What You Will Learn

- Etiology and symptoms of common musculoskeletal disorders of the elderly
- Common treatments used for comfort and to prevent further loss or immobility

Key Terms

- **Crepitus** — The grating of fractured bone fragments against each other; the crackling of joints
- **Cushing’s Disease** — Excessive production of ACTH by the pituitary gland
- **Giant Cell Arteritis** — Also known as temporal arteritis, a condition that causes the inflammation of temporal arteries; can cause blindness when the inflammation affects the ophthalmic artery
- **Gout** — A type of arthritis, which affects primarily males, triggered by increased uric acid in serum and joints that forms crystals; common symptoms are intense pain and swelling of the metatarsophalangeal joint of the big toe
- **Hydrotherapy** — The use of water (hot, cold, steam, or ice) to relieve discomfort and promote physical well-being
- **Hyperthyroidism** — Excessive thyroid gland activity, marked by increased metabolic rate, goiter, and disturbances in the autonomic nervous system
- **Hypothyroidism** — Diminished thyroid gland activity, resulting in lowered basal metabolic rate, lethargy, sleepiness, and tendency toward obesity
- **Osteoarthritis** — also known as degenerative joint disease, is a progressive disorder of the joints caused by gradual loss of cartilage and resulting in the development of bony spurs and cysts at the margins of the joints
- **Osteoporosis** — Literally means “porous bones”; occurs when bones lose an excessive amount of protein and mineral content, particularly calcium
- **Rheumatoid Arthritis (RA)** — A chronic autoimmune disorder that causes inflammation and deformity of joints
- **Tophi** — A chalky deposit of a uric acid compound found in gout; occurs most frequently around joints and in the external ear
- **Vasculitis** — A varied group of disorders that all share inflammation of one or more blood vessels as a common underlying problem
Disorders of the musculoskeletal system are prevalent in the elderly, and put the LTC resident at high risk for falls and injury. These disorders prompt concerns for potentially serious complications. In this chapter the etiology, risk factors, assessment needs, treatment expectations, and methods of prevention, when possible, for common disorders will be discussed.

**Osteoarthritis (OA)**

Osteoarthritis, often called arthritis, is a progressive and chronic disease among the elderly. This disease affects the cartilage that covers the end portions of bones in the joint. As aging occurs, this cartilage breaks down and wears away, causing the unprotected bone ends to rub against one another. This results in breakdown of the joint structure. OA is often referred to as a disease of wear and tear. Bony spurs may be seen on x-rays of individuals with osteoarthritis.

The joints most commonly affected are the hands (see figure 41.1 at left) and weight-bearing joints, such as the spine, hips, and knees. The degeneration of these joints may take decades and typically affects those that are greater than 50 years of age. Of those over age 65, 85 percent suffer from OA in one or more joints. OA is one of the most common causes of disability and can lead to an inability to perform ADLs, a loss of independence, and depression. The depression is usually situational a result of loss of independence and chronic pain. Chronic falls related to OA are due to diminishing strength and functionality of the weight-bearing joints. This has a serious impact on quality of life.

In early OA, the joint pain is generally mild, presenting as morning stiffness that lasts five to 15 minutes after rising and then fades away. As the disease progresses, inflammation occurs and increased pain and swelling results. There may be limited ROM at the joint, *crepitus* on movement, bony enlargements, or joint instability. In late stage OA, joint pain may be constant even without movement. Associated muscle weakness and atrophy and changes in the shape of the affected joints can be seen. Joint stiffness is usually an ongoing symptom. Bony deformities may be seen, especially on the hands. The deformities on the fingers due to OA are called Heberden’s and Bouchard’s nodes.

Being overweight increases a person’s chances of becoming arthritic because it places unnecessary stress on the weight-bearing joints (hips, knees). Repetitive, high-impact activities are a risk factor for the same reason. Certain endocrine or metabolic diseases predispose one for OA as well as a positive family history.

Although OA is a progressive disorder without a cure, the progression rate of the disease can be slowed with proper interventions. These interventions begin with educating the resident on the disease and its typical
course. Discussing personal coping strategies in regard to pain and limited function is an important nursing role. For instance, it has been documented that there is a direct relationship between weight reduction and pain relief in the knees. Because the nature of pressure exerted on weight-bearing joints is different from those that are not weight-bearing, it is estimated that for each pound of weight lost, there is a relief of four pounds of pressure on the knees. Only a 5 percent weight loss can make a significant difference. This reduced stress makes it easier to be active and reduces the risk of joint injury.

