autoimmune response, but in doing so they suppress immunity systemically. Although not able to cure the disease, these drugs may be able to slow the continual joint destruction. The goal of treatment is not cure but continued joint mobility. Examples of DMARDs include Rheumatrex (methotrexate), Neoral (cyclosporine), and Azulfidine (sulfasalazine). One interesting example is Solganal (gold aurothioglucose). Given by injection or sometimes orally, it prevents joint damage and disability. Gold tends to work best in the early stages of rheumatoid arthritis, although it may also help with other types. Gold is used infrequently because the other DMARDs listed are more effective.

### Corticosteroids

Glucocorticosteroids such as Decadron (dexamethasone) and Medrol (methylprednisolone) are medications manufactured to mimic cortisol, which is a hormone produced in the adrenal gland. Corticosteroids reduce inflammation by suppressing the production of materials that trigger allergic and inflammatory responses, but they do not cure inflammatory diseases such as arthritis and gout. Because corticosteroids reduce the body's ability to fight infection, they are used only for short-term therapy during acute symptomatic episodes.

## MEDICATIONS TO TREAT PHANTOM LIMB PAIN

Patients who have had a limb amputated often experience pain in the missing limb. The pain impulse originating in the brain and spinal cord does not recognize that the limb is no longer there. Although some patients report that the pain fades over time, others experience a lifetime of pain management issues. One type of medication that may be effective in managing this chronic pain consists of tricyclic antidepressants such as Elavil (amitriptyline) and Pamelor (nortriptyline). Tricyclic antidepressants alter the chemical messengers that relay pain signals, and they also benefit by helping the patient with sleep. Anticonvulsants and narcotics are two other classifications of drugs that may help. Anticonvulsants such as Tegretol (carbamazepine) quiet damaged nerves to prevent or slow pain signals. Narcotics such as Roxanol (morphine) work by dulling the pain perception center of the brain.

*CRITICAL THINKING*

**Why is it important to know why a patient is taking a medication?**

## SUMMARY

- The musculoskeletal system consists of muscles, tendons, and ligaments that attach to the bones and joints.
- The system relies on the nervous and the endocrine systems to function properly.
- The thyroid and parathyroid glands work together to keep calcium levels in balance.
- Bones can weaken from a lack of calcium (hypocalcemia osteomalacia, osteoporosis) or an excess of calcium (Paget's disease).
- Examples of muscle disorders that originate in the brain include cerebral palsy, stroke, and multiple sclerosis.
- Examples of muscle disorders that originate in the muscle tissue include spasms and dystonia.
- Other muscle disorders include myasthenia gravis and fibromyalgia.
- Many drugs are available to help treat muscular disorders, including antispasmodics, muscle relaxants, nonsteroidal anti-inflammatory drugs (NSAIDs), antidepressants, cholinesterase inhibitors, and narcotic analgesics.
- Medications for the muscular system act in the brain or in muscle, depending on where the problem is located.
- Osteoarthritis is caused by the erosion of bones at the joints.
- Rheumatoid arthritis is an autoimmune condition that causes inflammation of the joints.