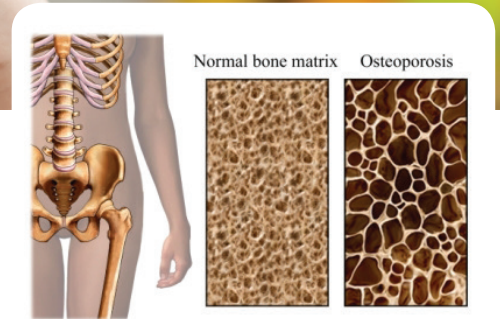


## Body Conditions: OSTEOPOROSIS

*Osteoporosis* occurs when bones become weak and brittle. If left unchecked, it can lead to fracture. Any bone can be affected. Fractures of special concern are of the hip, spine, and wrist.



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### Causes

Throughout life, old bone is removed and new bone is added to the skeleton. After age 30, more bone is lost than replaced. If too much bone loss occurs, this may lead to osteoporosis. Osteoporosis is more likely to occur if full bone mass was not achieved during the bone-building years.

### Risk Factors

Osteoporosis is more common in women than in men. Other factors that may increase your chance of developing osteoporosis include:

- Increasing age
- Low weight
- Smoking
- Alcohol abuse
- History of falls
- Family history of osteoporosis
- Postmenopausal status
- Certain conditions, such as:
  - Rheumatoid arthritis
  - Amenorrhea (no menstrual periods)
  - Hyperthyroidism
- Type 2 diabetes
- Asthma
- Liver disease
- Eating disorder
- Depression
- Crohn's disease
- Use of certain medications, such as antidepressants, long-term Heparin, corticosteroids, anticonvulsants, or antacids
- Low hormone levels (low estrogen levels in women, low testosterone levels in men)
- Inactive lifestyle
- Certain restrictive diets that may result in a deficit of calcium or vitamin D
- Too little sunlight (the effect of sun on the skin is a primary source of vitamin D)
- Certain cancers, including lymphoma and multiple myeloma

### Symptoms

In most cases, people with osteoporosis remain symptom-free until there is a fracture. In those that do have symptoms, osteoporosis may cause:

- Severe back pain with fracture of the vertebrae, wrists, hips, or other bones
- Loss of height with stooped posture, a condition called kyphosis

## Body Conditions: OSTEOPOROSIS

### Diagnosis

Your doctor will ask about your symptoms and medical history. A physical exam will be done. Tests may include:

- Blood tests
- Urine tests

Osteoporosis can be seen with bone mineral density (BMD) tests of the hip, spine, wrist, or other site. These may include:

- Central (preferred) or peripheral dual-energy x-ray absorptiometry (DXA)
- Quantitative ultrasound (QUS)
- Central or peripheral quantitative CT scan (QCT)

### Treatment

In the case of osteoporosis, exercise is believed to increase bone mineral density and muscle strength, potentially also increasing coordination and balance. The overall effect is to decrease the risk of fracture and subsequent disability.

A physical therapist will develop an individual exercise program for combating osteoporosis. These programs vary in their level of difficulty and dedication. You will decide, in conjunction with the therapist, which is most appropriate for you. Remember, your persistence in performing the exercise program regularly as prescribed is imperative: no exercise program will help without your dedication.

#### AN EVALUATION MAY INCLUDE

- Medical & exercise history
- Strength & flexibility testing
- Assessment of functional limitations
- Posture & gait assessment

#### PHYSICAL THERAPY GOALS MAY INCLUDE

- Individualized exercise program
- Correction & education in good posture & body mechanics
- Knowledge of risk factors
- Instruction in activities of daily living
- Balance & gait training if needed

### Prevention

Building strong bones throughout your early years is the best defense against osteoporosis. Getting enough calcium, vitamin D, and regular exercise can keep bones strong throughout life. To help reduce your chance of developing osteoporosis, take these steps:

- Eat a balanced diet rich in calcium and vitamin D
- Perform weight-bearing exercise
- Live a healthy lifestyle (no smoking, drink alcohol only in moderation)
- If you are a post-menopausal woman at high risk for bone fractures, medications may be appropriate to prevent osteoporosis