org/events/ismp-update-top-medication-safety-issues-2018
- Institute For Safe Medication Practices (ISMP). (2020). *Another round of the blame game: A paralyzing criminal indictment that recklessly "overrides" just culture.* https://www.ismp.org/resources/another-round-blame-game-paralyzing-criminal-indictment-recklessly-overrides-just-culture
- Institute for Safe Medication Practices (ISMP). (2020). *ISMP publishes top 10 list of medication errors and hazards covered in newsletter.* https://www.ismp.org/news/ismp-publishes-top-10-list-medication-errors-and-hazards-covered-newsletter
- Jackson, I. (2019). *Lawsuit alleges surgical stapler malfunctioned, resulting in bowel leak and second surgery.* https://www.aboutlawsuits.com/lawsuit-surgical-stapler-malfunctioned-bowel-leak-162170/
- Johns Hopkins Medicine. (n.d.). *Honoring Henrietta: The legacy of Henrietta Lacks.* https://www.hopkinsmedicine.org/henriettalacks/ Joint Commission. (2019). *Official "Do Not Use" list.* https://www.jointcommission.org/-/media/tjc/documents/resources/patient-safety-topics/do_not_use_list_6_28_19.pdf? db=web&hash=7FB78CD8C2EC330BDA39A60B57ADC8AAThe%20Joint%20Commision%20Fact%20Sheet.%20(2019).%20Official%20% Jones, S., & Slosburg, D. (2015). *FSASC Risk Management White Paper.* Florida Society of Ambulatory Surgical Centers. https://fsasc.memberclicks.net/fsasc-risk-management-white-paper
- Joszt, L. (2018). 5 vulnerable populations in healthcare. *American Journal of Managed Care.* https://www.ajmc.com/view/5-vulnerable- populations-in-healthcare
- Kelly. S. (2016). *The patient misidentification crisis.* https://www.hcinnovationgroup.com/clinical-it/article/13007940/the-patient- misidentification-crisis
- Khullar, D. (2018). Do you trust the medical profession? *New York Times.* https://www.nytimes.com/2018/01/23/upshot/do-you-trust-the- medical-profession.html
- Kim, Y., Kim, H., Kim, H., Chun, J., Kwak, M., Kim, M., Hwang, J., & Kim, H. (2020). Can patient and family education prevent medical errors? A descriptive study. *BMC Health Services Research, 20.* https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-020- 05083-y
- Lagasse, J. (2018). Poor communication between doctors and nurses can lead to costly mistakes. *Healthcare Finance.* https://www.health.healthcarefinancenews.com/news/poor-communication-between-doctors-and-nurses-can-lead-costly-mistakes Lippincott NursingCenter. (n.d.). *Florida CE requirements for license renewal.* https://www.nursingcenter.com/continuing-education/license- renewal-requirements-by-state/floridacerequirements
- Morton, H. (2020). Medical professional apologies statutes. *National Conference of State Legislatures.* https://www.ncsl.org/research/financial-services-and-commerce/medical-professional-apologies-statutes.aspx My Medical Score. (2020). *Medical error statistics.* https://mymedicalscore.com/medical-error-statistics/#:~:text=In%20fact,%20medical%20billing%20errors%20cost%20Americans%20around,errors%20are%20rarely%20in%20favor% National Coordinating Counsel for Medication Error Reporting and Prevention. (2020). *Vision and mission.* https://www.nccmerp.org/vision- and- mission#:~:text=The%20mission%20of%20the%20National%20Coordinating%20Council%20for,reporting%20and%20promotion%20of%20 Palmer, J. (2019). Lehman reports analyzes cost of medical errors despite healthcare progress. *Patient Safety and Quality Healthcare.* https://www.psqh.com/analysis/lehman-report-analyzes-cost-of-medical-errors-despite-healthcare-progress/
- Ross, S. (2019). 6 medication error stories that made headlines. *Comprehensive Medication Management.* https://blog.cureatr.com/6- medication-error-stories-that-made-headlines
- Smith, M., Rattray, D., VerVaet, J., & Liserby, K. (2018). Medication reconciliation guidance document for pharmacists. *ASHP Pharmacists Advancing Healthcare.* https://www.ashp.org/-/media/assets/pharmacy-practice/resource-centers/ambulatory-care/medication-reconciliation-guidance-document-for-pharmacists.ashx?la=en&hash=8E66CC1F528D577B650D3B19F4A2EE310E68A75B
- Sorrell, J. (2017). Ethics: Ethical issues with medical errors. Shaping a culture of safety in healthcare. *OJIN: The Online Journal of Issues in Nursing, 22*(2). https://doi.org/10.3912/OJIN.Vol22No02EthCol01
- Swayze, S., & Rich, S. (2012). Promoting safe use of medical devices. *The Online Journal of Issues in Nursing, 17*(1). https://ojin.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Vol-17-2012/No1-Jan- 2012/Articles-Previous-Topics/Safe-Use-of-Devices.html
- Taylor, J. (2019). Eliminating racial disparities in maternal and infant mortality. *Center for American Progress.* https://www.americanprogress.org/issues/women/reports/2019/05/02/469186/eliminating-racial-disparities-maternal-infant-mortality/
- U.S. Food and Drug Administration (FDA). (2016). *What is a serious adverse event?* https://www.fda.gov/safety/reporting-serious- problems-fda/what-serious-adverse-event#:~:text=An%20adverse%20event%20is%20any%20undesirable%20experience%20associated,use%20of%20a%20medical%20prod
- U.S. Food and Drug Administration (FDA). (2019a). *How to determine if your product is a medical device.* https://www.fda.gov/medical- devices/classify-your-medical-device/how-determine-if-your-product-medical-device
- U.S. Food and Drug Administration (FDA). (2019b). *Working to reduce medication errors.* https://www.fda.gov/drugs/information- consumers-and-patients-drugs/working-reduce-medication-errors
- U.S. Food and Drug Administration (FDA). (2020). *Medication errors related to CDER-regulated drug products.* https://www.fda.gov/drugs/drug-safety-and-availability/medication-errors-related-cder-regulated-drug-products
- U.S. Food and Drug Administration (FDA). (2021). *Emergency use authorization.* https://www.fda.gov/emergency-preparedness-and- response/mcm-legal-regulatory-and-policy-framework/emergency-use-authorization
- VanOstenberg, P., & Reis, P. (2008). Understanding and preventing sentinel and adverse events. *ICU Management and Practice, 8*(2). https://healthmanagement.org/c/icu/issuearticle/understanding-and-preventing-sentinel-and-adverse-events
- Wang, Y., Wan, Q., Lin, F., Zhou, W., & Shang, S. (2017). Interventions to improve communication between nurses and physicians in the intensive care unit: An integrative literature review. *International Journal of Nursing Sciences, 5*(1), 81-88. https://pubmed.ncbi.nlm.nih.gov/31406806/
- Whitehead, J., Shaver, J., & Stephenson, R. (2016). Outness, stigma, and primary health care utilization among rural LGBT populations, *PloS One, 11*(1). https://doi.org/10.1371/journal.pone.0146139
- World Health Organization (WHO). (2019a). *Patient safety: Key facts.* https://www.who.int/news-room/fact-sheets/detail/patient-safety#:~:text=What%20is%20Patient%20Safety%3F%20Patient%20Safety%20is%20a,occur%20to%20patients%20during%20provision%20of%20health%20care World Health Organization (WHO). (2019b). *WHO calls for urgent action to reduce patient harm in healthcare.* https://www.who.int/news/item/13-09-2019-who-calls-for-urgent-action-to-reduce-patient-harm-in-healthcare
- World Health Organization (WHO). (2020). *The third WHO global patient safety challenge: Medication without harm.* https://www.who.int/patientsafety/medication-safety/en/
- Zikhani, R. (2016). Seven-step pathway for preventing errors in healthcare. *Journal of Healthcare Management, 61*(4), 271-281.

Chapter 9: Residents' Rights in Long-Term Care Facilities: The Role of the Certified Nursing Assistant

2 Contact Hours

By: Staff writer

Learning objectives

- Explain and give examples of practices that support resident rights for dignity, respect, privacy and a quality living environment.
- Define resident rights, facility policies and staff responsibilities to safeguard money and property.
- List and explain resident rights and staff responsibilities associated with quality of care, discrimination, privacy, participation, transfer and discharge.
- Describe resident rights and procedures for grievances, complaints, and appeal processes.
- Explain staff responsibilities that promote the residents' rights for freedom of choice to make independent decisions.
- Apply the resident rights set forth by the state of Florida and by federal law to enhance the CNAs practice.

Overview

This course is based on the state of Florida's statutes that establish resident rights in long-term care facilities, as well as the regulations that govern practices in order to ensure that these rights are met for all residents. It will explain the federal laws that set precedents for state laws, including Medicare and Medicaid protections that are related to the role of the certified nursing assistant. This course will require CNAs to review their daily practices in order to identify how their practices support these rights, as well as how they can further enhance their practices to achieve the protection of a resident's individual rights, as identified in the statutes.

Introduction

State and federal regulations require nursing homes and all long-term care facilities to have written policies that cover the rights of residents[1]. The CNA must ensure that his or her practices align with these policies, to assist residents according to resident rights. All residents are entitled to quality care, courtesy, and treatment that supports civil and legal rights. This course defines residents' rights and the responsibilities of facility staff to ensure those rights.

The basic rights of dignity and respect are the foundations for all resident rights. Florida statutes include laws established by the Florida Department of Health that govern long-term care facilities and staffing, as well as patient ratios.

Florida is committed to ensuring that all residents' rights are protected and supported. Florida also encourages residents – and the residents' representatives – to communicate regularly with nursing home staff to ensure a meaningful, respectful and helpful environment[1]. CNAs have an important role in ensuring that patients' rights are met through their daily practices and communication with residents. In addition, CNAs have an obligation to treat all patients according to these rights and to follow their facility's policies to uphold patient rights. This includes reporting any activity that violates resident rights to their supervisor.

Residents and facilities receiving Medicare and Medicaid are covered under federal guidelines that protect resident rights, in addition to state guidelines.

Florida resident rights in long-term care

When admitted to a long-term care facility, an individual maintains his or her rights as a citizen. The individual also gains a special set of rights that are mandated by federal and state law. These rights cover residents in nursing homes, assisted-living facilities and adult-family care homes[1].

Resident rights are enacted as laws through the State of Florida Statutes, Chapter 400, and apply to facilities where CNAs deliver direct services. The state law includes the Survey Inspection process: The Survey Inspection process is used to evaluate nursing homes and informs the policies, procedures and services offered to residents. CNAs will gain a deeper understanding of their role as caregivers if they understand resident rights, which are the foundations of best practice.

THE 2016 FLORIDA STATE STATUTES

Title XXIX Public Health: Chapter 400: Nursing Homes and Related Health Care Facilities[2]

400.022 – Residents' rights.

