LEARNING OUTCOME AND OBJECTIVES: Upon completion of this continuing education course, you will have increased your knowledge of the unique issues related to caring for geriatric patients. Specific learning objectives include:

- Discuss the major age-related physiologic changes, disease processes, and chronic conditions impacting the health of older adults.
- Summarize the cognitive changes and neurocognitive disorders common among older adults.
- Review the risk factors, signs, and reporting process for elder abuse.
- Describe the principles that guide end-of-life care.

INTRODUCTION

The graying of America has the attention of many—not only older adults themselves, but public policy makers and health professionals. The current growth of the American population aged 65 years and older is one of the most stunning demographic trends in the history of the United States (Mather et al., 2015).

It is estimated that by 2060 the number of Americans aged 65 and older will more than double, from 46 million to over 98 million, bringing their percentage of the total population to 24% from 15% in 2017. Approximately 10,000 Baby Boomers turned 65 each day in 2017. In Texas, the population of people ages 65 and older are projected to grow from 3.4 million (12.7%) in 2017 to 6.7 million (21.3%) in 2050 (U.S. Census Bureau, 2017; Mather et al., 2015; West Health, 2017; TGC, 2014).

Providing care for people age 65 and older can be complicated and requires specialized knowledge of this demographic group. Contemporary theories in aging recognize that environmental, genetic, and psychological processes of aging are complex and lifelong.
Age-related changes affect the function of every body system, even in the healthiest older person. These normal age-related changes may also be accompanied by age-related cognitive changes and diseases, which increase the complexity of care.

However, these changes do not automatically equate with poor health and disability. It is widely known that regular exercise, a healthy diet, and social and intellectual stimulation can help prevent or delay disease and disability. Likewise, early diagnosis and effective management of chronic conditions can enable older adults to enjoy their later years as functional, active, and independent members of the community.

AGE-RELATED PHYSIOLOGIC CHANGES AND DISEASE PROCESSES

Aging is both universal and individual. The physiologic changes of aging are universal, but the pace at which they occur is highly individual, depending on genes, age, sex, race, environment, and lifestyle. Some people look and feel old at 60 years or younger, while others remain youthful in health, appearance, and outlook at 70 years and beyond. The challenge for health professionals is to distinguish between normal age-related changes and symptoms of a disease or disorder that requires preventive or therapeutic action.

Aging and Chronic Diseases

Many people in their 60s, 70s, and beyond lead active, independent lives, enjoying sports, travel, and hobbies, many times in addition to part- or full-time employment. However, the health needs of older adults also become more multifaceted, for instance, with an increased risk of developing chronic diseases. One in every 4 Americans has multiple chronic conditions, defined as those conditions that last a year or more and require ongoing medical attention or that limit activities of daily life. That number increases to 3 in 4 Americans aged 65 and older. This high incidence is caused by rapid growth in the population of older adults, an increased life expectancy associated with advances in public health and clinical healthcare, and a high prevalence of some individual behavioral risk factors (CDC, 2016a).

Management of chronic conditions may include one or more medications prescribed for regular use. Although medications may relieve symptoms, improve the quality of life, and in some cases increase the lifespan, they are not without risk. For example, research has shown that taking four or more prescription drugs is an independent risk factor for a fall injury, which can catapult an independent older adult into the ranks of the frail elderly.

Today, more than 95% of all healthcare costs for older adults are for treating chronic illnesses. The varied nature of these chronic conditions leads to the need for multiple healthcare specialists, a variety of treatment regimens (i.e., home oxygen and frequent hospitalization), and newer, more expensive prescription medications. The U.S. Department of Health and Human Services has developed and implemented a framework to improve and coordinate care for people with chronic conditions. This framework is used to utilize more effective self-care strategies and
support the research to fill knowledge gaps. Effective programs, such as disease self-management of diabetes, have been shown to help individuals manage chronic diseases better and prevent or delay associated conditions (CDC, 2017b).

### BEHAVIORS TO PREVENT CHRONIC DISEASE

The Behavioral Risk Factor Surveillance System (BRFSS), an on-going survey of noninstitutionalized Americans, describes five key health-related behaviors identified to prevent chronic disease:

- Never smoking
- Getting regular physical activity
- Consuming no or only moderate amounts of alcohol
- Maintaining a normal body weight
- Obtaining daily sufficient sleep

Source: CDC, 2016b.

### Cardiovascular Changes

Age-related cardiovascular changes include a slight decrease in maximal heart rate (the number of beats per minute) and a decrease in stroke volume during maximal exercise (amount of blood pumped out of the heart with each beat). These changes reduce cardiac output (the total amount of blood pumped out of the heart each minute).

Illness, excitement, activity, or stress may cause rapid heart rate (tachycardia), which in an older person takes longer to return to the baseline level than in a younger person.

The migration of calcium from bone into blood vessels stiffens arteries, leading to atherosclerosis, some degree of which is present in most older adults. Atherosclerosis affects blood flow to the heart, liver, kidneys, and other organs. Vessel walls weaken and may swell under pressure, even in individuals without hypertension.

Several conditions related to the cardiovascular system are common in older adults. The most common include congestive heart failure, hypertension, coronary artery disease, stroke, myocardial infarction, and peripheral vascular disease (Mauk, 2014).

While chest pain remains a common and important symptom of heart disease, dyspnea in the absence of chest pain is even more commonly reported in older adults, and in a recent study by the Global Registry of Acute Coronary Events, dyspnea was the primary complaint of coronary heart disease in nearly 50% of the study’s older adult participants (Bell et al., 2016).
**ASSESSMENT**

Older adults should have regular assessments of blood pressure and heart function. As people age, the systolic blood pressure may have a tendency to rise. The American Heart Association and the American College of Cardiology have issued guidelines for preventing, detecting, and managing high blood pressure in adults, including the older adult, considering a blood pressure reading over 130/80 as indicating hypertension and requiring intervention. Because hypertension is highly prevalent in older adults, it is not only a leading cause of preventable morbidity and mortality but under-recognized as a major contributor to premature disability and institutionalization (AHA, 2017; Whelton & Carey, 2017).

An electrocardiogram (ECG) is the initial cardiac evaluation. An abnormal ECG, or normal-appearing ECG in the presence of symptoms, drives the decision to proceed to a cardiac stress test to distinguish between normal age-related changes and the presence of cardiovascular disease. An angiogram or cardiac catheterization may also be ordered to evaluate symptoms or if blockage is suspected.

**INTERVENTION**

Lifestyle modifications (see below) may help control blood pressure and improve cardiac function. In addition, medications may be prescribed to treat hypertension and cardiovascular conditions in older adults. For hypertension, the goal of medical treatment for older adults is to lower the blood pressure to 120/80 mm Hg or below. Thiazide diuretics or beta-blockers are often used to control hypertension, however it is not uncommon for patients to need a combination of medications to achieve adequate control. For cardiovascular conditions, beta-blockers and calcium channel blockers are often prescribed to decrease the oxygen demands on the heart (Mauk, 2014).

