

Osteoporosis and physical therapy

By Jill Timm, MSPT, LAT, CMTPT

Approximately 54 million Americans have osteoporosis and low bone mass. Fifty-five percent of people over the age of 50 have been diagnosed with osteoporosis. Research suggests that approximately 1 in 2 women and up to 1 in 4 men age 50 and older will break a bone due to osteoporosis. The National Osteoporosis Foundation reports that osteoporosis is responsible for 2 million broken bones and \$19 billion in related costs every year.

Furthermore, experts predict that by 2025 osteoporosis will be responsible for approximately 3 million fractures and \$25.3 billion in costs each year.

Osteoporosis is a disease of the bone. It is a metabolic bone disease in which the bones release the minerals that make up the rigid part of their structure faster than they are rebuilt. This results in a gradual loss of bone density and weakening of the structure of the bones in the body.

The weakened bones are more vulnerable to injury and fracture. Osteoporosis is called a “silent” disease because often the first sign of the disorder is a fracture.

There are multiple intervention options to slow, stop or even reverse the loss of minerals in osteoporotic bones. The most well-known is medication, but other options are dietary supplements and exercises. Within the exercise portion lies the basis for physical therapy’s involvement with osteoporosis. Research shows that a solid physical therapy program can reduce the risk of fractures, improve posture and stimulate bones to add minerals faster than they release them.

Fracture risk reduction

People with osteoporosis have an increased risk of fractures, especially of the spine. Because of this, some positions should be avoided as they put additional stress on the

bones of the spine, increasing the risk of a fracture. Education regarding appropriate postures and positioning is key to avoiding increased stress on the bones.

Falling is one of the most common means to ending up with a bone fracture. When there is osteoporosis, the risk of breaking a bone increases with a fall. Therefore, physical therapy can help integrate simple balance exercise into daily activities to improve balance and reduce the risk of falling.

Improving posture

The body is designed to be at its maximum efficiency in normal upright posture. However, due to aging and bone loss, “good” posture starts to head downhill. Part of this problem is not only due to the positions in which it is placed, but also stemming from poor muscular control



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of posture. Physical therapy can work to strengthen the muscle groups to help maintain postural balance.

Stimulate bone growth


Research shows that bone requires shock or impact to maintain its density. The direction of the shock or impact is also important. Impact at the ends of the bone with the force directed through the long length of the bone (rather than across) stimulates the bone to add more minerals and increase the density of the bone. Physical therapy can again educate patients to appropriate activities to “shock” the bones to add more minerals to their structure.

Expected outcomes with early intervention

If physical therapy is included prior to any structural (bony) changes, research shows that bone density will stay the same or increase 3 to 5 percent in a year. The studies also show that due to correct body mechanics — good strength and improved flexibility — as educated by a physical therapist, patients have a decreased risk of pathologic fractures.

Even if a patient has one or more fractures and/or mild to significant postural deviations due to osteoporosis, physical therapy can still impact the bones of the body. The bone density can again stay the same or increase 3 to 5 percent in one year. This is a great improvement from the continued loss of bone structure.

Final thought

Overall, physical therapy is an option that should be included in any osteoporosis management program. While medications and dietary supplements are very important to decrease the leaching of minerals from the bone, physical therapy is a critical link for movement. If a person with osteoporosis can learn to move safer and more efficiently, osteoporosis will not have to dictate how a person lives life. 



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