



“Excellence in Home Care”

# Orthopaedic Education

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## Bones Become More Brittle as We Age

According to the American Academy of Orthopaedic Surgeons, musculoskeletal conditions include injuries to the bones, joints, muscles, ligaments, or tendons and conditions such as arthritis (the leading chronic condition reported by the elderly) or osteoporosis. Fragility fractures happen to people with poor bone health. It is estimated that 44 million Americans have been diagnosed with osteoporosis and that number is growing. The number of fragility fractures is also increasing.

Healthy bones provide our bodies with a frame that supports us and protects against injury. Old bone breaks down and is replaced with new bone. With osteoporosis, little new bone is formed. Each year an estimated 1.5 million individuals suffer an osteoporotic-related fracture.

Fractures caused by osteoporosis can happen by cracking (as in the hip) or collapsing (as in a compression fracture in the vertebrae). The spine, hips,



ribs, and wrists are common areas of bone fractures from osteoporosis but they can happen anywhere in the skeleton.

## Risk Factors for Osteoporosis

- Female gender
- Caucasian or Asian race
- Thin, small body frame
- Family history of osteoporosis
- Personal history of fracture as an adult
- Cigarette smoking
- Excessive alcohol consumption
- Lack of exercise
- Diet low in calcium and vitamin D
- Poor nutrition and poor general health
- Malabsorption of nutrients

- Low estrogen levels in women after menopause
- Low testosterone levels in men (hypogonadism)
- Chronic inflammation due to chronic diseases such as rheumatoid arthritis or liver disease
- Hyperthyroidism

## Symptoms

There are few symptoms of osteoporosis initially until a bone is fractured. So, the first symptom may be pain due to the fracture.

## Prevention & Treatment

Treating osteoporosis entails preventing further bone loss by using medications such as alendronate (Fosamax), risedronate (Actonel), raloxifene (Evista), ibandronate (Boniva), calcitonin (Calcimar), and zoledronate (Reclast). Your physician may also prescribe calcium and vitamin D supplements as well as lifestyle changes:

- Quitting smoking.
- Exercise to prevent fractures (with caution). Avoid exercises that may further weaken your bones.
- Limiting alcoholic beverages.

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- Limiting caffeine.
- Hormone therapy (may prevent bone loss).

Making bones stronger, and therefore preventing fractures, is the goal for those who suffer from osteoporosis.

The first baseline step will be for your physician to order a bone density test to measure the bone mineral density. Dual energy X-ray absorptiometry, or DEXA, is the most common method to measure a patient's BMD. DEXA is relatively easy to perform and the amount of radiation exposure is low.

At present, DEXA scanning focuses on two main areas, the hip and spine. Although osteoporosis involves the whole body, measurements of BMD at one site can be predictive of fractures at other sites.

Hip fractures are fairly common in the elderly. For every 10 hip fractures, about nine occur in people over the age of 60. Fractures will require surgery and usually a lengthy recovery period. Complications can develop after surgery and may be life-threatening in the elderly.

Sources: American Academy of Orthopaedic Surgeons  
Medline.net; National Center for Injury Prevention and Control

## PREVENTING FALLS

### Begin an exercise program

Exercise is an important way to reduce the chances of falling. Lack of exercise leads to weakness. It is important, however, to discuss an exercise program with your physician before beginning one because some exercises can put further stress on already weakened bones.

### Make your home safer

Because many falls happen in the home, making your home safer is a good way of preventing falls.

- Remove things you can trip over (such as papers, books, clothes, and shoes) from stairs and places where you walk.
- Remove small throw rugs or use double-sided tape to keep the rugs from slipping.
- Keep items you use often in cabinets you can reach easily without using a step stool.
- Have grab bars put in next to your toilet and in the tub or shower.
- Use non-slip mats in the bathtub and on shower floors.
- Improve the lighting in your home. As you get older, you need brighter lights to see well. Lamp shades or frosted bulbs can reduce glare.
- Have handrails and lights put in on all staircases.
- Wear shoes that give good support and have thin non-slip soles. Avoid wearing slippers and athletic shoes with deep treads.

### Take your medicine

Have your health care provider review your medicines. As you get older, the way some medicines work in your body can change. Some medicines, or combinations of medicines, can make you drowsy or light-headed which can lead to a fall.

### Have your vision checked

Have your eyes checked by an eye doctor. You may be wearing the wrong glasses or have a condition such as glaucoma or cataracts that limits your vision. Poor vision can increase your chances of falling.

## Bethany HomeHealth Can Help

The Bethany HomeHealth skilled nurses help patients manage their recovery in their homes through:

- Treatment evaluation and recommendations
- Providing goal-oriented assessments
- Wound care
- Giving IV treatments
- Giving and supervising medicines

They also educate patients in:

- Self care management
- Activity and exercise
- The importance of taking medications
- Pain management
- Managing symptoms
- Improving nutrition
- Advanced directives

Physical therapists work with patients who have had hip or knee replacement surgeries or broken bones to:

- Help regain the use of weakened muscles.
- Improve the range of motion in joints and help with the use of any special equipment.

Occupational therapists secure equipment needed and help patients manage the daily task of living after treatments or surgery.

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