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Safely Caring for Seniors

Introduction

Older adult patients are part of a large, vulnerable, and complex patient population that requires health care professionals to provide safe health care. The question is, how can health care professionals safely care for older adult patients? This course will answer that very question, while providing health care professionals with recommendations to optimize older adult patient care.

Section 1: Syndromes, Conditions, and Disorders

The older adult patient population is one of the largest patient populations in the current health care climate. It is also one of the fastest growing patient populations in America. That being the case, the question is, how can health care professionals safely care for older adult patients? The straightforward answer to the aforementioned question is to incorporate the three essential elements of older adult health care into the day-to-day care of older adult patients. With that in mind, this section of the course will review the first essential element of older adult health care, which is to possess insight into the syndromes, conditions, and disorders that may affect older adult patients.

Dementia

One of the first syndromes, conditions, or disorders that may come to mind when considering older adult patient populations is dementia (note: the term older adult may refer to an individual 65 years or older). Specific information regarding dementia may be found below. The information found below was derived from materials provided by the Centers for Disease Control and Prevention (CDC) unless, otherwise, specified (Centers for Disease Control and Prevention [CDC], 2020).

What is dementia?

Dementia may refer to a cluster of symptoms centered around an inability to remember, think clearly, and/or make decisions.

Health care professionals should note the following: dementia can dramatically impact older adults' ability to function and carry out daily activities; older adults suffering from dementia commonly experience impairments in occupational and social functioning and may present behavioral disturbances; dementia is not a normal part of aging.

What are the risk factors associated with dementia?

Risk factors that may contribute to dementia include the following: age, genetics, poor heart health, and traumatic brain injuries.

What are the signs and symptoms of dementia?

Signs of dementia may include the following:

- Getting lost in a familiar area
- Forgetting the names of close family and friends
- Not being able to complete tasks independently

Symptoms of dementia may include the following:

- Problems with memory
- Problems with attention
- An inability to communicate effectively
- A diminished ability to reason and problem solve
- Poor judgment

What are the most common types of dementia?

Health care professionals should understand that there are various types of dementia. Health care professionals should possess insight into the most common types of dementia to best serve older adult patients.

- **Fronto-temporal dementia** - fronto-temporal dementia is a type of dementia which primarily affects the regions of the brain associated with planning, social behavior, and language perception. Fronto-temporal dementia is associated with a younger age of onset, when compared to other types of dementia. Health care professionals should note that the behavioral presentation of fronto-temporal dementia may include: inappropriate swearing, impulsive decisions and purchases, repetitive actions, changes in personality, as well as inappropriate sexual behavior (ISB). Changes in eating habits and deficits in self-care may also be present in patient populations suffering from fronto-temporal dementia. Health care professionals should also note that fronto-temporal dementia may include

progressive deterioration of language function (e.g., older adults suffering from fronto-temporal dementia may exhibit difficulties with word usage and reading).

- **Lewy body dementia** - Lewy body dementia is a type of dementia characterized by the presence of Lewy bodies in the cerebral cortex and the brain stem (note: the cerebral cortex is a part of the brain responsible for thought processing, memory, perception, and movement; the brain stem is a part of the brain which is responsible for basic body functions and the coordination of movements). Lewy bodies may refer to proteins that may form in the brain. Individuals suffering from Lewy body dementia may experience memory loss, movement problems, balance problems, stiffness, trembling, changes in alertness, daytime sleepiness, confusion, and/or staring spells. Health care professionals should note that individuals suffering from Lewy body dementia may also experience trouble sleeping at night and/or visual hallucinations (e.g., seeing people and/or objects that are not actually there).

- **Vascular dementia** - vascular dementia is a type of dementia that may result from strokes and/or other issues that affect blood flow to the brain. Vascular dementia may also result from diabetes, high blood pressure, and high cholesterol. Health care professionals should note that vascular dementia can result from a blockage of blood vessels in the brain which yields the death of tissue, or infarction, in the affected region. The symptoms of vascular dementia can vary depending on the area and size of the brain impacted. Specific symptoms of vascular dementia can include: problems with memory, planning, making decisions, attention, focus, and concentration as well as confusion. Health care professionals should also note that vascular dementia progresses in a step-wise fashion - meaning the symptoms of vascular dementia may get worse as an individual experiences strokes, mini-strokes, or other issues that affect blood flow to the brain (i.e., vascular dementia can be progressive in nature).

- **Mixed dementia** - individuals may experience more than one type of dementia at once. Mixed dementia can be prevalent in individuals aged 80 and older. Mixed dementia may be difficult to identify because the symptoms of one type of dementia may be more prominent or may overlap with symptoms of another type of dementia. Health care professionals should note that mixed dementia progression may be faster than with one type of dementia.

- **Dementia associated with Parkinson's disease** - health care professionals should note that dementia may be associated with Parkinson's disease. Parkinson's disease may refer to a progressive disorder that affects individuals' movement.
- **Alzheimer's disease** - Alzheimer's disease may refer to an irreversible, progressive brain disorder that slowly destroys individuals' memory, thinking skills, and ability to carry out simple tasks. Health care professionals should note the following: Alzheimer's disease is the most common cause of dementia among older adults; Alzheimer's disease is not a normal part of aging.

How can Alzheimer's disease affect older adult patients?

Alzheimer's disease negatively affects an individual's ability to function by disrupting the communication between neurons, which results in the loss of function and cell death. Neurons may refer to specialized cells that process and transmit information via electrical and chemical signals. In essence, Alzheimer's disease leads to widespread damage of essential neurons, which are responsible for memory, clear thought, the ability to learn, coordinated movements, and, ultimately, the ability to perform necessary bodily actions. Health care professionals should note the following: due to the widespread damage to essential neurons, individuals' minds and bodies begin to shut down, until they are no longer able to function. Eventually, an individual will deteriorate until Alzheimer's disease leads to death. Health care professionals should also note the following: early detection of Alzheimer's disease is essential to an individual's health care.

One of the first signs of Alzheimer's disease is memory loss that disrupts daily life (e.g., forgetting important events or activities). Additional early signs of Alzheimer's disease include the following:

- Having problems planning or solving problems (e.g., having trouble paying bills)
- Exhibiting difficulty completing familiar tasks at home, at work, or at leisure (e.g., displaying difficulties finding destinations when driving)
- Exhibiting confusion with time or places (e.g., unable to keep track of dates)
- Displaying trouble understanding visual images and spatial relations (e.g., an individual suffering from Alzheimer's disease may easily fall over objects at his or her place of residence)

- Exhibiting problems with words in speaking or writing (e.g., an individual suffering from Alzheimer's disease may have trouble following or joining a conversation)
- Often misplacing objects (e.g., an individual suffering from Alzheimer's disease may often lose important objects such as car keys)
- Displaying poor judgment (e.g., an individual suffering from Alzheimer's disease may be often victimized)
- Social isolation (e.g., an individual suffering from Alzheimer's disease may avoid social interaction)
- Changes in mood and/or personality (e.g., an individual suffering from Alzheimer's disease may begin to exhibit ISB).

Alzheimer's disease is progressive in nature - meaning the symptoms of Alzheimer's disease (e.g., mental decline, confusion, agitation, irritability, and hallucinations) may worsen over time.

One of the first stages of Alzheimer's disease is often referred to as mild Alzheimer's disease. Individuals suffering from mild Alzheimer's disease may experience the following: memory loss, cognitive difficulties, problems with wandering and getting lost, trouble handling money and paying bills, repeating questions, taking longer to complete normal daily tasks, and personality and behavior changes. Health care professionals should note that individuals are often diagnosed with Alzheimer's disease when they are in the aforementioned stage of Alzheimer's disease.

As an individual's Alzheimer's disease progresses, it can move from the mild Alzheimer's disease stage to the moderate Alzheimer's disease stage. Individuals suffering from moderate Alzheimer's disease may experience the following: increasingly worse memory loss and confusion, problems with recognizing family and friends as well as an inability to learn new things, carry out multi-step tasks such as getting dressed, and/or cope with new situations. In addition, individuals suffering from moderate Alzheimer's disease may have hallucinations, delusions, and paranoia. Health care professionals should note that damage in areas of the brain that control language, reasoning, sensory processing, and conscious thought may account for the aforementioned issues.

The last stage of Alzheimer's disease may be referred to as severe Alzheimer's disease. Typically, individuals suffering from severe Alzheimer's disease have problems communicating and living independently. Essentially, an individual with severe Alzheimer's disease cannot adequately function on his or her own.

Health care professionals should note that patients suffering from any stage of Alzheimer's disease may have different needs and requirements when compared to other patients. Thus, Alzheimer's disease patients may require special attention and consideration.

What should health care professionals consider while caring for older adult patients suffering from dementia?

- **Elder abuse** - older adults suffering from dementia are often victimized by elder abuse. Elder abuse may refer to an intentional act or a failure to act that causes or creates a risk of harm to an older adult. Health care professionals should note that elder abuse may refer to a single act, a repeated act, and/or a lack of appropriate action. Health care professionals should also note the following: elder abuse typically occurs within relationships where there is an expectation of trust (e.g., a relationship between an older adult and a family member); health care professionals should work to identify older adults potentially victimized by elder abuse to ensure they receive adequate care.

- **Self-neglect** - self-neglect is often associated with dementia. Self-neglect may refer to a failure to meet one's own basic needs (i.e., an individual is no longer able to carry out basic tasks such as feeding themselves and/or maintaining adequate hygiene). Health care professionals should note that self-neglect may include the following: an inability to feed one's self, compulsive hoarding, self-harm, and substance abuse.

- **Inappropriate sexual behavior (ISB)** - ISB is often associated with dementia. ISB may refer to a type of behavior that is characterized by potentially disruptive and/or inappropriate sexually driven actions (De Giorgi & Series, 2016). Health care professionals should note that characteristics of dementia associated ISB may include the following: sexual behavior, inappropriate behavior, disruptive behavior, personality changes leading to abnormal sexual behavior, mood changes leading to abnormal sexual behavior, cognitive difficulties leading to abnormal sexual behavior, confusion leading to perceived sexual behavior, disorientation leading to perceived sexual behavior, memory problems leading to perceived sexual behavior, dementia associated stress and frustration, hallucinations and delusions, an abnormal perception regarding sex and/or sexual behavior, engaging in conversations regarding sex, using what may be considered "foul language," aggressive sexual behavior, touching and/or grabbing other individuals, making obscene gestures, disrobing in public, public masturbation, requesting health care

that involves genital touching, restlessness due to recurrent sexually-driven thoughts, sleep disturbances due to recurrent sexually-driven thoughts, changes in sexual behavior, and hypersexuality (note: hypersexuality may refer to the presences of recurrent and intense sexually driven fantasies, urges, and actions that may include the repetitive engagement in sexual behavior despite the risk for harm) (De Giorgi & Series, 2016).

Depression

Depression may also come to mind when considering older adult patient populations. Specific information regarding depression may be found below. The information found below was derived from materials provided by the National Institute of Mental Health (National Institute of Mental Health, 2020).

What is a depressive disorder?

A depressive disorder may refer to a mood disorder characterized by a persistent depressed mood and/or anhedonia, which ultimately causes significant interference in daily life (note: anhedonia may refer to a loss of interest in previously enjoyable activities). In essence, a depressive disorder may be present in individuals experiencing prolonged states of depression which interferes with daily life and individuals' ability to maintain relationships, family obligations, employment, or other important areas of functioning.

What are the risk factors associated with depressive disorders?

Clinical depression may be caused by a combination of genetic, biological, environmental, and psychological factors. Specific risk factors for depression may include: death or loss, abuse, conflict, and/or significant life events.

What are the specific types of depression?

There are many different types of depression. The different types of depression that may be found among patients include the following:

- **Major depressive disorder** - major depressive disorder may refer to a form of depression that occurs most days of the week for a period of 2 weeks or longer leading to clinically significant distress or impairment in social, occupational, or other important areas of functioning.

- **Persistent depressive disorder** - persistent depressive disorder may refer to a chronic form of depression.
- **Seasonal affective disorder** - seasonal affective disorder may refer to a mood disorder that occurs in the winter months and/or at the same time period each year.
- **Psychotic depression** - psychotic depression may refer to a form of depression which is accompanied by psychotic symptoms such as: hallucinations, delusions, and paranoia.
- **Atypical depression** - atypical depression is a condition characterized by periods of depression, which are typically resolved by "positive events."

What is the most common form or type of depression?

One of the most common forms or types of depressive disorders is major depressive disorder.

What are the signs and symptoms of a major depressive disorder?

Signs/symptoms of a major depressive disorder may include the following:

- Depressed mood
- Anhedonia (a loss of interest in previously enjoyable activities)
- Appetite changes
- Weight changes
- Sleep difficulties
- Psychomotor agitation or retardation
- Fatigue or loss of energy
- Diminished ability to think or concentrate
- Feelings of worthlessness or excessive guilt
- Suicidality

How is major depressive disorder diagnosed?

Major depressive disorder is typically diagnosed by a physician using criteria outlined in the Statistical Manual of Mental Disorders, Fifth Edition (DSM-5). An individual may be diagnosed with major depressive disorder if he or she meets the following DSM-5 criteria:

- The individual must be experiencing five or more of the following symptoms during the same 2-week period and at least one of the symptoms should be either (1) depressed mood or (2) loss of interest or pleasure:
    - Depressed mood most of the day, nearly every day.
    - Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day.
    - Significant weight loss when not dieting or weight gain, or decrease or increase in appetite nearly every day.
    - A slowing down of thought and a reduction of physical movement (observable by others, not merely subjective feelings of restlessness or being slowed down).
    - Fatigue or loss of energy nearly every day.
    - Feelings of worthlessness or excessive or inappropriate guilt nearly every day.
    - Diminished ability to think or concentrate, or indecisiveness, nearly every day.
    - Recurrent thoughts of death, recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.
- To receive a diagnosis of depression, the previous symptoms must cause the individual clinically significant distress or impairment in social, occupational, or other important areas of functioning. The symptoms must also not be a result of substance abuse or another medical condition.

What should health care professionals consider while caring for older adult patients suffering from depression?

- **Suicidal ideation** - suicidal ideation is often associated with depression. Suicidal ideation may refer to thoughts of suicide and/or thoughts of planning suicide. Health care professionals should be very aware that older adults suffering from a depressive disorder may be suicidal. Health care professionals should make every effort to identify the potential for suicide and prevent patient suicide, when applicable.
- **Substance abuse** - substance abuse is also associated with depression. Substance abuse may refer to the harmful or hazardous use of a psychoactive substance such as alcohol or illicit drugs. Health care professionals should note the following signs of alcohol and/or illicit drug use: slurred speech, an active tremor, shakiness, poor coordination, sweating, nausea, vomiting, aggression, agitation, compulsive behavior, craving, red eyes, dry mouth, drowsiness, involuntary eye movements, dilated pupils, nasal congestion, mouth sores, reduced consciousness, lack of pain sensation, intolerance to loud noise, dizziness, confusion, lack of awareness to surroundings, and needle marks.

Anxiety

In addition to depression, older adults may also suffer from anxiety. Specific information regarding anxiety may be found below. The information found below was derived from materials provided by the National Institute of Mental Health (National Institute of Mental Health, 2020).

What is an anxiety disorder?

An anxiety disorder may refer to a mental health disorder characterized by prolonged periods of persistent, excessive worry about a number of events or activities, which cause clinically significant distress or impairment in social, occupational, or other important areas of functioning (note: in regards to an anxiety disorder, excessive worry may refer to worrying when there is no specific reason/threat present or in a manner that is disproportionate to the actual risk of an event, activity, and/or situation).