1. All licensees of nursing home facilities shall adopt and make public a statement of the rights and responsibilities of the residents of such facilities and shall treat such residents in accordance with the provisions of that statement. The statement shall assure each resident the following:
   a. The right to civil and religious liberties, including knowledge of available choices and the right to independent personal decision, which will not be infringed upon, and the right to encouragement and assistance from the staff of the facility in the fullest possible exercise of these rights.
   b. The right to private and uncensored communication, including, but not limited to, receiving and sending unopened correspondence, access to a telephone, visiting with any person of the resident's choice during visiting hours, and overnight visitation outside the facility with family and friends in accordance with facility policies, physician orders, and Title XVIII (Medicare) and Title XIX (Medicaid) of the Social Security Act regulations, without the resident's losing his or her bed. Facility visiting hours shall be flexible, taking into consideration special circumstances such as, but not limited to, out-of-town visitors and working relatives or friends. Unless otherwise indicated in the resident care plan, the licensee shall, with the consent of the resident and in accordance with policies approved by the agency, permit recognized volunteer groups, representatives of community-based

legal, social, mental health, and leisure programs, and members of the clergy access to the facility during visiting hours for the purpose of visiting with and providing services to any resident.

c. Any entity or individual that provides health, social, legal, or other services to a resident has the right to have reasonable access to the resident. The resident has the right to deny or withdraw consent to access at any time by any entity or individual. Notwithstanding the visiting policy of the facility, the following individuals must be permitted immediate access to the resident:
   1. Any representative of the federal or state government, including, but not limited to, representatives of the Department of Children and Families, the Department of Health, the Agency for Health Care Administration, the Office of the Attorney General, and the Department of Elderly Affairs; any law enforcement officer; any representative of the State Long-Term Care Ombudsman Program; and the resident's individual physician.
   2. Subject to the resident's right to deny or withdraw consent, immediate family or other relatives of the resident. The facility must allow representatives of the State Long-Term Care Ombudsman Program to examine a resident's clinical records with the permission of the resident or the resident's legal representative and consistent with state law.

d. The right to present grievances on behalf of himself or herself or others to the staff or administrator of the facility, to governmental officials, or to any other person; to recommend changes in policies and services to facility personnel; and to join with other residents or individuals within or outside the facility to work for improvements in resident care, free from restraint, interference, coercion, discrimination, or reprisal. This right includes access to ombudsmen and advocates and the right to be a member of, to be active in, and to associate with advocacy or special interest groups. The right also includes the right to prompt efforts by the facility to resolve resident grievances, including grievances with respect to the behavior of other residents.

e. The right to organize and participate in resident groups in the facility and the right to have the resident's family meet in the facility with the families of other residents.

f. The right to participate in social, religious, and community activities that do not interfere with the rights of other residents.

Nursing consideration #1:

- What part of the CNA's role could support the resident's rights covered in (f) above? List two practices from your last work week that relate to these rights. If there were none, how could you have enhanced your practice to support them?
- Think about the residents in your care. What are their goals in these areas?

g. The right to examine, upon reasonable request, the results of the most recent inspection of the facility conducted by a federal or state agency and any plan of correction in effect with respect to the facility.

h. The right to manage his or her own financial affairs or to delegate such responsibility to the licensee, but only to the extent of the funds held in trust by the licensee for the resident. A quarterly accounting of any transactions made on behalf of the resident shall be furnished to the resident or the person responsible for the resident. The facility may not require a resident to deposit personal funds with the facility. However, upon written authorization of a resident, the facility must hold, safeguard, manage, and account for the personal funds of the resident deposited with the facility as follows:
   1. The facility must establish and maintain a system that ensures a full, complete, and separate accounting, according to generally accepted accounting principles, of each resident's personal funds entrusted to the facility on the resident's behalf.
   2. The accounting system established and maintained by the facility must preclude any commingling of resident funds with facility funds or with the funds of any person other than another resident.
   3. A quarterly accounting of any transaction made on behalf of the resident shall be furnished to the resident or the person responsible for the resident.
   4. Upon the death of a resident with personal funds deposited with the facility, the facility must convey within 30 days the resident's funds, including interest, and a final accounting of those funds, to the individual or probate jurisdiction administering the resident's estate, or, if a personal representative has not been appointed within 30 days, to the resident's spouse or adult next of kin named in the beneficiary designation form provided for in s. 400.162(6).
   5. The facility may not impose a charge against the personal funds of a resident for any item or service for which payment is made under Title XVIII or Title XIX of the Social Security Act.

i. The right to be fully informed, in writing and orally, prior to or at the time of admission and during his or her stay, of services available in the facility and of related charges for such services, including any charges for services not covered under Title XVIII or Title XIX of the Social Security Act or not covered by the basic per diem rates and of bed reservation and refund policies of the facility.

j. The right to be adequately informed of his or her medical condition and proposed treatment, unless the resident is determined to be unable to provide informed consent under Florida law, or the right to be fully informed in advance of any nonemergency changes in care or treatment that may affect the resident's well-being; and, except with respect to a resident adjudged incompetent, the right to participate in the planning of all medical treatment, including the right to refuse medication and treatment, unless otherwise indicated by the resident's physician; and to know the consequences of such actions.

Nursing consideration #2: Look at section (b) above and think of a resident in your care. What forms of communication work best with this resident? Within the scope of your role as a CNA, have you assisted this patient in understanding his or her condition or care? Has the resident ever refused daily living skills or medication in your role as this individual's CNA? What strategies did you use in these situations? How did you document and report this information? How could you enhance your practice in these areas?

k. The right to refuse medication or treatment and to be informed of the consequences of such decisions, unless determined unable to provide informed consent under state law. When the resident refuses medication or treatment, the nursing home facility must notify the resident or the resident's legal representative of the consequences of such decision and must document the resident's decision in his or her medical record. The nursing home facility must continue to provide other services the resident agrees to in accordance with the resident's care plan.

l. The right to receive adequate and appropriate health care and protective and support services, including social services; mental health services, if available; planned recreational activities; and therapeutic and rehabilitative services consistent with the resident care plan, with established and recognized practice standards within the community, and with rules as adopted by the agency.

Nursing consideration #3: Are you able to review the care plans for the residents that you assist? In your role as a CNA, do you assist residents in planned recreational activities, or therapeutic and rehabilitative services consistent with the residents' care plans? Evaluate your assistance and give examples of three ways that you could enhance your assistance. Now, think of the documentation that would support the evaluation of the effectiveness of your assistance in those activities.

m. The right to have privacy in treatment and in caring for personal needs; to close room doors and to have facility personnel knock before entering the room, except in the case of an emergency or unless medically contraindicated; and to security in storing and using personal possessions. Privacy of the resident's body shall be maintained during, but not limited to, toileting, bathing, and other activities of personal hygiene, except as needed for resident safety or assistance. Residents' personal and medical records shall be confidential and exempt from the provisions of s. 119.07(1).

Nursing consideration #4: Privacy is one of the most important resident rights. Review section (m) and list five strategies that you use in your daily practice which protects the privacy rights of your residents.

n. The right to be treated courteously, fairly, and with the fullest measure of dignity and to receive a written statement and an oral explanation of the services provided by the licensee, including those required to be offered on an as-needed basis.

o. The right to be free from mental and physical abuse, corporal punishment, extended involuntary seclusion, and from physical and chemical restraints, except those restraints authorized in writing by a physician for a specified and limited period of time or as are necessitated by an emergency. In case of an emergency, restraint may be applied only by a qualified licensed nurse who shall set forth in writing the circumstances requiring the use of restraint, and, in the case of use of a chemical restraint, a physician shall be consulted immediately thereafter. Restraints may not be used in lieu of staff supervision or merely for staff convenience, for punishment, or for reasons other than resident protection or safety.

p. The right to be transferred or discharged only for medical reasons or for the welfare of other residents, and the right to be given reasonable advance notice of no less than 30 days of any involuntary transfer or discharge, except in the case of an emergency as determined by a licensed professional on the staff of the nursing home, or in the case of conflicting rules and regulations which govern Title XVIII or Title XIX of the Social Security Act. For nonpayment of a bill for care received, the resident shall be given 30 days' advance notice. A licensee certified to provide services under Title XIX of the Social Security Act may not transfer or discharge a resident solely because the source of payment for care changes. Admission to a nursing home facility operated by a licensee certified to provide services under Title XIX of the Social Security Act may not be conditioned upon a waiver of such right, and any document or provision in a document which purports to waive or preclude such right is void and unenforceable. Any licensee certified to provide services under Title XIX of the Social Security Act that obtains or attempts to obtain such a waiver from a resident or potential resident shall be construed to have violated the resident's rights as established herein and is subject to disciplinary action as provided in subsection (3). The resident and the family or representative of the resident shall be consulted in choosing another facility.

q. The right to freedom of choice in selecting a personal physician; to obtain pharmaceutical supplies and services from a pharmacy of the resident's choice, at the resident's own expense or through Title XIX of the Social Security Act; and to obtain information about, and to participate in, community-based activities programs, unless medically contraindicated as documented by a physician in the resident's medical record. If a resident chooses to use a community pharmacy and the facility in which the resident resides uses a unit-dose system, the pharmacy selected by the resident shall be one that provides a compatible unit-dose system, provides service delivery, and stocks the drugs normally used by long-term care residents. If a resident chooses to use a community pharmacy and the facility in which the resident resides does not use a unit-dose system, the pharmacy selected by the resident shall be one that provides service delivery and stocks the drugs normally used by long-term care residents.

r. The right to retain and use personal clothing and possessions as space permits, unless to do so would infringe upon the rights of other residents or unless medically contraindicated as documented in the resident's medical record by a physician. If the licensee provides clothing to the resident, it shall be of reasonable fit.

Nursing consideration #5: Review (i) and (j) above. Identify five examples of your practices that involve freedom of choice given to residents to whom you assist. Now, identify five ways in which you have assisted these residents in making choices. What five strategies can you use to encourage residents to make more independent choices?

s. The right to have copies of the rules and regulations of the facility and an explanation of the responsibility of the resident to obey all reasonable rules and regulations of the facility and to respect the personal rights and private property of the other residents.

t. The right to receive notice before the room of the resident in the facility is changed.

u. The right to be informed of the bed reservation policy for a hospitalization. The nursing home shall inform a private-pay resident and his or her responsible party that his or her bed will be reserved for any single hospitalization for a period up to 30 days provided the nursing home receives reimbursement. Any resident who is a recipient of assistance under Title XIX of the Social Security Act, or the resident's designee or legal representative, shall be informed by the licensee that his or her bed will be reserved for any single hospitalization for the length of time for which Title XIX reimbursement is available, up to 15 days; but that the bed will not be reserved if it is medically determined by the agency that the resident will not need it or will not be able to return to the nursing home, or if the agency determines that the nursing home's occupancy rate ensures the availability of a bed for the resident. Notice shall be provided within 24 hours of the hospitalization.

v. For residents of Medicaid or Medicare certified facilities, the right to challenge a decision by the facility to discharge or transfer the resident, as required under 42 C.F.R. s. 483.12.

2. The licensee for each nursing home shall orally inform the resident of the resident's rights and provide a copy of the statement required by subsection (1) to each resident or the resident's legal representative at or before the resident's admission to a facility. The licensee shall provide a copy of the resident's rights to each staff member of the facility. Each such licensee shall prepare a written plan and provide appropriate staff training to implement the provisions of this section. The written statement of rights must include a statement that a resident may file a complaint with the agency or state or local ombudsman council. The statement must be in boldfaced type and include the telephone number and e-mail address of the State Long-Term Care Ombudsman Program and the telephone numbers of the

local ombudsman council and the Elder Abuse Hotline operated by the Department of Children and Families.

3. Any violation of the resident's rights set forth in this section constitutes grounds for action by the agency under s. 400.102, s. 400.121, or part II of chapter 408. In order to determine whether the licensee is adequately protecting residents' rights, the licensure inspection of the facility must include private informal conversations with a sample of residents to discuss residents' experiences within the facility with respect to rights specified in this section and general compliance with standards and consultation with the State Long-Term Care Ombudsman Program.
4. Any person who submits or reports a complaint concerning a suspected violation of the resident's rights or concerning services or conditions in a facility or who testifies in any administrative or judicial proceeding arising from such complaint shall have immunity from any criminal or civil liability therefore, unless that person has acted in bad faith, with malicious purpose, or if the court finds that there was a complete absence of a justifiable issue of either law or fact raised by the losing party.

The Florida Telehealth Advisory Council

This is a new regulation that requires all healthcare practitioners to complete a telehealth survey to provide documentation that may be used as a statistical base to gather information about long-term care facilities. The CNA should check with their supervisor to follow the facility guidelines about the collection of this data.

According to the State of Florida:

Governor Rick Scott signed House Bill 7087 into law April 14, 2016 creating the Telehealth Advisory Council[2a]. House Bill 7087 also requires the Agency, the Department of Health, and the Office of Insurance Regulation to survey health care facilities, practitioners, and health insurers on the status and scope of telehealth activities in the state. The Agency is required to compile and submit a report of the survey findings to the Governor, the President of the Senate, and the Speaker of the House by December 31, 2016[2a].