Lifestyle modifications may help older adults control blood pressure and prevent cardiovascular problems. Strategies that may help older adults include limiting alcohol to one drink per day, limiting sodium intake, stopping smoking, maintaining a low-fat diet, undertaking regular exercise, and maintaining (or losing) weight (Traywick, 2017).

**Musculoskeletal Changes**

The musculoskeletal system is affected in a number of different ways by the aging process. The number of muscle cells decreases, and they are replaced by fibrous connective tissue, resulting in a decrease of muscle mass, tone, and strength. The elasticity of ligaments, tendons, and cartilage also decreases, as does bone mass, resulting in weaker bones.

Beginning by around the fifth decade of life, musculoskeletal changes may significantly alter the posture, overall appearance, and/or function of older adults. Thinning of intervertebral disks can lead to shortening of the trunk of the body, subtly alter the alignment of vertebrae, and diminish height over time by 1-1/2 to 3 inches (Meiner, 2015).
Calcium is progressively leached (resorbed) from bones, frequently resulting in osteopenia or osteoporosis—both much more common in women than in men—which may increase the risk of fracture. At the same time, muscles and cartilage atrophy and weaken, which may lead to postural deviations such as increased thoracic kyphosis (a pronounced outward curvature of the thoracic region of the spine that can further decrease stature and necessitate the adoption of a “chin-up” posture to make eye contact with others).

Wear and tear on cartilage (ligaments, tendons, and joints) reduces flexibility and increases the risk of tears. The synovial fluid that lubricates joints decreases with age, resulting in slower and sometimes painful movement. However, it is not exactly known if this is the result of the aging process or the result of wear and tear on the joints (Meiner, 2015).

Loss of muscle mass and muscle strength can ultimately contribute to a loss of balance and coordination and—if not effectively addressed—to the inability to perform activities of daily living, disability, and eventual loss of independence. Approximately one third of adults over age 65 have falls every year, and falls are the most common cause of accidental death in older adults (Meiner, 2015).

All of the changes mentioned above can cause pain, impaired mobility, self-care deficits, and increased risk of falling for older adults.

**ASSESSMENT**

Assessment of musculoskeletal function in an older adult includes general observation of posture, stance, and walking. Osteoporosis can be assessed by additional questioning of the patient regarding any back pain, joint pain, and loss of height. Bone mineral density (BMD) testing can also be completed, with results comparing the patient’s bone mass to individuals in their age range, or previous results if the patient has had a previous baseline BMD test (Mauk, 2014). Hip fractures are most often directly related to falls, and it is vital to examine the hips and lower extremities for evidence of fracture, such as shortening of the extremity, abnormal rotation, tenderness, swelling, or ecchymosis at the site of injury.

**INTERVENTION**

Regular exercise such as walking and resistance training as well as doing household chores such as vacuuming, sweeping, gardening, and washing the car help preserve flexibility and strength and delay or prevent musculoskeletal deterioration. The current physical activity recommendations for adults consist of at least 30 minutes of moderate-intensity activity on most days of the week as well as strengthening exercises and activities that increase balance at least two days per week (Touhy & Jett, 2016).

**Integumentary Changes**

The integumentary system, which includes the skin, hair, nails, and glands, is the largest organ of the body. Some of the age-related skin changes include:
• Loss of elasticity, vascularity, thickness, and strength that may delay the healing process and increase the risk of skin tears and bruising
• Increased brown-pigmented spots or age spots (i.e., lentigines)
• Loss of subcutaneous tissue, causing wrinkling and sagging of the skin, which may affect self-esteem, temperature control, and drug efficacy
• Loss of hair follicles along with hair thinning and graying
• Increased hair density in the nose and the ears, particularly in older men, which may clog external ear canals and impair hearing
• Thicker nails with longitudinal lines
• Decreased sebaceous and sweat gland activity, which affects thermoregulation and decreases sweating
• Higher evidence of benign and malignant skin growths (Meiner, 2015)

ASSESSMENT

Skin assessment in older persons is focused on monitoring for dryness, pruritus, signs of skin breakdown such as pressure ulcers/injuries, lesions such as bruising that could indicate abuse or unreported falls, and possible skin cancers (basal or squamous cell carcinomas or melanoma).

Clinicians need to be vigilant in inspecting both the hands and feet of older adults, particularly people who have diabetes or vision or mobility problems (including obesity), which may make them unable to trim their nails and properly care for their feet. These individuals need regular care by a podiatrist, who can prevent or treat irritations and infections.

Very thin patients, those who are poorly nourished, and those who are confined to bed or a wheelchair are at greatest risk for developing pressure ulcers/injuries on bony prominences; shoulders, lower back, heels, hips, and buttocks should be carefully inspected at least once a day. In male patients, the underside of the scrotum should be examined for pressure and irritation. It is not recommended to massage skin over bony prominences, as this can increase the risk of pressure ulcers/injuries.

Assessment includes inspecting the skin for brown actinic keratosis precancerous lesions, commonly found on the face, neck, and upper extremities. Untreated, these lesions may progress to squamous cell carcinomas, which are reddish, dome-shaped lesions. They may be found around the ear or on the head or neck. Basal cell carcinomas are the most common type of skin cancer, particularly in light-skinned individuals, appearing as a pearly papule with an ulcerated center; as an open sore that bleeds, oozes, or crusts for more than three weeks; or as a reddish patch on the chest, shoulders, arms, or legs. These cancers can be successfully treated if diagnosed early. Dark brown or black lesions may be melanoma, which can metastasize quickly and may prove fatal. Any suspicious lesions should be referred to dermatology for diagnosis.
Clinicians also assess for skin abnormalities when conducting a physical examination for other purposes. Skin cancers are seldom painful until they are very advanced, so older patients may be unaware of lesions on their back or on other areas of the body not easily seen.

**INTERVENTION**

Adequate nutrition and hydration is essential to skin health. Older adults with skin conditions should be encouraged to see a dietitian for recommendations. Skin ulcers and pressure injuries should be evaluated and treated promptly, as skin breakdown can progress quickly. The skin should be well protected, moisturized, and inspected daily for any changes. Wound care and dressings for any pressure ulcer/injury care should be monitored by the healthcare team, with careful assessment for any infection and evidence of wound healing.

Any suspicious skin lesions that are larger than 6 mm should be referred to a dermatologist for potential biopsy. Treatment of skin lesions varies and may include cryotherapy, radiotherapy, surgery, and topical treatment (Mauk, 2014).

**Renal Changes**

Renal changes associated with aging have major effects on the physical and psychosocial well-being of older adults.

