# Testing for Osteoporosis

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## Osteoporosis and the DEXA Scan Test

DEXA stands for ‘dual x-ray absorptiometry’, and is the first choice/procedure to diagnose osteoporosis. The DEXA scan uses low energy x-rays. The machine uses not one, but two sources of x-rays which go though the bones, making results more accurate. The healthier (dense) the bone, the less x-rays will pass through the detector. The detector is linked to a computer which calculates the density of the bone, and will provide two scores.

### The Results

‘T-score’ is a number that shows the amount of bone you have, compared with a young, healthy adult of the same gender. A score above -1 is considered a normal; between -1 and -2.5 is characteristic of osteopenia (low bone mass); a score below -2.5 is typically seen as osteoporosis. The lower the T-score, the more likely you are to develop a fracture.

Your ‘Z-score’ shows the bone density compared with other individuals of your age and gender. If this score is abnormal (too high or too low), further testing will be required.

### How is a DEXA Scan Done?

This scan is quick and painless. You will lie on your back and stay still while the scanner (the x-ray detector) comes over your body (spine, hip and wrist are the most commonly tested area). The x-ray machine will send x-rays towards the detector. To avoid blurred images, the technician will ask you to keep from breathing for a few seconds (when the x-ray pictures are taken). This procedure is completed in between ten and twenty minutes.

### The Pros and Cons

The most obvious benefit of a DEXA scan is the faster diagnosis of osteoporosis, as well as other conditions associated with bone loss such as thyroid or parathyroid diseases. Bone density should also be evaluated in individuals who take medication that promote bone loss such as prednisone or some anti-seizure drugs.

DEXA scan is quick, simple and non-invasive, and is performed without anesthesia. The amount of radiation is very low; much lower than the doses used for standard x-rays. Radiologists maintain that no radiation remains in the body after the test is completed. The DEXA scan is also the most accurate way to diagnose the bone loss and help evaluate the risk of fractures. It is widely available and convenient, for both patients and doctors.

The risks of DEXA scans should also be noted; there is always a risk of developing cancer from radiation, although this risk is very low when compared with other machines that use x-rays. Women who may be pregnant should inform the doctor before the test. Overall, doctors don’t expect complications or problems to arise from this procedure. The DEXA scan has limited use in cases of spinal deformity or if a patient had spinal surgery (in

these cases, a CT scan will be performed instead). Not all DEXA scans are equally accurate; for example the scans that assess the spine are more sensitive (and also more expensive) than ones that evaluate the heel or wrist.