What are the risk factors associated with anxiety disorders?

Research indicates that an anxiety disorder may result from a multitude of different contributors including both genetic and environmental factors. More specific risk factors for anxiety disorders include: trauma, abuse, and stress.

As it relates to this course, stress may refer to a factor that causes emotional, physical, or psychological tension. Stress in and of itself can be very impactful when it pertains to the development of an anxiety disorder. The type of stress that may result in a potential anxiety disorder may arise from a single stressful event such as: prolonged illness, unexpected death, and/or a traumatic event (e.g., accident, loss of employment, or divorce). With that said, a potential anxiety disorder may also arise from a buildup of stress from smaller events which occur in close proximity to each other (e.g., problems with employment, school, and/or personal relationships). Recognizing stress as a contributor to the development of an anxiety disorder may assist health care professionals in identifying individuals that may be suffering from a potential anxiety disorder. Reports of stress or prolonged periods of stress may be a sign that a potential anxiety disorder may be present in an individual patient.

What are the specific types of anxiety disorders?

There are many different types of anxiety disorders. The different types of anxiety disorders that may be found among patients include the following:

- **Generalized anxiety disorder** - generalized anxiety disorder may refer to a mental health disorder characterized by excessive anxiety and worry occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance), which is difficult to control and leads to clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- **Panic disorder** - a panic disorder may refer to a mental health disorder characterized by repeated panic attacks (note: a panic attack may refer to an episode of sudden feelings of intense anxiety, fear, and/or terror that reach a peak within minutes).
- **Separation anxiety disorder** - separation anxiety disorder may refer to a form of an anxiety disorder characterized by excessive worry and/or fear centered around being apart from select individuals.

- **Social anxiety disorder** - social anxiety disorder may refer to a form of an anxiety disorder characterized by irrational and excessive anxiety, worry, and/or fear regarding social situations.
- **Agoraphobia** - agoraphobia may refer to a form of an anxiety disorder characterized by fear and avoidance of places and situations, which lead to feelings of panic, helplessness, being trapped, and/or embarrassment (note: other more specific phobias may be present among patient populations).

What is the most common form or type of anxiety disorder?

One of the most common forms or types of anxiety disorders is generalized anxiety disorder.

What are the signs and symptoms of a generalized anxiety disorder?

Signs/symptoms of a generalized anxiety disorder may include the following:

- Excessive anxiety
- Excessive worry
- Restlessness
- Persistent feelings of being keyed up or on edge
- Easily fatigued
- Difficulty concentrating
- Mind feeling blank at times (mind going blank)
- Irritability
- Muscle tension
- Sleep difficulties

How is generalized anxiety disorder diagnosed?

Generalized anxiety disorder is typically diagnosed by a physician using criteria outlined in the DSM-5. An individual may be diagnosed with generalized anxiety disorder if he or she meets the following DSM-5 criteria:

- The individual exhibits excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).
- The individual finds it difficult to control the worry.
- The anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms having been present for more days than not for the past 6 months)
    - Restlessness, feeling keyed up or on edge.
    - Being easily fatigued.
    - Difficulty concentrating or mind going blank.
    - Irritability.
    - Muscle tension.
    - Sleep disturbance (difficulty falling or staying asleep, or restless, unsatisfying sleep).
- The anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- The disturbance is not attributable to the physiological effects of a substance (e.g., a drug of abuse; a medication) or another medical condition (e.g., hyperthyroidism). The disturbance is not better explained by another medical disorder (e.g., anxiety or worry about having panic attacks in panic disorder, negative evaluation in social anxiety disorder (social phobia), contamination or other obsessions in obsessive-compulsive disorder, separation from attachment figures in separation anxiety disorder, reminders of traumatic events in posttraumatic stress disorder, gaining weight in anorexia nervosa, physical complaints in somatic symptom disorder, perceived appearance flaws in body dysmorphic disorder, having a serious illness in illness anxiety disorder, or the content of delusional beliefs in schizophrenia or delusional disorder).

What should health care professionals consider while caring for older adult patients suffering from anxiety?

- **Depression** - often depression is associated with anxiety.

- **Suicidal ideation** - suicidal ideation is also associated with anxiety. Health care professionals should make every effort to identify the potential for suicide and prevent patient suicide, when applicable.
- **Substance abuse** - substance abuse is also associated with anxiety. Health care professionals should work to identify older adult patients suffering from substance abuse.

Cardiovascular Disease

Older adult patients may suffer from cardiovascular disease. Specific information regarding cardiovascular disease may be found below. The information found below was derived from materials provided by the CDC (CDC, 2020).

What is cardiovascular disease?

Cardiovascular disease may refer to a group of heart conditions that involve narrowed or blocked blood vessels, which may lead to chest pain, a heart attack, or stroke.

What are the risk factors associated with cardiovascular disease?

Risk factors associated with cardiovascular disease include the following: high blood pressure, high blood cholesterol, smoking, and obesity.

When does cardiovascular disease typically develop?

Cardiovascular disease typically develops when genetic and/or lifestyle factors cause plaque to build up in the arteries.

Health care professionals should note the following: in male patient populations the risk for cardiovascular disease typically increases at the approximate age of 45; in female patient populations the risk for cardiovascular disease typically increases at the approximate age of 55.

What are the signs and symptoms of cardiovascular disease?

Signs/symptoms of cardiovascular disease may include the following:

- Fatigue
- Consistent lightheadedness and/or dizziness

- Shortness of breath

Health care professionals should note that individuals may not experience symptoms of cardiovascular disease until they experience a heart attack, heart failure, or an arrhythmia. Health care professionals should also note the following symptoms of a heart attack, heart failure, and an arrhythmia:

- **Heart attack symptoms** - chest pain or discomfort, upper back or neck pain, indigestion, heartburn, nausea, vomiting, extreme fatigue, upper body discomfort, dizziness, and shortness of breath.
- **Heart failure symptoms** - shortness of breath, fatigue, and/or swelling of the feet, ankles, legs, abdomen, or neck veins.
- **Arrhythmia symptoms** - heart palpitations (note: a heart palpitation may refer to a sensation that the heart is racing, pounding, or fluttering).

What should health care professionals consider while caring for older adult patients with cardiovascular disease?

While caring for older adult patients with cardiovascular disease, health care professionals should consider the possibility that the following may occur: heart attack, heart failure, and arrhythmia.

Diabetes

Older adult patients may also suffer from diabetes. Specific information regarding diabetes may be found below. The information found below was derived from materials provided by the CDC (CDC, 2020).

What is diabetes?

Diabetes may refer to a chronic condition that affects how the body produces and/or responds to insulin.

Health care professionals should note that older adult patients may suffer from type 2 diabetes.

What is type 2 diabetes?

Type 2 diabetes, otherwise known as adult onset diabetes, may refer to a chronic condition that affects the way the body processes and uses insulin.

What are the risk factors associated with type 2 diabetes?

Risk factors associated with type 2 diabetes include the following: age, family history, inactivity, and obesity.

When does type 2 diabetes typically develop?

Type 2 diabetes typically develops when an individual's body becomes resistant to insulin or when an individual's pancreas is unable to produce enough insulin to meet the needs of the body.

Health care professionals should note the following: type 2 diabetes is often diagnosed in adult individuals or individuals over the age of 18.

What are the signs and symptoms of type 2 diabetes?

Signs and symptoms of type 2 diabetes include the following:

- Thirst
- Frequent urination
- Hunger
- Fatigue
- Blurred vision

What should health care professionals consider while caring for older adult patients with type 2 diabetes?

- **Hyperglycemia** - patients suffering from type 2 diabetes may experience hyperglycemia. Hyperglycemia may refer to high blood sugar and/or a condition characterized by high blood sugar. Symptoms of hyperglycemia may include: excess thirst, frequent urination, and blurred vision. Health care professionals should note the following: hyperglycemia should be avoided in older adults with diabetes.

- **Treatment goals** - while caring for older adults with type 2 diabetes, health care professionals should establish treatment goals. Health care professionals should note the following: according to research presented by the CDC, the A1C treatment goal for most individuals with diabetes is 7% or less.

Section 1: Summary

The first essential element of older adult health care is to possess insight into the syndromes, conditions, and disorders that may affect older adult patients. Some of the syndromes, conditions, and disorders that may affect older adult patients include the following: dementia, depression, anxiety, cardiovascular disease, and diabetes. Health care professionals should work to identify the aforementioned conditions in older adult patient populations to ensure older adult patients receive required care.

Section 1: Key Concepts

- The first essential element of older adult health care is to possess insight into the syndromes, conditions, and disorders that that may affect older adult patients.
- The syndromes, conditions, and disorders that may affect older adult patients include the following: dementia, depression, anxiety, cardiovascular disease, and diabetes.

Section 1: Key Terms

Older adult - an individual 65 years or older

Dementia - a cluster of symptoms centered around an inability to remember, think clearly, and/or make decisions (CDC, 2020)

Fronto-temporal dementia - a type of dementia which primarily affects the regions of the brain associated with planning, social behavior, and language perception (CDC, 2020)

Lewy body dementia - a type of dementia characterized by the presence of Lewy bodies in the cerebral cortex and the brain stem (CDC, 2020)

Cerebral cortex - a part of the brain responsible for thought processing, memory, perception, and movement (CDC, 2020)

Brain stem - a part of the brain which is responsible for basic body functions and the coordination of movements (CDC, 2020)

Lewy bodies - proteins that may form in the brain (CDC, 2020)

Vascular dementia - a type of dementia that may result from strokes and/or other issues that affect blood flow to the brain (CDC, 2020)

Parkinson's disease - a progressive disorder that affects individuals' movement (CDC, 2020)

Alzheimer's disease - an irreversible, progressive brain disorder that slowly destroys individuals' memory, thinking skills, and ability to carry out simple tasks (CDC, 2020)

Neurons - specialized cells that process and transmit information via electrical and chemical signals (CDC, 2020)

Elder abuse - an intentional act or a failure to act that causes or creates a risk of harm to an older adult (CDC, 2020)

Self-neglect - a failure to meet one's own basic needs (CDC, 2020)

Inappropriate sexual behavior (ISB) - a type of behavior that is characterized by potentially disruptive and/or inappropriate sexually driven actions (De Giorgi & Series, 2016)

Hypersexuality - the presences of recurrent and intense sexually driven fantasies, urges, and actions that may include the repetitive engagement in sexual behavior despite the risk for harm (De Giorgi & Series, 2016)

Depressive disorder - a mood disorder characterized by a persistent depressed mood and/or anhedonia, which ultimately causes significant interference in daily life (National Institute of Mental Health, 2020)

Anhedonia - a loss of interest in previously enjoyable activities (National Institute of Mental Health, 2020)

Major depressive disorder - a form of depression that occurs most days of the week for a period of 2 weeks or longer leading to clinically significant distress or impairment in social, occupational, or other important areas of functioning (National Institute of Mental Health, 2020)

Persistent depressive disorder - a chronic form of depression (National Institute of Mental Health, 2020)

Seasonal affective disorder - a mood disorder that occurs in the winter months and/or at the same time period each year (National Institute of Mental Health, 2020)

Psychotic depression - a form of depression which is accompanied by psychotic symptoms such as: hallucinations, delusions, and paranoia (National Institute of Mental Health, 2020)

Atypical depression - a condition characterized by periods of depression which are typically resolved by positive events (National Institute of Mental Health, 2020)

Suicidal ideation - thoughts of suicide and/or thoughts of planning suicide (National Institute of Mental Health, 2020)

Substance abuse - the harmful or hazardous use of a psychoactive substance such as alcohol and illicit drugs (National Institute of Mental Health, 2020)

Anxiety disorder - a mental health disorder characterized by prolonged periods of persistent, excessive worry about a number of events or activities, which cause clinically significant distress or impairment in social, occupational, or other important areas of functioning (National Institute of Mental Health, 2020)

Excessive worry *(in regards to an anxiety disorder)* - worrying when there is no specific reason/threat present or in a manner that is disproportionate to the actual risk of an event, activity, and/or situation

Generalized anxiety disorder - a mental health disorder characterized by excessive anxiety and worry occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance), which is difficult to control and leads to clinically significant distress or impairment in social, occupational, or other important areas of functioning (National Institute of Mental Health, 2020)

Panic disorder - a panic disorder may refer to a mental health disorder characterized by repeated panic attacks (National Institute of Mental Health, 2020)

Panic attack - an episode of sudden feelings of intense anxiety, fear, and/or terror that reach a peak within minutes (National Institute of Mental Health, 2020)

Separation anxiety disorder - a form of an anxiety disorder characterized by excessive worry and/or fear centered around being a part from select individuals (National Institute of Mental Health, 2020)

Social anxiety disorder - a form of an anxiety disorder characterized by irrational and excessive anxiety, worry, and/or fear regarding social situations (National Institute of Mental Health, 2020)

Agoraphobia - an anxiety disorder characterized by fear and avoidance of places and situations which lead to feelings of panic, helplessness, being trapped, and/or embarrassment (National Institute of Mental Health, 2020)

Cardiovascular disease - a group of heart conditions that involve narrowed or blocked blood vessels, which may lead to chest pain, a heart attack, or stroke (CDC, 2020)

Heart palpitation - a sensation that the heart is racing, pounding, or fluttering (CDC, 2020)

Diabetes - a chronic condition that affects how the body produces and/or responds to insulin (CDC, 2020)

Type 2 diabetes *(otherwise known as adult onset diabetes)* - a chronic condition that affects the way the body processes and uses insulin (CDC, 2020)

Hyperglycemia - high blood sugar and/or a condition characterized by high blood sugar (CDC, 2020)

Section 1: Personal Reflection Question

How can dementia, depression, anxiety, cardiovascular disease, and diabetes affect older adult patients?

Section 2: Aspects of Health Care

The second essential element of older adult health care is to identify specific aspects of health care that may be relevant and key to older adult patient care. This section of the course will review specific aspects of health care that may be relevant and key to older adult patient care.

Fall Precautions

The application of fall precautions to older adult patient populations is an aspect of health care that is both relevant and key to older adult patient care. Specific information regarding fall precautions may be found below. The information found below was derived from materials provided by the CDC (CDC, 2020).

- The term fall may refer to an event which results in an individual coming to rest on the ground or a lower level.
- Among older adults, falls are the leading cause of fatal injuries.
- The biological risk factors associated with falls include the following: muscle weakness or balance problems, medication side effects and/or interactions, chronic health conditions (e.g., arthritis and stroke), vision changes and vision loss, and loss of sensation in the feet.
- The behavioral risk factors associated with falls include the following: inactivity, risky behaviors (e.g., standing on a chair to reach an object without support), alcohol use, and illicit drug use.
- The environmental risk factors associated with falls include the following: tripping hazards (e.g. clutter; objects left on the ground), dim and/or poor lighting, lack of stair railings, and lack of grab bars inside and outside the tub or shower.
- Health care-related situations that may lead to older adult-related falls include: older adult transport from one health care facility to another (e.g., from a hospital to a long-term care facility), bathing, and dressing (i.e., putting on clothes).
- Health care professionals should screen older adult patients to determine if they are at risk for falls. Health care professionals can effectively screen older adult patients to determine if they are at risk for falls by using the Stay Independent 12-question tool. Specific information regarding the Stay Independent 12-question tool may be found below.
    - **Stay Independent 12-question tool** - the Stay Independent 12-question tool can help health care professionals determine if an older adult is at risk for falls. The Stay Independent 12-question tool includes the following questions, which older adults should honestly answer and health care professionals should appropriately score: I have fallen in the past year; I use or have been advised to use a cane or walker to get around safely; sometimes I feel unsteady when I am walking; I steady myself by holding onto furniture when walking at home; I am worried about falling; I need to push with my hands to stand up from a chair; I have some trouble stepping up onto a curb; I often have to rush to the toilet; I have lost some feeling in my feet; I take medicine that sometimes makes me feel light-headed or more tired than usual; I take medicine to help me sleep or improve my

mood; I often feel sad or depressed. Health care professionals should note the following: each "yes" answer to question 1 and 2 should receive 2 points; each "yes" answer to questions 3 - 12 should receive 1 point; each "no" answer to any of the 12 questions should receive zero points; health care professionals should add up the total number of points once the older adult patient has answered all 12 questions to the best of his or her ability. Health care professionals should also note the following: if an older adult patient's total score is 4 points or more, he or she may be at risk for falling.