Exercise helps to reduce pain and improve joint mobility. Maintaining a healthy weight, reducing stress all joints and relief of depressive symptoms are major benefits to exercise. If the resident is not mobile, ROM exercises should be performed to maintain joint mobility. Physical therapy is sometimes ordered for individuals with OA.

Ongoing support and providing ordered medications for the resident’s arthritic pain is a crucial intervention. It is probably unrealistic to expect residents with OA to be totally pain-free with activity, but helping them decrease pain to a tolerable level is a reachable goal. It is the nurse’s responsibility to monitor the resident’s level of pain. Controlling pain in residents with OA and monitoring their activity should be part of the ongoing, fall-prevention program as well.

Acetaminophen is used for mild arthritic pain. However, non-steroidal anti-inflammatory drugs (NSAIDs) are often prescribed for moderate pain. These drugs must be used with extreme caution in the elderly due to the potential side effects, which include hypertension, peptic ulcer disease, GI bleeds, and kidney damage. The NSAIDs work well because they not only relieve pain, they decrease inflammation as well. A newer class of NSAID, called COX II inhibitors, may help decrease inflammation with fewer side effects. They are less likely to cause GI bleeds or ulcers. They should still be used with extreme caution, or not at all, in residents with heart or kidney disease.

Some topical preparations may provide relief when applied to the joint. Allowing residents to self-apply the cream, if able, keeps them involved in their own care. Topical pain relief patches are commercially available. Some are available over the counter and create sense of ice or heat using chemicals. There are also pharmaceutical patches that block nerve endings from transmitting pain — these are more useful with nerve and muscular pain than direct joint pain. Topical patches and creams containing an NSAID have recently been approved for use. They are very effective in some residents; however, they are very expensive and may not be covered by insurance.

Some providers will prescribe an injection of corticosteroids into the affected joint if the OA pain is more severe. This injection is typically performed in a provider’s office, and the benefits may last up to three months.
Labs should be monitored to help identify GI bleeds, kidney disease, and liver disease. Additionally, injections to coat the joint and reduce friction and pain are sometimes offered. These are offered in a series and are only injected by a trained professional.

**Rheumatoid Arthritis (RA)**

**Rheumatoid arthritis**, or RA, is a chronic autoimmune disorder that causes inflammation and deformity of joints. The joint’s synovial membrane is normally thin and fragile. In RA, it becomes severely inflamed, thick and stiff. The membrane is invaded by white blood cells, which produce destructive chemicals. The cartilage on the bones’ surfaces may be attacked and destroyed. These processes interfere greatly with joint movement.

Approximately two million people in the United States have RA. The disease is three times more common in women than men. Diagnosis of the disease usually occurs between 35 and 50 years of age and it has a familial component.

RA can present in an acute manner or have a very gradual onset. The most commonly affected joints are hands (see figure 41.2 at left), feet, wrists, elbows, and ankles. Symptoms are usually seen in the same joint bilaterally. For example, both wrists would likely be affected rather than only one. Morning stiffness is commonly seen, and it lasts for about an hour. Many individuals with RA complain of fatigue, weight loss, and sometimes fever. Sometimes rheumatoid nodules are present. These are bumps that can be felt under the skin, around the joints, and sometimes on the top of the arms and legs. These nodules may also develop in the tissue or lining surrounding the lungs or in the tissue surrounding the brain and spinal cord. Remember this is a systemic inflammatory disease, but the primary symptoms are seen in the musculoskeletal system.

Blood tests are often used to diagnose RA. A sedimentation rate and rheumatoid factor are usually obtained.

There is no cure for RA. Interventions are aimed at preventing complications of the disease, such as crippling, pain, and vasculitis. Physical care is aimed at maintaining flexibility and mobility of the joints, which preserves function and relieves pain. Preventing inflammation that causes joint destruction is key. However, this requires the use of medications that also reduce immune protection. Monitoring the resident for signs of infection and understanding the potentially life-threatening, adverse effects of the medications is a serious responsibility of the nurse.

