

Radiology Bone Density DEXA Scan

Why is it necessary?

A DEXA scan is used to assess your bone mineral density and work out whether the readings are significantly lower than normal for your age and sex. The technique is mainly used to detect osteoporosis in its early stages, as it is very sensitive to slight changes in bone density. Osteoporosis usually causes no symptoms at first.

Conditions other than osteoporosis can also cause low bone density levels and may also cause fractures. These include osteopenia (a milder form of bone density loss), brittle bone disease, and osteomalacia (vitamin D deficiency).

If you are taking corticosteroids, your doctor may advise that you have your bone strength measured with a DEXA scan, because these medicines can weaken the bones.

DEXA scans are only of limited use in people with a spinal abnormality or who have had previous spinal surgery. Also, the presence of vertebral compression fractures or osteoarthritis may interfere with the accuracy of the results.

Who can use it?

Your doctor may advise that you have a DEXA scan if they suspect you may have osteoporosis. This could be because you have had a fracture following a minor fall or injury, or because you have lost height due to a fracture of a vertebra (backbone).

Your doctor may also advise that you have a scan if you are at increased risk of developing osteoporosis. Those at increased risk of osteoporosis include:

- those taking oral steroids or corticosteroids for a long period, as these medicines can contribute to weakening bones,
- post-menopausal women who smoke or drink heavily, have a family history of hip fractures, or have a body mass index (BMI) of less than 21,
- Women who have had early menopause, or those who have had their ovaries removed under the age of 45, and
- Women with a BMI of less than 19

Pregnant women are advised against bone density testing.

How is it performed?

A DEXA scan involves low dose beams of X-rays being scanned across the body. The X-rays are separated into beams of differing intensity. This enables the scan to detect the density of bone and soft tissue separately.

During a DEXA scan, you will be asked to lie on your back on a couch and to keep still while the scan is being taken. The scan usually takes between 10 and 15 minutes, depending on which part of your body is being examined, and whether a central or peripheral scanner is being used.

In order to check for osteoporosis, the doctor commonly scans your lower backbones (vertebrae) and hips. Your forearm may also be scanned, because it has a different level of calcium content from other body parts.

The information from the scanner is sent to a computer, which calculates a score for the density of your bone. A low score indicates that the bone is less dense than it should be, and is more likely to break. If a DEXA scan shows that you have osteoporosis, you will be given advice and treatment to help strengthen your bones.

No preparation for the test is required and, depending on which part of your body is being scanned, you may be able to remain fully dressed if you are wearing clothes without metal fastenings. It is a painless procedure and you can go straight home afterwards.