- Once health care professionals screen an older adult patient and determine if the older adult patient is at risk for falls, then health care professionals should assess the older adult patient's fall risk, when applicable. Health care professionals can effectively assess older adult patients' fall risk by using the following fall risk assessment tools: Timed Up and Go, 30 Second Chair Stand, and 4-Stage Balance Test. Specific information regarding the aforementioned fall risk assessment tools may be found below.

    - **Timed Up and Go** - the Timed Up and Go fall risk assessment tool assesses an older adult patient's mobility. A health care professional will require a stopwatch to effectively conduct the Timed Up and Go fall risk assessment. During a Timed Up and Go fall risk assessment, older adult patients should wear their typical footwear and use walking aids (e.g., chain), if applicable. To begin the Timed Up and Go fall risk assessment, health care professionals should instruct older adult patients to sit back in a standard arm chair. Health care professional should then highlight or identify a line 10 feet away from the patient on the floor in front of the patient. Health care professionals should then provide older adult patients with the following instructions: when "I" say "go", stand up from the chair, walk to the line on the floor at your normal pace, turn, walk back to the chair at your normal pace, and sit down again. Health care professionals should start timing the older adult patient on the word "go." Health care professionals should also stop timing the older adult patient after the patient sits back down, and record the time. Health care professionals should note the following: an older adult who takes ≥ 12 seconds to complete the Timed Up and Go fall risk assessment is at risk for falling. Health care professionals should also note the following: during a Timed Up and Go fall risk assessment, the health care professional should stay by an older adult patient for safety reasons.

- **30 Second Chair Stand** - the 30 Second Chair Stand fall risk assessment tool assesses an older adult patient's leg strength and endurance. A health care professional will require a chair with a straight back and without arm rests as well as a stopwatch to effectively conduct the 30 Second Chair Stand fall risk assessment. To begin the 30 Second Chair Stand fall risk assessment, health care professionals should provide older adult patients with the following instructions: sit in the middle of the chair; place your hands on the opposite shoulder crossed, at the wrists; keep your feet flat on the floor; keep your back straight, and keep your arms against your chest; when "I" say "go," rise to a full standing position, then sit back down again; repeat the aforementioned action for 30 seconds. Health care professionals should start timing the older adult patient on the word "go;" count the number of times the older adult patient comes to a full standing position in 30 seconds; and record the number of times the older adult patient stands in 30 seconds. Health care professionals should note the following: if the older adult patient must use his or her arms to stand, stop the test, health care professionals should record “0” for the number and score; if the older adult patient is over halfway to a standing position when 30 seconds have elapsed, health care professionals should count it as a stand. Health care professionals should also note the following 30 Second Chair Stand below average scores: for men between the ages of 60 - 64 years a below average score is < 14; for women between the ages of 60 - 64 years a below average score is < 12; for men between the ages of 65 - 69 years a below average score is < 12; for women between the ages of 65 - 69 years a below average score is < 11; for men between the ages of 70 - 74 years a below average score is < 12; for women between the ages of 70 - 74 years a below average score is < 10; for men between the ages of 75 - 79 years a below average score is < 11; for women between the ages of 75 - 79 years a below average score is < 10; for men between the ages of 80 - 84 years a below average score is < 10; for women between the ages of 80 - 84 years a below average score is < 9; for men between the ages of 85 - 89 years a below average score is < 8; for women between the ages of 85 - 89 years a below average score is < 8; for men between the ages of 90 - 94 years a below average score is < 7; for women between the ages of 90 - 94 years a below average score is < 4. Additionally, health care professionals should note the following: a below average 30 Second Chair Stand score indicates the patient is at risk for falls. Furthermore, health care professionals should

note the following: during a 30 Second Chair Stand fall risk assessment, the health care professional should stay by an older adult patient for safety reasons.

- **4-Stage Balance Test** - the 4-Stage Balance Test assessment tool assesses an older adult patient's static balance. A health care professional will require a stopwatch to effectively conduct the 4-Stage Balance Test. During a 4-Stage Balance Test, older adult patients should keep their eyes open and should not use walking aids (e.g., canes; walkers), if applicable. To begin the 4-Stage Balance Test, health care professionals should provide older adult patients with the following instructions: "I'm" going to show you four positions; after I show you the positions try to stand in each position for 10 seconds; "you" can hold your arms out, or move your body to help keep your balance, but don't move your feet; for each position "I" will say, "ready, begin;" then, I will start timing; after 10 seconds, "I" will say, "stop;" when "I" say "stop" you may stop holding the position and return to a standing position of rest. Health care professionals should then demonstrate the following four positions to the older adult patient: Position 1 - feet side-by-side; Position 2 - the instep of one foot should be touching the big toe of the other foot; Position 3 - one foot in front of the other with the heel touching the toes; Position 4 - stand on one foot. Once each of the positions is clear to the older adult patient, health care professionals should then stand next to the older adult patient, hold his or her arms, and help the older adult patient assume the correct position. When the patient is steady, the health care professionals should let go, and time how long the older adult patient can maintain the position. Health care professionals should note the following: if the older adult patient can hold a position for 10 seconds without moving his or her feet or needing support, the health care professionals should then move on to the next position; if the older adult patient cannot hold a position for 10 seconds without moving his or her feet or needing support, the health care professional should not move on to the next position and should stop the test. Health care professionals should also note the following: an older adult patient who cannot hold Position 3 (otherwise referred to as the tandem stand) for at least 10 seconds is at an increased risk of falling. Additionally, health care professionals should note the following: during a 4-Stage Balance Test, health care professionals should remain ready to assist the patient if they should lose their balance.

- When assessing older adult patients' fall risk, health care professionals should examine older adults' visual acuity (note: a lack of visual acuity/diminished visual acuity may lead to falls). Visual acuity may refer to the clarity of vision that may be determined by testing an individual's ability to discern letters or numbers at a given distance according to a fixed standard. To effectively examine an older adult patient's visual acuity, health care professionals should utilize visual assessment tools such as the Snellen eye test. The Snellen eye test may refer to a visual acuity test that may be used to determine the smallest letters an individual can read on a standardized chart held 20 feet away from the individual. To effectively use a Snellen eye test to assess an older adult patient's visual acuity, health care professionals should follow the steps found below.
    - **Step 1** - place the standardized Snellen eye test chart 20 feet away from the older adult patient, who may be standing or sitting, in an area that is clearly visible (note: health care professionals should ensure the standardized Snellen eye test chart is adequately illuminated with natural or artificial light).
    - **Step 2** - ask the older adult patient to cover one of his or her eyes with a provided eye occluder (note: an eye occluder may refer to a tool that may be used to occlude either eye without pressure) or with one of his or her hands (note: eye occluders should be adequately sterilized before the Snellen eye test; older adult patients should be instructed to wash and dry their hands before a Snellen eye test, especially if they will be asked to use their hands to cover their eyes).
    - **Step 3** - instruct the patient to read each line of the standardized Snellen eye test chart, starting from the top of the chart while one eye is covered (note: older adult patients should be wearing any required corrective lens during the test, when applicable).
    - **Step 4** - record/document relevant older adult patient information.
    - **Step 5** - ask the older adult patient to cover his or her other/opposite eye (i.e., the eye that has not been covered) with a provided eye occluder or with one of his or her hands (note: eye occluders should be adequately sterilized before the Snellen eye test; older adult patients should be instructed to wash and dry their hands before a Snellen eye test, especially if they will be asked to use the hands to cover their eyes).

- **Step 6** - instruct the patient to read each line of the standardized Snellen eye test chart, starting from the top of the chart while one eye is covered (note: older adult patients should be wearing any required corrective lens during the test, when applicable).
- **Step 7** - record/document relevant older adult patient information.

- When assessing older adult patients' fall risk, health care professionals should measure older adult patients' orthostatic blood pressure (note: changes in orthostatic blood pressure may lead to falls). Orthostatic blood pressure may refer to a form of blood pressure that occurs when standing up from sitting or lying down. To effectively measure an older adult patient's orthostatic blood pressure, health care professionals should follow the steps found below.
    - **Step 1** - instruct the older adult patient to lie down for five minutes.
    - **Step 2** - measure the older adult patient's blood pressure and pulse rate after the older adult patient has been lying down for five minutes and while the older adult patient is laying down.
    - **Step 3** - instruct the older adult patient to stand up (note: health care professionals should stay by an older adult patient when he or she is standing up for safety reasons, when applicable).
    - **Step 4** - measure the older adult patient's blood pressure and pulse rate after the older adult patient has been standing for one minute and while the older adult patient is standing.
    - **Step 5** - measure the older adult patient's blood pressure and pulse rate after the older adult patient has been standing for three minutes and while the older adult patient is standing.
    - **Step 6** - record/document relevant older adult patient information (e.g., patient blood pressure and pulse rate while lying down; patient blood pressure and pulse rate while standing up and after standing for one minute; patient blood pressure and pulse rate while standing up and after standing for three minutes). Health care professionals should note the following: a drop in BP of ≥ 20 mm Hg, or in diastolic BP of ≥ 10 mm Hg is considered abnormal; if the older adult patient experiences lightheadedness or dizziness it is considered abnormal.

- When assessing older adult patients' fall risk, health care professionals should identify medications that may increase older adult patients' fall risk (note: medications from specific medication classes may be associated with an increased fall risk). Health care professionals should note the following medication classes that may be associated with an increased fall risk when used in older adult patient populations: anticonvulsants, antidepressants, antipsychotics, benzodiazepines, opioids, and sedatives-hypnotics. Health care professionals should also note the following: when encountering or caring for older adult patients on any medications form the aforementioned medication classes, health care professionals should work to stop, discontinue, or taper older adult patients off any medications from the aforementioned medication classes, switch medications from the aforementioned medication classes to alternatives, and reduce medication doses from the aforementioned medication classes to the lowest effective dose, when applicable. Additionally, health care professionals should note the following: health care professionals should review other older adult patients' prescription drugs, over-the-counter medications, and herbal supplements to determine if they are causing the older adult patient dizziness, sedation, confusion, blurred vision, and/or orthostatic hypotension.
- When assessing older adult patients' fall risk, health care professionals should evaluate older adult footwear (note: some types of footwear may be associated with an increased fall risk). Health care professionals should note that wearing socks without shoes, ill-fitting shoes, high heel shoes, and slippers may be associated with an increased fall risk (note: walking around barefoot may also be associated with an increased fall risk). Health care professionals should note the following: when encountering or caring for older adult patients, health care professionals should work to evaluate older adult footwear by examining older adult footwear and by asking older adults relevant questions (e.g., do you often wear socks without shoes; what size shoe are you; how do your shoes fit; do you often wear shoes that do not fit; do you often wear high heel shoes or shoes with heels; do you often wear slippers; do you often walk around barefoot). Health care professionals should also note the following: health care professionals should educate older adult patients about the importance of adequate footwear and encourage older adult patients to avoid wearing socks without shoes, ill-fitting shoes, high heel shoes, and slippers. Additionally, health care professionals should note the following: older adult patients should be informed about the dangers of walking around barefoot for extended periods of time (e.g., slipping and falling;

stubbing a toe and falling); older adult patients should be encouraged to avoid walking around barefoot.

- When assessing older adult patients' fall risk, health care professionals should evaluate older adult vitamin D intake. Health care professionals should note the following: vitamin D can play an important role in bone strength; vitamin D deficiency may be associated with an increased fall risk. Health care professionals should also note the following: health care professionals should encourage older adult patients to take, at least, 800 IU per day of vitamin D with calcium, when applicable.
- Finally, health care professionals should apply the following specific fall precautions to older adult patients: familiarize the patient with his or her environment; have the patient demonstrate call light use; maintain the call light within patient reach; keep a patient's personal possessions within safe reach of the patient; have sturdy handrails in patient bathrooms, rooms, and hallways; place the patient's bed in a low position when a patient is resting in bed; raise the patient's bed to a comfortable height when the patient is transferring out of bed; keep patient bed brakes locked; keep wheelchair wheel locks in the locked position when stationary; keep non slip, comfortable, well-fitting footwear on the patient; use night lights or supplemental lighting; keep floor surfaces clean and dry; clean up all spills promptly; keep patient care areas uncluttered; follow safe patient handling practices. Health care professionals should note the following: fall precautions constitute the basics of patient safety and should be applied in all health care facilities to all patients.

Pain Assessment

Older adult patients often suffer from pain (note: pain may refer to an unpleasant sensory and emotional experience arising from actual or potential tissue damage) (World Health Organization [WHO], 2019). Thus, health care professionals should possess insight on how to effectively assess an older adult patient's pain. Health care professionals can effectively assess an older adult patient's pain by using the following pain assessment tools: a simple numerical pain intensity scale, the Wong/Baker faces rating scale, the Pain Assessment in Advanced Dementia (PAINAD) scale, and the Critical-Care Pain Observation Tool (CPOT). Specific information regarding each of the aforementioned pain assessment tools may be found below. The information found below was derived from materials provided by the World Health Organization (WHO) (WHO, 2019).

- **A simple numerical pain intensity scale** - within the context of this course, a simple numerical pain intensity scale, when applied to pain assessment, may refer to a numerically based method, which may be used by health care professionals to help patients rate their pain from 0 - 10, with 0 meaning no pain and 10 meaning severe pain or worst possible pain. A simple numerical pain intensity scale may be relatively uncomplicated and/or straightforward - however, it may be the most efficient way for health care professionals to obtain pain-related information from a patient. Health care professionals should note that simple numerical pain intensity scales may be incorporated into other pain assessment guides, scales, and tools.

- **The Wong/Baker faces rating scale** - within the context of this course, the Wong/Baker faces rating scale may refer to a pain assessment tool consisting of faces associated with numerical values. The Wong/Baker faces rating scale includes faces with different simplified facial expressions, which are associated with a numerical pain intensity scale ranging from 0 - 10 (i.e., each face of the Wong/Baker faces rating scale is associated with a numerical value and an expression of pain). To use the scale efficiently, a health care professional only has to show the scale to patients and ask them to select a face that best represents how their experience of pain is making them feel. By simply pointing to an easy to understand picture of a face in pain, patients can provide health care professionals with a pain rating from 0 - 10, as well as valuable insight into their individual experience of pain. Health care professionals should note that the Wong/Baker faces rating scale may be ideal for older adult patients, patients with language barriers, and patients that simply have trouble associating a numerical value with their experience of pain.