4. The Department of Health shall survey all health care 109 practitioners, as defined in s. 456.001, upon and as a condition 110 of licensure renewal to compile the information required 111 pursuant to this section. The Department of Health and the 112 Office of Insurance Regulation shall submit their survey and 113 research findings to the agency and shall assist the agency in 114 compiling the information to prepare the report. 115(5) The Agency for Health Care Administration, the 116 Department of Health, and the Office of Insurance Regulation may 117 assess fines under ss. 408.813(2)(d), 456.072(2)(d), and 118 624.310(5), Florida Statutes, respectively, against a health 119 care facility, health maintenance organization, health care 120 practitioner, and health insurer for failure to complete the 121 surveys required under this section.

FEDERAL LAW

Federal laws to protect the rights of long-term care residents[3]

To address neglect and abuse in long-term care facilities, Congress enacted legislation in 1987 facilities participating in Medicare and Medicaid[4] to meet the standards and requirements of quality of care. The Nursing Home Reform Act states that facilities, "must provide services and activities to attain or maintain the highest practicable physical, mental, and psychosocial well-being of each resident in accordance with a written plan of care." These rules are revised periodically, which informs changes in state statutes.

The subsections of the federal law below are not consecutively numbered because they are the regulations directly related to the role of the CNA[3].

§ 483.15 Quality of life

A facility must care for its residents in a manner and in an environment that promotes maintenance or enhancement of each resident's quality of life.

a. Dignity. The facility must promote care for residents in a manner and in an environment that maintains or enhances each resident's dignity and respect in full recognition of his or her individuality.

Nursing consideration #6: Provide five examples in your residents' environment and care that enhances their dignity and recognizes their individuality. This may include facility policy and activities. Provide five examples in your own practice as a CNA that enhances dignity and respect for your residents, as well as encourages their individuality.

b. Self-determination and participation. The resident has the right to:

1. Choose activities, schedules, and health care consistent with his or her interests, assessments, and plans of care;
2. Interact with members of the community both inside and outside the facility; and
3. Make choices about aspects of his or her life in the facility that is significant to the resident.
   - Conduct initially a comprehensive and accurate assessment of each resident's functional capacity (42 CFR §483.20).
   - Develop a comprehensive care plan for each resident (42 CFR §483.20).
   - Prevent the deterioration of a resident's ability to bathe, dress, groom, transfer and ambulate, toilet, eat, and to communicate (42 CFR §483.25).

This section is directly related to the CNA's role to assist residents in daily living skills. The law is summarized below. Other sections of this regulation cover specific details for each area of quality care and should be reviewed in their entirety.

§ 483.25 Quality of care

Each resident must receive (and the facility must provide) the necessary care and services to attain or maintain the highest practicable physical, mental, and psychosocial well-being, in accordance with the comprehensive assessment and plan of care.

a. Activities of daily living. Based on the comprehensive assessment of a resident, the facility must ensure that:

1. A resident's abilities in activities of daily living do not diminish unless circumstances of the individual's clinical condition demonstrate that diminution was unavoidable. This includes the resident's ability to:
   - Bathe, dress, and groom.
   - Transfer and ambulate.
   - Toilet.

- Eat.
- Use speech, language, or other functional communication systems.

Nursing consideration #7: Think about residents with cognitive impairments or dementia that you have assisted with the daily living skills that are listed above. Give three examples of strategies you have used to keep their skills from diminishing, as well as skills encouraged to build their independent functioning. Now, think of a case where the resident's loss of his or her independent daily living skills was unavoidable.

Compare and contrast these two residents. Describe your practices with these residents as their skills changed. How did you document and report these changes in their skills? How did you evaluate the skill level of these residents? What did you learn about assisting these residents that enhanced your own practice?

2. A resident is given the appropriate treatment and services to maintain or improve his or her abilities specified in paragraph (1)(a) of this section.
3. A resident who is unable to carry out activities of daily living receives the necessary services to maintain good nutrition, grooming, and personal and oral hygiene.
    - Ensure that residents do not develop pressure sores and, if a resident has pressure sores, provide the necessary treatment and services to promote healing, prevent infection, and prevent new sores from developing (42 CFR §483.25).
    - Provide appropriate treatment and services to incontinent residents to restore as much normal bladder functioning as possible (42 CFR §483.25).
    - Ensure that the resident receives adequate supervision and assistive devices to prevent accidents (42 CFR §483.25).
    - Maintain acceptable parameters of nutritional status (42 CFR §483.25).
    - Provide each resident with sufficient fluid intake to maintain proper hydration and health (42 CFR §483.25).
    - Ensure that residents are free of any significant medication errors (42 CFR §483.25).
    - Have sufficient nursing staff (42 CFR §483.30).

§ 483.30 Nursing services

The facility must have sufficient nursing staff to provide nursing and related services to attain or maintain the highest practicable physical, mental, and psychosocial well-being of each resident, as determined by resident assessments and individual plans of care.

a. Sufficient staff:
    1. The facility must provide services by sufficient numbers of each of the following types of personnel on a 24-hour basis to provide nursing care to all residents in accordance with resident care plans:
        - Except when waived under paragraph (c) of this section, licensed nurses; and
        - Other nursing personnel.

e. Nurse staffing information:
    1. Data requirements. The facility must post the following information on a daily basis:
        i. Facility name.
        ii. The current date.
        iii. The total number and the actual hours worked by the following categories of licensed and unlicensed nursing staff directly responsible for resident care per shift:
            A. Registered nurses.
            B. Licensed practical nurses or licensed vocational nurses (as defined under state law).
            C. Certified nurse assistants.
                - Ensure that the resident has the right to choose activities, schedules, and health care (42 CFR §483.40).
                - Provide pharmaceutical services to meet the needs of each resident (42 CFR §483.60).
                - Be administered in a manner that enables it [the nursing home] to use its resources effectively and efficiently (42 CFR §483.75).
                - Maintain accurate, complete, and easily accessible clinical records on each resident (42 CFR §483.75).

§ 483.75 Administration

A facility must be administered in a manner that enables it to use its resources effectively and efficiently to attain or maintain the highest practicable physical, mental, and psychosocial well-being of each resident.

Staffing issues

The law states that "A nursing facility must have sufficient nursing staff to provide nursing and related services to "attain or maintain the highest practicable physical, mental, and psychosocial well-being of each resident in accordance with a written plan of care[5]."

Note: Nursing services are needed to support and carry out other professional services. Direct-care workers and certified nursing assistants are also critically needed to provide this support. The law states that CNAs are put on a state registry that must be checked before hiring; regular in-service training is also required. The regulations provide a general outline of what is required for training; however, each state develops its own training program, according to the outline[5].

Nursing considerations #8: What information does the CNA register with the state and what information has to be updated and when? Hint: Check with the Florida Board of Nursing for this and other important information for CNAs at the website below: http://floridasnursing.gov/licensing/certified-nursing-assistant-examination

b. Compliance with federal, state, and local laws and professional standards[3]

The facility must operate and provide services in compliance with all applicable federal, state, and local laws, regulations, and codes, and with accepted professional standards and principles that apply to professionals providing services in such a facility.

1. **Direct-care staff**: Direct-care staff are individuals who, through interpersonal contact with residents or resident care management, provide care and services to allow residents to attain or maintain the highest practicable physical, mental, and psychosocial well-being. CNAs are direct-care staff, according to the State of Florida.

Nursing considerations #9: Explain examples of your direct care that allowed residents to attain or maintain the highest practicable physical, mental, and psychosocial well-being. What evidence could you use to document that the direct care in these examples was effective?

2. **Submission requirements**. The facility must electronically submit complete and accurate direct care staffing information to the Centers for Medicaid and Medicare Services (CMS), including the following:
    i. The category of work for each person on direct-care staff including, but not limited to, whether the individual is a registered nurse, licensed practical nurse, licensed vocational nurse, or certified nursing assistant.

Additional rights under Medicare[4]

Residents receiving federal Medicare or Medicaid program benefits have additional protections that cover their privacy of medical information and what may be shared for the payment of services. Other protections detailed in the Medicare laws apply directly to the CNAs' roles with patients; those protections are included here. At a minimum, federal Medicare law specifies that nursing homes must protect and promote the following rights of each resident with additional details to the rights listed above[4].

These laws overlap the Florida Statutes, but provide additional details in some areas.

- **Free from discrimination**. Nursing homes are not required to accept all applicants; however, they must comply with Civil Rights laws and cannot discriminate based on race, color, national origin, disability, age, or religion. The Department of Health and Human Services, Office for Civil Rights has more information. Visit http://www.hhs.gov/ocr
- **Free from abuse and neglect**. If a resident feels that he or she has been mistreated or abused, or that the nursing home is not meeting his or her needs by neglect, these feelings should be reported to the nursing home administrator. The nursing home must investigate and report all suspected violations and any injuries of unknown origin to the proper state authorities within five (5) working days of the incident. The Long-Term Care Ombudsman can also help as an advocate to resolve concerns.
- **Proper medical care**. Residents have the right "To be fully informed about their total health status in a language they understand," and "To refuse participation in experimental medical treatment."

Nursing consideration #10: In your daily practice, what strategies for communication could you use with a patient who has a speech, language or a hearing problem? Hint: What nonverbal methods could you use?

To participate in decisions that affect medical care, including developing the care plan:
By law, nursing homes must develop a care plan for each resident. Residents have the right to take part in this process. The facility staff will review health information to prepare the care plan. Residents (if able), family (with the resident's permission), or an individual acting on the patient's behalf has the right to take part in care planning with the staff.

The care plan[4]

The basic care plan includes:

- A health assessment (including a review of the health conditions) that begins on the day of admission. The health assessment must be completed within 14 days of admission.
- A health assessment, at least every 90 days after the first review (possibly more often if medical status changes).
- Ongoing, regular assessments of the medical condition to see if the health status has changed, with adjustments to the care plan, as needed.

Nursing homes are required to submit this information to the federal government. This information is used for quality measures, nursing home payments, as well as state inspections.

Depending on the resident's needs, the care plan may include:

- What kind of personal or health care services are required.
- What type of staff will provide these services.
- How often the services are required.
- What types of equipment or supplies are required (such as a wheelchair or feeding tube).
- What kind of diet is required, including the resident's food preferences.
- The resident's health and personal goals.
- How interventions and rationale are implemented to assist residents to reach their goals.
- Information about whether the plan includes returning to the community and, if so, a plan to assist residents in meeting his or her goals.

Nursing consideration #11: Review the parts of the care plan above. How many of them are part of your current role as a CNA? Choose five areas of the plan that are a part of your direct service. Give an example of each.

Access to records
Residents must be able access all records and reports promptly on weekdays, including clinical records, medical records and reports.

Social services

The nursing home must provide residents with any needed social services, including the following:

- Counseling.
- Help solving problems with other residents.
- Help in contacting legal and financial professionals.
- Discharge planning.
- Leaving the nursing home:
  - Leaving (for visits):
    - If their health allows (and the doctor agrees), residents can spend time away from the nursing home visiting family or friends during the day or overnight, called a "leave of absence."
    - Residents should speak to the nursing home staff a few days ahead of time so the staff has time to prepare medicines and write instructions.
    - Caution: If nursing home care is covered by certain health insurance plans, residents may not be able to leave for visits without losing coverage.
- Moving out: Living in a nursing home is the resident's choice.
  - Residents can choose to move to another place, but the nursing home may have a policy that requires notification before they plan to leave. If not, they may have to pay an extra fee.

Have protection against unfair transfers or discharges[4]

Residents cannot be sent to another nursing home, or made to leave the nursing home, unless any of the following are true:

- It is necessary for the welfare, health, or safety of the resident or others.
- The patient's health has improved to the point that nursing home care is no longer necessary.
- The nursing home has not been paid for services.
- The nursing home closes.
- The nursing home cannot make a resident leave if they are waiting for Medicaid benefits.

The nursing home must notify the resident's doctor and, if known, the legal representative or an interested family member when:

- The patient is injured in an accident and/or needs to see a doctor.
- A patient's physical, mental, or psychosocial status deteriorates.
- A life threatening condition develops.
- A patient is experiencing medical complications.
- A patient's treatment needs to change significantly.

Residents can file a complaint if they have a concern about the quality of care or other services received from a Medicare provider. How to file a complaint depends on what the complaint is about.