The nurse is a valuable evaluator of pain control for residents suffering from RA. The provider will rely on the nurse to provide information that guides orders for medications and to report efficacy.
Total bed rest may be prescribed during an acute, painful phase of RA. Splints may be used to support affected joints. **Hydrotherapy**, moist heat, or cold packs may assist with pain relief. The resident should be asked about pain relief with these interventions.

First-line medication agents for RA are NSAIDs. They are quite helpful with pain and inflammation, but they do not arrest the disease. NSAIDs also have potentially serious side effects, such as ulcers, GI bleeding, hypertension, and kidney disease. COX II inhibitors, a type of NSAID, are often used for inflammation and pain in RA and do not have a significant risk of ulcers or GI bleeding seen with the traditional NSAIDs. Adverse reactions seen with COX II inhibitors include GI upset, edema, ulcers, GI bleeds, and liver failure.

Glucocorticosteroids may slow the progression of the disease and help with inflammation and pain. Steroids may cause an increased risk for infection, glaucoma, cataracts, hypokalemia, hyperglycemia, ulcers, hypernatremia, or hypertension. They can affect the blood counts as well, so close monitoring is critical for safe treatment. Long-term use of steroids can cause depression and psychosis. There is a very high risk of the development of severe osteoporosis with RA and use of these drugs.

Like other hormones, the body stops producing natural glucocorticosteroids when an exogenous (outside) source is being provided; thus, shutting down the cells that usually maintain this function. This may result in dependence on the drug, as non-use of the adrenal glands will result in atrophy and death of those cells. Swelling and symptoms of Cushing’s Syndrome (moon face, acne, “humpback” fatty deposits, weight gain) may also develop with long-term use.

Anti-rheumatic drugs are often used to treat RA. These drugs decrease inflammation and suppress the immune system, which decreases the joint destruction. The primary classifications used are DMARDs (Disease Modifying AntiRheumatic Drugs) and Tumor Necrosis Factor (TNF) [alpha] blockers. These drugs can be highly toxic. Potential side effects include liver disease, nausea, vomiting, rash, blood disorders, diarrhea, and bone marrow suppression as well as risk for severe infections.

**Gout**

**Gout**, often called gouty arthritis, is a disease manifested by the build-up of uric acid crystals in the articular cartilage of joints, tendons, and surrounding tissues. These crystals cause severe inflammation and pain.

Normally uric acid is dissolved in the body’s bloodstream and is excreted from the body in urine. Sometimes, the body may produce too much uric acid or the kidneys release too little. When this occurs, uric acid can build up. Also, eating too many foods with purines, such as liver or beans, may cause an increase in uric acid levels. This uric acid build-up may lead to kidney stones and kidney damage.
Symptoms of gout include excruciating, sudden, burning pain that occurs in a joint. This pain is accompanied by swelling, redness, warmth, and stiffness. A low grade fever may be present. The pain experienced has two sources. The first source of intense pain is the crystals inside the joint whenever the joint is moved. The second source of pain is the inflammation of the tissues around the joints, causing the skin to be swollen, tender, and sore, even if lightly touched.

Gout usually affects the big toe, but can also affect the ankle, heel, instep, knee, wrist, elbow, fingers, and spine. Usually, early in the disease, the first attacks of gout resolve in one to two weeks. With time, the gout flare-ups become more frequent and last longer.

The resident should be assessed for complications of gout. These complications may include recurrence of the attack, tophi formations that are painful, or kidney stones. To help avoid these complications, the nurse can help by ensuring gout does not go untreated, providing medications for gout as ordered, and providing thorough assessments.

The nurse may promote a low-cholesterol, low-fat diet and encourage adequate hydration. Encouraging the resident to avoid alcohol and excessive animal protein (especially red meat) intake should be helpful since both tend to increase uric acid levels. Thiazide diuretic use increases one’s chance of developing gout as does low-dose aspirin.

NSAIDs may help with inflammation and pain control, but high doses are needed. Adverse effects include GI upset, bleeding ulcers, hypertension, and kidney disease. Labs may be monitored to catch any early anemia secondary to GI bleeding.

Colchicine is used to control gout and may be given to treat an acute attack or to prevent recurring attacks. Colchicine is given up to once an hour until the gout symptoms improve, side effects appear, or 10 doses are reached. The side effects seen are nausea, vomiting, and diarrhea, which are quite common.