- **The Pain Assessment in Advanced Dementia (PAINAD) scale** - within the context of this course, the PAINAD scale may refer to a pain assessment tool that can be used by health care professionals to assess pain in older adult patients with advanced dementia. The PAINAD scale is divided into the following five categories: breathing independent of vocalization, negative vocalization, facial expression, body language, and consolability. Each of the previous categories have specific criteria that are associated with numerical values. To use the scale effectively, health care professionals should observe patients and score the previous categories accordingly. Once each category has been scored, health care professionals may then tabulate the category scores to arrive at a total pain-associated value. Health care professionals should note that the PAINAD scale total

pain-associated value should be between 0 - 10, with 0 meaning no pain and 10 meaning severe pain or worst possible pain.

- **The Critical-Care Pain Observation Tool (CPOT)** - within the context of this course, the CPOT may refer to a pain scale that relies on the observations of health care professionals to assess critically ill older adult patients that may have difficulties communicating relevant pain information. The CPOT rates/scores pain on a scale from 0 - 8 and is broken down into the following four categories: facial expression, body movements, compliance with a ventilator for intubated patients or vocalization for extubated patients, and, finally, muscle tension. To use the scale effectively, health care professionals should observe patients and score the previous categories accordingly. After the completion of each category, category scores can then be added up to provide a patient's final pain rating/score. Health care professionals should note the following: when utilizing the CPOT, patient muscle tension should be evaluated by passive flexion and extension of upper extremities.

Impaired Skin Integrity and Managing Impaired Skin Integrity

Older adult patients may be at a higher risk for impaired skin integrity, when compared to other patient populations. Therefore, health care professionals should possess insight into impaired skin integrity to best serve older adult patients. Specific information regarding impaired skin integrity may be found below. The information found below was derived from materials provided by the Joint Commission (Joint Commission, 2016).

- The term skin integrity may refer to skin health. Health care professionals should note that healthy skin does not, typically, show damage, disruption, or loss of functionality; healthy skin is, essentially, intact skin.
- Impaired skin integrity may refer to a skin diagnosis that can be used to identify relatively unhealthy skin that may show damage, disruption, loss of functionality, and/or may not be intact.
- The risk factors associated with impaired skin integrity include the following: pressure, trauma, moisture, injury involving the skin, immobility, poor nutrition, poor hydration, inadequate hygiene, impaired mental status, and age.
- Older adults are at a higher risk for impaired skin integrity due to the degenerative changes that occur to the skin over time.

- Health care professionals may adequately identify, evaluate, and assess impaired skin integrity by conducting an adequate patient assessment. An adequate patient assessment, as it relates to the presence of impaired skin integrity, is one that safely and effectively identifies impaired skin integrity, while attempting to determine the potential cause, type, intensity, pain, and related complications associated with impaired skin integrity. Health care professionals should note that impaired skin integrity-related patient assessments may occur at any point in the health care process and may be used to both identify and monitor impaired skin integrity. Health care professionals should also note that an adequate patient assessment regarding impaired skin integrity may include the following elements: etiology determination, nutritional and hydration status determination, mobility determination, impaired tissue integrity/condition, wound characteristics, recognition of high-risk areas, pressure injury evaluation, signs of itching, patient pain and discomfort, patient vital signs, patient management goals, and health care documentation.

- When assessing older adult patients, it is important for health care professionals to determine the etiology of impaired skin integrity (i.e., the cause(s) of the unhealthy skin/the cause of the observed skin damage, disruption, and/or loss of functionality). Etiology determination is important because the cause of a patient's unhealthy skin may play a vital role in determining safe and effective methods to address impaired skin integrity. As previously mentioned, potential causes of impaired skin integrity include the following factors: pressure, trauma, moisture, injury involving the skin, immobility, poor nutrition, poor hydration, inadequate hygiene, impaired mental status, and age. Health care professionals should note the following: when attempting to determine the etiology of impaired skin integrity, health care professionals should work to obtain information that may be relevant to an individual patient's specific impaired skin integrity such as the following: is the impaired skin integrity related to an acute wound or chronic wound, is the impaired skin integrity related to a burn, is the impaired skin integrity related to a dermatological lesion, and/or can the impaired skin integrity be classified as a type of skin ulcer(note: the term skin ulcer, in the context of this course, may refer to an open sore or wound on the skin).

- An older adult patient's mobility or lack of mobility can also play an important role in determining the etiology of impaired skin integrity. Health care professionals should note the following: patients with decreased mobility may be at a higher risk for impaired skin integrity.

- When assessing older adult patients, health care professionals should devote a portion of their attention to impaired skin integrity-related high-risk areas. Such high-risk areas include areas of the skin that cover: the shoulders, elbows, knees, as well as the tailbone and hip bones. Such areas are high risk because they cover bony prominences of the human body, which are especially susceptible to extended pressure and, thus, especially susceptible to impaired skin integrity. Health care professionals should note the following: if a patient is experiencing impaired skin integrity in a high risk area, the area should be monitored and routinely observed; health care professionals should make special efforts to address impaired skin integrity in high-risk areas in a timely manner; a failure to address impaired skin integrity in high-risk areas in a timely manner may result in extended damage, disruption, and loss of functionality; a failure to address impaired skin integrity in high-risk areas in a timely manner may also result in infections, which often possess the potential for high patient morbidity and mortality rates; patients with decreased mobility may be at a higher risk for impaired skin integrity in high-risk areas. Health care professionals should also note that high-risk areas may be vulnerable to pressure injuries; health care professionals should evaluate the presence of pressure injuries when assessing patients.

- A pressure injury, also referred to as a pressure ulcer or bedsore, may refer to localized damage to the skin and/or underlying soft tissue, usually over a bony prominence. Pressure injuries typically result from intense and/or prolonged pressure. A pressure injury can present as intact skin or an open ulcer. Pressure injuries can be painful to patients, and typically affect high-risk patient populations such as older adults. When evaluating the presence of pressure injuries, health care professionals should attempt to identify the stage or type of pressure injury. Specific information regarding the different stages/types of pressure injuries may be found below.

    - **Stage 1 pressure injury** - Stage 1 pressure injuries are characterized by intact skin with a localized area of non-blanchable erythema (i.e., Stage 1 pressure injuries are characterized by a superficial reddening of the skin that, when pressed, does not turn white).

    - **Stage 2 pressure injury** - Stage 2 pressure injuries are characterized by partial-thickness skin loss with exposed dermis; a stage 2 pressure injury wound bed is typically viable, pink or red, moist, and may present as an

intact or ruptured serum-filled blister; adipose (fat) is not visible and deeper tissues are not visible; granulation tissue, slough and eschar are not present.

- **Stage 3 pressure injury** - Stage 3 pressure injuries are characterized by full-thickness loss of skin, in which adipose (fat) is visible in the ulcer and granulation tissue and epibole are often present; slough and/or eschar may be visible; the depth of tissue damage varies by anatomical locations; undermining and tunneling may occur; fascia, muscle, tendon, ligament, cartilage, and/or bone are not exposed.
- **Stage 4 pressure injury** - Stage 4 pressure injuries are characterized by full-thickness skin and tissue loss with exposed or directly palpable fascia, muscle, tendon, ligament, cartilage, or bone in the ulcer; slough and/or eschar maybe visible; epibole, undermining, and/or tunneling often occur; depth varies by anatomical location.
- **Unstageable pressure injury** - unstageable pressure injuries are characterized by full-thickness skin and tissue loss in which the extent of the tissue damage within the ulcer cannot be confirmed because it is obscured by slough or eschar; if slough or eschar is removed, a Stage 3 or Stage 4 pressure injury may be revealed. Health care professionals should note the following regarding an unstageable pressure injury: stable eschar on an ischemic limb of the heel(s) should not be removed.
- **Deep tissue pressure injury** - deep tissue pressure injuries are characterized by intact or non-intact skin with localized area or persistent non-blanchable deep red, maroon, purple discoloration or epidermal separation revealing a dark wound bed or blood-filled blister; pain and temperature changes often preceded skin color changes; discoloration may appear differently in darkly pigmented skin. Health care professionals should note the following regarding a deep tissue pressure injury: deep tissue pressure injuries typically result from intense and/or prolonged pressure and shear forces at the bone-muscle interface; the wound may evolve rapidly to reveal the actual extent of tissue injury, or may resolve without tissue loss; if necrotic tissue, subcutaneous tissue, granulation tissue, fascia, muscle, or other underlying structures are visible, this indicates a full-thickness pressure injury (unstageable, Stage 3 or Stage 4).

    - **Medical device-related pressure injury** - medical device-related pressure injuries result from the use of devices designed and applied for diagnostic or therapeutic purposes. Health care professionals should note the following: a medical device-related pressure injury generally conforms to the pattern or shape of the device; the injury should be staged according to the aforementioned stages.

    - **Mucosal membrane pressure injury** - a mucosal membrane pressure injury may be found on mucous membranes with a history of medical device use at the location of the injury. Health care professionals should note the following: due to the anatomy of the tissue, typically, mucosal membrane pressure injuries cannot be staged.

- Skin moisturizers may be used to address and manage impaired skin integrity. Essentially, skin moisturizers help prevent skin drying and subsequent skin damage. Health care professionals should note that skin moisturizers may be available as an ointment, cream, or lotion. Health care professionals should also note the following: individuals may apply skin moisturizers after bathing.

- Positioning and mobilization may be an option when addressing and managing pressure injuries. As previously mentioned, a pressure injury, also referred to as a pressure ulcer and/or bedsore, may refer to localized damage to the skin and/or underlying soft tissue, usually over a bony prominence. Pressure injuries typically result from intense and/or prolonged pressure due to immobility. Thus, patient positioning and mobilization may be used by health care professionals to help limit the damage associated with pressure injuries and/or to help prevent the occurrence of pressure injuries in high-risk patient populations (e.g., older adult patients). The key elements of positioning and mobilization include the following: repositioning at-risk patients, if not contraindicated; scheduling and planning patient repositioning, when applicable; the use of pressure-relieving devices; considerations regarding patient body size, level of immobility, exposure to shear, skin moisture, and perfusion when choosing a support surface. Health care professionals should consider the aforementioned key elements when applying positioning and mobilization to patients at-risk or suffering from pressure injuries.

- Finally, some patients may require antibiotics to help address and manage their impaired skin integrity and/or any infections that may result from impaired skin integrity. Some of the more common antibiotics that may be used to address and manage impaired skin integrity and/or any infections that may result from

impaired skin integrity include: amoxicillin/clavulanate, cephalexin, clindamycin, levofloxacin, doxycycline, Bactrim and vancomycin.

Adequate Personal Hygiene

Adequate personal hygiene may not be one of the first aspects of health care that comes to mind when considering older adult patient populations - however, adequate personal hygiene is both relevant and key to older adult patient care. Personal hygiene may refer to a series of practices that sustain the body's cleanliness in order to maintain healthy skin integrity, as well as overall health and well-being (note: adequate personal hygiene can help prevent the spread of diseases among older adult patients) (National Institute on Aging, 2020). Important aspects of adequate personal hygiene include the following: bathing regularly, water use, skin cleansing product use, drying, and mouth care (National Institute on Aging, 2020). Specific information regarding the aforementioned important aspects of adequate personal hygiene may be found below. The information found below was derived from materials provided by the National Institute on Aging (National Institute on Aging, 2020).

- **Bathing regularly** - bathing regularly can help prevent the spread of infections and diseases among older adult patients. It can also have a positive psychological impact on older adult patients. Bathing regularly can help older adult patients: feel better about themselves, improve upon their self-esteem, improve self-image, feel more relaxed, maintain their dignity, and feel like they have some semblance of control over their health and well-being. With the previous concepts in mind, health care professionals should note the following: before the older adult bathing process begins, health care professionals should get bathing necessities (e.g., soap) ready to ease the bathing process; health care professionals should make sure the bathing area is warm and well lit; during the bathing process, health care professionals should never leave a confused older adult patient alone; health care professionals should ensure water temperature is comfortable for the older adult patient; health care professionals should use a hand-held showerhead for safety reason, when applicable; health care professionals should ensure a rubber bath mat, safety bars, and other related safety items are located in the older adult bathing area; health care professionals should use a sturdy shower chair to support an older adult patient who is unsteady in order to prevent falls; health care professionals should maintain older adult patient bathing education, schedules, and routines.

- **Water use** - the use of water is a fundamental aspect of adequate personal hygiene. It has been argued that without the effective use of water there can be no adequate personal hygiene. Effective water use in personal hygiene occurs when water is used to clean the skin in a manner that does not jeopardize skin integrity and/or lead to or cause further impaired skin integrity. To ensure older adult patients are effectively using water when engaging in personal hygiene, health care professionals should provide older adult patients with the following education points: use warm water when engaging in personal hygiene rather than hot water or extremely hot water to reduce the risk of dehydrating the skin; do not bath or shower for long periods of time to reduce the risk of dehydrating the skin and compromising skin integrity; do not over-clean (e.g., bathing and/or showering to frequently and/or for excessive periods of time) (note: over-cleaning the skin may lead to itching, dryness, and compromised skin integrity).

- **Skin cleansing product use** - the use of a skin cleansing product is another fundamental aspect of adequate personal hygiene. The term skin cleansing product may refer to any product designed to clean the human body while removing dirt, bacteria, dead skin cells, and/or other substances from the skin. Health care professionals should consider encouraging older adult patients to use emollient–based soap substitutes and/or bath emollients, when applicable. Emollient–based soap substitutes and bath emollients are, typically, designed to remove dirt, bacteria, dead skin cells, and/or other substances from the skin, while avoiding skin barrier breakdown, dryness, and irritation. Health care professionals should note the following: emollient–based soap substitutes and bath emollients are designed to promote skin integrity; it is important for health care professionals to consider patient preferences when selecting or determining which emollient–based soap substitutes and/or bath emollients may be used within health care facilities.

- **Drying** - drying, as it relates to adequate personal hygiene, may refer to the act of removing moisture and/or water from the body/skin after a personal hygiene routine, including water and a skin cleansing product, is completed (e.g., a traditional bath or shower). The act of drying the body and skin is essential to personal hygiene, skin integrity, and overall health because it can help older adult patients prevent and avoid maceration. Maceration, as it relates to adequate personal hygiene, may refer to skin breakdown resulting from prolonged moisture. Health care professionals should note the following: older adult patients should be

encouraged to pat or gently rub their skin when engaging in drying to help prevent related irritation and skin damage; older adult patients should be encouraged to use soft cloths to dry their skin in order to help prevent related irritation and skin damage.

- **Mouth care** - mouth care may refer to the act of maintaining oral hygiene. Aspects of mouth care may include methods to clean teeth and gums. Health care professionals should note the following: older adult patients should be encouraged to brush their teeth twice a day with fluoride toothpaste, floss regularly, and clean their dentures, when applicable.
- **Dressing** - after older adult patients have completed their personal hygiene routines, health care professionals should help older adult patients dress (i.e., put on clothes). Health care professionals should note the following: to ease the dressing process, health care professionals should lay out older adult patients' clothing, hand older adult patients their clothes as they dress (i.e., hand older adult patients their clothes in the order they should be put on), ensure older adult patients' shoes are tied, when applicable, and remain ready to assist older adult patients if they should require additional assistance and/or lose their balance.

Adequate Hydration and Nutrition

The process of maintaining adequate hydration and nutrition is often a specific aspect of health care that is relevant and key to older adult patient care. Information regarding adequate hydration and nutrition may be found below. The information found below was derived from materials provided by the (U.S. Department of Health and Human Services, 2015).