Age-related vascular rigidity and decreased cardiac output reduce renal blood flow and the glomerular filtration rate (GFR), lengthening the time required to excrete waste products such as nitrogen. The biologic half-life of medications is affected by kidney function. This can translate into slower elimination of certain medications (such as streptomycin) and result in toxic effects for older patients.

Aging also reduces the resorption of glucose, leading to increased levels of glucose in the urine (glycosuria). Decreased resorption of bicarbonate and sodium can upset the sodium-potassium ratio, resulting in hyperkalemia (elevated potassium levels). Signs and symptoms of hyperkalemia include muscle weakness or paralysis, tingling of the lips and fingers, restlessness, intestinal cramping, and diarrhea.

Sudden or large changes in fluid volume increase the risk of hypervolemia (abnormal increase in blood volume) or hypovolemia (abnormal decrease in blood volume). Acute losses of fluid or chronic fluid deficits can result in renal insufficiency in older adults.

**ASSESSMENT**

Assessment of patient renal function is recommended on a regular basis but is most important to consider when adding new medications or prior to exposure to contrast media for diagnostic tests. Blood pressure should be monitored regularly as well as any medications used in the management of hypertension in older adults. Patients with diabetes are also at increased risk for
kidney failure. Creatinine clearance is an important indicator of kidney function and should be assessed prior to making a decision about new medications or drugs that are cleared through the kidneys. Additional blood tests that evaluate kidney function include GFR and blood urea nitrogen (BUN) (Touhy & Jett, 2016).

Symptoms of kidney failure are due to the build-up of waste products in the body that may cause patients to experience weakness, shortness of breath, lethargy, and confusion. Inability to remove potassium from the bloodstream may lead to abnormal heart rhythms and sudden death. Initially, there may be no symptoms of kidney failure.

**INTERVENTION**

Treatment of the underlying cause of kidney failure may return kidney function to normal. In older adults especially, efforts to control blood pressure and diabetes may be the best way to prevent chronic kidney disease and progression to kidney failure. Kidney function may gradually decrease over time. If the kidneys fail completely, one option available for an older adult may be dialysis. However, no cure currently exists for chronic kidney disease. Following a regime prescribed by the healthcare provider is vitally important, as it helps with day-to-day living with kidney failure. A large number of older adults with kidney disease manage to live an active, productive life (Meiner, 2015).

Older adults also need to carefully monitor their fluid intake and make adjustments in response to medication effects or other influences on the fluid and electrolyte balance. Patients who are on medications that are excreted by the kidney should have kidney function tests on an annual basis (or more frequently if needed) to monitor any side effects.

Those working with older adults in the healthcare setting should be aware that the stress from surgery, fever, or other acute illness can put an older adult at increased risk for kidney damage or kidney failure (Touhy & Jett, 2016).

**Urologic Changes and Incontinence**

Urologic changes are closely related to changes in the renal system. Age-related loss of muscle tone and decreased contractibility of the bladder can cause excessive urination at night (nocturia) and increased frequency of urination. These same factors may also cause urinary retention, thereby increasing the risk of bacterial growth and infection. Urinary tract infections are more common in women because of their shortened urethra and its proximity to the anus, which increases the risk of fecal contamination.

Some degree of age-related urinary incontinence (any involuntary leakage of urine) is common in older people, particularly among the frail elderly. People with diabetes are at high risk for incontinence due to neuropathy that affects pelvic nerves. Other high-risk groups include those with Parkinson’s or stroke-related neurologic problems, women with relaxed pelvic muscles, and men who have had prostate surgery.
There are five principal types of incontinence: urge, stress, overflow, functional, and mixed (Tabloski, 2014; Touhy & Jett, 2016).

- **Urge incontinence** is generally caused by uninhibited bladder contractions (detrusor overactivity) that lead to leakage of urine. In men, this condition often is accompanied by urethral obstruction from benign prostatic hyperplasia (BPH) (see below). Urethral obstruction is common in older men but rare in older women. Bladder stones or tumors can also cause bladder contractions and sudden-onset urge incontinence, especially if urination is painful or if there is blood in the urine (hematuria). Cystoscopic examination and urinalysis may be necessary to determine the cause.

- **Stress incontinence** is urinary loss related to laughing, standing, coughing, or lifting heavy objects.

- **Overflow incontinence** (urinary frequency, nocturia, and frequent dribbling) is related to detrusor underactivity, which may be caused by sacral lower motor nerve dysfunction (“neurogenic bladder”).

- **Functional incontinence** occurs when the patient has either physical or psychological factors that impair the ability to get to the toilet (e.g., a patient who is wheelchair-bound or has dementia).

- **Mixed incontinence** is a combination of more than one urinary incontinence problem, usually stress and urge. (Tabloski, 2014)

Urinary incontinence also may be caused by factors unrelated to the renal and urologic system. These include delirium, excess fluid intake, medications, psychological factors, restricted mobility, and stool impaction (Tabloski, 2014).

BPH is a male age-related enlargement of the prostate gland that constricts the urethra and obstructs the outflow of urine. Approximately 80% of men may be diagnosed with BPH by the age of 80 years. The development of BPH is due to structural, functional, and hormonal changes with aging. Symptoms that may be manifested with prostatic enlargement include hesitancy in starting a stream, a decrease in the force of the urinary system, terminal dribbling, a sensation of a full bladder after voiding, and urinary retention (Meiner, 2015). Applying suprapubic pressure while voiding may help empty the bladder. If that proves ineffective, intermittent catheterization is indicated.

Sometimes a PSA (prostate-specific antigen) test may be ordered to rule out prostate cancer even though BPH is not related to prostate cancer. Other tests such as abdominal ultrasonography or cystoscopy may be indicated in males with urinary retention, renal impairment, or suspected cancer. These tests are done to evaluate the extent of the obstruction (Meiner, 2015).
ASSESSMENT

The precise incidence of incontinence is unknown because shame and embarrassment make patients hesitant to talk about it. Many clinicians do not screen for it, either sensing the patient’s embarrassment or because of limited time. However, when a health professional asks, “Do you have any problems with leakage of urine?” those who experience incontinence will generally acknowledge it.

Screening for incontinence is essential because nonpharmacologic therapeutic measures can reduce or eliminate the condition, preventing complications such as skin breakdown, urinary tract infections, and withdrawal from social activities, which can lead to isolation.

By observing how long it takes from intake to urinary output, caregivers can intervene at the appropriate time for toileting. Controlling urinary tract infections also helps prevent incontinence.

INTERVENTION

Selection of an intervention will depend on a comprehensive assessment, the type of incontinence, and whether the outcome is to cure or minimize the extent and complications of the incontinence (Touhy & Jett, 2016). Research indicates that behavioral modification should be the first-line therapy for incontinence in older patients. For instance, pelvic floor exercises are helpful for stress incontinence, while bladder training is helpful for urge incontinence. Both modalities are helpful when the patient has both types of incontinence (Tabloski, 2014). Drug treatment for stress incontinence is limited, although some experts recommend a trial of topical estrogen for women with symptomatic atrophic urethritis.