Corticosteroids may be prescribed when the provider believes they would be safer than the NSAIDs. High-dose steroids are usually given initially, and then the dose is tapered down. Corticosteroids may be injected directly into the affected joint. Potential adverse effects of steroids include irritability, elevated blood pressure, hyperkalemia, and hyperglycemia.

Residents who experience several gouty attacks each year may be prescribed a preventive medication once the acute phase of the gout passes. Two options exist:

1. Xanthine oxidase inhibitors limit the amount of uric acid the body makes, thus lowering the uric acid level in the blood and reducing the risk of gout. Potential adverse effects include rash, low blood count, fever, headache, and renal problems.

Residents with diabetes, hypertension, and high cholesterol have an increased risk of gout.
2. Urosuric drugs work by improving the kidneys’ ability to remove uric acid from the body, thus lowering the uric acid level in the blood and reducing the risk of gout. Potential adverse effects include headache, dizziness, rash, GI upset, kidney stones, and blood in the urine.

Osteoporosis

Osteoporosis is a condition characterized by the loss of bone density, resulting in fragile, or porous, bones. The bones become weak and brittle. The bones are called porous because they become compressible like a sponge. Osteopenia is pre-osteoporosis. It is an early diagnosis of bone loss when bone scan readings are below normal but still above diagnostic criteria for osteoporosis.

Normal bone is made up of protein, collagen, and calcium, all of which yield strength and structure to bone. With osteoporosis, the bones lack structural strength, allowing even a relatively minor injury to cause fracture. The fracture may present as a crack in the bone (as seen in a hip fracture) or a collapsing fracture (as seen in a compression fracture of the spine). The most common fractures seen with osteoporosis are spine, hips, and wrists. Vertebral fractures often occur spontaneously from the body weight and pressure.

There are many risk factors for osteoporosis including:

• Gender — Fractures from osteoporosis are twice as common in women than in men.
• Age — Bones become weaker with age.
• Race — Caucasians and Asians have the highest risk of osteoporosis.
• Family History — Osteoporosis is hereditary.
• Body Frame — Those with thin or small body frames are at the highest risk because they have less bone mass to draw from as they age.
• Tobacco Use — The use of tobacco contributes to weak bones.
• Exposure to Estrogen — The greater a woman's lifetime exposure to estrogen, the lower her risk of osteoporosis. For example, early menses or late menopause decreases one’s risk. The risk of osteoporosis increases if menopause occurs early or if the woman had a complete hysterectomy early in life.
• Eating Disorders — Those with anorexia or bulimia have a greater risk.
• Corticosteroid Use — Long-term use of steroids damages the bones.
• Thyroid Dysfunction — Too much thyroid hormone causes bone
loss. This can occur because of **hyperthyroidism**, or it can occur because of over-medication of **hypothyroidism**.

- SSRI Use — SSRIs are a class of anti-depressant medications; those taking SSRIs tend to have some bone loss.
- Breast Cancer — Post-menopausal women with a history of breast cancer have an increased risk.
- Low Calcium Intake — Low calcium intake is associated with poor bone density, early bone loss, and increased risk of fracture.
- Certain Diseases and Disorders — Conditions that increase risk for osteoporosis are Crohn’s disease, vitamin D deficiency, anorexia, and **Cushing’s disease**.
- Sedentary Lifestyle — Inactivity does not promote increased bone density; exercise increases bone density, especially weight-bearing exercises.
- Excessive Soda Consumption — Caffeine may interfere with calcium absorption as does the phosphoric acid in soda.
- Alcoholism — Excessive alcohol intake decreases bone formation and interferes with calcium absorption.

The obvious complication of osteoporosis is fractures. These fractures may be secondary to a fall. Certainly, those with osteoporosis are at greater risk for falls.

In the early stages of bone loss, there are usually no symptoms. Diagnosis is made when a fracture occurs. As the bones become weakened by osteoporosis, the person may begin to experience back pain, loss of height with stooped posture, and fractures of the vertebrae, wrists, hips, or other bones.

Osteoporosis in the early stage can be diagnosed with a bone scan or DEXA scan ordered by the provider. In later stages of the disease, it is seen on standard x-ray film.

The goal of osteoporosis treatment is to prevent fractures by arresting the bone loss and by increasing bone density and strength. Because it is difficult to rebuild bone that has already been weakened by osteoporosis, prevention is essentially the best treatment.