- Older adult patients should receive between 2 - 2.5 liters of fluid per day unless they are medically restricted. Health care professionals should note that the total amount of fluid per day for an older adult patient may depend on factors such as environmental temperatures and patient physical activity levels.
- Male individuals ages 61 - 65 years who are sedentary should take in approximately 2,000 calories per day; male individuals ages 61 - 65 years who are moderately active should take in approximately 2,400 calories per day; male individuals ages 61 - 65 years who are active should take in approximately 2,600 calories per day.

- Female individuals ages 61 - 65 years who are sedentary should take in approximately 1,600 calories per day; female individuals ages 61 - 65 years who are moderately active should take in approximately 1,800 calories per day; female individuals ages 61 - 65 years who are active should take in approximately 2,000 calories per day.
- Male individuals ages 66 - 70 years who are sedentary should take in approximately 2,000 calories per day; male individuals ages 66 - 70 years who are moderately active should take in approximately 2,200 calories per day; male individuals ages 66 - 70 years who are active should take in approximately 2,600 calories per day.
- Female individuals ages 66 - 70 years who are sedentary should take in approximately 1,600 calories per day; female individuals ages 66 - 70 years who are moderately active should take in approximately 1,800 calories per day; female individuals ages 66 - 70 years who are active should take in approximately 2,000 calories per day.
- Male individuals ages 71 - 75 years who are sedentary should take in approximately 2,000 calories per day; males individuals ages 71 - 75 years who are moderately active should take in approximately 2,200 calories per day; male individuals ages 71 - 75 years who are active should take in approximately 2,600 calories per day.
- Female individuals ages 71 - 75 years who are sedentary should take in approximately 1,600 calories per day; female individuals ages 71 - 75 years who are moderately active should take in approximately 1,800 calories per day; female individuals ages 71 - 75 years who are active should take in approximately 2,000 calories per day.
- Male individuals 75 years and older who are sedentary should take in approximately 2,000 calories per day; Male individuals 75 years and older who are moderately active should take in approximately 2,200 calories per day; male individuals 75 years and older who are active should take in approximately 2,400 calories per day.
- Female individuals 75 years and older who are sedentary should take in approximately 1,600 calories per day; Female individuals 75 years and older who are moderately active should take in approximately 1,800 calories per day; female

individuals 75 years and older who are active should take in approximately 2,000 calories per day.

- Individuals should follow a healthy eating pattern across their lifespan (note: an eating pattern may refer to the combination of foods and beverages that constitute an individual's complete dietary intake over time; an eating pattern may describe a customary way of eating or a combination of foods recommended for consumption). All food and beverage choices matter. Individuals should choose a healthy eating pattern at an appropriate calorie level to help achieve and maintain a healthy body weight, support nutrient adequacy, and reduce the risk of chronic disease.
- Individuals should focus on variety, nutrient density, and amount. To meet nutrient needs within calorie limits, individuals should choose a variety of nutrient-dense foods across and within all food groups in recommended amounts.
- Individuals should limit calories from added sugars and saturated fats and reduce sodium intake. Additionally, individuals should consume an eating pattern low in added sugars, saturated fats, and sodium; cut back on foods and beverages higher in these components to amounts that fit within healthy eating patterns.
- Individuals should shift to healthier food and beverage choices. Additionally, individuals should choose nutrient-dense foods and beverages across and within all food groups in place of less healthy choices; consider cultural and personal preferences to make these shifts easier to accomplish and maintain.
- Individuals should support healthy eating patterns for all (note: everyone has a role in helping to create and support healthy eating patterns in multiple settings nationwide, from home to school to work to communities).
- Individuals should consume a healthy eating pattern that accounts for all foods and beverages within an appropriate calorie level.
- A healthy eating pattern includes:
    - A variety of vegetables from all of the subgroups - dark green, red and orange, legumes (beans and peas), starchy, and other
    - Fruits, especially whole fruits
    - Grains, at least half of which are whole grains

    - Fat-free or low-fat dairy, including milk, yogurt, cheese, and/or fortified soy beverages
    - A variety of protein foods, including seafood, lean meats and poultry, eggs, legumes (beans and peas), and nuts, seeds, and soy products
    - Oils
- A healthy eating pattern limits saturated fats, trans fats, added sugars, and sodium.
- Individuals should consume less than 10 percent of calories per day from added sugars.
- Individuals should consume less than 10 percent of calories per day from saturated fats.
- Individuals should consume less than 2,300 milligrams (mg) per day of sodium.

Physical Activity

Along with hydration and nutrition, physical activity is typically a specific aspect of health care that is relevant and key to older adult patient care. Information regarding physical activity for older adult patients may be found below. The information found below was derived from materials provided by the U.S. Department of Health and Human Services (U.S. Department of Health and Human Services, 2015).

- Physical activity may refer to any bodily movement produced by the contraction of skeletal muscle that increases energy expenditure above a basal level; generally refers to the subset of physical activity that enhances health.
- All adults (note: in the context of physical activity, the term adult may refer to any individual between the ages of 18 to 64 years) should avoid inactivity. Some physical activity is better than none, and adults who participate in any amount of physical activity gain some health benefits.
- For substantial health benefits, adults should do at least 150 minutes (2 hours and 30 minutes) a week of moderate-intensity, or 75 minutes (1 hour and 15 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. Aerobic activity should be performed in episodes of at least 10 minutes, and preferably, it should be spread throughout the week.

- For additional and more extensive health benefits, adults should increase their aerobic physical activity to 300 minutes (5 hours) a week of moderate-intensity, or 150 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity activity. Additional health benefits are gained by engaging in physical activity beyond this amount.
- Adults should also include muscle-strengthening activities that involve all major muscle groups on 2 or more days a week.
- Older adults should follow the adult guidelines. When older adults cannot meet the adult guidelines, they should be as physically active as their abilities and conditions will allow.
- Older adults should do exercises that maintain or improve balance if they are at risk of falling.
- Older adults should determine their level of effort for physical activity relative to their level of fitness.
- Older adults with chronic conditions should understand whether and how their conditions affect their ability to do regular physical activity safely.

Medication Administration

Lastly, medication administration is an aspect of health care that is often relevant and key to older adult patient care. Medication administration, within the context of this course, may refer to the act or process of distributing medications to patients for the purposes of therapy. Specific information regarding medication administration may be found below. The information found below was derived from materials provided by the United States Food and Drug Administration (FDA) (United States Food and Drug Administration [FDA], 2020).

- When administering medication to older adult patients, health care professionals should be aware of maximum doses (e.g., the recommended maximum dose of trazodone is 400 mg per day in divided doses).
- When administering medications to older adult patients, health care professionals should be aware of medications that require renal or hepatic dosing (e.g., meropenem requires dose adjustment if a patient's creatinine clearance is 50 mL/min or less).

- When administering medications to older adult patients, health care professionals should be aware of medications' side effects and how medication side effects may affect patients (e.g., Ativan may cause sedation, which in turn may lead to older adult patient falls).
- When administering medications to older adult patients, health care professionals should be aware of potential medication interactions and how potential medication interactions may affect patients (note: in addition to medications interactions, health care professionals should be aware of any potential herbal/ supplement products that may interact with medications).
- When administering medications to older adult patients, health care professionals should be aware of the warnings and precautions associated with each medication (e.g., warnings and precautions associated with ciprofloxacin include the following: serious and sometimes fatal reactions [e.g., anaphylactic reactions] may occur after the first or subsequent doses of ciprofloxacin; discontinue ciprofloxacin at the first sign of skin rash, jaundice or any sign of hypersensitivity; discontinue immediately if signs and symptoms of hepatitis occur; Clostridium difficile-associated colitis may occur; evaluate patient if diarrhea occurs; prolongation of the QT interval and isolated cases of torsade de pointes have been reported; avoid use in patients with known prolongation, those with hypokalemia, and with other drugs that prolong the QT interval).
- When administering medications to older adult patients, health care professionals should be aware of medications that require monitoring (e.g., vancomycin and clozapine). Specific information regarding vancomycin and clozapine may be found below.
    - **Vancomycin**

      Medication notes - vancomycin is an antibacterial indicated for adult and pediatric patients (note: vancomycin should be used only to treat or prevent infections that are proven or strongly suspected to be caused by susceptible bacteria). A typical adult dose of vancomycin is 15 mg/kg IV every 8 - 12 hours (note: a vancomycin loading dose may be required). Potential side effects of vancomycin include the following: "red man" syndrome, acute kidney injury, hearing loss, and neutropenia.

      Safety notes - contraindications associated with vancomycin include hypersensitivity to vancomycin. Warnings and precautions associated with

vancomycin include: infusion reactions are possible; administer vancomycin in a diluted solution over a period of 60 minutes or greater and also prior to intravenous anesthetic agents; systemic vancomycin exposure may result in acute kidney injury (AKI) including acute renal failure, mainly due to interstitial nephritis or less commonly acute tubular necrosis; monitor serum vancomycin concentrations and renal function; ototoxicity has occurred in patients receiving vancomycin; monitor patients for signs and symptoms of ototoxicity during therapy; Clostridium difficile-associated diarrhea is possible; evaluate patients for diarrhea; periodically monitor leukocyte count; to reduce the risk of local irritation and phlebitis administer vancomycin by a secure intravenous route of administration; prescribing vancomycin for injection in the absence of a proven or strongly suspected bacterial infection is unlikely to provide benefit to the patient and increases the risk of the development of drug resistant bacteria.

Considerations for special patient populations - vancomycin for injection is known to be substantially excreted by the kidney, and the risk of adverse reactions to this drug may be greater in patients with impaired renal function.

- **Clozapine (Clozaril)**

  Medication notes - Clozaril is an atypical antipsychotic indicated for the following: treatment-resistant schizophrenia, reducing suicidal behavior in patients with schizophrenia, and reducing suicidal behavior in patients with schizoaffective disorder. The recommended starting dose for Clozaril is 12.5 mg once daily or twice daily. The recommended maximum daily dose for Clozaril is 900 mg. Common side effects associated with Clozaril include: sedation, dizziness/vertigo, headache, tremor, constipation, nausea, sweating, and fever.

  Safety notes - contraindications associated with Clozaril include a history of clozapine-induced agranulocytosis or severe granulocytopenia and a known hypersensitivity to clozapine or any other component of Clozaril. Warnings associated with Clozaril include the following: Clozaril treatment has caused agranulocytosis, defined as an absoluteneutrophil count (ANC) less than 500/mm3; agranulocytosis can lead to serious infection and death; prior to initiating treatment with Clozaril, health care professionals should obtain a base line white blood cell (WBC) count and ANC; the ANC must be greater

than or equal to 2000 /mm3 and the WBC must be greater than or equal to 3500/mm3 for a patient to begin treatment with Clozaril; during treatment, patients must have regular monitoring of ANC and WBC; discontinue Clozaril and do not rechallenge if the ANC is less than 1000/mm3 or the WBC is less than 2000/mm3; Clozaril is available only through a restricted program called the Clozaril National Registry; prescribers, patients, and pharmacies must enroll in the program; advise patients to immediately report symptoms consistent with agranulocytosis or infection (e .g., fever, weakness, lethargy, or sore throat); ortho static hypotension, bradycardia, syncope, and cardiac arrest have occurred with Clozaril treatment; seizers have occurred with Clozaril treatment; fatal myocarditis and cardiomyopathy have occurred with Clozaril treatment; discontinue Clozaril and obtain a cardiac evaluation upon suspicion of the aforementioned reactions; older adult patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death; Clozaril is not approved for use in patients with dementia-related psychosis.

Considerations for special patient populations - health care professionals should note the following: older adult patients may be particularly susceptible to the anticholinergic effects of Clozaril, such as urinary retention and constipation; carefully select Clozaril doses in elderly patients, taking into consideration their greater frequency of decreased hepatic, renal, or cardiac function, as well as other concomitant disease and other drug therapy.

- When administering medications to older adult patients, health care professionals should be aware of high alert medications (note: the term high alert medication may refer to a heightened risk medication that may cause significant patient harm when used in error; all forms of insulin, subcutaneous and IV, are considered to be high alert medications). Information regarding specific high alert medications may be found below.

    - **Warfarin**

      Medication notes - warfarin may be one of the first medications that may come to mind when considering high alert medications. Warfarin is a vitamin K antagonist indicated for the following: prophylaxis and treatment of venous thrombosis and its extension, pulmonary embolism; prophylaxis and treatment of thromboembolic complications associated with atrial

fibrillation and/or cardiac valve replacement; reduction in the risk of death, recurrent myocardial infarction, and thromboembolic events such as stroke or systemic embolization after myocardial infarction. The dose of warfarin may be based on patient international normalized ratio (INR). Side effects associated with warfarin include fatal and nonfatal hemorrhage from any tissue or organ.

Safety notes - contraindications associated with warfarin include pregnancy, except in women with mechanical heart valves and hemorrhagic tendencies or blood dyscrasias. Warnings associated with warfarin include the following: warfarin can cause major or fatal bleeding; perform regular monitoring of INR in all treated patients; drugs, dietary changes, and other factors affect INR levels achieved with warfarin therapy; instruct patients about prevention measures to minimize risk of bleeding and to report signs and symptoms of bleeding. Additional warnings and precautions associated with warfarin include the following: necrosis or gangrene of skin or other tissues can occur; initial therapy with warfarin in heparin-induced thrombocytopenia has resulted in cases of amputation and death; discontinue warfarin if emboli occur. Health care professionals should note the following: monitoring recommendation: obtain daily INR determinations upon initiation until stable in the therapeutic range; obtain subsequent INR determinations every 1 to 4 weeks.

Considerations for special patient populations - health care professionals should note the following monitoring recommendation: obtain daily INR determination upon initiation until stable in the therapeutic range; obtain subsequent INR determinations every 1 to 4 weeks.

- **Enoxaparin sodium injection (Lovenox)**

  Medication notes - Lovenox is a low molecular weight heparin (LMWH) indicated for: prophylaxis of deep vein thrombosis (DVT) in abdominal surgery, hip replacement surgery, knee replacement surgery, or medical patients with severely restricted mobility during acute illness, inpatient treatment of acute DVT with or without pulmonary embolism, outpatient treatment of acute DVT without pulmonary embolism, prophylaxis of ischemic complications of unstable angina and non-Qwave myocardial infarction [MI], and treatment of acute ST-segment elevation myocardial infarction [STEMI] managed medically or with subsequent percutaneous

coronary intervention [PCI]. The most common side effects associated with Lovenox include the following: bleeding, anemia, thrombocytopenia, elevation of serum aminotransferase, diarrhea, and nausea.

Safety notes - contraindications associated with Lovenox include: active major bleeding, thrombocytopenia with a positive in vitro test for anti-platelet antibody in the presence of enoxaparin sodium, hypersensitivity to enoxaparin sodium, hypersensitivity to heparin or pork products, hypersensitivity to benzyl alcohol (for multi-dose formulation only). Warnings associated with Lovenox include: epidural or spinal hematomas may occur in patients who are anticoagulated with LMWH or heparinoids and are receiving neuraxial anesthesia or undergoing spinal puncture; these hematomas may result in long-term or permanent paralysis; consider these risks when scheduling patients for spinal procedures; factors that can increase the risk of developing epidural or spinal hematomas in these patients include: the use of indwelling epidural catheters, concomitant use of other drugs that affect hemostasis, such as non-steroidal anti-inflammatory drugs (NSAIDs), platelet inhibitors, other anticoagulants, a history of traumatic or repeated epidural or spinal punctures, a history of spinal deformity or spinal surgery; monitor patients frequently for signs and symptoms of neurological impairment; if neurological compromise is noted, urgent treatment is necessary; consider the benefits and risks before neuraxial intervention in patients anticoagulated or to be anticoagulated for thromboprophylaxis. Additional warnings and precautions associated with Lovenox include: use with caution in patients at risk for bleeding, obtain hemostasis at the puncture site before sheath removal, use with caution in patients with bleeding diathesis, uncontrolled arterial hypertension or history of recent gastrointestinal ulceration, diabetic retinopathy, renal dysfunction, or hemorrhage, use with caution in patients with a history of HIT, monitor thrombocytopenia closely, do not exchange with heparin or other LMWHs, and pregnant women with mechanical prosthetic heart valves and their fetuses, may be at increased risk and may need more frequent monitoring and dosage adjustment.

