Osteoporosis

Osteoporosis means your bones have become thin and weak. It is much more common in women than in men. You may not have symptoms until the disease is very advanced. Sometimes the first sign is a broken bone in the hip, spine, or wrist.

Tests can be done to find the disease early, before it gets worse. Early treatment can help prevent broken bones.

What causes it?
During childhood and teen years, our bodies add new bone faster than they absorb old bone. After age 30, this process begins to reverse, and your bones become thinner. You are more likely to have osteoporosis if you did not reach your ideal bone thickness during your childhood and teen years. Not getting enough calcium and vitamin D may contribute to bone thinning.

What are the symptoms?
Osteoporosis is a "silent disease" because you usually do not have symptoms for a while. As the disease gets worse and your bones get weaker, you may have back pain, loss of height or stooped posture, or a curved backbone.

When bones thin, they lose strength and break more easily. The bones that break most often because of osteoporosis are:

- The spine. Vertebrae may break and collapse on top of each other. This is called a compression fracture. Compression fracture of the spine can cause back pain, stooped posture, loss of height, and a curved upper back.
- The hip. Hip fractures, often caused by a fall, can be serious because they usually require major surgery.
- The wrist and forearm.

How is it diagnosed?
Your doctor will use a bone density test if he or she thinks you may have osteoporosis. This test uses a special X-ray to measure the mineral density (such as calcium) in your bones. These tests are painless. Early diagnosis is very important to prevent fractures.

**Dual-energy X-ray absorptiometry (DXA)** is the best way to measure bone density. It can measure small amounts of bone loss. It uses very low doses of X-ray beams to check your spine and hip.

**Single-energy X-ray absorptiometry** may be used to measure density in your heel and wrist. But it is not as common as DXA.

**Peripheral DXA (P-DXA)** uses very low doses of radiation to measure density in your wrist, heel, or finger.

**Dual photon absorptiometry (DPA)** uses very low doses of radiation to measure density in your hip and spine.

**Ultrasound** uses sound waves to check density, usually in your heel. It can't measure the density of your hip and spine, which are the bones most likely to break because of osteoporosis. If an
ultrasound test shows that your density is low, your doctor will suggest that you have a DXA test to confirm the results.

**Regular X-rays** are not used to test for osteoporosis. A bone must lose at least a quarter of its weight before a regular X-ray can see any problem.

### What increases your risk?

Your risk for osteoporosis goes up as you get older. Bone loss speeds up after about age 45, when women produce less of the hormone estrogen and men produce less of the hormone testosterone.

Along with age, other factors that raise the risk for osteoporosis in both men and women include:

- Members of your family have it.
- You smoke.
- You are a heavy drinker.
- You get little or no exercise.
- You are small-framed or thin.
- You do not get enough calcium and vitamin D.
- You frequently drink cola soft drinks. Occasional soft drinks are okay.
- You have certain medical conditions such as hyperthyroidism or rheumatoid arthritis.
- You take drugs that cause bone thinning. These include corticosteroids, drugs used to treat endometriosis, and aromatase inhibitors to treat breast cancer. You could be at risk for osteoporosis if you are taking more thyroid replacement medicine than your body needs.

Other risk factors may include:

- You are of European or Asian ancestry.
- You diet too much or have an eating disorder, such as anorexia nervosa.
- You are a female athlete with infrequent menstrual cycles because of low body fat.

### How is it treated?

Treatment includes getting enough calcium and vitamin D, getting regular weight-bearing exercise, and taking medicine to reduce bone loss and increase bone thickness.

Even small changes in diet, exercise, and medicine can help prevent spine and hip fractures. Adults who adopt healthy habits can slow the progress of the disease.