The nurse’s interventions include recognition of the risk factors for osteoporosis, encouraging smoking and alcohol cessation, promoting regular exercise, and educating the resident on the condition. Administering medications to help prevent bone loss or to help build bone is also important. If a patient with known osteoporosis is not taking calcium with vitamin D, it is appropriate to ask the provider to prescribe it. Ongoing fall risk assessment and management is crucial. Prevention of falls will prevent many fractures.
Hormone therapy with estrogen in post-menopausal women is sometimes prescribed. It prevents bone loss and increases bone density, thereby, preventing fractures. In the past, hormone therapy was the mainstay of treatment. Due to adverse effects, including increased risk of heart attack, stroke, blood clots, and breast cancer, it is no longer recommended for the long-term treatment of osteoporosis.

Biphosphonate drugs are quite beneficial in treating osteoporosis. They work by inhibiting the breakdown of bone, preserving bone mass, and increasing the bone density in the spine and hip. Bone density studies often demonstrate improvement after one year of treatment. Possible adverse effects of the biphosphonates can be severe and may include nausea, abdominal pain, esophageal inflammation, or esophageal ulcers. Biphosphonates taken weekly or monthly are easier on the stomach. If oral biphosphonates are not tolerated, some biphosphonates can be given intravenously.

To reduce potential adverse effects of biphosphonates, the medication should be taken in the morning, 30 minutes before breakfast, on an empty stomach with eight ounces of water. The resident should remain upright for at least 30 minutes after the medication is taken. Individuals with esophageal strictures cannot take the biphosphonates.

Selective estrogen receptor modulators (SERMs) are thought to increase bone density. The most common adverse effect of this class of medications is hot flashes. Also seen with these medications are blood clots. The biggest risk for blood clots is during the first four months of use.

Calcitonin is a hormone used for the treatment of osteoporosis. This hormone can be administered subcutaneously, IM, or intranasally. Calcitonin prevents bone loss in post-menopausal women and also increases bone density and strength in the spine. Common side effects, regardless of route administered, are nausea and flushing. Those using the nasal spray may develop nasal irritations, a runny nose, or nosebleeds. Given subcutaneously, calcitonin may cause skin rash or local redness at the injection site.

**Fractures**

A fracture is a complete or an incomplete break in a bone that results from the application of excessive force. Fractures usually result from traumatic injuries to bones. Classifications of fractures include:

- **Simple** — Fractures that are closed and may not very obvious because the skin remains intact. There may or may not be deformity noted.
- **Compound** — Fractures that cause a break in the skin, exposing bone and causing soft tissue injury and high risk of infection.
• Incomplete — Fractures that extend partly across a bone shaft. These fractures are often the result of a bending or crushing force applied to the bone.

• Complete — Fractures that extend completely through the bone and are described by their fracture lines. There are linear fractures, oblique fractures, transverse fractures, longitudinal fractures, and spiral fractures.

• Linear — Fractures that are a break that runs parallel to the bone’s main axis or in the direction of the shaft of the bone.

• Oblique — Fractures that cross a one at about a 45 degree angle to the bone’s axis.

• Transverse — Fractures that cross a bone at a 90 degree angle to the bone’s axis.

• Longitudinal — Fractures that are akin to a linear fracture in that they also extend along the shaft of the bone, but are irregular in shape and do not run parallel to the bone’s axis.

• Spiral — Fractures that cross a bone at an oblique angle, creating a spiral pattern. Spiral fractures are often seen in the body’s long bones, such as the humerus or the femur.

Pain is usually the first symptom experienced with a fracture. This pain increases with movement or use of the area and swelling may be present. The skin over the area may appear pale and deformity may be present. An absent pulse below the fracture site indicates a severe fracture that may be causing vascular complications. The absent pulse may be accompanied by numbness, tingling, or paralysis below the fracture. Bleeding or bruising can be seen with an open or compound fracture. Both of these situations should be treated as an emergency with immediate transport to the hospital indicated.

The treatment of fractures depends on the type of fracture sustained, the severity of the fracture, and the resident’s general health. Immobilization is usually the first intervention and can be performed by the nurse. For example, a resident falls, complains of left wrist pain, and the nurse notes obvious deformity of that left wrist. After the initial assessment to rule out life-threatening problems, the nurse folds a pillow around both sides of the wrist, and secures it with tape. This immobilizes the joint until the provider is notified and x-rays can be performed.