### INTERVENTIONS FOR URINARY INCONTINENCE

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Anti-incontinence devices

- Pessaries (females)
- Condom catheter (males)
- External clamps or urethral plugs

Supportive interventions

- Elevated toilet seats
- Gait training
- Modified clothing
- Absorbent pads or undergarments


When confusion and incontinence occur together, controlling the confusion may also help prevent incontinence. However, research suggests that patients who are taking medications for cognitive impairment such as dementia (i.e., cholinesterase inhibitors) should not take medications for incontinence (i.e., anticholinergic drugs) because they may become problematic for the older adult. The interaction of these two types of medications can hasten functional decline and complicate glaucoma (Touhy & Jett, 2016). This finding has major public health implications because an estimated one third of people with dementia also take a drug for incontinence.

Respiratory Changes

Normal aging results in a number of changes in the respiratory system (see table below).

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<tr>
<th>AGE-RELATED CHANGES IN THE RESPIRATORY SYSTEM</th>
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<td><strong>Respiratory Function</strong></td>
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| Mechanics of breathing | • Decreased vital capacity
  | • Increased reserve volume
  | • Decreased expiratory flow rate |
| Oxygenation | • Decreased PaO₂
  | • Increased A-a (alveolar-arterial) oxygen gradient |
| Mechanics of breathing | • Decreased vital capacity
  | • Increased reserve volume
  | • Decreased expiratory flow rate |
| Control of ventilation | • Decreased tidal volume (Vt)
  | • Increased respirator rate
  | • Increased minute ventilation |
### Lung defense mechanism
- Decreased ability to clear secretions
- Increased susceptibility to infections
- Increased risk of aspiration

### Sleep and breathing
- Increased frequency of apnea, hypoxemia, and arterial oxygen desaturation during sleep
- Increased risk of aspiration
- Snoring
- Obstructive sleep apnea

### Exercise capacity
- Decreased maximum $O_2$ consumption

### Breathing pattern
- Increased respiratory rate
- Decreased tidal volume (Vt)


Aging also impairs immune function, increasing asymptomatic low-grade inflammation and the risk of infection. These changes elevate the risk of pneumonia. In addition, older people are at increased risk for respiratory depression from medications, particularly from opioid analgesics. This risk is highest among patients with COPD, liver or renal failure, and adrenal insufficiency.

**ASSESSMENT**

Patients with respiratory illnesses such as pneumonia may experience new onset of symptoms such as:

- Chills
- Fever
- Chest pain
- Sweating
- Productive cough
- Dyspnea
- Confusion/delirium
- Weakness
- Shortness of breath

Assessment and diagnosis may be made through chest X-ray, blood tests, and sputum culture. A physical exam, swallow test, lung auscultation, and pulmonary function test are also common assessments for respiratory conditions (Mauk, 2014).
INTERVENTION

Interventions for patients with respiratory conditions include:

- Increasing fluid intake to 8 to 10 glasses of water a day (if not contraindicated) to soften lung secretions to ease removal (expectorate)
- Exercising within the patient’s capacity to promote thoracic muscle conditioning, utilizing pulmonary rehabilitation programs in the surrounding areas (generally managed by physical therapists or respiratory therapists)
- Avoiding smoking or second-hand smoke inhalation
- Practicing pursed-lip breathing to control breathlessness and improve oxygenation
- Monitoring pulse oximetry to assess oxygenation
- Eating frequent, small meals to reduce breathlessness associated with eating
- Assessing the home environment for potential safety hazards for those on oxygen
- Being alert for signs of confusion, headaches, and forgetfulness, as these may be indicative of carbon dioxide retention (Meiner, 2015)

Respiratory conditions such as COPD and pneumonia may be treated with oxygen therapy. In addition, a patient who has difficulty swallowing may need to take precautions when eating. Antibiotics may be needed to treat bacterial pneumonia. Adequate fluid intake is also important when faced with respiratory illnesses. Intravenous fluids may be indicated, depending on the condition of the patient (Mauk, 2014).

Endocrine Changes

The endocrine system undergoes many changes during aging.

**Hypothyroidism** is a common hypo-functioning endocrine state that results from an inadequate thyroid hormone release. The most sensitive indication of this disorder is based on the TSH and T4 levels. Clinical symptoms of hypothyroidism in older adults are atypical as compared to those in younger individuals. Mild or early hypothyroidism may be underdiagnosed in older adults since the condition comes on insidiously and many of the clinical manifestations are also signs of aging: fatigue, cold intolerance, weight gain, muscle cramps, paresthesia, lethargy, and confusion (Meiner, 2015).

**Hyperthyroidism**, or thyrotoxicosis (abnormally high levels of T4 or T3), may be caused by Graves’ disease (an autoimmune disease) or by toxic multinodular goiter, thyroid adenomas, thyroid carcinoma, or amiodarone. Hyperthyroidism is characterized by a hypersecretion of
thyroid hormones, which is usually associated with an enlarged thyroid gland. Some of the symptoms of this condition include heat intolerance, sweating, protruding eyeballs, irritability, restlessness, anxiety, tremors, and most notably, atrial fibrillation in the older adult population. In fact, 27% of geriatric hyperthyroid patients present with atrial fibrillation that does not convert back to sinus rhythm even when a normal thyroid condition is achieved (Meiner, 2015).

The gonadal (or sex) hormones androgen and estrogen diminish with aging. Declining estrogen levels result in atrophy of the ovaries, uterus, and vaginal tissue in older women, which leads into menopause, a normal aging change for females, and also may make sexual intercourse painful. Older men may develop firmer testes and hypertrophy of the prostate gland, which then leads into andropause, a normal aging change for males (Meiner, 2015). These changes, together with other physical and psychosocial changes, may decrease sexual capacity. However, libido continues in both women and men. Although sexual activity may occur less often, it still can remain satisfying.

ASSESSMENT

Assessment of endocrine function includes a physical exam, patient history, blood tests to check hormonal levels, and assessment of patient symptoms. Sexual function may be assessed with a physical exam and patient-reported signs and symptoms (Mauk, 2014). In addition, libido may be affected by nonphysiologic causes including depression, stress, and other emotional concerns.

INTERVENTION

Endocrine conditions, such as hypothyroidism, may be treated with medications to replace the hormones that are deficient in the body. Correcting hypothyroidism in people over 60 requires a lower dose of replacement thyroid hormone than in younger people. Replacement should be initiated slowly, particularly in those with coronary artery disease, to prevent angina and myocardial infarction.

Treatment options for erectile dysfunction in men include oral medications, vacuum pump devices, penile implants, and drugs injected into the penis. Many oral medications are contraindicated in patients who have baseline cardiac conditions, since they can increase their risk for myocardial infarction. Women may want to explore vaginal creams, gels, and lubricants to increase comfort during intercourse (Mauk, 2014).