Considerations for special patient populations - doses of Lovenox should be adjusted for patients with creatinine clearance <30mL/min. Monitor older adult patients for increased risk of bleeding.

- **Apixaban (Eliquis)**

  Medication notes - Eliquis is a factor Xa inhibitor anticoagulant indicated to reduce the risk of stroke and systemic embolism in patients with nonvalvular atrial fibrillation. The recommended dose of Eliquis is 5 mg orally twice daily. The most common side effects associated with Eliquis are related to bleeding.

  Safety notes - contraindications associated with Eliquis include active pathological bleeding and severe hypersensitivity to Eliquis. Warnings associated with Eliquis include the following: discontinuing Eliquis places patients at an increased risk of thrombotic events; an increased rate of stroke was observed following discontinuation of Eliquis in clinical trials in patients with nonvalvular atrial fibrillation; if anticoagulation with Eliquis must be discontinued for a reason other than pathological bleeding, coverage with another anticoagulant should be strongly considered.

  Considerations for special patient populations - Eliquis is not recommended in patients with severe hepatic impairment.

- **Potassium phosphates injection**

  Medication notes - potassium phosphates injection is a phosphorus replacement product indicated as a source of phosphorus. Potassium phosphates injection is only for administration to a patient with a serum potassium concentration less than 4 mEq/dL. The dosage of potassium phosphates injection is dependent upon the individual needs of the patient, and the contribution of phosphorus and potassium from other sources. Side effects associated with potassium phosphates injection include: hyperkalemia, hyperphosphatemia, hypocalcemia, and hypomagnesemia.

  Safety notes - contraindications associated with potassium phosphates injection include: hyperkalemia; hyperphosphatemia, hypercalcemia or significant hypocalcemia, severe renal impairment (eGFR less than 30 mL/min/1.73m2), and end stage renal disease. Warnings and precautions associated with potassium phosphates injection include: administer only after dilution or admixing; do not exceed the recommended infusion rate; continuous electrocardiographic (ECG) monitoring may be needed during infusion; if signs of pulmonary distress occur, stop the infusion and initiate a medical evaluation; hyperkalemia may occur; monitor serum phosphorus

and calcium concentrations during and following infusion; monitor serum magnesium concentrations during treatment; infuse concentrated or hypertonic solutions through a central catheter.

Considerations for special patient populations - dose selection for older adult patients should be cautious, starting at the low end of the dosing range because of the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy.

- **Epinephrine for IV infusion**

  Medication notes - epinephrine is an alpha and beta adrenergic agonist indicated to increase mean arterial blood pressure in adult patients with hypotension associated with septic shock. Epinephrine is available in a 2 mL ampule containing 1 mg/1 mL epinephrine. The most common side effects associated with epinephrine include: headache, anxiety, restlessness, tremor, weakness, dizziness, sweating, palpitations, pallor, peripheral coldness, nausea/vomiting, and respiratory difficulties.

  Safety notes - warnings and precautions associated with epinephrine include the following: titrate carefully while patient vital signs are continuously monitored; avoid extravasation into tissues, which can cause local necrosis; potential for pulmonary edema; may constrict renal blood vessels and decrease urine formation; may induce potentially serious cardiac arrhythmias in patients; MAO inhibitors and antidepressants may prolong hypertension.

  Considerations for special patient populations - dose selection for an older adult patient should be cautious, usually starting at the low end of the dosing range.

- **Fentanyl Transdermal System**

  Medication notes - fentanyl is an opioid agonist. Fentanyl is indicated for the management of pain in opioid-tolerant patients, severe enough to require daily, around-the-clock, long-term opioid treatment and for which alternative treatment options are inadequate. Fentanyl transdermal system is available in the following strengths: 12 mcg/hour, 25 mcg/hour, 50 mcg/hour, 75 mcg/hour, and 100 mcg/hour. The most common side effects associated with fentanyl transdermal system include the following: nausea,

vomiting, somnolence, dizziness, insomnia, constipation, hyperhidrosis, fatigue, feeling cold, anorexia, headache, and diarrhea.

Safety notes - contraindications associated with fentanyl transdermal system include: opioid non-tolerant patients; acute or intermittent pain, postoperative pain, mild pain; significant respiratory depression; acute or severe bronchial asthma in an unmonitored setting or in absence of resuscitative equipment; known or suspected gastrointestinal obstruction; known hypersensitivity to fentanyl or any of the components of the transdermal system. Warnings associated with fentanyl transdermal system include the following: fentanyl exposes users to risks of addiction, abuse, and misuse, which can lead to overdose and death; assess patient's risk before prescribing, and monitor regularly for these behaviors or conditions; serious, life-threatening, or fatal respiratory depression may occur; monitor closely, especially upon initiation or following a dose increase; accidental exposure can result in fatal overdose of fentanyl; concomitant use with CYP3A4 inhibitors (or discontinuation of CYP3A4 inducers) can result in a fatal overdose of fentanyl; exposure of application site and surrounding area to direct external heat sources has resulted in fatal overdose of fentanyl; warn patients to avoid exposing application site and surrounding area to direct external heat sources; concomitant use of opioids with benzodiazepines or other central nervous system (CNS) depressants, including alcohol, may result in profound sedation, respiratory depression, coma, and death; reserve concomitant prescribing for use in patients for whom alternative treatment options are inadequate; limit dosages and durations to the minimum required; and follow patients for signs and symptoms of respiratory depression and sedation. Additional warnings and precautions associated with fentanyl transdermal system include: monitor patients with fever closely for sedation and respiratory depression and reduce the dose if necessary; warn patients to avoid strenuous exertion that may lead to increased body temperature; life-threatening respiratory depression in patients with chronic pulmonary disease or in older adult patients; monitor closely, particularly during initiation and titration; potentially life-threatening conditions could result from concomitant serotonergic drug administration; severe hypotension may occur; avoid use in patients with impaired consciousness or coma.

Considerations for special patient populations - use is not recommended in patients with severe hepatic and renal impairment.

Section 2: Summary

The second essential element of older adult health care is to identify specific aspects of health care that may be relevant and key to older adult patient care. Specific aspects of health care that may be relevant and key to older adult patient care include the following: fall precautions, pain assessment, impaired skin integrity and managing impaired skin integrity, adequate personal hygiene, adequate hydration and nutrition, physical activity, and medication administration.

Section 2: Key Concepts

- The second essential element of older adult health care is to identify specific aspects of health care that may be relevant and key to older adult patient care.
- Specific aspects of health care that may be relevant and key to older adult patient care include the following: fall precautions, pain assessment, impaired skin integrity and managing impaired skin integrity, adequate personal hygiene, adequate hydration and nutrition, physical activity, and medication administration.

Section 2: Key Terms

Fall - an event which results in an individual coming to rest on the ground or a lower level (CDC, 2020)

Visual acuity - the clarity of vision that may be determined by testing an individual's ability to discern letters or numbers at a given distance according to a fixed standard (CDC, 2020)

Snellen eye test - a visual acuity test that may be used to determine the smallest letters an individual can read on a standardized chart held 20 feet away from the individual (CDC, 2020)

Eye occluder - a tool that may be used to occlude either eye without pressure (CDC, 2020)

Orthostatic blood pressure - a form of blood pressure that occurs when standing up from sitting or lying down (CDC, 2020)

Pain - an unpleasant sensory and emotional experience arising from actual or potential tissue damage (WHO, 2019)

Simple numerical pain intensity scale *(within the context of this course)* - a numerically based method, which may be used by health care professionals to help patients rate their pain from 0 - 10, with 0 meaning no pain and 10 meaning severe pain or worst possible pain

Wong/Baker faces rating scale *(within the context of this course)* - a pain assessment tool consisting of faces associated with numerical values

Pain Assessment in Advanced Dementia (PAINAD) scale *(within the context of this course)* - a pain assessment tool that can be used by health care professionals to assess pain in older adult patients with advanced dementia (WHO, 2019)

Critical-Care Pain Observation Tool (CPOT) *(within the context of this course)* - a pain scale that relies on the observations of health care professionals to assess critically ill older adult patients that may have difficulties communicating relevant pain information (WHO, 2019)

Skin integrity - skin health (Joint Commission, 2016)

Impaired skin integrity - a skin diagnosis that can be used to identify relatively unhealthy skin that may show damage, disruption, loss of functionality, and/or may not be intact (Joint Commission, 2016)

Skin ulcer *(within the context of this course)* - an open sore or wound on the skin (Joint Commission, 2016)

Pressure injury *(also referred to as a pressure ulcer or bedsore)* - localized damage to the skin and/or underlying soft tissue, usually over a bony prominence (Joint Commission, 2016)

Personal hygiene - a series of practices that sustain the body's cleanliness in order to maintain healthy skin integrity as well as overall health and well-being (National Institute on Aging, 2020)

Skin cleansing product - any product designed to clean the human body while removing dirt, bacteria, dead skin cells, and/or other substances from the skin (National Institute on Aging, 2020)

Drying *(as it relates to adequate personal hygiene)* - the act of removing moisture and/or water from the body/skin after a personal hygiene routine, including water and a skin cleansing product, is completed (National Institute on Aging, 2020)

Maceration *(as it relates to adequate personal hygiene)* - skin breakdown resulting from prolonged moisture (National Institute on Aging, 2020)

Mouth care - the act of maintaining oral hygiene (National Institute on Aging, 2020)

Eating pattern - the combination of foods and beverages that constitute an individual's complete dietary intake over time; a customary way of eating or a combination of foods recommended for consumption (U.S. Department of Health and Human Services, 2015)

Physical activity - any bodily movement produced by the contraction of skeletal muscle that increases energy expenditure above a basal level; the subset of physical activity that enhances health (U.S. Department of Health and Human Services, 2015)

Adult *(in the context of physical activity)* - any individual between the ages of 18 to 64 years (U.S. Department of Health and Human Services, 2015)

Medication administration *(within the context of this course)* - the act or process of distributing medications to patients for the purposes of therapy

High alert medication - a heightened risk medication that may cause significant patient harm when used in error

Section 2: Personal Reflection Question

How can health care professionals identify specific aspects of health care that may be relevant and key to older adult patient care?

Section 3: Older Adult Care Safety Recommendations

The third and final essential element of older adult health care is to follow related safety recommendations. This section of the course will review older adult care safety recommendations.

Older Adult Care Safety Recommendations

- **Work to identify older adult patients suffering from dementia** - as previously mentioned, dementia may refer to a cluster of symptoms centered around an

inability to remember, think clearly, and/or make decisions (CDC, 2020). Health care professionals should work to identify older adults suffering from dementia because older adults suffering from dementia may require additional attention to maintain their safety. Health care professionals should note the following symptoms of dementia, which include problems with: memory, attention, communication, reasoning, judgment, and/or problem solving (CDC, 2020). Health care professionals should also note the following signs of dementia: getting lost in a familiar area, forgetting the names of close family and friends, and not being able to complete tasks independently (CDC, 2020). Additionally, health care professionals should note that dementia is not a normal part of aging.

- **Work to identify older adult patients that may have special needs and/or requirements** - in addition to identifying older adults suffering from dementia, health care professionals should work to identify older adult patients that may have special needs and/or requirements. Some older adult patients may have special needs and/or requirements due to various health conditions and diseases such as: depression, anxiety, cardiovascular disease, and diabetes. Health care professionals should work to identify such patients to ensure their needs and requirements (e.g., a specific diet) are being met. Health care professionals should note that a failure to do so may leave older adult patients vulnerable to health care-associated complications.

- **Work to identify older adult patients suffering from substance abuse** - as previously alluded to, older adult patients may suffer from substance abuse. Health care professionals should work to identify older adult patients suffering from substance abuse to increase patient safety and to help prevent substance abuse-related complications (e.g., falls). Health care professionals should note the following signs of alcohol and/or illicit drug use: slurred speech, an active tremor, shakiness, poor coordination, sweating, nausea, vomiting, aggression, agitation, compulsive behavior, craving, red eyes, dry mouth, drowsiness, involuntary eye movements, dilated pupils, nasal congestion, mouth sores, reduced consciousness, lack of pain sensation, intolerance to loud noise, dizziness, confusion, lack of awareness to surroundings, and needle marks.

- **Work to identify elder abuse** - elder abuse possesses a significant threat to older adult patients. Therefore, health care professionals should work to identify elder abuse. Health care professionals should note the following signs of elder abuse: bruises, hand marks, grip marks, sprains, dislocated joints, broken bones, burns,

missing teeth, evasive behavior, nonresponsive behavior, memory gaps, sleep disturbance, a lack of interest in socializing with others, isolating behavior, agitation, newly acquired sexually transmitted diseases (STDs), and poor hygiene (CDC, 2020).

- **Observe caregivers for any threatening behavior directed towards an older adult** - to build on the previous recommendation, health care professionals should observe caregivers for any threatening behavior directed towards an older adult. Threatening behavior directed towards an older adult, by a caregiver, may be an indication of potential elder abuse. Health care professionals should note the following examples of what might be considered to be threatening behavior: physically looming over an individual, verbal warnings of possible punishments for specific behaviors, and demonstrative looks or facial expressions directed at an individual.

- **Report potential elder abuse** - health care professionals should report any potential elder abuse. Reporting potential elder abuse can prevent elder abuse and, ultimately, stop it from occurring. Health care professionals should note the following: health care professionals may report elder abuse, internally, within their health care organizations or to outside organizations, such as the National Adult Protective Services Association.

- **Foster effective communication when engaging with older adult patients** - effective communication occurs when information and messages are adequately transmitted, received, and understood. Working to foster effective communication when engaging with older adult patients can help health care professionals obtain relevant information that may be used to effectively identify potential safety concerns. Health care professionals can foster effective communication when engaging with older adult patients by speaking clearly, actively listening to older adults when they speak, maintaining eye contact with older adults when speaking to them, asking questions, maintaining emotional stability, and by limiting interruptions and distractions. Health care professionals should note the following: when engaging with older adults, health care professionals should work to avoid miscommunication; when miscommunication occurs between individuals, intended meaning may be lost; health care professionals can work to avoid miscommunication by removing physical barriers when communicating with other individuals, remaining professional, clarifying points of confusion, and by allowing for a free flow of information between individuals.

- **Observe/monitor patients** - patient observation can be essential to older adult patient care. Health care professionals should observe patients' symptoms, as well as monitor patients' therapy. Health care professionals should note the following: health care professionals should effectively document any relevant patient observations/information.

- **Complete effective health care documentation** - health care documentation may refer to a digital or an analog record detailing the administration of health care to patients. If completed effectively, health care documentation can be used in daily practice by health care professionals to communicate vital patient information to other health care professionals in order to facilitate positive health care outcomes and to decrease the potential for negative health care outcomes, such as adverse events and patient mortalities. Effective health care documentation may be used as a method to review patient cases and to ensure all aspects of an individual patient's health care are noted and evaluated to maximize therapeutic outcomes.