Residents can file a complaint about:

- A doctor, hospital, or provider.
- The health or drug plan.
- Quality of their care.
- Dialysis or kidney transplant care.
- Durable medical equipment.

What's the difference between a complaint and an appeal?
A complaint is about the quality of care. If residents have an issue with a plan's refusal to cover a service, supply, or a prescription, they should file an appeal[4].

Resources for the resident

A resident who believes that his or her rights have been violated must request a hearing in writing within 90 days, by sending the form provided to them by the facility to: Office of Appeals Hearings, 1317 Winewood Boulevard, Building 5, Room 203, Tallahassee, FL 32399-0700 (Telephone: 1-850-488-1429)[1].

A nursing home must give residents 30 days written notice prior to discharge or transfer. A resident who believes that his or her rights have been violated must request a hearing in writing within 90 days, by sending the form provided to them by the facility to the office listed above[1]. An assisted-living facility resident or an adult-family care home resident may request assistance from the Long-Term Care Ombudsman Program by calling toll-free 1-888-831-0404[1].

The Health Insurance Portability and Accountability Act of 1996 (HIPAA)

An important privacy right of residents involves the protection of their health information, as directed by the Federal HIPAA Privacy Rule. CNAs must receive HIPAA training because they work in health care with residents and hear and document confidential, private, individual personal health information (PHI) protected by HIPAA. Of course, the CNA must never disclose information to anyone except other medical personnel as required for the resident's care, or as directed by their supervisor. This does not mean that PHI can be shared in the break room or in the hall with staff that are not involved with the resident's care. Personal health information should never be shared outside of the facility. Any time that the CNA is in doubt, he or she should check with the supervisor about the facility's policy – including providing information to family, guardians or visitors.

According to the CDC[6]:

- The HIPAA Privacy Rule (Standards for Privacy of Individually Identifiable Health Information) is the national standard for protecting the privacy of health information. The Privacy Rule regulates how agencies, called covered entities, can disclose individually identifiable health information, called protected health information (PHI). Covered entities include health plans, health-care clearinghouses, and health-care providers that transmit health information in electronic form in connection with certain transactions[6]. Long term care facilities are covered entities so all HIPAA rules apply.
- PHI is individually identifiable health information. It is any information that would identify the resident. PHI is also individually identifiable health information that may be transmitted or maintained in any form or medium such as electronic, paper, or oral; therefore, individual health information shared verbally or documented is covered under HIPAA.

Among other provisions, the HIPAA Privacy Rule:

- Gives patients more control over their health information;
- Sets boundaries on the use and release of health records;
- Establishes appropriate safeguards that the majority of health-care providers and others must achieve to protect the privacy of health information;
- Holds violators accountable with civil and criminal penalties that can be imposed if they violate patients' privacy rights;
- Strikes a balance when public health responsibilities support disclosure of certain forms of data;
- Enables patients to make informed choices based on how individual health information may be used;
- Enables patients to find out how their information may be used and what disclosures of their information have been made;
- Generally limits release of information to the minimum reasonably needed for the purpose of the disclosure;
- Gives patients the right to obtain a copy of their own health records and request corrections; and
- Empowers individuals to control certain uses and disclosures of their health information.

The Department of Health and Human Services, the Office for Civil Rights (OCR), has oversight and enforcement responsibilities for the Privacy Rule. Comprehensive guidance and OCR answers to hundreds of questions are available at http://www.hhs.gov/ocr/hipaa[6]

According to the HIPAA Privacy rule, the "minimum necessary" rule must be followed at all times when information is disclosed. This rule states that only the least amount of information needed to answer the question at hand for a resident's care can be disclosed. HIPAA protections of the individual's personal health information are an important legal right for all residents. Normally, an individual must give written consent before information can be disclosed. Living in a group setting, like a long term care facility in close proximity to others, raises a number of concerns regarding HIPAA.

Health care facilities are required to follow HIPAA regulations that protect resident's private health information when disclosing information with hospitals, insurance companies, dental offices, therapists, social workers, counselors, mental health agencies and other agencies and professionals involved in resident care.

Another important aspect of long-term care facilities is the need to manage risk exposure to disease and infection that can run rampant through the facility. This is especially dangerous with elderly residents who have medical issues, or residents with compromised immune systems.

The dilemma is how to share information protected by HIPAA for safety related purposes when the information is personal health information.

It is important to understand HIPAA terminology when answering questions like this one. According to the CDC[6]:

> The term "patient" is also used here to encompass persons residing in nursing homes or other facilities, where they are often referred to as "residents." The term, "source facility" or "source provider" refers to the health care facility or individual provider that first cared for the patient. Protected health information includes information that can be used to identify, a patient. "Treatment" is defined to include the provision, coordination, or management of "health care" and related services (45 CFR 164.501). "Health care" is defined to include preventive care (45 CFR 160.103). Treatment refers to activities undertaken on behalf of individual patients.

If a patient is in a hospital with a communicable disease, the hospital will want to notify the long term care facility where the patient had been a resident. The hospital will want to learn more about the patient's medical history in order to disclose important information for the safety of others. In some cases, the patient may be unwilling or unable to give consent to disclose their PHI. Consent is required under HIPAA.

The HIPAA Privacy Rule permits a covered health care provider to use or to disclose PHI for treatment purposes – without the authorization of the patient (45 CFR 164.506(c) and 164.508(a)(2)).6 In this case, the HIPAA Privacy Rule permits the disclosure of the hospital patient's PHI because the information is vital to

treat or to prevent illness for the other residents in the nursing home or long-term care facility[6].

If a resident is discharged, transferred, or hospitalized later in another area, it is possible that the illness was not present while at the long-term care facility; therefore, staff may be unaware of the potential for transmission of the medical condition to other residents. Also, the HIPAA requirement to disclose only the "minimum necessary" information would not apply in the above scenario because PHI being disclosed is for the purpose of treatment, which is allowed under the HIPAA Privacy Rule[6].

This is only a small example of the complex – but important – HIPAA Privacy Rule.

The HIPAA Privacy Rule is a complex and lengthy document that requires separate, additional training to protect the resident's right of privacy, as well as protects the CNA from committing a serious HIPAA violation.

Conclusion

The CNA has a very important role as a direct-care provider for long term care residents.

One of the most important roles is to practice every day in a manner which best supports the rights of the resident. These rights cover every aspect of the CNA's role. Beyond assisting with daily living skills, the CNA's greater responsibility is enhancing and maintaining the resident's skills for independence. In addition, the CNA must assist the resident in a manner that preserves the resident's dignity and protects his or her privacy. The Florida Statutes and Federal Nursing Home Reform Act are the foundations of quality care delivered to the resident by the CNA[6]. The CNA should continue to attend training to enhance his or her skills, review facility policy, and study laws that detail resident rights. CNAs should conduct regular self- evaluations and reflect on methods that will enhance their practice to promote an environment that safeguards the rights of all residents.

References

1. State of Florida Department of Eldercare. Florida Long Term Care Ombudsman Program. Residents Rights: For Residents of Nursing Homes (2013). http://ombudsman.myflorida.com/ResidentsRights.php. Accessed August 28, 2016.
2. State of Florida. 2016 Florida Statutes. Title XXIX PUBLIC HEALTH: Chapter 400. NURSING HOMES AND RELATED HEALTH CARE FACILITIES (2016). http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&URL=0400-0499/0400/Sections/0400.022.html. Accessed August 28, 2016.

2a. State of Florida. The Telehealth Advisory Council: House Bill 7087 (2016). http://www.ahca.myflorida.com/SCHS/telehealth/. Accessed August 28, 2016

3. Cornell University Law School.42 CFR 483.25- Quality of Care (2016). https://www.law.cornell.edu/cfr/text/42/483.25. Accessed August 28, 2016.
4. US Department of Health and Human Services. Center for Medicare and Medicaid. What Are My Rights And Protections In A Nursing Home (2016). https://www.medicare.gov/what-medicare-covers/part-a/rights-in-nursing-home.html. Accessed August 28, 2016.
5. The National Consumer Voice for Quality Long-Term Care. Federal Law and Regulations on Nurse Staffing Issues (as contained in the Nursing Home Reform Act of 1987)(2016). http://theconsumervoice.org/uploads/files/issues/Federal-Law-Regulations-Final.pdf. Accessed August 28, 2016.
6. Centers for Disease Control and Prevention. Facility/Provider to Facility/Provider Communications Under HIPAA: Questions and Answers. http://www.cdc.gov/nhsn/hipaa/fp-fp-comms-under-hippa.html. Accessed August 26, 2014.

Chapter 10: Review of Cardiopulmonary Resuscitation

1 Contact Hour

By: Staff writer

Learning objectives

- Identify the indicators for the use of cardio pulmonary resuscitation (CPR)/ automatic electronic defibrillator (AED).
- List and describe the 2016 guideline changes by the American Heart Association (AHA).
- Explain the hands-only CPR procedures and why it was developed.
- Describe how the AED affects the heart and how to apply the procedure.
- Compare and contrast the difference in performing CPR on an adult, a child and an infant.
- Explain how to identify a patient who is choking. Explain the steps to complete a Heimlich maneuver on a choking adult or child.

Purpose

This course is for review and updating information only. It is neither intended for CPR/AED Certification, nor is it for recertification. It is written for the certified nursing assistant that may be closest to the patient when a cardiac event occurs. The CNA must know how to activate the Emergency Response System (ERS) and begin life-saving procedures – until licensed providers are able to take over.

Overview

The American Heart Association (AHA) continually conducts research on data gathered from hospitals and EMS calls. This data is used when improving patients' services toward the goal of improving survival rates after cardiac events. The AHA updated CPR guidelines for instructors in 2016.

An American Heart Association CPR certification is valid for two years; current cards are in force through the validity date. All refresher training is now under the new 2016 guidelines – these guidelines will be outlined in this course. It is important to stay current on cardio pulmonary resuscitation (CPR) and using an alternative external defibrillator (AED) for emergency cardiovascular care (ECC). Having the most current information ensures the safety of patients and enables your maintenance of certification as a certified nursing assistant.

New AHA guidelines: The focus is on completing these tasks simultaneously[1]

- Call for help while checking for a pulse and for adequate breathing.
- Use an AED as soon as it is available.
- Immediately activate the Emergency Response System (chances are that someone in your office will have a phone readily available, as opposed to someone having to 'run' to call 911).
- Chest compressions are administered – which is 100-120 per minute.
- Another AHA change in 2016 is the "ceiling" on the rate of chest compressions that are administered which is 100-120 per minute.

Under the old guidelines, chest compressions were given at a rate of at least 100 per minute (the rule of thumb was to sing the song 'Stayin' Alive' as a tool to help keep tempo). One drawback to requiring only a minimum number of compressions per minute is that rescuers often tended to sacrifice quality for quantity. A compression rate of over 120 per minute often results in incomplete chest recoil and may compromise the venous return.

Compression depth for adults is modified to at least 2 inches (5 cm) – but should not exceed 2.4 inches (6 cm)[1].

Nursing consideration #1: Think about the new changes discussed above. Is your facility set up to accommodate these changes? If not, what would you suggest to change in the environment to enhance your own practice, as well as enhance the safety of the residents?

For witnessed adult cardiac arrest when an AED is immediately available, it is reasonable that the defibrillator be used as soon as possible[1]. For adults with unwitnessed cardiac arrest, or for whom an AED is not immediately available, it is reasonable that CPR be initiated while the defibrillator equipment is being retrieved and applied. The defibrillation, if indicated, should be attempted as soon as the device is ready for use[1].

Introduction

The Centers for Disease Control and Prevention (CDC) estimates that in 2015, about 800,000 Americans experienced their first heart attack; 470,000 Americans experienced their second heart attack; and more than 615,000 Americans died from heart-related events[2].Most people who experience a cardiac arrest at home, at work or in a public location die because they did not receive immediate CPR from someone on the scene. According to the American Heart Association, someone in the United States has a myocardial infarction, or a heart attack, every forty-three seconds[2].

About 90 percent of people who suffer out-of-hospital cardiac arrests die; however, immediate CPR can double – or even triple – a cardiac arrest victim's chance of survival[2].