COGNITIVE CHANGES OF AGING

The brain and nervous system comprise a network of complex structures that undergo many neurophysiological changes over a lifetime. Each unique individual’s lifestyle, nutritional intake, genetic makeup, and tissue perfusion are some of the many factors that affect the neurologic system. In the absence of disease, the human brain can function well into the tenth decade of life.
Approximately 5 million older adults in the United States have a type of dementia or neurocognitive disorder, the majority of which are due to Alzheimer’s disease (AD). By 2050 this number is expected to rise to 16 million. The incidence of AD increases dramatically with age—from 5% of those between 65 and 75 to 50% of those 85 and older.

Although the risk of developing AD increases with age, AD and other dementia symptoms are not a part of normal aging but the result of diseases that affect the brain. Neurocognitive disorders are characterized by progressive cognitive and behavioral changes. Symptoms commonly appear after age 60, beginning with loss of recent memory, followed by faulty judgment and personality changes. People in the early stages of AD often think less clearly and may be easily confused (Touhy & Jett, 2016).

Assessing Cognitive Status

The Mini–Mental State Examination (MMSE) is one of a number of screening tools for cognitive status (impairment and dementias). It measures an individual’s mental functions: orientation, attention and focus, recall, and language. The tool has been revised into a brief 16-item instrument and takes between 10 and 15 minutes. The highest possible score is 30 points. Those who score less than 25 need further evaluation for possible AD or other dementias, depression, delirium, or schizophrenia. A score of 21 or less generally indicates cognitive impairment requiring further investigation (Touhy & Jett, 2016; Meiner, 2015).

Reversible Forms of Confusion

Gradual onset of confusion may be reversible if it is related to a treatable or correctible condition such as nutritional deficiency, hypothyroidism, vision or hearing impairment, urinary tract infections (febrile), or depression. Careful assessment is needed to avoid misdiagnosis and thereby perpetuate the state of confusion. Health professionals need to assume that confusion may be reversible, particularly confusion of sudden onset, and seek the possible causes (Tabloski, 2014).

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Hypotension
Drug-related intoxications
Ethanol intoxication or withdrawal
Pernicious anemia
Pellagra (niacin deficiency)
Stress
Fecal impaction
Febrile status from urinary tract infection
Vitamin B₁₂ deficiency

**Mechanical problems**
- Obstruction to cerebral blood flow
- Increased intracranial pressure
- Brain cell death or loss
- Metabolic changes (e.g., high temperature, kidney failure)

**Sensori-perceptual problems**
- Sensory deprivation related to vision or hearing impairment
- Sensory overload in noisy, crowded settings
- Lack of variety, lack of personal contacts, and lack of meaning, especially in institutional settings
- Relocation/transfer from familiar surroundings to unfamiliar surroundings

Sources: Tabloski, 2014; Meiner, 2015.

**Mild Cognitive Impairment (MCI)**

Mild cognitive impairment is a transitional state between the normal cognitive changes of aging and the development of Alzheimer’s disease or other dementias (see below). Two subtypes of MCI have been established: **amnestic** MCI is characterized by memory problems; **nonamnestic** MCI affects cognitive functions other than memory, such as language, attention, critical thinking, reading, and writing. Experts estimate that MCI may affect more than 18% of the population over age 65. People diagnosed with MCI are at increased risk of developing AD or other dementias (Petersen et al., 2014).

The American Academy of Neurology established the following criteria for an MCI diagnosis:

- An individual’s self-report of memory problems, preferably confirmed by another person
- Measurable, greater-than-normal memory impairment detected with standard memory assessment tests
- Normal general thinking and reasoning skills
- Ability to perform normal daily activities
Ongoing research on MCI suggests that earlier treatment with drugs approved for AD may slow its progression to AD. Additional nonpharmacologic strategies that have been studied and shown to be helpful include cognitive training and aerobic exercise. However, to date the studies have involved small sample sizes and need to be replicated (Petersen et al., 2014).

**Alzheimer’s Disease (AD)**

Alzheimer’s disease was first described by Dr. Alois Alzheimer in 1906. Alzheimer’s disease is an irreversible brain disorder that gradually erases memory, thinking, understanding, and sense of self. Over time, as neurons die in widespread areas of the brain’s cerebral cortex, mild sporadic memory loss evolves into severe cognitive dysfunction as well as behavior and personality changes and, eventually, loss of physical function. The course of the disease and the rate of decline vary from person to person. On average, clients with AD live for 8 to 10 years after diagnosis but may live as long as 20 years.

In progressive stages of the disease, people with AD may forget how to manage activities of daily living. In the late stages, people with AD are unable to function on their own and become completely dependent on others for their everyday care. Finally, they become bedfast and succumb to other illnesses and infections. Pneumonia is the most common cause of death in AD (Touhy & Jett, 2016).

Research has found distinct ethnic and racial differences among persons with AD. A genetic connection has been identified, linking African Americans to about twice the risk of developing AD as compared to the white Americans. Individuals that self-identify as Hispanic are 1-1/2 times more likely to develop AD as white Americans, but no genetic link has yet been identified to explain this (Touhy & Jett, 2016).

**CAUSES AND PREVENTION**

Alzheimer’s disease has no single, clear-cut cause and therefore no sure means of prevention. Scientists believe that AD results from the interaction of genetic, environmental, and lifestyle factors over many years, causing changes in brain structure and function.

Risk factors for AD include the following:

- Advanced age
- Family history of dementia (genetic makeup)
- Hypertension
- Diabetes
- Stroke or transient ischemic attacks (TIAs)
- Presence of infarcts or white-matter lesions
- Low mood (depression)
• Higher body mass index (BMI)
• Traumatic brain injury
• Head injury in early adulthood
• Chronic stress
• Smoking more than two packs of cigarettes per day
• Lack of physical activity
• Dyslipidemia
• Sleep apnea
• Low levels of vitamin D
  (Touhy & Jett, 2016)

Factors that protect cognitive function across the lifespan include:

• Avoiding parenteral or second-hand smoke
• Avoiding smoking
• Detecting and treating ADHD
• Higher levels of education
• Higher socioeconomic status
• Optimal diet and nutrition
• Managing hypertension
• Detecting and treating depression, thyroid disease, and hormone and vitamin imbalances
• Intellectually challenging activities
• Active social lifestyle
• Regular physical exercise
  (Touhy & Jett, 2016)

Preventing AD would save untold suffering of patients and families and billions of dollars for the healthcare system. Research studies to identify factors that increase or decrease the risk of developing AD are a first step toward making primary prevention a reality. For example, lifestyle choices related to diet and exercise that reduce the risk of diabetes, hypertension, stroke, and obesity could reduce the risk of AD.