A closed reduction of a fracture may occur in the emergency room but is not performed in the long-term care setting. This procedure involves realigning a bone back into its normal position. An open reduction with internal fixation (ORIF) refers to surgery that is performed to realign the bone fragments with insertion of hardware to hold them in place as they heal.

The elderly are included in the high-risk population for fractures because the bones become more brittle as aging occurs.
Pain control is very important with fractures. NSAIDs may be used to help with mild pain control. Adverse effects seen are GI upset, GI bleeds, ulcers, hypertension, and kidney disease. Acetaminophen may be used, but may not provide sufficient relief. Opioids are indicated when ongoing pain control is needed. Opioids should not be used in residents with a history of seizures. Adverse effects include GI upset, dizziness, constipation, headache, somnolence, pruritus, dry mouth, or seizures.

Healing time varies with type and location of fracture and other underlying conditions, such as osteoporosis.

Falls and fractures, especially hip fractures, often require hospitalization. These residents are usually hospitalized for three days or more then transferred to the facility for admission into a Medicare-A bed for rehabilitation under the supervision of skilled services. Therapies, such as physical therapy (PT) and occupational therapy (OT), as well as nursing are required professional services while remaining under extended Medicare Part A coverage.

**Polymyalgia Rheumatica (PR)**

Polymyalgia rheumatica is an inflammatory condition characterized by widespread muscle aches and stiffness, especially in the neck, shoulders, upper arms, hips, and thighs. PR is immune-related, and aging is thought to play a role in the disorder. The average age of diagnosis is 70, and women are twice as likely to present with it as men.

PR is considered an arthritic syndrome, but is not as severe as RA. The inflammation in PR occurs when the body’s own white blood cells attack the joint linings. It is not known what causes this, but both environmental and genetic factors are suspected.

Symptoms of PR may appear overnight or present gradually. Symptoms usually resolve in one to two years and may include:

- Fatigue
- Weight loss
- Weakness
- Low-grade fever
- Anemia

Diagnosis of PR is a challenge because the symptoms are similar to those seen with many other conditions. Diagnosis is also difficult because many older adults perceive pain and stiffness as an inevitable part of getting old. Anemia may present with extreme fatigue, weakness, shortness of breath, and a pale color to the skin. Anemia can be confirmed by a complete blood count ordered by the provider.
Sometimes, the initial pain may be on one side, but usually progresses to both sides of the body. The stiffness that accompanies PR is typically worse in the morning and after being immobile for long periods of time.

Up to 20 percent of people with PR also have a condition called **giant cell arteritis**, which causes swelling and inflammation in the arteries in the temples, neck, and arms. The symptoms reported with giant cell arteritis include scalp tenderness, headaches, jaw pain, and vision problems.

Nurses should be aware of the complications seen with PR. These complications include falls, giant cell arteritis, and anemia. The musculoskeletal pain and stiffness with PR increases fall risk exponentially. Pain level should be monitored and treatment planned with the provider accordingly. Low-impact exercises should be encouraged to increase a sense of well-being, reduce stiffening, to prevent weight gain, and to relieve pain. NSAIDs are sometimes prescribed to control mild symptoms of PR. As previously discussed, NSAIDs have the potential to cause hypertension, ulcers, GI bleeds, and kidney damage, and must be used with extreme caution in the elderly.

The usual treatment for PR is a low, daily dose of corticosteroids. Relief should occur very quickly. If relief does not occur in two to three days, another diagnosis should be considered by the provider. After a month of steroid treatment, the inflammation and anemia have usually normalized. The steroid dose is then decreased slowly. The goal of this tapering is to reach the lowest possible steroid dose that will control the inflammation. The nurse plays a vital role in this process as she will be the one assessing for the return of symptoms. The provider should be notified so the dose can be adjusted. Most individuals can gradually discontinue the steroids after two years, but this varies.

There are a number of side effects associated with long-term steroid use. This is especially true for older adults. Steroids may cause osteoporosis. For this reason, the provider may wish to monitor bone density studies yearly or add calcium and vitamin D to the resident’s medication regimen. Long-term steroid use may also cause hypertension and cataracts, both of which may be detected by the long-term care nurse. Other potential adverse effects include weight gain, hyperglycemia, hyperkalemia, and decreased immune system function.