ACUTE CORONARY SYNDROME (ACS)

Heart attacks and unstable angina are conditions called "acute coronary syndromes": An umbrella term for situations where the blood supplied to the heart muscle is suddenly blocked[3].

The American Heart Association (AHA) provides the following information:

> The heart muscle needs oxygen to survive and a heart attack occurs when the blood flow that brings oxygen to the heart muscle is severely reduced or cut off completely.

This happens because coronary arteries that supply the heart muscle with blood flow can slowly become narrow from a buildup of fat, cholesterol and other substances that together are called plaque. This slow process is known as atherosclerosis. When a plaque in a heart artery breaks, a blood clot forms around the plaque. This blood clot can block the blood flow through the heart muscle. When the heart muscle is starved for oxygen and nutrients, it is called

ischemia. When damage or death of part of the heart muscle occurs as a result of ischemia, it is called a heart attack or myocardial infarction (MI).

In summary, ACS can be described as a circulation problem. Most ACS incidents do not lead to sudden cardiac arrest when the heart stops. When the heart has stopped, however, a common cause is ACS[3].

Sudden cardiac arrest occurs when the heart's electrical system malfunctions and the heart stops beating. The most common cause of sudden cardiac arrest is a disturbance in the heart rhythm called "ventricular fibrillation" (VF).3 VF or V-fib is a serious cardiac rhythm disturbance of the lower chambers in the heart. VF causes the heat to quiver or flutter and so it cannot pump blood effectively to circulate through the system. The heart may continue to falter until it stops beating: This is known as cardiac arrest[3].

The AED may also detect "ventricular tachycardia" (VT), or a pulse rate of more than 100 beats per minute, including at least three irregular heartbeats in a row. During cardiac arrest, blood does not circulate oxygen to the brain; cells will begin to die in four to six minutes. This explains the need to begin CPR/AED immediately.

To prevent imminent death, the patient requires prompt medical intervention. If the patient is unconscious, not breathing, and does not have a pulse, he or she needs cardiopulmonary resuscitation (CPR) or an automatic electronic defibrillator (AED) to restore oxygen and circulation to the heart muscle. A heart attack is the most common reason that CPR/AED is applied. Other reasons include near drowning, or other conditions that cause a person to stop breathing or cause his or her heart to stop beating[2].

The majority of patients who are affected by sudden cardiac arrest typically die. It is important that certified nursing assistants (CNAs) who are responsible for providing daily care for patients in a hospital, in assisted living facilities, in nursing homes or are in the home on a daily basis are trained in CPR. It is important for CNAs to recognize the signs of a patient experiencing a heart attack, or experiencing distress, so that they may be able to react appropriately and potentially save a patient's life.

CNAs must renew their CPR training according to the standards established in their states and by the organizations for which they work.

Symptoms of a heart attack

It is important to recognize symptoms that a patient may exhibit before or during a heart attack to ensure that CPR is delivered promptly. Many times, the CNA may be the first health care professional who recognizes the patient's distress. Here are some signs and symptoms that a heart attack is happening[3]:

- Chest pain or discomfort in the center of the chest that lasts more than a few minutes. It can go away and come back. Some people describe the pain as uncomfortable pressure, squeezing, fullness, or indigestion. It can be mild or severe.
- Upper body discomfort. Pain or discomfort may be felt in one or both arms, the back, shoulders, neck, jaw, or upper part of the stomach, above the belly button.
- Discomfort or pain in other parts of the body, such as pain in one or both arms, the back, neck, jaw or stomach.
- Shortness of breath that may occur with or without chest pain or discomfort.
- Nausea.
- Dizziness or light-headedness.
- Sweating.

Women and elderly patients may not present the "typical" symptoms of a heart attack described above: They may not even have chest pain. This can make it harder to recognize if these patients are having a heart attack. They may exhibit symptoms such as the following[4]:

- Pain between the shoulder blades.
- Pain in the arm (especially the left arm), back, neck and abdomen.
- Jaw or throat pain.
- Nausea and vomiting.
- Unusual, overwhelming fatigue for no reason, sometimes for days.
- Any sudden or new symptoms – or changes in the pattern of symptoms – that become stronger or that last longer than usual.

If the CNA suspects that a patient is having a heart attack, he or she must get help immediately. If a CNA is working in the hospital – or in an area where nurses and doctors are present and help is available – press the call light to signal help immediately. In a patient's home, call 911.

If the patient is conscious, encourage him or her to rest quietly and take his or her vital signs. During ACS, physical activity should be avoided and the patient should rest: The heart is lacking adequate blood flow and oxygenation. If a patient stays active during a potential ACS, the heart rate and blood pressure increases and will result in increasing the workload of the heart[5].

Nursing consideration #2: What are the differences in symptoms of heart attack between men and women? What is the first thing you would do if you suspect or observe the symptoms of a heart attack?

RECENT AHA CHANGES IN 2016 CPR GUIDELINES

As previously indicated, the former compression rate of 100 per minute is now given a maximum rate of 120. This is due to the fact that too many compressions do not allow the chest to fully expand and recoil between compressions. This may interfere with the complete blood flow in the venous system. This change stresses the importance of performing chest compressions properly to keep the blood flowing through the heart and to the brain. Rescue breathing is still used, but only 2 breaths of 1 second each for every 30 compressions. Compressions should not be interrupted for more than 10 seconds.

The AHA 2015 updated guidelines note

"Conventional CPR (rescue breaths and chest compressions) should be provided for infants and children in cardiac arrest. The asphyxial nature of most pediatric cardiac arrests necessitates ventilation as part of effective CPR. However, because compression-only CPR can be effective in patients with a primary cardiac arrest, if rescuers are unwilling or unable to deliver breaths, we recommend rescuers perform compression-only CPR for infants and children in cardiac arrest."

Recognition of cardiac arrest[6]

- First, determine whether the person is conscious or unconscious while summoning help. Tap or shake his or her shoulder or tap the collarbone and ask loudly, "Are you OK?" Check whether the person is breathing normally and whether she or he has a pulse.

Note: Gasping is not considered to be normal breathing. Do not take any more than five to 10 seconds to check for breathing. For example, is the patient's chest moving up and down? Do you hear normal breath sounds? Is air coming out of the patient's nose or mouth? Do not take any more than 10 seconds to check whether a patient has a pulse.

Activate the emergency response system (ERS)

- Follow the protocol to call for help in the facility, or call out loudly for help if you are at work in a place where other people are available to help you – such as a hospital or long-term care facility.
- For a witnessed collapse of an adult or adolescent: If alone with no mobile phone, activate the ERS, retrieve an AED before beginning CPR if it is nearby; otherwise begin CPR, send someone to get the AED and begin using it as soon as possible.

If patient is not breathing but has a pulse, provide rescue breathing:

- One (1) breath every 3-5 seconds, or about 12-20 breaths/minute.
- Activate emergency response system (if not already done).
- Continue rescue breathing; check pulse about every 2 minutes.
- If no pulse is present, begin CPR.
- If the patient is breathing and has a pulse but does not respond, call for help. If help is not available, call 911.
- If the person wakes up but is confused or unable to speak, call for help (if it is available) or call 911 (if help is not available).

PROCEDURES IF CPR IS INDICATED

For an unwitnessed collapse, do two minutes of CPR, activate ERS and get the AED, if nearby. Return to the patient of any age, resume CPR and use the AED as soon as possible.

If you are alone in a patient's home or another location, call 911.

- **Compression/ventilation ratio**:
  - For patients of all ages: 30 compressions to 2 breaths (30:2) at the rate of 100 to 120 compressions per minute and a 15:2 ratio with two rescuers. Breaths should not be longer than one second each.
- **Compression depth**:
  - For adults and adolescents - at least 2 inches (5cm).
  - For children age one to puberty- about 2 inches (5cm).
  - Infants less than a year (but not newborns) - at least 1 ½ inch (4cm).
- **Hand placement**:
  - **Adults and adolescents**: Two hands on the lower half of the sternum (breast bone).
  - **Children through puberty**: Two hands, one for small child, on the lower half of the sternum.
  - **Infants**: Two fingers in the center of the chest, just below the nipple line.
  - Allow chest to recoil, do not lean on chest after compression.
- **The AED arrives**:
  - Check rhythm.
  - **Shockable rhythm**: Give 1 shock. Resume CPR immediately for about 2 minutes, until prompted by AED to allow rhythm check. Continue until licensed providers take over or until the victim starts to move.
  - **Unshockable rhythm**: Resume CPR immediately for about 2 minutes until prompted by AED to allow rhythm check. Continue until experienced providers take over or until the victim starts to breathe and move.

Nursing consideration #3: What are the differences in ratio, depth, and hand placement for adult, child and infant CPR?

What are the age guidelines for each group?

- **Compressions review**[7]: If a patient is unresponsive, has no pulse and is not breathing, call for help or dial 911 if you are in a place where no help is available. Call for help while checking for a pulse and assessing the patient.
  - Check the carotid pulse (on the side of the neck) in adults and children.
  - Put the patient on his or her back on a firm service.
  - Kneel next to the patient's neck and shoulders.
  - Put the heel of one hand over the center of the patient's chest between the patient's nipples. Place your other hand on top of the first hand with your fingers interlaced. It is important that you keep your elbows straight and position your shoulders directly above your hands.
  - Use the weight of your body, not just your arms, to push straight down (compress) the patient's chest. Push down on the adult's chest to a depth of at least two inches, about five centimeters. Compress the patient's chest at a rate of at least 100-120 compressions per minute.
  - Do not interrupt compressions for more than 10 seconds.
  - Give 30 chest compressions. This should take about 18 seconds.
  - Next, check the airway.
  - **Note**: 2015 updates include the following information for pregnant patients:
    - Priorities for the pregnant woman in cardiac arrest are provision of high-quality CPR and relief of aortocaval compression. If the fundus height is at (or above) the level of the umbilicus, manual left uterine displacement can be beneficial in relieving aortocaval compression during chest compressions.
- **Airway:**
  - After 30 compressions, open the airway using what is called the head-tilt, chin-lift maneuver. Put your palm on the patient's forehead and gently and carefully tilt the head back. With your other hand, gently and carefully lift the chin forward to open the airway.
  - Check if the patient is breathing. Do not take any more than five to 10 seconds to do so. For example, is the patient's chest moving up and down? Do you hear normal breathing sounds? Is air coming out of the patient's nose or mouth? If the patient is not breathing, you need to begin rescue breathing for the patient (see previous section).
- **Breathing**[7]:
  - If the patient is not breathing, maintain the open airway with the head-tilt, chin-lift maneuver.
  - Pinch the nostrils shut and cover the patient's mouth with yours, making a seal over the patient's mouth.
  - Give two rescue breathes using a CPR mask/face shield. This will allow you to perform rescue breathing, but will protect you from possible contamination from bacteria in the patient's mouth.
  - Give the first breath big enough to make the chest rise. If the chest rises, give a second breath.
  - If it does not rise, repeat the head-tilt, chin-lift maneuver and then give the second breath. There may be a foreign object lodged in the mouth, such as dentures that have come loose, making rescue breathing ineffective. If you see an object in the mouth, try to remove it, being careful not to push the object further down the throat. Note: Do not do what is called a "blind sweep" of the mouth. In other words, do not just sweep your fingers through the patient's mouth to try to feel a foreign object. You must see the object before trying to remove it.
  - Next, give 30 chest compressions. The chest compressions may serve to dislodge or shift the object so the individual can begin breathing again.
  - Repeat the process: 30 compressions, and then two rescue breaths each for one second.
  - Each time you perform 30 chest compressions and two rescue breaths, you have completed what is called a "cycle." It takes about two minutes to perform four to five cycles.
  - After completing four to five cycles, or about two minutes of CPR, check for breathing and pulse. If

breathing and pulse are not present, continue to perform CPR until help arrives.
    - If a pulse is found, but the patient is not breathing, continue rescue breathing; however, stop chest compressions. Provide rescue breathing at a rate of one breath every six seconds or 10-12 a minute for adults and adolescents. For children, use one breath every 3-5 seconds of 12-20 per minute.