CARE AND TREATMENT

Care and treatment of the person with AD changes over time as the disease progresses. Care planning should begin at the time of diagnosis and involve the patient and the family. In light of the current inability to enact a cure for any of the dementias (neurocognitive disorders), the overarching healthcare goals are to:
• Maximize quality of life for the patient and family
• Promote self-esteem
• Maintain independent function for as long as possible (i.e., self-care activities)
• Prevent complications
  (Touhy & Jett, 2016)

Treatment for AD includes several options to slow the progression of the disease, such as:

• Cholinesterase inhibitor therapy to delay or prevent symptoms from becoming worse (plus, they have been known to help with behavior changes)
• Management of comorbid conditions, especially sensory deficits
• Treatment of behavioral symptoms and mood disorders
• Support and resources for patient and caregiver
• Compliance with state-mandated reporting requirements for driving impairment and elder abuse
  (Meiner, 2015; Touhy & Jett, 2016)

The objectives of nursing care are twofold:

• Focus on maintaining cognitive and global functioning early in the disease process to postpone the need for institutionalized care.
• Assist patients and their families through progression of the disorder while allowing them as much dignity and independence as possible.
  (Meiner, 2015)

A team approach also includes multidisciplinary management, working along with the patient’s family:

• Occupational therapy can assist with educational aspects of using adaptive equipment and focusing on what patients can do to enhance engagement in activity, promote safety, and improve quality of life, all while reducing caregiver burden (AOTA, 2017a).
• Physical therapy can support increasing functional ability, prevent excess disability and the risk of falls and injury, and delay decline with the ability to carry out activities of daily living (APTA, 2015).
• Speech therapy can address dysarthria and dysphagia (teaching facial exercises and swallowing techniques to lower risk of aspiration pneumonia); practice learning important information (i.e., phone number, address); and work on attention, memory, problem solving, and higher thinking skills (ASHA, n.d.).
Patients receiving collaborative care from an interdisciplinary healthcare team—including physicians, nurses, social workers, and rehabilitation specialists working with the patient’s family caregiver—have been shown to exhibit fewer behavioral and psychological symptoms of dementia than those receiving traditional care. Family caregivers also benefited, showing significant reduction in distress and improvement in depression.

COMMUNICATING WITH PATIENTS WITH COGNITIVE IMPAIRMENT

When talking with older adult patients, especially those with dementia, health professionals and family caregivers should use a respectful, adult communication style. The quality, not the quantity, of the interaction is basic to therapeutic communication. Always remember: there is a person behind the disease.

Suggestions for communicating with patients who have cognitive impairment include the following:

Establish Rapport
- Make an introduction by stating your name and why you are there; shake hands.
- Find common ground.
- Be personal.
- Use humor (if appropriate).
- Allow the patient to choose the topic of conversation.
- Use a general opening (i.e., “How is your day today?”).
- Follow the patient’s lead.
- Use eye contact.
- Use touch sensitively.

Simplify
- Give instructions one step at a time.
- Speak slowly while facing the person.
- Allow time for response.
- Reduce other distractions.
- Provide clues to the instructions (e.g., if asking the patient to sit, have the chair in front of them and pat the seat of the chair).
larify Comprehension

- Clarify time orientation of the patient (i.e., get into the place and time of the patient).
- Recognize any themes to what the patient is saying (fear, sadness, happiness).

Support Continued Communication

- Treat the patient with respect and dignity.
- Limit making corrections (do not try to bring the person into reality; go to where they are).
- Use multiple ways of communicating (touch, gestures, images).
- Understand the life history and experiences of the patient (career, family, hobbies).
- Adjust for hearing or vision loss.

Cognitively impaired individuals who are approaching life’s end may experience hallucinations and delusions. Attempts to reorient these patients are usually unsuccessful. A better strategy is to ignore the delusional statements and divert the conversation in another direction. The technique of validation, based on the understanding of empathy of the emotion and messages behind the confusion is most effective in communicating with the dying AD patient. Certainly, an aspect of the nurse’s approach to the end of life for these individuals is to educate the family on the process of imminent death.


FUNCTIONAL ASSESSMENT OF AD

The Reisberg Functional Assessment Staging (FAST) Scale is a 16-item scale designed to parallel the progressive activity limitations associated with AD. Stage 7 identifies the threshold of activity limitation and indicates a life expectancy of 6 months or less.

<table>
<thead>
<tr>
<th>REISBERG FUNCTIONAL ASSESSMENT STAGING (FAST) SCALE</th>
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<tr>
<td><strong>Stage</strong></td>
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Stage 6  |  Decreased ability in ADLs (e.g., dressing, bathing)
---|---
Substage 6a | Difficulty understanding how to put on clothing
Substage 6b | Unable to bathe properly; may develop fear of bathing
Substage 6c | Inability to handle mechanics of toileting (i.e., forgets to flush, does not wipe properly)
Substage 6d | Urinary incontinence present

Stage 7  |  Loss of speech, locomotion, and consciousness
---|---
Substage 7a | Ability to speak only limited vocabulary (1–5 words a day)
Substage 7b | All intelligible vocabulary lost
Substage 7c | Not able to ambulate
Substage 7d | Unable to smile
Substage 7e | Unable to hold head up

Source: Adapted from AGS, 2014.

### Other Dementias

Additional forms of dementia include vascular dementia, Parkinson’s dementia, dementia with Lewy bodies, and frontotemporal dementias. The various forms of dementia have different symptom patterns and brain abnormalities. Accurate diagnosis of the type of dementia is important, as each one is treated and managed differently (Touhy & Jett, 2016).

### ELDER ABUSE

Elder abuse generally occurs when harm or distress is caused to an older person within the context of a relationship where there is an expectation of trust. A perpetrator of abuse may include children, other family members, spouses, staff at nursing facilities, assisted living, or any person with a propensity to do harm, physical or otherwise (e.g., financial/banker). In 60% of elder abuse and neglect cases, perpetrators are adult children or spouses of the victim (NCOA, 2017).

Elder abuse is difficult to track. There is no national reporting system, and statistics can be unreliable and outdated. In addition, older adults may be hesitant to report abuse out of fear. However, estimates indicate that 1 in 10 Americans aged 60 and over have experienced some form of elder abuse. Some estimates range as high as 5 million elders being abused annually. However, it is also estimated that only 1 in 14 cases of elder abuse are reported to authorities (NCOA, 2017).

Elder abuse can take many forms, including physical, sexual, emotional, financial, caregiver neglect, and abandonment. Healthcare providers should regularly screen for elder abuse and recognize any unusual symptoms or patient responses that may indicate abuse.
### TYPES OF ELDER ABUSE

**Physical**
Inflicting physical pain or injury on an elder (e.g., slapping, bruising), assault, threatening with a weapon, or inappropriately restraining by physical or chemical means.

