

DUAL ENERGY X-RAY ABSORPTIOMETRY (DXA)

What is a DXA scan?

A DEXA Scan (Dual Energy X Ray Absorptiometry) scan is a special non-invasive form of imaging that measures bone density and loss. This test is currently the most accurate and reliable means of assessing the strength of your bones and your risk of breaking a bone. A DEXA scan does not produce images comparable to conventional x rays (for example a hip or spine x-ray). It will not show the presence of arthritis or a fracture but is more often used to diagnose osteoporosis.

How does it work?

A DEXA scan uses low energy X-rays. The amount of x-rays that comes through the bone from the x ray source is measured by a detector. The computer then assesses this information and applies a score for the average density of bone in the area being scanned. The patient's spine and hips are the recommended areas to be scanned. A low score indicates that the bone is less dense than it should be, some material of the bone has been lost, and it is more prone to fracture.

What is Osteoporosis?

Osteoporosis is a condition whereby the bones become more porous and eventually weaken. Patients suffering with osteoporosis are at an increased risk of fractures. Osteoporosis can affect the entire skeleton but most commonly affects the hip, spine and wrist.

What are the risk factors for Osteoporosis?

The following risk factors are thought to contribute to osteoporosis:

- › Age: the older you are, the greater the risk of osteoporosis.
- › Ethnicity: you are at greatest risk of osteoporosis if you are white or of Asian descent.
- › Family history: having a parent or sibling with osteoporosis puts you at greater risk.
- › Frame size: men and women with smaller body frames tend to be higher risk because they have less bone mass.
- › Hormone levels: the reduction in oestrogen levels at menopause or a reduction in testosterone levels in men can weaken bones.
- › Dietary factors: the risk of osteoporosis increases if there is a low calcium intake, or if you have suffered from an eating disorder or had weight loss surgery (e.g. a gastric bypass) as these can limit the amount of calcium and other nutrients ingested or absorbed.
- › Medication: long term use of some medications can disrupt the bone rebuilding process and reduce your overall bone density.
- › Lifestyle choices: sedentary lifestyles put people at a higher risk of osteoporosis than those who are more active.
- › Excessive alcohol consumption increases your risk of osteoporosis.
- › Smoking increases your risk of osteoporosis.
- › A fracture following a minor fall or injury.
- › Loss of height due to fracture of a vertebra (back bone).
- › An early menopause (aged less than 45).

How should I prepare for my DXA examination?

Any special preparation needed will be given to you at the time of booking or on your appointment letter. In general, it is ideal that you wear loose comfortable clothing without metal objects (buttons and zips, jeans/girdles) over your lower abdomen and hips that will interfere with the scan. Do not take calcium and/or vitamin D supplements on the morning of your scan and please bring a list of your medications with you if possible. You should also inform the radiographer if there is any possibility that you may be pregnant. You should also not have a DXA scan within one week of other types of scans requiring the use of contrast agent or dye.

Please let us know if you have any mobility challenges requiring additional equipment, or other special needs or requirements when making your appointment. This will ensure that we are able to offer you the highest quality service.

What happens when I arrive?

On the day of your scan you should arrive 15 minutes before your appointment time. You will check in at reception and you might be asked by the reception staff to complete a few forms.

You must remove any items that will affect the quality of the images, which may include some jewellery. It is therefore recommended that you leave valuable items at home. You may be asked to change into a hospital gown. The examination will be explained to you and you will be given the opportunity to ask any questions.



What happens during the scan?

The Radiographer undertaking the scan will ask you a list of questions and record your height and weight. You will then be asked to lay down on a comfortable padded scanning couch for approximately 15-30 minutes while the electronic arm of the scanner travels very slowly over the area of your body being scanned (most commonly spine and hips). The forearm may be scanned for certain health problems, or if scans are not possible in the hip or spine. The Radiographer may help you move into the correct position for the images. You are not enclosed in a tunnel and no injection is required. It is important that you remain still however as movement reduces the quality of the scan.

What happens after the scan?

You will be removed from the scanner and allowed to dress and retrieve your items.

Are there any risks or side effects?

No. There are no restrictions on normal activity – you can eat and drink normally, drive and return to work immediately after the scan. A DEXA scan involves a very low dosage of radiation passed across the body. The associated risks are minimal and are similar in strength to other sources of background natural radiation that people are exposed to everyday, without even realising it. Despite being very safe, bone density scans and x-rays are not recommended for pregnant women.

When will I get my results?

After the examination the images will be reviewed by a specialist Radiographer who performs calculations important to your overall results. These images and calculations are given to a Radiologist who will provide an overall report on the test. This report, including images and calculations will be sent to your doctor. Your doctor will then discuss the findings with you and decide on treatment required, if any.

Please note that we will not be able to discuss your results directly with you, only your doctor or Consultant can do this.