  In order for health care documentation to be considered effective, it must function as a viable form of communication, as well as a means to establish a detailed record of health care administration. There are many different forms of health care documentation - however, if health care professionals include specific characteristics in their documentation, they can ensure their documentation will be effective.

  The first characteristics of effective documentation are objectivity and accuracy. Health care documentation should include objective information free of subjective judgment, bias, or opinion. Health care documentation should also be accurate - meaning it should include information which can be measured or verified by another individual.

  Additional characteristics of effective health care documentation include clarity and completeness. Clarity, as it relates to health care documentation, may refer to a quality which enables multiple health care professionals to obtain meaning from recorded data and/or information relating to health care. Completeness, as it relates to health care documentation, may refer to a state where all of the necessary components and/or parts are present. Only when clarity and completeness are achieved can health care documentation be considered effective.

Finally, the information found within health care documentation should be readily accessible and available to all those who require it. Thus, health care professionals must include accurate times and dates of health care administration when completing their health care documentation to further its effectiveness. Health care professionals should note that completing effective health care documentation can help health care professionals foster effective communication and ensure patients receive the care they require.

- **Practice effective hand hygiene** - health care-associated infections are a patient safety issue affecting all types of health care organizations and patient populations. With that said, evidence suggests that older adult patients may be more susceptible to health care-associated infections when compared to other patient populations. Thus, health care professionals should work to prevent health care-associated infections when administering health care or engaging with older adult patients. One of the most important and effective ways to address health care-associated infections is by practicing effective hand hygiene. Hand hygiene may refer to the process of cleaning hands in order to prevent contamination and/or infections (CDC, 2018). Hand hygiene is most effective when dirt, soil, microorganisms, and other contaminants are removed from the hands. Health care professionals should complete effective hand hygiene when evaluating, assessing, and engaging with older adult patients. Specific information regarding effective hand hygiene may be found below. The information found below was derived from materials provided by the CDC (CDC, 2018).
    - Health care professionals may use a variety of different products to carry out effective hand hygiene. The following products are typically available to health care professionals and may be used to carry out effective hand hygiene: detergents, plain soap, antimicrobial (medicated) soap, antiseptic agents, and alcohol-based handrubs.
    - The major indications for hand hygiene can be broken down into the following five key moments:
        1. Before patient contact
        2. Before an aseptic procedure or task
        3. After a body fluid exposure risk occurs
        4. After touching a patient

5. After contact with a patient's surroundings

- Health care professionals should wash their hands with soap and water when they are visibly dirty or visibly soiled with blood or other body fluids or after using the toilet.
- Health care professionals should use an alcohol-based handrub when their hands are not visibly soiled to reduce bacterial counts.

- **Don personal protective equipment (PPE), when appropriate** - another way health care professionals can help limit health care-associated infections is by donning personal protective equipment (PPE), when appropriate (e.g., when cleaning an open wound; when trying to prevent the airborne transmission of an infectious agent). PPE may refer to equipment designed to protect, shield, and minimize exposure to hazards that may cause serious injury, illness, and/or disease (CDC, 2018). Essentially, donning PPE can prevent the spread of infectious materials and agents to older adult patients. Health care professionals should note that PPE can include a variety of different types of equipment such as: masks, face shields, respirators, gowns, and gloves. Health care professionals should also note the following: health care professionals should not touch a contaminated piece of PPE; health care professionals should place used PPE in the appropriate waste container; health care professionals should wash their hands or use an alcohol-based hand sanitizer after removing all PPE (CDC, 2018).
- **Employ respiratory hygiene and cough etiquette measures** - health care professionals can also work to prevent health care-associated infections by employing respiratory hygiene and cough etiquette measures. Respiratory hygiene may refer to prevention measures that may be used to prevent the transmission of infectious agents, respiratory diseases, and/or illnesses (CDC, 2018). Cough etiquette may refer to prevention techniques that may be used to prevent the transmission of infectious respiratory droplets produced when infected individuals cough or sneeze (CDC, 2018). Specific information regarding respiratory hygiene and cough etiquette may be found below. The information found below was derived from materials provided by the CDC (CDC, 2018).
    - Health care professionals should note/document any individuals presenting with symptoms of a respiratory infection.

- The following supplies should be readily available to both health care professionals and patients: face masks, tissues, no-touch waste receptacles for disposing of used tissues, and dispensers of alcohol-based handrubs.
- Patients suspected of a respiratory infection should be instructed/ encouraged to don a face mask (e.g., procedure or surgical mask) upon entry into a health care facility.
- Health care professionals should provide face masks to all individuals (including individuals accompanying patients) who are coughing and/or have symptoms of a respiratory infection.
- Upon entry to a health care facility/at the time of patient registration, health care professionals should work to screen patients and accompanying individuals for symptoms of respiratory infection.
- Patients identified with respiratory symptoms should be placed in a private room as soon as possible, when applicable.
- Health care professionals with a respiratory infection should avoid direct patient contact, when applicable.
- Health care professionals should regularly review information on local respiratory virus activity provided by the health department and the CDC to determine if their health care facility will need to implement enhanced screening for respiratory symptoms.
- All individuals with signs and symptoms of a respiratory infection (including health care professionals) should be instructed to: cover the mouth and nose with a tissue when coughing or sneezing; dispose of the used tissue in the nearest waste receptacle; perform hand hygiene after contact with respiratory secretions and contaminated objects/materials.

- **Ensure the safe handling of potentially contaminated equipment and surfaces in the patient environment** - the safe handling of potentially contaminated equipment or surfaces in the patient environment may help prevent the transmission of infectious agents found on surfaces and/or objects. Specific information regarding the safe handling of potentially contaminated equipment and surfaces in the patient environment may be found below. The information found below was derived from materials provided by the CDC (CDC, 2018).

- Wear appropriate PPE, when applicable.
- Handle equipment and or objects soiled with blood, body fluids, secretions, and excretions in a manner that prevents the following: skin and mucous membrane exposures, contamination of clothing, and transfer of pathogens to other health care professionals, patients, and/or the environment.
- Prevent skin and mucous membrane exposures and contamination of clothing, when applicable.
- Use adequate procedures for the routine cleaning and disinfection of environmental and other frequently touched surfaces, when applicable.
- Clean the countertops and surfaces where medication preparation occurs at least daily and when visibly soiled.
- Ensure potentially contaminated items are not placed in or near a medication preparation area.
- Puncture-resistant, leak-proof sharps containers should be located in every patient-care area (e.g., exam room).
- All sharps should be disposed of in the designated sharps container; health care professionals should not bend, recap, or break used syringe needles before discarding them into the container.
- Handle and treat waste contaminated with blood, body fluids, secretions, and excretions as clinical waste, in accordance with organizational and state/federal regulations.

- **Ensure safe injection practices are followed** - safe injection practices may refer to the proper use and handling of supplies for administering injections and infusions (e.g., syringes, needles, fingerstick devices, intravenous tubing, medication vials, and parenteral solutions) (CDC, 2018). Safe injection practices are intended to prevent the transmission of infectious diseases between one patient and another, and/or between a patient and a health care professional during preparation and administration of parenteral medications. Specific information regarding safe injection practices may be found below. The information found below was derived from materials provided by the CDC (CDC, 2018).

- Whenever possible, health care professionals should use commercially manufactured or pharmacy-prepared prefilled syringes (e.g., saline and heparin).
- Health care professionals should avoid unwrapping syringes prior to the time of use.
- Health care professionals should never administer medications from the same syringe to multiple patients.
- Health care professionals should not administer medications from single-dose or single-use vials, ampoules, or bags or bottles of intravenous solution to more than one patient.
- Clean the access diaphragms of medication vials with 70% alcohol and allow the alcohol to dry before inserting a device into the vial.
- Health care professionals should dispose of used syringes and needles at the point of use in a sharps container that is closable, puncture-resistant, and leak-proof.
- Health care professionals should use single-use, disposable fingerstick devices (e.g., lancets) to obtain samples for checking a patient's blood glucose, PT/INR, etc.
- Health care professionals should dispose of single-use, disposable fingerstick devices after each use.
- Health care professionals should be sure to adhere to federal and state requirements for protection of health care professionals from exposure to bloodborne pathogens.

- **Work to prevent the transmission of influenza viruses** - older adult patients may be especially vulnerable to influenza viruses, thus, health care professionals should work to prevent the transmission of influenza viruses while administering care to older adult patients (note: influenza viruses may refer to viruses that are responsible for seasonal flu epidemics) (CDC, 2020). Health care professionals should note the following: flu vaccines can protect individuals from flu and its potentially serious complications; the CDC recommends that almost everyone 6 months of age and older get a seasonal flu vaccine each year by the end of October; flu vaccination is especially important for individuals 65 years and older

because they are at high risk of developing serious complications from flu; flu vaccines are updated each season as needed to keep up with changing viruses; immunity wanes over a year, so annual vaccination is needed to ensure the best possible protection against flu (CDC, 2020). Health care professionals should also note that they may work to prevent the transmission of influenza viruses by the following means: practicing effective hand hygiene, donning PPE (when appropriate), employing respiratory hygiene and cough etiquette measures, ensuring the safe handling of potentially contaminated equipment and surfaces in the patient environment, and by following safe injection practices.

- **Work to prevent the transmission of the virus that cause coronavirus disease 2019 (COVID-19)** - older adult patients may be especially vulnerable to COVID-19, thus, health care professionals should work to prevent the transmission of the virus that causes COVID-19 while administering care to older adult patients (note: coronavirus disease 2019 (COVID-19) may refer to a respiratory illness that can spread from person to person) (CDC, 2020). Health care professionals should note the following: it is currently believed that the virus that causes COVID-19 is transmitted or spread through person to person contact (note: the term person-to-person contact may refer to the transmission of a communicable disease/illness from a host to a healthy person by way of body fluids [e.g., respiratory droplets, blood]); COVID-19 may spread between people who are in close contact with one another (within about 6 feet); COVID-19 may spread through respiratory droplets produced when an infected person coughs or sneezes (CDC, 2020). Health care professionals should also note that they may work to prevent the transmission of the virus that causes COVID-19 by the following means: practicing effective hand hygiene, donning PPE (when appropriate), employing respiratory hygiene and cough etiquette measures, ensuring the safe handling of potentially contaminated equipment and surfaces in the patient environment, and by following safe injection practices.
- **Conduct medication reconciliations** - when an older adult patient is admitted into a health care facility, health care professionals should conduct a medication reconciliation. A medication reconciliation may refer to a process of comparing the medications an individual is taking (or should be taking) with newly ordered medications (Joint Commission, 2020). Health care professionals should note the following information regarding medication reconciliations: medication reconciliations are intended to identify and resolve medication discrepancies; medication reconciliations should address medication duplications, omissions, and

interactions, and the need to continue current medications; the type of information health care professionals should use to reconcile medications include (among others) medication name, dose, frequency, route, and purpose; health care professionals should identify the information that needs to be collected in order to reconcile current and newly ordered medications and to safely prescribe medications in the future (Joint Commission, 2020).

- **Use at least two patient identifiers when providing care, treatment, and services** - to help prevent medical errors from occurring, health care professionals should use at least two patient identifiers when providing care, treatment, and services (note: the term medical error may refer to a preventable adverse effect of care that may or may not be evident or causes harm to a patient) (Joint Commission, 2020). Health care professionals should note the following: medical errors can occur in virtually all stages of diagnosis and treatment; to help prevent medical errors from occurring, health care professionals should reliably identify a patient as the individual for whom the health care service or treatment is intended; health care professionals should match the health care service or treatment to the intended patient; acceptable patient identifiers may be the individual's name, an assigned identification number, telephone number, or other person-specific identifier (Joint Commission, 2020). Health care professionals should also note the following: health care professionals should use at least two patient identifiers when administering medications, blood, or blood components; when collecting blood samples and other specimens for clinical testing; and when providing treatments or procedures; the patient's room number or physical location should not be used as a patient identifier (Joint Commission, 2020).

- **Improve the safety of using medications** - health care professionals can also help prevent medical errors from occurring by working to improve the safety of using medications. Health care professionals should note the following: health care professionals can work to improve the safety of using medications by verifying all medication or solution labels both verbally and visually; labeling each medication or solution as soon as it is prepared; and by immediately discarding any medication or solution found unlabeled (Joint Commission, 2020).

- **Reduce the likelihood of patient harm associated with the use of anticoagulant therapy** - additionally, health care professionals can help prevent medical errors from occurring by working to reduce the likelihood of patient harm associated with the use of anticoagulant therapy. Health care professionals should note the

following: anticoagulation therapy can be used as therapeutic treatment for several conditions, the most common of which are atrial fibrillation, deep vein thrombosis, pulmonary embolism, and mechanical heart valve implant; anticoagulant medications are more likely than others to cause harm due to complex dosing, insufficient monitoring, and inconsistent patient compliance; to achieve better patient outcomes, patient education is a vital component of an anticoagulation therapy program; effective anticoagulation education includes face-to-face interaction with a trained professional who works closely with patients to be sure that they understand the risks involved with anticoagulation therapy and the precautions they need to take; the use of standardized practices for anticoagulation therapy that include patient involvement can reduce the risk of adverse drug events associated with heparin (unfractionated), low molecular weight heparin, warfarin, and direct oral anticoagulants (Joint Commission, 2020).

- **Report critical results of tests and diagnostic procedures on a timely basis** - critical results of tests and diagnostic procedures may fall significantly outside the normal range and may indicate a life-threatening situation, thus, health care professionals should report critical results of tests and diagnostic procedures on a timely basis (Joint Commission, 2020). Health care professionals should note the following: health care professionals should work to identify the acceptable length of time between the availability and reporting of critical results of tests and diagnostic procedures (Joint Commission, 2020).

- **Conduct a preprocedure verification process** - due to the nature of older adult care, older adult patients often undergo various health care procedures. Thus, to increase older adult patient safety, health care professionals should conduct a preprocedure verification process before any older adult undergoes a health care procedure. Health care professionals should note the following: the preprocedure verification is an ongoing process of information gathering and confirmation; the purpose of the preprocedure verification process is to make sure that any procedure is what the patient needs and is performed on the right patient (Joint Commission, 2020). Health care professionals should also note the following elements of a preprocedure verification process: implement a preprocedure process to verify the correct procedure, for the correct patient, at the correct site (note: the patient should be involved in the verification process when possible); identify the items that must be available for the procedure and use a standardized list to verify their availability (e.g., relevant documentation; test results; required

blood products); match the items that are to be available in the procedure area to the patient (Joint Commission, 2020).