**Emotional or Psychological**
Exposure to threatening acts or coercive tactics (i.e., humiliation or embarrassment, controlling behavior, social isolation, disregarding needs, or destroying property).

**Sexual**
Sexual contact against an older adults’ will (i.e., intentional touching directly or through clothing of the genitalia, anus, groin, breast, mouth, inner thigh, or buttocks).

**Neglect**
Failure or refusal of a caregiver or other responsible person to provide for an older adult’s basic physical, emotional, or social needs (i.e., nutrition, hygiene, clothing, shelter, access to healthcare) or failure to protect them from harm (i.e., exposure to unsafe activities or environments).

**Exploitation or Financial Exploitation**
Unauthorized or improper use of the resources of an older adult for monetary or personal benefit, profit, or gain (i.e., forgery, misuse or theft of money or possessions, use of coercion or deception to surrender finances or property, improper use of guardianship or power of attorney).

**Abandonment**
The willful desertion of an older adult by a caregiver or other responsible person.

**Self-neglect**
Failure of a person to perform essential self-care tasks, which failure threatens his/her own health or safety.


Financial abuse is the most common form of elder abuse reported in the United States. Many older people have lost their homes and their life savings because of financial exploitation. The Internet has increased the opportunity for scam artists to prey on elders who may be cognitively impaired.

As a consequence of abuse, posttraumatic stress syndrome and self-efficacy may never be resolved. Studies have shown that even older individuals subjected to minimal abuse have been found to have a 300% higher risk for death than those who have never been abused (Touhy & Jett, 2016).
Risk Factors

Risk factors for becoming an **abuse victim** include:

- Lack of social support and isolation
- Cognitive impairment, especially those with aggressive behaviors (including Alzheimer’s or other dementias)
- Mentally frail
- Physically frail
- Women living alone or in a household with family members
- Having been abused in the past
- Behavior considered aggressive, demanding, or inappropriate
- Living in an institutional setting
- Feeling deserving of the abuse

Risk factors for becoming an **abuser** include:

- Family member
- Someone with emotional or mental issues
- Someone who is abusing alcohol or other substances
- History of family violence
- Cultural acceptance of interpersonal violence
- Caregiver frustration
- Social isolation
- Impaired impulse control or rage of the caregiver
  (Touhy & Jett, 2016)

People with Alzheimer’s disease or other cognitive impairment as well as people with disabilities are at higher risk than other older adults. Caring for a person with AD can cause stress, depression, feelings of isolation, financial worries, and substance abuse, any or all of which can lead to elder abuse. Violent behavior by the patient may also lead to physical abuse by the caregiver. Respite care for the patient and caregiver—with counseling and supportive, professional assistance for the caregiver—can help prevent elder abuse. In severe cases, it is usually necessary to separate the patient from the caregiver, initiate legal action, and find a safe facility for the patient.
Assessment and Screening

Health professionals should be alert to any indication of elder abuse. During the physical examination, it is important to look for physical signs of possible abuse or neglect. These may include bruising, malnutrition, burns, scars, and fractures. Signs of sexual abuse may include trauma to the vulva or rectum or any unexplained vaginal or anal bleeding. Clinical findings of neglect may include dehydration, malnutrition, decubitus ulcers, and contractures.

Assessment and interview of the patient separate from the caregiver may be needed to confirm any suspicion of abuse or neglect (Tabloski, 2014). Office or emergency department visits provide a safe and confidential environment.

Screening questions for elder abuse may be used with patients. Questions for routine screening include the following:

- Do you feel safe where you live?
- Who prepares your food?
- Does someone help with your medications?
- Who takes care of your checkbook?
- Does anyone at home hurt you?
- Do they scold or threaten you?
- Do they touch you without your consent?
- Are you afraid of anyone in your life?
- Are you alone a lot?
- Are you able to use the telephone any time you want to?
- Has anyone forced you to do things you didn’t want to do?
- Has anyone taken things or money that belong to you without your permission?
- Has anyone ever failed to help you take care of yourself when you needed help? (Stanford School of Medicine, 2014)

Reporting Elder Abuse

Abuse of the older adult is intentional, and many states, including Texas, have reporting statutes that require certain persons, including nurses and other healthcare professionals, who become aware of the abuse, neglect, or exploitation to report it to the appropriate authorities.
In Texas, anyone suspecting abuse, neglect, or exploitation is required to report the case to the Texas Department of Family and Protective Services. Reporting can be done anonymously. Those failing to report abuse can be held liable for a misdemeanor or felony.

**To report suspected elder abuse, neglect, or exploitation in Texas:**

- Call the Texas Abuse Hotline at 800-252-5400.
- For nonemergency situations that do not require an immediate response, report online at txabusehotline.org
- To reach regional Long Term Care Ombudsman offices, consult the Area Agencies on Aging directory at www.dads.state.tx.us/contact/aaa.cfm
(TX DFPS, 2016)

**END-OF-LIFE CARE**

The process of dying has changed over the past century due to technological and medical health advances. An increased lifespan has also created complex medical choices and shaped an entirely new generation of individuals with chronic illnesses. Many in society deny death, believing that somehow medical science will cure any patient. Death is also perceived as a failure of the healthcare system rather than a natural aspect of life.

But death is inevitable, and preparing older adults and their families to plan and anticipate making decisions regarding end-of-life care and treatment is important, especially in the event that the older adult is not able to make decisions for her- or himself. Older adults should plan and discuss their preferences with significant others, family, and healthcare providers to communicate their wishes through planning advance directives, a living will, and appointing a healthcare power of attorney.

**Palliative and Hospice Care**

At the center of palliative and hospice care is the belief that each individual has the right to die pain-free and with dignity, and that families receive the necessary support to allow the patient to do so. Today, palliative care is the overarching concept, with hospice care incorporated as one of its specialties (NHPCO, 2017b).

*Palliative care* is defined as “patient- and family-centered care that optimizes quality of life by anticipating, preventing, and treating suffering. Palliative care throughout the continuum of illness involves addressing physical, intellectual, emotional, social, and spiritual needs and to facilitate patient autonomy, access to information, and choice” (NHPCO, 2017b).
The **palliative care philosophy** is characterized by the following guidelines:

- Palliative care is focused on managing suffering, whether it be physical, psychological, emotional, or spiritual.
- Care is provided and services are coordinated by an interdisciplinary team.
- Patients, families, and palliative and nonpalliative healthcare providers collaborate and communicate about care needs.
- Services are available concurrently with or independent of curative or life-prolonging care.
- Patient and family hopes for peace and dignity are supported throughout the course of illness, during the dying process, and after death.

(NHPCO, 2017b)

**Hospice** is a concept of care and not a building where care is given. The hospice care concept is considered to be the model for quality, compassionate care for individuals facing life-limiting illness or injury. This means that given the patient’s disease and current status, doctors expect that he or she will die within six months. (Data show that most patients enrolled in hospice care live less than two months.) Terminal patients enrolling in hospice care sign a consent agreeing to accept care that focuses on comfort rather than on cure or treatments that prolong life.

