



## **What is Osteoporosis?**

Osteoporosis is a condition that is characterized by decreased bone mineral density and structural bone changes on the microscopic level. Because of these changes, those with osteoporosis or osteopenia (a condition of decreased bone mineral density in which the decreases are not significant enough to be classified as osteoporosis) are at increased risk of fracture; the lower one's bone density, the more significant the risk of fracture.

Osteoporosis is a silent disease, because people are unaware of these bony changes until a fracture has already occurred. The most common areas of fracture in an osteoporotic person are the spine, the hip, and the wrist. These fractures can have serious consequences that impair mobility and functional independence, decrease height and cause back pain. Although commonly thought of as a woman's disease, osteoporosis does not discriminate against men.

## **What causes osteoporosis?**

Unfortunately, many of the risk factors associated with osteoporosis are not easily modified. Women are more commonly affected by osteoporosis, especially those of Asian or European descent. Small stature, age, genetics, medical conditions (for example renal failure, diabetes, hyperthyroidism, etc) and post-menopausal status are all factors contributing to risk. Certain medications, such as prolonged steroid use, place one at a higher risk of bone mineral density changes as well. There are some causes of the disease that are modifiable. These include, but are not limited to, avoiding excessive alcohol consumption, avoiding tobacco, maintaining a healthy BMI (low BMI is correlated with increased risk), adequate Calcium and Vitamin D consumption, minimizing soft drink intake and participating in regular weight-bearing and resistive exercises.

## **What are the symptoms of osteoporosis?**

Osteoporosis is often present without noticeable symptoms. One may not be aware of her osteoporotic status until long after a fracture has occurred, as many times vertebral fractures go unnoticed or dismissed as a general backache. Being an informed health care consumer by being aware of risk factors associated with osteoporosis and communicating openly with one's health care provider is a powerful first step in the prevention of osteopenia, osteoporosis, and fractures. Bone density examinations are important tools in assessing and monitoring bone mineral density. The specific test that is used to assess bone mineral density is called DXA or DEXA (Dual energy X-ray absorptiometry). This painless test will identify if you have osteoporosis. Standardized scores on this test help your health care provider determine your current bone mineral density status.

- A T-Score compares your bone density to others of the same gender. A T-score greater than (-1) is considered normal. A T-score of (-1) to (-2.5) is considered osteopenia, and a risk for developing osteoporosis. A T-score of less than (-2.5) is diagnostic of osteoporosis.

- A Z-Score compares your bone density to others in your same age, weight, ethnicity and gender. A Z-score of less than (-1.5) raises concern of factors other than aging as contributing to osteoporosis. These factors may include thyroid abnormalities, malnutrition, medication interactions, tobacco use, and others.

**□How can physical therapy help?** □□Physical therapists not only treat people to help regain function and movement, but also play a role in education and prevention. A good time to see a physical therapist in regards to osteoporosis is long before there is any evidence of the condition! Ideally young girls and women should receive education about prevention of osteoporosis to lay the groundwork for healthy lifestyle habits, such as diet, posture and proper exercise. Maximum bone mass is achieved by the late twenties. Most healthy people maintain their bone mass up until age 35. At around this age gradual bone loss begins. Menopause and the post-menopausal years are a vulnerable time for the bones, as decreased estrogen levels affect bone maintenance. People throughout the life span can receive benefit from physical therapy to address osteoporotic concerns. The treatment plan of the physical therapist includes education, exercise recommendations suited to the individual's needs, coordination and balance. These factors are also essential in preventing falls, which is important if you already have a risk of fractures. If a person has already sustained a fracture, physical therapy can play a key role in rehabilitation of his or her mobility, strength and function, as well as education regarding proper body mechanics necessary for everyday activities to minimize risk of future fracture. Once one has had an osteoporotic fracture, they are at a significantly higher risk for subsequent fracture, and physical therapy intervention can help minimize the chances that this will occur. Due to vertebral bone structure, it often does not take much force to incur a fracture, and a simple task such as bending down to load the dishwasher could be enough force to cause a vertebral fracture. Fractures can be devastating events in a person's life that lead to loss of independence and function. Physical therapists have the skills necessary to help people with osteoporosis avoid such events and empower them to enjoy their maximum level of function and independence throughout the life span and with all levels of bone density.

### **Who Should be Referred to a Women's Health Physical Therapist?**

#### Those with:

Pain related to osteoporosis  
 Poor posture  
 Balance concerns or falls  
 Decreased ability to participate in normal daily activities  
 Decreased strength, flexibility and/or endurance  
 Those wanting to prevent or slow further bone loss  
 Those interested in starting or resuming an exercise program