- **Conduct a time-out before a procedure** - to build on the previous recommendation, health care professionals should perform a time-out before an older adult patient procedure. The purpose of a time-out is to conduct a final assessment to ensure the correct patient, site, and procedure are identified (Joint Commission, 2020). Health care professionals should note the following elements of a health care-related procedure time-out: the time-out is conducted immediately before starting a procedure; a designated member of a health care team initiates the time-out and it includes active communication among all relevant members of the procedure team; a health care-related procedure is not started until all questions or concerns are resolved (Joint Commission, 2020).
- **Improve the safety of clinical alarm systems** - clinical alarm systems are intended to alert caregivers of potential patient problems, but if they are not properly managed, they can compromise patient safety (Joint Commission, 2020). Thus, health care professionals should work to improve the safety of clinical alarm systems. Health care professionals should note the following: to improve the safety of clinical alarm systems health care professionals should identify the most important alarm signals; health care professionals should establish policies and procedures for managing the alarms identified (Joint Commission, 2020).
- **Apply fall precautions to older adult patients** - as previously mentioned, health care professionals should apply fall precautions to older adult patients. Specific fall precautions include the following: familiarize the patient with his or her environment; have the patient demonstrate call light use; maintain the call light within patient reach; keep a patient's personal possessions within safe reach of the patient; have sturdy handrails in patient bathrooms, rooms, and hallways; place the patient's bed in a low position when a patient is resting in bed; raise the patient's bed to a comfortable height when the patient is transferring out of bed; keep patient bed brakes locked; keep wheelchair wheel locks in the locked position when stationary; keep non slip, comfortable, well-fitting footwear on the patient; use night lights or supplemental lighting; keep floor surfaces clean and dry; clean up all spills promptly; keep patient care areas uncluttered; follow safe patient handling practices (CDC, 2020). Health care professionals should note the following: fall precautions constitute the basics of patient safety and should be applied in all health care facilities to all patients.

- **Prevent health care-associated pressure injuries** - as previously mentioned, a pressure injury, also referred to as a pressure ulcer or bedsore, may refer to localized damage to the skin and/or underlying soft tissue, usually over a bony prominence (Joint Commission, 2016). Pressure injuries typically result from intense and/or prolonged pressure. A pressure injury can present as intact skin or an open ulcer. Pressure injuries can be painful to patients, and typically affect high-risk patient populations such as older adults. Thus, health care professionals should work to prevent health care-associated pressure injuries (note: a health care-associated pressure injury may refer to a pressure injury that results from health care or occurs within a health care facility) (Joint Commission, 2020). Health care professionals should note the following: health care professionals can work to prevent health care-associated pressure injuries by following the related elements of care found below. The information found below was derived from materials provided by the Joint Commission (Joint Commission, 2020).
    - Create a written plan for the identification of risk for and prevention of pressure injuries.
    - Perform an initial assessment at admission to identify patients and residents at risk for pressure injuries.
    - Conduct a systematic risk assessment for pressure injuries using a validated risk assessment tool such as the Braden Scale or Norton Scale.
    - Reassess pressure injury risk at intervals defined by the health care organization.
    - Take action to address any identified risks to the patient or resident for pressure injuries, including the following: preventing injury to patients and residents by maintaining and improving tissue tolerance to pressure in order to prevent injury; protecting against the adverse effects of external mechanical forces; patient mobility.
    - Educate staff on how to identify risk for and prevent pressure injuries.
- **Reduce the risk for patient suicide** - as previously mentioned some older adult patients may suffer from suicidal ideation. Thus, health care professionals should work to reduce the risk for older adult patient suicide (note: the suicide of a patient while in a staffed, round-the-clock care setting is a frequently reported type of sentinel event) (Joint Commission, 2020). Health care professionals should

note the following: health care professionals can work to reduce the risk for patient suicide by following the related elements of care found below. The information found below was derived from materials provided by the Joint Commission (Joint Commission, 2020).

- Health care organizations and health care professionals should conduct an environmental risk assessment that identifies features in the physical environment that could be used to attempt suicide, when applicable.
- Health care organizations and health care professionals should take necessary action to minimize the risk(s) of features in the physical environment that could be used to attempt suicide (e.g., hooks that can be used for hanging); health care organizations should have procedures in place to mitigate the risk of suicide for patients at high risk for suicide (e.g., one-to-one monitoring; removing objects that pose a risk for self-harm if they can be removed without adversely affecting the patient's medical care; assessing objects brought into a room by visitors; using safe transportation procedures when moving patients).
- Screen all patients for suicidal ideation who are being evaluated or treated for behavioral health conditions as their primary reason for care using a validated screening tool.
- Use an evidence-based process to conduct a suicide assessment of patients who have screened positive for suicidal ideation (note: the assessment directly asks about suicidal ideation, plan, intent, suicidal or self-harm behaviors, risk factors, and protective factors).
- Document patients' overall level of risk for suicide and the plan to mitigate the risk for suicide.
- Follow written policies and procedures addressing the care of patients identified as at risk for suicide (note: policies and procedures should include the following: training and competence assessment of staff who care for patients at risk for suicide; guidelines for reassessment; monitoring patients who are at high risk for suicide).
- Follow written policies and procedures for counseling and follow-up care at discharge for patients identified as at risk for suicide.

    - Monitor implementation and effectiveness of policies and procedures for screening, assessment, and management of patients at risk for suicide and take action as needed to improve compliance.

- **Identify risks associated with oxygen therapy** - health care professionals should identify risks associated with oxygen therapy (e.g., fires). Oxygen administration presents a high risk for fire due to the acceleration of flame that oxygen causes in the presence of flammable substances (e.g., clothing) (Joint Commission, 2020). Health care professionals should note the following: an oxygen safety risk assessment should be conducted before starting oxygen therapy (Joint Commission, 2020).

- **Possess insight into vital health care equipment** - the term health care equipment may refer to equipment used for the purposes of health care diagnosis, treatment, and/or therapy. Health care professionals should ensure that they are adequately trained on how to use any such health care equipment necessary for the care of older adult patients (e.g., oxygen therapy devices). If a health care professional is not sure how to effectively use any piece of health care equipment, he or she should seek training and education pertaining to the health care equipment in question. Health care professionals should note the following: health care professionals should ensure health care equipment is adequately sterilized, when applicable.

- **Identify patients that require antithrombosis stockings** - health care professionals should be sure to identify patients that require antithrombosis stockings. An antithrombosis stocking may refer to any health care stocking that may be used to put pressure on the legs in order to improve upon circulation and thus reduce the chance of a blood clot. Health care professionals should note the following: antithrombosis stockings may be essential to the health care of some older adult patients - thus, health care professionals should ensure that older patients who may require antithrombosis stockings, have such stockings.

- **Ensure older adult patients are adequately hydrated** - as previously mentioned, adequate hydration is often a relevant and key aspect of older adult health care. Thus, health care professionals should ensure patients are adequately hydrated. Health care professionals should note the following signs of dehydration: very dry skin, rapid heartbeat, rapid breathing, confusion, and dark urine output.

- **Ensure older adult patients receive adequate nutrition** - in addition to adequate hydration, it is important older adult patients are well nourished when receiving health care. Thus, health care professionals should ensure patients receive adequate nutrition. Health care professionals should note the following symptoms of malnutrition: fatigue, dizziness, and weight loss.
- **Apply telehealth services to older adult patient care** - health care professionals should apply telehealth services to older adult patient care, when appropriate. Health care professionals should note the following: telehealth services may be especially beneficial to older adult patient populations and may be used to increase older adult patient safety; telehealth services may be used to help prevent the spread of infectious agents to older adult patients; telehealth services may be used to provide health care services to older adult patients who may live in rural areas; telehealth services may be used to provide health care services to older adult patients who lack reliable transportation; telehealth services may be used to provide health care services to older adult patients with mobility limitations (CDC, 2020). Additional information regarding telehealth may be found below. The information found below was derived from materials provided by the CDC (CDC, 2020).
    - Telehealth may refer to the use of electronic information and telecommunication technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health, and health administration.
    - A range of technologies may be used to support the delivery of telehealth including the following: text messaging, smartphone apps for mobile phones, websites and computers, standard and wireless telephones, live and asynchronous video, virtual reality, and/or artificial intelligence (AI).
    - The different categories or types of telehealth include the following: live video, store-and-forward, remote patient monitoring, and mobile health.
        - **Live video** - live video, in the context of telehealth services, may refer to a live stream, two-way interaction between a patient and a health care professional(s) where both parties are communicating from different locations. Health care professionals should note that live video telehealth services, typically, occur in real time (note: the

term real time may refer to the actual time during which a meeting, interaction, process, or event occurs; live).

- **Store-and-forward** - store-and-forward may refer to a type of telehealth which involves the transmission of recorded health information (e.g., an x-ray or prerecorded video) through electronic communication systems to a health care professional who evaluates the information and provides a health care-related service to a patient(s). Health care professionals should note that store-and-forward telehealth services do not, typically, occur in real time.

- **Remote patient monitoring** - remote patient monitoring may refer to the use of telehealth-related technologies to collect individuals' health care-related data in one location and electronically transmit it to health care professionals in a different location for assessment and recommendations.

- **Mobile health** - mobile health may refer to the use of mobile communication devices (e.g., smart phones and tablets) to support health care, public health, and education. Health care professionals should note that mobile health applications can help individuals manage chronic conditions, track sleep patterns or fitness, schedule health care appointments, and/or send public health alerts via text message.

- The potential benefits of telehealth include the following: telehealth has the potential to reach more individuals compared to traditional in-person programs; patient convenience; telehealth services may be used to help prevent patient exposure to infectious diseases; timely access to locally unavailable health care services; increased communication; telehealth services can allow for real-time interactions between patients and health care professionals; telehealth services can allow for the transmission of recorded health information (e.g., an x-ray or prerecorded video); telehealth services can allow for remote patient monitoring; telehealth services can allow access to mobile health; patient prescriptions may be ordered via telehealth technologies; potential reductions in health care costs; improved patient outcomes; and improved patient satisfaction.

- **Report potential patient safety issues that may warrant investigation to appropriate individuals** - health care professionals should report potential patient safety issues that may warrant investigation to appropriate individuals within their health care organization. Reporting potential patient safety issues (e.g., faulty health care equipment) that may exist within health care facilities can help health care professionals, their peers, and their associated health care organizations avoid incidents that may lead to compromised older adult patient safety. Health care professionals should note the following: health care professionals should be familiar with their associated health care organizations' methods for patient safety reporting; if no such channels exist, health care professionals should consider approaching representatives of their health care organizations that may be able to help develop such channels.
- **Follow relevant health care organizations' policies and procedures/treatment protocols** - health care organizations may have specific policies and procedures/ treatment protocols regarding older adult patient care. Health care professionals should be aware of and follow any health care organization policies and procedures/treatment protocols related to older adult patient care. Health care professionals should note the following: if a health care organization does not have specific older adult care policies and procedures/treatment protocols, health care professionals should consider developing such policies and procedures/ treatment protocols.
- **Pursue opportunities to further health care education and remain up to date on relevant health care topics** - finally, health care information is always being updated. Thus, health care professionals should pursue opportunities to further their education. Remaining up to date on relevant health care topics can help health care professionals in their daily practice and can further their understanding of how to provide safe and effective health care to older adult patients in need.

Section 3: Summary

The third element of older adult health care is to follow related safety recommendations. Older adult care safety recommendations include the following: work to identify older adult patients suffering from dementia; work to identify older adult patients that may have special needs and/or requirements; work to identify older adult patients suffering from substance abuse; work to identify elder abuse; observe caregivers for any threatening behavior directed towards an older adult; report potential

elder abuse; foster effective communication when engaging with older adult patients; observe/monitor patients; complete effective health care documentation; practice effective hand hygiene; don personal protective equipment (PPE), when appropriate; employ respiratory hygiene and cough etiquette measures; ensure the safe handling of potentially contaminated equipment and surfaces in the patient environment; ensure safe injection practices are followed; work to prevent the transmission of influenza viruses; work to prevent the transmission of the virus that cause coronavirus disease 2019 (COVID-19); conduct medication reconciliations; use at least two patient identifiers when providing care, treatment, and services; improve the safety of using medications; reduce the likelihood of patient harm associated with the use of anticoagulant therapy; report critical results of tests and diagnostic procedures on a timely basis; conduct a preprocedure verification process; conduct a time-out before a procedure; improve the safety of clinical alarm systems; apply fall precautions to older adult patients; prevent health care-associated pressure injuries; reduce the risk for suicide; identify risks associated with oxygen therapy; possess insight into vital health care equipment; identify patients that require antithrombosis stockings; ensure older adult patients are adequately hydrated; ensure older adult patients receive adequate nutrition; apply telehealth services to older adult patient care; report potential patient safety issues that may warrant investigation to appropriate individuals; follow relevant health care organizations' policies and procedures/treatment protocols; pursue opportunities to further health care education and remain up to date on relevant health care topics.

Section 3: Key Concepts

The third element of older adult health care is to follow related safety recommendations.

Section 3: Key Terms

Health care documentation - a digital or an analog record detailing the administration of health care to patients

Clarity *(as it relates to health care documentation)* - a quality which enables multiple health care professionals to obtain meaning from recorded data and/or information relating to health care

Completeness *(as it relates to health care documentation)* - a state where all of the necessary components and/or parts are present

Hand hygiene - the process of cleaning hands in order to prevent contamination and/or infections (CDC, 2018)

Personal protective equipment (PPE) - equipment designed to protect, shield, and minimize exposure to hazards that may cause serious injury, illness, and/or disease (CDC, 2018)

Respiratory hygiene - prevention measures that may be used to prevent the transmission of infectious agents, respiratory diseases, and/or illnesses (CDC, 2018)

Cough etiquette - prevention techniques that may be used to prevent the transmission of infectious respiratory droplets produced when infected individuals cough or sneeze (CDC, 2018)

Safe injection practices - the proper use and handling of supplies for administering injections and infusions (CDC, 2018)

Influenza viruses - viruses that are responsible for seasonal flu epidemics (CDC, 2020)

Coronavirus disease 2019 (COVID-19) - a respiratory illness that can spread from person to person (CDC, 2020)

Person-to-person contact - the transmission of a communicable disease/illness from a host to a healthy person by way of body fluids (CDC, 2020)

Medication reconciliation - a process of comparing the medications an individual is taking (or should be taking) with newly ordered medications (Joint Commission, 2020)

Medical error - a preventable adverse effect of care that may or may not be evident or causes harm to a patient (Joint Commission, 2020)

Health care-associated pressure injury - a pressure injury that results from health care or occurs within a health care facility (Joint Commission, 2020)

Health care equipment - equipment used for the purposes of health care diagnosis, treatment, and/or therapy

Antithrombosis stocking - any health care stocking that may be used to put pressure on the legs in order to improve upon circulation and thus reduce the chance of a blood clot

Telehealth - the use of electronic information and telecommunication technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health, and health administration (CDC, 2020)

Live video *(within the context of telehealth services)* - a live stream, two-way interaction between a patient and a health care professional(s) where both parties are communicating from different locations (CDC, 2020)

Real time *(within the context of telehealth services)* - the actual time during which a meeting, interaction, process, or event occurs; live (CDC, 2020)

Store-and-forward - a type of telehealth which involves the transmission of recorded health information (e.g., an x-ray or prerecorded video) through electronic communication systems to a health care professional who evaluates the information and provides a health care-related service to a patient(s) (CDC, 2020)

Remote patient monitoring - the use of telehealth-related technologies to collect individuals' health care-related data in one location and electronically transmit it to health care professionals in a different location for assessment and recommendations (CDC, 2020)

Mobile health - the use of mobile communication devices (e.g., smart phones and tablets) to support health care, public health, and education (CDC, 2020)

Section 3: Personal Reflection Question

How can health care professionals use the above recommendations to safely care for older adult patients?

Conclusion

Older adult patients are part of a large, vulnerable, and complex patient population that requires health care professionals to provide safe health care. Health care professionals can safely care for older adult patients by incorporating the following three essential elements of older adult health care into the day-to-day care of older adult patients: possess insight into the syndromes, conditions, and disorders that may affect older adult patients; identify specific aspects of health care that may be relevant and key to older adult patient care; follow older adult care safety recommendations.

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