The **hospice care philosophy** is characterized by the following guidelines, in addition to the palliative care guidelines described above:

- Hospice affirms life, not death.
- Hospice attempts to maximize the patient’s quality of life.
- Hospice is holistic care.

A highly qualified, professional team of healthcare professionals and volunteers work together to meet the physiological, psychological, spiritual, social, and economic needs of the patient and family facing terminal illness and bereavement. Hospice offers a coordinated program of palliative and supportive care (i.e., speech, occupational, physical therapies, etc.) with the focus of keeping the terminal patient in his or her home as long as possible. Hospice is accountable for the appropriate allocations and utilization of its resources to providing optimum, culturally competent care consistent with the patient and family’s desires and needs (Touhy & Jett, 2016; NHPCO, 2017a).

**End-of-Life Care Team**

When caring for the older adult and their family on a day-to-day basis—whether it be in a hospital, care facility, hospice respite facility, or the patient’s home—the focus of care requires knowledge of the grieving and dying processes as well as providing relief of symptoms, managing or improving the cognitive and functional limitations, and supporting the caregiver(s)
(i.e., family, friend, coworker) who are coping with multiple issues simultaneously (Touhy & Jett, 2016).

Interdisciplinary team members play a primary and essential role in the palliative/end-of-life journey for patients and their families. They provide a variety of services based on the desires and needs of both the patient and the family.

**Nursing skills** needed for the practice of gerontologic palliative/end-of-life care include:

- Ability to communicate to patients and families regarding the dying process
- Being knowledgeable about symptom management control and pain control techniques
- Having the ability to provide comfort-oriented nursing interventions
- Being able to take care of oneself
- Recognizing changes that precede imminent death
- Working with patients and families who are angry and stressed
- Being knowledgeable in ethical and legal issues while administering end-of-life palliative therapies
- Being knowledgeable regarding advance directives in order to educate patients and families
- Being adaptable and sensitive to religious, cultural, and spiritual issues
- Being knowledgeable of when to refer issues to other team members, such as social workers, chaplains, bereavement counselors, community resources, and other identified needs
  (Touhy & Jett, 2016)

Other interdisciplinary team members may include:

- Physicians (personal and hospice)
- Social workers
- Home health aides
- Chaplains, clergy, or other counselors
- Bereavement counselors
- Physical therapists
- Occupational therapists
- Speech-language therapists
• Massage therapists
• Art and music therapists
• Dietitians/nutritionists
• Trained volunteers

(AFTD, 2017; Russell & Bahle-Lampe, 2016; NHPCO, 2017a)

CONCLUSION

Caring for America’s aging population presents unique challenges to healthcare providers and the entire healthcare system. The healthcare needs of older adults are every bit as specialized as those of America’s children. Given the uncertainty of what the healthcare system will look like over the next decades, it is impossible to predict just how those needs will be met.

Three fourths of Americans over age 65 have two or more chronic illnesses. Graying Baby Boomers will only intensify this burden. Chronic illness and the ongoing epidemics of cancer and HIV/AIDS point to exponential escalation in the demand for geriatric care. Knowledge, skills, and tools to assist in the assessment and management of the multiple aspects of caring for older adults are important considerations for the various healthcare provider roles.

As the healthcare system continues to change, self-care and prevention remain paramount in the health of older people. Nurses and other healthcare providers have a critical role in educating patients and their caregivers about what they can do to improve or maintain their health and independence and to achieve the highest possible quality of life.

REFERENCES


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1. A symptom of heart disease more commonly reported in older adults is:
   a. Vertigo.
   b. Night sweats.
   c. Dyspnea in the absence of chest pain.
   d. Tingling in extremities.

2. An important factor that positively affects skin health in the older adult is:
   a. Adequate nutrition.
   b. Exercise.
   c. Smoking.
   d. Sun exposure.

3. A result of age-related decreased renal blood flow is:
   a. Slow heart rate recovery after exercise.
   b. Slower elimination of certain medications.
   c. Muscle atrophy.
   d. Urinary incontinence.

4. Which treatment is considered first-line therapy for stress incontinence in older adult patients?
   a. Catheterization to avoid social isolation
   b. Anticholinergic drugs, except for patients with dementia
   c. Behavioral modifications
   d. Topical estrogen for female patients

5. Hypothyroidism is characterized by which symptoms?
   a. Tachycardia, hot flashes, and mood swings
   b. Hypernatremia, thirst, and high body temperature
   c. Tremors, elevated temperature, and anxiety
   d. Lethargy, fatigue, and lack of mental alertness
6. In the Mini–Mental State Examination, the threshold indicating a need for further evaluation for possible Alzheimer’s disease or other dementias is a score of less than:
   a. 16 points.
   b. 21 points.
   c. 25 points.
   d. 30 points.

7. The gradual onset of confusion in older adults may be reversible when related to:
   a. Febrile urinary tract infection.
   b. Alzheimer’s disease.
   c. Electrolyte balance.
   d. Decreased intracranial pressure.

8. Which comorbid condition increases the risk of Alzheimer’s disease?
   a. Diabetes
   b. Hypothyroidism
   c. Sarcoidosis
   d. Chronic obstructive pulmonary disease

9. A factor shown to protect cognitive function across the lifespan is:
   a. A low-carbohydrate diet.
   b. A high body mass index.
   c. Regular physical exercise.
   d. A high school education.

10. When providing instructions to a patient with Alzheimer’s disease, it is best to:
    a. Raise your voice automatically to compensate for distractions.
    b. Use only verbal instructions.
    c. Focus the instructions only on the desired end result.
    d. Give the instructions one step at a time.

11. It is reported that in 60% of elder abuse and neglect cases, perpetrators are:
    a. Staff at nursing facilities.
    b. Neighbors.
    c. Adult children or spouses of the victim.
    d. Financial advisors.
12. Which risk factors are associated with a potential for becoming a victim of elder abuse?
   a. Having adequate social support and good health
   b. Having access to public assistance and resources
   c. Being cognitively impaired and socially isolated
   d. Being physically active and staying strong and fit

13. As defined by the National Hospice and Palliative Care Organization, palliative care is described as:
   a. Compassionate care for individuals facing life-limiting illness or injury.
   b. Patient and family-centered care that optimizes quality of life.
   c. Treatment that begins once the patient begins the dying process.
   d. Treatment that begins once the patient’s pain becomes intractable.

14. Hospice is a model or concept of care that:
   a. Offers palliative care to patients recovering from cancer.
   b. Is available to patients with terminal illness.
   c. Is provided most frequently in nursing homes.
   d. Aims to shorten the survival of patients with unmanageable pain.