Sleeping aids may be utilized in some residents because the pain symptoms associated with PR may prevent sleep. These individuals should have fall programs in place.

Chapter 36 discusses pain assessment and the nurse’s responsibility in ongoing assessment and treatment of pain.
Fibromyalgia

While polymyalgia rheumatica is an inflammatory condition that causes muscle aches and stiffness, fibromyalgia is inflammation of the connective or fibrous tissue of the body.

The signs and symptoms of fibromyalgia are similar to PR. The resident may have pain, tenderness, and stiffness of multiple soft tissues, muscles, and joints. The pain is most common in the back, hips, legs, arms, chest, shoulders, and neck. The pain is present the majority of the time and may last for years. The resident may also experience fatigue, stress, anxiety, or depression.

Diagnosis is very difficult as symptoms are vague, and there is not a definitive diagnostic test. Some consider fibromyalgia a psychological problem because of the stress and depression typically seen with it. The depression is usually the result of chronic persistent pain.

The goal of fibromyalgia treatment is symptom management. Adequate rest is essential to combat the fatigue commonly experienced. Exercise is thought to be beneficial for individuals with fibromyalgia; aerobic exercises with a stretching program are preferred. A proper diet that includes a large variety of fruits and vegetables is recommended, as is avoiding caffeine.

A rheumatology consult may be necessary to get the resident’s symptoms under control. Pharmacological treatment often involves the promotion of sleep and pain control. NSAIDs and opioids are popular choices. An antidepressant is usually considered when fibromyalgia is the diagnosis. Use of one of the newer NSRIs or an anticonvulsants may offer the best relief.

Nurses play a vital role in assessing function, pain, and injury of the musculoskeletal system. Because an individual’s ability to reach maximum functional capacity depends on the control of pain and maximum mobility, a multi-team approach may be best. The nurse is in an excellent position to positively affect the quality of life for each resident by recognizing symptoms and acting quickly to initiate appropriate treatment.
Define the following terms:

1. Crepitus —
2. Cushing’s Disease —
3. Giant Cell Arteritis —
4. Gout —
5. Hydrotherapy —
6. Hyperthyroidism —
7. Hypothyroidism —
8. Osteoarthritis —
9. Osteoporosis —
10. Rheumatoid Arthritis (RA) —
11. Tophi —
12. Vasculitis —

Circle “True” or “False” as appropriate for the following statements:

13. **(True/False)** — The joints most commonly affected by OA are the non-weight-bearing joints.

14. **(True/False)** — RA is three times more common in women than in men.

15. **(True/False)** — The joints usually affected in polymyalgia rheumatica are the neck, shoulders, upper arms, hips, and thighs.

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Answer the following multiple-choice question:

16. The nurse can best help the resident manage OA by:
   a. Encouraging a high protein diet
   b. Involving family members in the resident’s care
   c. Providing prescribed pain medication
   d. Teaching the resident how to use a cane correctly

17. The best way for the nurse to help prevent joint destruction in the resident with RA is to:
   a. Administer the prescribed medication regimen
   b. Encourage hydrotherapy
   c. Encourage vigorous, daily exercise
   d. Provide arthritic cream twice daily

18. First-line medication agents for RA are:
   a. Corticosteroids
   b. Narcotics
   c. NSAIDs
   d. Opioids

19. Oral bisphosphonates should be taken:
   a. 30 minutes after breakfast
   b. 30 minutes before breakfast
   c. With food, regardless of time of day
   d. With orange juice, to promote absorption of the drug

*continued...*
20. A resident complains of sudden, excruciating, burning pain in his left great toe. It is swollen, tender, and warm to touch. You might suspect:
   a. Gout
   b. Osteoarthritis
   c. Osteoporosis
   d. Polymalgia rheumatica

21. A common adverse effect of some gout medications is:
   a. Hypokalemia
   b. Migraine headaches
   c. Nausea, vomiting, diarrhea
   d. Tremors

Complete the following:

22. ____________ is a progressive and chronic disease among the elderly that affects the cartilage in joints.

23. List three signs or symptoms of OA.
   a. 
   b. 
   c. 

24. List three potential adverse effects of NSAIDs.
   a. 
   b. 
   c. 

25. _______________ is a chronic immune disorder that causes inflammation and deformity of joints.