If the patient wakes up or starts breathing on his/her own and has a pulse, stop CPR; however, do not leave the patient alone until help arrives. He or she may suddenly stop breathing or not have a pulse again: You must be prepared to resume rescue breathing or CPR.

Special note: If the patient has not responded, awakened, regained a pulse and breathing on his or her own after approximately two minutes of CPR, start an automatic external defibrillator (AED). Follow the instructions on the device. Many AEDs have visual and voice prompts, but the 911-operator guides the process. Feel, listen, and watch the chest for signs of breathing for no more than ten seconds.

Feel, listen, and watch the chest for signs of breathing for no more than ten seconds.

Key concepts with a second rescuer[7]

Providing CPR may be very tiring if there is only one person performing it all. Therefore, if a second person is available, ask him or her to assist. In addition, if you ever arrive on a scene where somebody is performing CPR, inform them, "I can help, I know CPR." Before the second rescuer begins, the first rescuer needs to complete the 30 compressions and two breaths currently in progress.

- The patient is checked for pulse and breathing. If there is no pulse and the patient is not breathing, CPR is resumed with the two rescuers.
- The rescuers should be on opposite sides of the patient so that each rescuer has enough room to work. One rescuer performs rescue breathing and the other performs the chest compressions. In the event that the first rescuer is exhausted by the time the second rescuer arrives, the second rescuer may have to perform both chest compressions and rescue breaths.
- The rescuer(s) continue CPR until other trained personnel arrive and assume responsibility for the patient such as nurses, physicians or EMS personnel.

ADULT CPR

- For adult victims of cardiac arrest, the CNA will perform chest compressions at a rate of 100 to 120 per minute.
- During manual CPR, the CNA should perform chest compressions to a depth of at least 2 inches (5 cm) for an average adult, while avoiding excessive chest compression depths (greater than 2.4 inches (6 cm).
- The CNA should continue compression-only CPR until the arrival of an AED – or the arrival of rescuers with additional training.
- If a trained lay rescuer or a CNA is able to give rescue breaths, he or she should add rescue breaths in a ratio of 30 compressions to 2 breaths that are delivered over 1 second, making sure the chest rises.
- The CNA should continue CPR until an AED arrives and is ready for use. EMS providers will then take over the care of the victim, or the victim will begin to move and breathe.
- Hands-only compression methods are easier for untrained staff; however, for a trained CNA, the AHA's and Red Cross' recommendation is to perform compressions and rescue breaths.
- The CNA must call for nearby help upon finding an unresponsive patient, while simultaneously assessing breathing and pulse. This change was made to minimize delay of the first compression and promote a fast response, rather than employing a slow, step–by-step method.
- The priority – if alone – is to activate the emergency response system and provide chest compressions.
- Be sure the chest is allowed to rise completely between compressions; do not lean on the chest.
- In the case of sudden cardiac arrest, AED should be used as soon as possible.

Hands-only CPR[2]

This type of CPR was developed for untrained bystanders because it is easier and involves no mouth contact, which might encourage people to get involved. This method is outlined below:

- Assess the patient.
- Tap the person's shoulder and shout, "Are you OK?" It is alright to shake an adult to make sure they are not sleeping but never shake an infant or young child. When checking an infant for responsiveness, you may also include flicking the bottom of the foot, along with the standard technique of tapping on the shoulder and shouting.
- Look for normal breathing as listed above and call 911 if there is no response. Start hands-only CPR.

Note: ***Do not use hands-only CPR or adults when cardiac arrest is due to drug overdose.*** Normally the CNA would be familiar with the patient to some degree, even if the patient was not directly assigned to them, and would know if there is a history of opioid abuse. This is important because in an unwitnessed cardiac arrest, it is impossible to know the exact cause was not opiate overdose, requiring naloxone, or how long the person has been non responsive. For an unwitnessed event, including opiate overdose start traditional CPR as listed above with a combination of chest compressions and rescue breathing. As stated earlier, traditional CPR should be used with children and infants, unless the rescuer is unwilling or unable.

- Start with two compressions using the same hand position, depth, and rate as listed above.
- Continue and do not stop unless a trained responder takes over, or there is an automated external defibrillator (AED) to use.
- Use the AED as soon as it is available.
- Be sure to continue CPR until the AED begins to work on the patient.

Opiate overdose

The opiate overdose problem is occurring in all geographic areas, all ages and all socioeconomic groups. The 2015 AHA guidelines for CPR in this area are as follows:

- Patients with no definite pulse may be in cardiac arrest or may have an undetected weak or slow pulse. These patients should be managed as cardiac arrest patients. Standard resuscitative measures should take priority over naloxone administration, with a focus on high-quality CPR (compressions plus ventilation). It may be reasonable to administer IM or IN naloxone based on the possibility that the patient is in respiratory arrest, not in cardiac arrest. Responders should not delay access to more-advanced medical services while awaiting the patient's response to naloxone or other interventions.

Pediatric basic life support and CPR quality

According to the Red Cross[7]:

> "It is essential to obtain permission from a parent or guardian before providing care. If a parent or guardian is not present, consent is implied in a life-threatening situation. Do not let the absence of a parent be a barrier to helping a child who needs immediate help."[7]

For children and infants only[7]

In an instance where a child is found unconscious – without someone seeing the child collapse – you should also immediately give 2 rescue breaths, once determined that there is no breathing. This will help you identify an airway obstruction (if present), such as when a child is choking-a common precursor to cardiac arrest in young children.

Performing CPR on a child

When performing CPR on a child ages 1 through 8, the procedure is about the same as that for an adult except for the following differences:

- If you are alone and no help is available, perform five cycles of compressions and breaths on the child (this takes about two minutes) before calling 911. If help is available, however, have them call 911 immediately.
- To open a child's airway, use the head-tilt/chin-lift technique by placing one hand on the child's forehead and tilting the head back, and two or three fingers of the other hand to lift the chin slightly past a neutral position. As you deliver the 2 rescue breaths required during each cycle, this will help ensure oxygen is able to make it through all those miles of airways to get to the child's vital organs.
- Use one hand to perform chest compressions. Place your hand on the breastbone directly between the child's nipples.
- Compress to a depth of about two inches, or about a third of the thickness of the child's chest.
- Note that the ratio of compressions for children is the same as for adults: About 100-120 per minute followed by two rescue breaths of a second each.
- If the child does not respond after two minutes of CPR, use an AED if it is available. Apply pediatric pads if they are available.

Pediatric CPR[6]

- The compression, airway, and breathing (C-A-B) sequence has been reaffirmed in 2015, and has been included in the 2016 publications and training.
- Use the recommended adult chest compression rate of 100 to 120 per minute for infants and children.
- Compression depth should be at least 1/3 the anterior-posterior diameter of the chest.
- Infants: Approximately 1.5 inches (4 cm).
- Children: Approximately 2 inches (5 cm).
- Adolescents: At least 2 inches (5 cm), but no greater than 2.4 inches (6 cm).
- Deliver compression and breaths at the 30:2 ratio for children and 15:2 for infants. If that is not possible, perform compression-only CPR.

Nursing consideration #4: When performing CPR, what are the differences for adults, children and infants?

Before beginning CPR, ensure that the scene is safe for both the patient and the CNA. For example, the even may occur outside.

Performing CPR on an infant

Most cardiac arrests in infants – babies less than 1 year old – occur because of a lack of oxygen, such as from drowning or choking. If you know that the baby's airway is obstructed, perform first aid for choking. But if you do not know why the baby is not breathing, you need to initiate rescue breathing. And if the baby also does not have a pulse, you need to perform CPR.

Here are the steps for infant CPR:

- Check whether the baby is responsive. Stroke the baby, especially the soles of his or her feet. Rubbing or tapping the soles of a small infant's feet is a good way to check for responsiveness. If the baby is more than 2 months old, tap his or her shoulder or chest. Call out the baby's name in a loud voice. However, do not shake the baby.
- Note that if you are alone, help is not available and the baby is not breathing or does not have a pulse, perform CPR for two minutes – then call 911. If help is available, have help call 911 immediately. An infant's pulse is checked at the site of the brachial pulse in the inner bend of the elbow or the femoral pulse (in the groin).
- Place the baby on a firm surface, such as a table or on a floor.
- Imagine that you see a horizontal line drawn between the baby's nipples. Place two fingers of one hand just below this line on the center of the baby's chest.
- When performing two-rescuer CPR on an infant, the two-thumbs-encircling-hands technique should be used. The first rescuer one should give chest compressions while the second rescuer gives ventilations.
- Push straight down about an inch and a half, about 4 cm. Compress at a rate of 100-120 compressions per minute.
- Perform chest compressions: 15 per cycle.
- To establish an open airway, do the head-tilt/chin-lift technique to gently place the head in a neutral position, the head and chin are neither flexed downward toward the chest nor extended backward. An infant's airway is much narrower than an adult or child's airway, with a diameter about the same as a drinking straw[7]. Be careful not to push the head back too far. An infant's neck is so small and pliable that pushing the head back too far can actually block the airway.
- Check for breathing for no more than 10 seconds. Is the baby's chest moving up and down? Do you hear breathing sounds? Is air coming out of the baby's nose or mouth? If there are no signs of breathing, you need to breathe for the infant.
- Cover the baby's mouth and nose with your mouth. If you have an infant-sized CPR mask or face shield, use it.
- Give two rescue breaths by delivering gentle puffs of air instead of deep breaths from your lungs, as you would do with an adult or child. Give one rescue breath and look to see whether the baby's chest rises. If it does not, repeat the head-tilt, chin-lift maneuver and give the second rescue breath.
- If the baby's chest still does not rise, check his or her mouth to make sure there is nothing inside the mouth that is blocking the airway. If you see a foreign object in the mouth, try to take it out of the mouth with your finger. If the airway is blocked, you will need to perform first aid for a choking baby. Do not do a "blind sweep" of the baby's mouth.
- Give two breaths after every thirty compressions.
- Continue CPR until the baby responds or until trained medical help arrives. If the baby has a pulse but is not breathing, perform rescue breathing focus on a hands only method and the use of AED at a rate of one breath every three to five seconds.

Nursing consideration #5: When performing CPR on children and infants what are the differences in head tilt, hand placement, ratio and checking for responsiveness? What are the differences if there are two responders?

CHOKING

There are times when a patient may become unconscious from choking. Choking is a scary situation for the patient and anybody around him or her. Choking occurs when a foreign object becomes lodged in the throat or windpipe, blocking the flow of air. It is important to recognize the signs of choking, because it will affect the oxygen to the brain, then to the rest of the body. The universal sign of choking is clutching the throat. The patient may also have other symptoms, such as:

- Inability to talk.
- Difficulty breathing or noisy breathing.
- Inability to cough forcefully.
- Skin, lips and nails turning blue or dusky.
- Loss of consciousness.

It is important to check whether the patient is conscious or unconscious. To do so, ask, "Are you choking?" If the patient responds by nodding or is obviously conscious, perform first aid for the choking conscious patient. Call for help or call 911. If you are alone, perform first aid for choking. If the patient does not improve after one minute of performing first aid for choking, call 911.

Adult/child

Give five back blows between the patient's shoulder blades with the heel of your hand.

If the patient is still choking, give five abdominal thrusts, also known as the Heimlich maneuver. To perform the Heimlich maneuver, stand slightly behind the victim and place one arm diagonally across his chest, and then bend him over until the upper airway is at least parallel to the ground.

Bottom of form: The proper fist position to give abdominal thrusts is the thumb side of the fist positioned.

Top of form: Just above the navel. The fist should then be covered by the other hand, and 5 quick upward abdominal thrusts delivered. Cycles of 5 back blows and 5 abdominal thrusts should continue until the object is forced out or the victim can cough forcefully or breathe. If a victim becomes unconscious, he or she should be carefully lowered to the ground so the rescuer can continue to provide care.

