

*One of the best ways
to know if you have
osteoporosis is
through bone
mineral density
testing*

Summary

- Osteoporosis can be diagnosed by doing a bone mineral density test. The DXA is the most accurate of the bone mineral density test, in part because it measures the sites where fracture is most likely to occur.
- Bone fractures are diagnosed by x-rays. X-rays alone are not sensitive enough to diagnose osteoporosis until it has reached advanced stages.
- Height measurement can be a clue that an osteoporotic fracture has occurred. Spinal compression fractures cause a loss of height.
- Laboratory tests are used to eliminate the possibility of another cause of bone loss. They can also be used to monitor the effectiveness of the treatment you may be receiving.

Work with your healthcare provider to decide on the best way to make the right diagnosis for you.



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Osteoporosis Making the Right Diagnosis



Osteoporosis

Osteoporosis is called a “silent” disease because often there are no symptoms until late in the disease process. The most obvious symptoms of osteoporosis include hip or back pain and kyphosis, a curving of the spine resulting in loss of height after fracture.

While osteoporosis is associated with fracture, early diagnosis and treatment can prevent fractures from occurring. This brochure is intended to help you understand the process of diagnosing osteoporosis.

Bone Density Testing

One of the best ways to know if you have osteoporosis is through bone mineral density testing. Bone mineral density testing measures the strength of your bones.

There are several ways of measuring bone density. Some of these include:

- Single energy x-ray absorptiometry (measures the forearm and sometimes the heel)
- Dual energy x-ray absorptiometry or DXA (lumbar spine, hip, and wrist)
- Quantitative computed tomography or QT (spine and forearm)
- Radiographic absorptiometry or RA (hand/fingers, tibia, patella)
 - Ultrasonography (heel, fingers, tibia, patella)

The DXA is considered the “gold standard” technique of measuring bone density. It is the most accurate means of diagnosis and follow your bone loss or gain. However, all of the above tests are considered good predictors of future fracture risk.

Bone density testing is painless, quick, and safe because it delivers a fraction of the radiation of a chest x-ray. In fact, the ultrasonography test uses ultrasound instead of radiation. The bone density test results is a comparison of your bone density now to the average optimum peak bone density expected of young women. If you are below the average, your risk of fractures increases. The further below average you are, the greater your risk for fracture. Your healthcare provider can explain your test results to you.



X-Rays

Regular x-rays like a chest or spine x-ray are used to determine if a fracture has occurred. Usually, your healthcare provider will order an x-ray if a fracture is suspected. Most bone fractures are painful but some spinal fractures do not cause pain and may go undetected without an x-ray. It is important to know if fractures have occurred because your risk of future fractures increases with each fracture you sustain.

X-rays however are not very helpful in diagnosing osteoporosis because until 30% of your bone mass or thickness has been lost it is not evident on standard x-rays. This extent of bone loss indicates advanced osteoporosis. It is preferable to diagnose osteoporosis before it has had a chance to progress that far.

Height Measurement

Measuring your height is another way to detect spinal fracture. We all lose some height as we get older due to flattening of the cushions between the spinal bones. About an inch of height loss is normal, depending on your age. However, another way to lose height is to crush or compress the spinal vertebral bone itself. When the spinal bones or vertebrae are compressed by a fracture, they lose height and so do you. By measuring your height and comparing it to the tallest height you have ever been, your healthcare provider has another clue that osteoporosis may be present.



Blood and Urine Tests

Once it is known that you have osteoporosis, your healthcare provider will probably want to order some additional tests to make certain that you do not have a secondary cause of osteoporosis. There are some medical conditions that can cause increased bone loss such as hyperparathyroidism, diseases that lead to intestinal malabsorption of vitamins, minerals and other nutrients, and hyperthyroidism. If you have one of these disorders, it is important to know it so it can be treated. Otherwise your bone loss may continue to get worse.

A simple blood test may be ordered to measure calcium, vitamin D, and several hormone levels. You may be requested to collect a urine sample over a 24 hour period which is used to determine how well you absorb the calcium you get in your diet.

There are other blood and urine tests called biochemical markers that can determine how effectively your bone is responding to the medicine you take to prevent bone loss.