- Make a fist with one hand and place it slightly above the person's naval. Press hard into the abdomen with a quick upward thrust. Perform five abdominal thrusts. If the blockage still is dislodged, repeat the five back blows followed by five abdominal thrusts.
- Continue repeating five back blows and five abdominal thrusts until the blockage is dislodged or until licensed medical help arrives.
- If the blockage is dislodged, be sure to stay with the patient until help arrives.
- If the patient becomes unconsciousness, perform first aid for the unconscious adult or child.
- If the patient becomes unconscious, lower him or her onto the floor on his back.
- Clear the patient's airway if you can see a foreign object blocking the airway. Carefully reach a finger into the mouth and sweep out the object, but be careful not to push the object deeper into the airway. Do not sweep the mouth unless you can see the foreign object.
- If you cannot remove the blockage and the patient remains unresponsive, perform five chest compressions followed by two rescue breaths.
- If the patient's condition deteriorates (no pulse and no breathing), proceed to perform CPR.

Infant

- Sit down and hold the infant face down on the adult's forearm resting on the thigh on his or her thigh.
- Thump the infant gently and firmly on the middle of the back with the heel of the hand.
- If that does not work, turn the infant face up on the forearm with the baby's head lower than the truck of the body.
- Place two fingers at the center of the chest over the breastbone and give five quick chest compressions.
- If you see an object in the baby's mouth, try to remove it, but be careful not to push it further down the baby's throat. Do not do a "blind sweep" of the baby's throat.
- Repeat the back blows and chest throats until the blockage is removed and the baby resumes breathing or until help arrives.
- If removing the object and/or performing back thumps and chest compressions do not work and breathing doesn't resume, begin the CPR procedure for infants.

Special note: To perform the Heimlich maneuver on a pregnant woman or an obese person, position your hands a little bit higher than usual, at the base of the breastbone.

AUTOMATIC EXTERNAL DEFIBRILLATORS (AED)

AEDs are portable, computerized devices that are easy for untrained staff to use. They analyze heart rhythms using electrodes placed on a patient's chest. The AED will not deliver a shock unless VF or VT, is detected. If indicated, the AED provides the shock (defibrillation) needed for restarting the heart called. The shock to the chest wall from the AED interrupts the disturbed rhythm so it regains normal activity. For each minute that CPR and defibrillation are delayed, the person's chance of survival is reduced by about 10%. This fact underscores the vital role of immediate action by the CNA[7].

To minimize the time to defibrillation for cardiac arrest victims, the deployment of an AED should not be limited to trained individuals, although training is still recommended[7].

How to use the AED[8]

Before using an AED, check for puddles or water near the person who is unconscious. Move him or her to a dry area, and stay away from wetness when delivering shocks (water conducts electricity).

- Continue performing CPR until the pads are in place and the AED is ready to start analyzing.
- Turn on the AED power for step-by-step instructions from the device. The CNA will hear voice prompts and see prompts on a screen.
- Remove clothing over chest.
- Wipe chest dry.
- Attach pads: Place one pad on the right center of the person's chest above the nipple. Place the other pad slightly below the other nipple and to the left of the ribcage.
- Make sure the sticky pads have good connection with the skin. If the connection is not good, the machine may repeat the phrase "check electrodes."
- If the person has a lot of chest hair, it may need to be trimmed (AEDs usually come with a kit that includes scissors and/or a razor).
- If the person is wearing a medication patch that is in the way, remove it and clean the medicine from the skin before applying the sticky pads.
- Remove metal necklaces and underwire bras. The metal may conduct electricity and cause burns. Cut the center of the bra and pull it away from the skin.
- Check the person for implanted medical devices, such as a pacemaker or implantable cardioverter defibrillator (the outline of these devices is visible under the skin on the chest

or abdomen, and the person may be wearing a medical alert bracelet). Also check for body piercings.
- Move the defibrillator pads at least 1 inch away from implanted devices or piercings so the electric current can flow freely between the pads.
- Make sure wires from the electrodes are plugged in to the AED.
- Make sure everyone steps back. Do not touch the person. Say "Clear."
- Push the "Analyze" button if it does not analyze automatically.
- If the device indicates a shock is advised, push the "Shock" button.

Immediately after the AED delivers a shock

The AED will prompt you to resume compressions and follow additional AED prompts.
- Restart CPR, starting with 30 compressions.
- The cycle of chest compressions and ventilations should then continue until the AED is ready to analyze the victim again.
- If it says "No Shock," return to standard CPR, or hands-only CPR.
- Do not remove the pads when continuing CPR until the trained responders arrive.

The AED for children and infants

- The adult AED can be used on children under eight years of age – but not under one year.
- If the AED does not have a pediatric pad/cable system, the CNA should proceed with the adult AED after one minute of CPR.
- On an infant, make sure that the pads do not touch each other. Place one pad in the middle of the infant's chest and the other on the infant's back to safely use the AED.

Nursing consideration #6: What are the differences when applying the AED to adults, children and infants? If you have no pediatric equipment what should you do?

The hands-only method and use of the AED

To emphasize the increased focus on compression, make CPR easier for bystanders and untrained staff, and to encourage immediate involvement, the American Heart Association developed the hands-only method[6]:

> Compression-only CPR is easy for an untrained rescuer to perform and can be more effectively guided by dispatchers over the telephone. Moreover, survival rates from adult cardiac arrests of cardiac etiology are similar with either compression-only CPR (or CPR with both compressions and rescue breaths) when provided before EMS arrival; however, for the trained lay rescuer or for the CNA who is able, the recommended best practice remains for the rescuer to perform both compressions and breaths.

The final addition is the portable AED as a vital tool in the life-saving process. The newer models may include visual and auditory directions, and are safe and easy for the untrained rescuer to use. Any 911 personnel will provide guidance in the proper application of the AED as well.

As a CNA, it is important to know the recommended current and best practices. Knowing and understanding these best practices is the most effective method to increase survival rates. If the CNA does not have experience and training in CPR, he or she may feel more comfortable learning the less complex hands-only method. The AHA 2016 guidelines and recommendations for best practice for CPR, compression and rescue breath, as well as AED use will be covered in this course. The CNA should consult a supervisor and follow the facility protocol to determine the specific methods to use, based on his or her level of training and competency.

Nursing consideration #7: For a CNA, is the best practice for assisting a resident hands-only CPR? Or is it CPR with chest compressions and rescue breaths? Why was the hands-only method developed and who should use it?

Conclusion

It is important to carefully review the changes to CPR/AED to stay informed on the frequent changes in the AHA and Red Cross guidelines. Current changes involve simultaneously assessing the patient while calling for assistance, emphasizing compression and ventilation as the best practices, including the hands-only option for lay persons, identifying a ceiling of 120 compressions per minute, implementing compression-only (rather than nothing), and emphasizing the use of AED as soon as one is available – even without prior training.

It is important that all health care professionals are adequately trained to handle cardiac and pulmonary emergencies. The prompt actions of a CNA may be the potential difference in life or death for the patient. Many training centers now offer online-learning courses which allow students to complete the classroom portion of their CPR certification and take a written test. An instructor is still needed for practical skill demonstration and testing using current guidelines. Many facilities provide training on site, but if not, the online tool is an alternative. According to 2015 AHA guidelines updates:

> CPR self-instruction through video and/or computer-based modules with hands-on practice may be a reasonable alternative to instructor-led courses. It may be reasonable to use alternative instructional modalities for basic and advanced life support teaching in resource-limited environments.

Be sure to check the CPR/AED card for the expiration date and, if it is due to expire, schedule the next training to learn and practice current procedures. The AHA states in the 2015 updates:

> Two-year retraining cycles are not optimal. More-frequent training of basic and advanced life support skills may be helpful for providers who are likely to encounter a cardiac arrest. Given the potential educational benefits of short, frequent retraining sessions coupled with the potential for cost savings from reduced training time and removal of staff from clinical environment for standard refresher training, it is reasonable that individuals who are likely to encounter a cardiac arrest victim perform more frequent manikin-based retraining. There is insufficient evidence to recommend the optimal time interval.

For this reason the requirements may CPR/AED training may change. Even before training is due, the CNA should review current training materials so that if an emergency occurs, the CNA can feel confident in their skills to save a life.

References

1. American Heart Association. 2016 Brings New Changes To The American Heart Association CPR Guidelines. (2016)http://www.edgeadvise.com/blog/2016/02/2016-brings-new-changes-american-heart-association-cpr-guidelines. Accessed August 26, 2016.
2. Centers for Disease Control. Leading Causes of Death (2015). http://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm. Accessed August 17, 2016.
3. American Heart Association. About Heart Attacks (2016). http://www.heart.org/HEARTORG/Conditions/HeartAttack/AboutHeartAttacks/About-Heart-Attacks_UCM_002038_Article.jsp#.V8F-VSMrKUU. Accessed August 26, 2016.
4. National Institutes of Health. What Are the Symptoms of a Heart Attack? https://www.nhlbi.nih.gov/health/health-topics/topics/heartattack/signs.(2015). Accessed August 27, 2016.
5. University of Maryland University Center. Heart Attack and Acute Coronary Syndrome (2016). http://umm.edu/health/medical/reports/articles/heart-attack-and-acute-coronary-syndrome. Accessed August 26, 2016.
6. American Heart Association. Guidelines: 2015 CPR and ECC. (2015). https://eccguidelines.heart.org/wp-content/uploads/2015/10/2015-AHA-Guidelines-Highlights-English.pdf Accessed August 26, 2016.
7. American Red Cross. CPR/AED for Professional Rescuers and Health Care Providers. (2016). http://www.redcrossrefresher.com/q/cpraed-professional-rescuers-and-health-care-provi/choices/ (2016). Accessed August 27, 2016.
8. National Institutes Of Health. How To Use an Automated External Defibrillator. https://www.nhlbi.nih.gov/health/health-topics/topics/aed/howtouse Assessed August 27, 2016.

24-HOUR COURSE FOR CERTIFIED NURSING ASSISTANTS

Final Examination Questions

Select the best answer for each question and mark your answers on the Final Examination Answer Sheet found on page 125 or complete your test online at **EliteLearning.com/Book**

1. The five recognized categories of elder abuse and mistreatment are physical abuse, sexual abuse, neglect, emotional and psychological abuse, and:
   a. Financial exploitation.
   b. Driver's license removal.
   c. Criminal conspiracy.
   d. Medical noncompliance.
2. Which form of elder abuse is defined as possibly resulting from either intentional or unintentional action?
   a. Financial abuse.
   b. Physical abuse.
   c. Neglect
   d. Emotional abuse.
3. Many older adults report that:
   a. Independence and functioning are more important than longer life.
   b. Dependence on children is preferred for comfort and ease.
   c. Being able to live in a nursing home is preferred over living at home because it is easier.
   d. IIndependence and function are not important to them.
4. One general warning sign of elder abuse is the presence of a caregiver who:
   a. Frequently takes the older adult to family gatherings and activities.
   b. Refuses to allow the older adult to speak for himself or herself.
   c. Shows reasonable compassion for the older adult in his or her care.
   d. Allows the older adult appropriate freedom of movement.
5. The first step in stopping elder abuse is:
   a. Managing the older adult's chronic illness.
   b. Overcoming the older adult's depression.
   c. Isolating the older adult from all strangers.
   d. Teaching the older adult what constitutes abuse.
6. Chemical substances within the brain that aid communication among neurons are known as:
   a. Neurotransmitters.
   b. Axions.
   c. Synapsis.
   d. Hormones.
7. Many normal age-related memory problems among older adults are caused by:
   a. An overabundance of deep sleep.
   b. A lack of regular nutritious meals.
   c. A diminished ability to concentrate.
   d. An inability to become and stay motivated.
8. What is important about medications taken by older adults?
   a. Older adults usually take the same medications at the same dose as younger adults because there are no differences in the way medications act in older adults.
   b. Older adults always take a lower dose of a medication than younger adults. This is because they are not able to utilize medication in the same way.
   c. Older adults may not metabolize or absorb medications in the same way as younger adults, which may require an adjustment in both medication used and dose.
   d. Older adults often need higher doses of medication than younger adults because they cannot tolerate medications in the same way.
9. Palliative care differs from hospice care in that palliative care:
   a. Provides free medications and therapies for all patients and is paid for by Medicare.
   b. Uses a multidisciplinary approach to patient and family care.
   c. Is usually provided in an office rather than in the home setting.
   d. Can be provided to people who have nonlife-threatening diseases and does not need a provider referral.
10. A diagnosis of dementia is best made based on:
    a. Physical, neurological, and psychological evaluations.
    b. Results of home screening kits that use the Clock Drawing Test.
    c. Account of the memory loss supplied by the patient only.
    d. A partial medical history provided by the patient.
11. Medications ordered by the physician or health care professional with prescriptive authority are to be given "as needed," unless the order is written with specific parameters that preclude independent judgment on the part of the unlicensed person, and at the request of a competent resident.
    a. True.
    b. False.
12. CNAs may assist with the use of a nebulizer, including removing the cap of a nebulizer, opening the unit dose of nebulizer solution, and pouring the prescribed premeasured dose of medication into the dispensing cup of the nebulizer.
    a. True.
    b. False.
13. Unlicensed staff are prohibited from providing assistance with medications for which the instructions are unclear or which require judgment or discretion. Seek clarification and alternatives from a supervisor.
    a. True.
    b. False.
14. If any of the following symptoms occur, call the health care provider: Call immediately for any wheezing or trouble breathing, for any swelling in the face, lips or throat and for a rash or hives.
    a. True.
    b. False.
15. If a call is made to the health care provider because the resident appears to be experiencing problems with the medication, do not hang up until a plan of action has been established.
    a. True.
    b. False.
16. Individuals with cognitive impairment have difficulty with one or more of the basic functions of their brain, such as perception, memory, concentration and reasoning skills.
    a. True.
    b. False.
17. Alzheimer's disease is the most common form of dementia, which represents 45 to 75 percent of all dementia cases.
    a. True.
    b. False.

18. Break ADLs and other projects into a series of short steps, instead of one long process. Inform the resident about each step, and let him/her complete it before you move on. Assist and remind the patient, as needed.
    a. True.
    b. False.

19. Avoid arguing or conflict, as the most likely outcome is increased anger and frustration for both of you. Be flexible, but you must set priorities and accomplish your schedule – even if the patient is having a difficult day.
    a. True.
    b. False.

20. Other obstacles to communication for patients with cognitive impairments include: Respiratory impairment, nutrition or hydration issues, inability to discriminate foreground and background noise, illness or disease.
    a. True.
    b. False.

21. Documentation is formal communication regarding a patient or resident, entered on a medical chart or similar form.
    a. True.
    b. False.

22. The long-term care MDS contains items that measure physical, psychological and psycho-social functioning.
    a. True.
    b. False.

23. Medical records are used as legal documents for care received.
    a. True.
    b. False.

24. Subjective observations are measurable.
    a. True.
    b. False.

25. Heavy penalties associated with jeopardizing client confidentiality in a professional context including loss of employment and certification.
    a. True.
    b. False.

26. During times of stress, domestic violence can be heightened. This is explained by:
    a. Too many people being together, creating additional tension.
    b. Ineffective relaxation methods being utilized.
    c. Worries about financial stressors and loss of control over the situation.
    d. Increased violence seen on television and other media.

27. Weapons of violence are best described as:
    a. Guns used to threaten and control a person.
    b. Knives used to threaten and harm a person.
    c. Glass used to threaten and harm a person.
    d. Anything perceived to harm and deform a person.

28. An example of sexual violence is:
    a. Preventing the partner from activities such as bathing.
    b. Maintaining surveillance on their partners.
    c. Making derogatory remarks and forcing the partner to view porn.
    d. Forcing the partner to use various drugs for relaxation.

29. There are currently ___ victims of human trafficking reported by the International Labour Organization.:
    a. 20 million or more.
    b. 15 million or more.
    c. 10 million or more.
    d. 5 million or more

30. The elderly often do not report domestic violence because of:
    a. Fear of dying alone.
    b. Financial constraints.
    c. Fear of not being believed.
    d. Fear of an extended court battle.

31. What does Florida's revised SB342 state?
    a. The accused person is eligible for job training if they persecute the perpetrator.
    b. The perpetrator will serve 10 years in jail if found guilty of the crime of domestic violence.
    c. It gives protection for the abused from unwanted communications by the perpetrator.
    d. The accused perpetrator will be assigned a defense attorney.

32. In Florida, an injunction of protection prevents:
    a. Unwanted types of communication from the perpetrator.
    b. Unwanted sexual acts or advances from the perpetrator.
    c. A coworker from committing acts of violence against the petitioner.
    d. Someone you have dated anytime in the past from having contact with you.

33. Long-term effects of teen dating abuse include:
    a. Potential suicide.
    b. Depression.
    c. Illegal drug use.
    d. Eating disorders.

34. The Legislation that provides for free rape exams, establishes programs for different races and ethnicities of domestic violence, and helps those who have been evicted from their homes is known as:
    a. The Violence Against Women Reauthorization Act of 2013
    b. The Family Violence Prevention and Services Act.
    c. The Victims of Crime Act.
    d. Futures Without Violence Act.

35. Florida mandates a ___ domestic violence education course for biennial licensure renewal on or after January 2019.
    a. 1 hour.
    b. 2 hours.
    c. 3 hours.
    d. No additional training requirement after initial course.

36. HIV is mainly transmitted by all of the following EXCEPT:
    a. Sharing needles.
    b. Anal sex.
    c. Sharing food.
    d. Vaginal sex.

37. Which of the following body fluids can transmit HIV?
    a. Blood.
    b. Semen.
    c. Breast milk.
    d. All of the above.

38. According to the CDC, roughly how many people in the United States had HIV at the end of 2019?
    a. 1.1 million.
    b. 30,000.
    c. 5 million.
    d. 100,000.

39. Which ethnicity are most often affected by HIV?
    a. Caucasian.
    b. Hispanic.
    c. Native American.
    d. African American.

40. Florida's HIV testing law for healthcare settings did which of the following?
    a. Allowed healthcare providers to notify partners of a positive HIV result.
    b. Asked healthcare providers to take an annual HIV screening.
    c. Removed the need for separate informed consent prior to testing.
    d. Required HIV treatment if a positive result occurs.

41. Which of the following is NOT more commonly found in those infected with HIV and AIDS?
    a. Epstein-Barr Virus.
    b. Cervical cancer.
    c. Non-Hodgkin Lymphoma.
    d. Tuberculosis.

42. PrEP is used for which of the following?
    a. HIV treatment within six months of a positive result.
    b. Pre-treating a baby while in the uterus.
    c. Treating those infected from needle contamination.
    d. Pre-exposure prophylaxis.

43. The risk of becoming infected with HIV for a needle-stick injury is:
    a. Zero.
    b. Less than 1%.
    c. Less than 30%.
    d. Greater than 50%.

44. Post-exposure prophylaxis (PEP) is most effective when taken:
    a. Within one week of exposure.
    b. Within one month of exposure.
    c. Within 24 hours of exposure.
    d. Within 5 days of exposure.

45. Which of the following is not one of the 5 Cs the WHO recommends for HIV testing services?
    a. Informed consent.
    b. Compassion.
    c. Counseling.
    d. Connection.

46. The nurse is preparing to suction and perform trach care on a patient and needs to choose appropriate personal protective equipment. The nurse would correctly choose which of the following?
    a. Face mask/shield, gloves and gown.
    b. Gloves and goggles.
    c. Goggles and gown.
    d. Gown, gloves and respirator.

47. The nurse observes a patient with persistent coughing ambulating in the hall. Which of the following would be the BEST statement for the nurse to make to the patient?
    a. "Please return to your room if you need to cough."
    b. "I will see if you have some cough medication ordered."
    c. "Please cough into a tissue or your arm to prevent the spread of germs."
    d. "Let me take your temperature to see if it is elevated."

48. The nurse is caring for a patient that reports being exposed to an infectious disease but is not showing any symptoms of infection. Which of the following stages of infection may apply in this situation?
    a. Incubation period.
    b. Prodromal stage.
    c. Full stage of illness.
    d. Convalescent period.

49. The nurse is preparing an inservice for staff on healthcare associate infections (HAIs). Which of the following statements by the staff would indicate the need for further instruction by the nurse?
    a. "Healthcare-associated infections can be associated with surgical site infections."
    b. "The presence of invasive catheters is associated with healthcare-associated infections."
    c. "Healthcare-associated infections are only tracked in hospital settings."
    d. "The overuse or improper use of antibiotics can contribute to healthcare-associated infections."

50. The infection control nurse is educating staff about multi drug resistant organisms. Which of the following would be a PRIORITY for the nurse to emphasize?
    a. Limiting antibiotic usage.
    b. Stringent hand hygiene.
    c. Adhering to isolation precautions.
    d. Anticipating increased lengths of stay.

51. In 2014, more than _____ of costs were associated with medical errors in the U.S.
    a. $100,000.
    b. $1 million.
    c. $1 billion.
    d. $1 trillion.

52. Which of the following is NOT one of the four major areas of concern related to medical errors?
    a. Patient errors.
    b. Diagnostic errors.
    c. Treatment errors.
    d. Preventative errors.

53. Which of the following is NOT one of the five Rs for medication administration?
    a. Right room.
    b. Right drug.
    c. Right time.
    d. Right route.

54. Who monitors the development of medical devices in order to provide clearance?
    a. CDC.
    b. FDA.
    c. President of the U.S.
    d. Manufacturer.

55. What is the term for negative patient outcomes that result in unexpected death or loss of function?
    a. Near-miss event.
    b. Adverse event.
    c. Policy violation.
    d. Sentinel event.

56. What is medication reconciliation?
    a. The process of ensuring the five Rs are appropriately used.
    b. Transcribing verbal orders from physicians.
    c. Ensuring medications are reviewed upon discharge.
    d. Comparing a patient's medication orders to those the patient has been taking.

57. What is an "apology law"?
    a. A law that allows a physician or nurse apology to be used in court.
    b. A law that protects a provider's apology from being used as an admission of guilt.
    c. A law that requires an apology be formally issued to a patient and/or their family.
    d. A law that requires nurses receive apologies when poor practices are implemented.

58. The ISMP in 2020 published the top 10 reasons for medication errors, which include:
    a. Wrong patient.
    b. Wrong surgical site.
    c. Poorly designed pain control devices.
    d. Wrong route.

59. Which of the following involves respecting the patient's decision?
    a. Autonomy.
    b. Beneficence.
    c. Nonmaleficence.
    d. Veracity.

60. Who monitors medical device usage for safety compliance?
    a. CDC.
    b. FDA.
    c. Hospital administration.
    d. Manufacturer.

61. Residents have the right to private and uncensored communication including, but not limited to receiving and sending unopened correspondence, access to a telephone, visiting with any person of the resident's choice during visiting hours, and overnight visitation outside the facility with family and friends, in accordance with facility policies and physician orders.
    a. True.
    b. False.

62. Residents have the right to be fully informed in advance of any nonemergency changes in care or treatment that may affect the resident's well-being; and, except with respect to a resident adjudged incompetent, the right to participate in the planning of all medical treatment but NOT the right to refuse medication and treatment.
    a. True.
    b. False.

63. In case of an emergency, restraint may be applied only by a qualified licensed nurse who shall set forth in writing the circumstances requiring the use of restraint; and, in the case of use of a chemical restraint, a physician shall be consulted immediately thereafter.
    a. True.
    b. False.

64. A facility must care for its residents in a manner and in an environment that promotes maintenance or enhancement of each resident's quality of life.
    a. True.
    b. False.

65. Direct-care staff are those individuals who, through interpersonal contact with residents or resident care management, provide care and services to allow residents to attain or maintain the highest practicable physical, mental, and psychosocial well-being – but do NOT include CNAs.
    a. True.
    b. False.

66. Women always have the same signs of heart attack as do men.
    a. True.
    b. False.

67. For the trained lay rescuer and CNA who is able, the recommended best practice remains for the rescuer to perform both compressions and breaths.
    a. True.
    b. False.

68. Check the pulse on adults by feeling for the brachial or femoral pulse.
    a. True.
    b. False.

69. When performing chest compressions on an adult, press down on the chest to a depth of at least 2 inches.
    a. True.
    b. False.

70. Note that the ratio of compressions for children is the same as for adults: about 100-120 per minute followed by two rescue breaths of a second each.
    a. True.
    b. False.

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