OTHER SCANS AND TESTS

There is no way to know your bone strength from how you look or feel. Different types of scans and tests may sometimes help you and your healthcare professional understand your diagnosis.

A healthcare professional will most commonly use a fracture risk assessment and bone density scan (also known as DEXA or DXA) to find out if you have osteoporosis, your chance of breaking a bone, and if you need an osteoporosis medicine.

This webpage does **not** include information about **DEXA** and **fracture risk assessments**. For more information on these tests, take a look at our **bone density scan** and **fracture risk assessment** information.

This webpage includes information about other types of scans and tests to check your bone health. These scans and tests may help you understand your osteoporosis diagnosis and medicine.

This information may be helpful if you (or someone close to you) want to:

- understand the different types of scans and tests you might have when being diagnosed with osteoporosis
- know if other scans and tests would be useful to understand your osteoporosis diagnosis and if your medicine is working.

Contents

Scans and tests for broken bones

Breaking a bone easily is often the first sign of osteoporosis. The breaks usually happen after a fall. You might hear these broken bones described as fragility fractures. A 'fracture' and 'broken bone' mean the same thing.

Broken bones caused by osteoporosis are most common in the wrists, hips and spine.

Some scans and tests can identify broken bones caused by osteoporosis. These include X-ray, CT scan and MRI scan. If a scan or test shows you have broken a bone, you may be referred for an osteoporosis assessment.

The scans and tests you are offered, and the order you have them, depend on your own situation.

X-ray
X-rays take pictures of the inside of your body, including bones. The test uses a small amount of radiation. X-rays are usually painless and quick.

Your healthcare professional may refer you for an X-ray if they think you have broken a bone. An X-ray can show your healthcare professional if and where you have broken a bone. It can also show the type of break.

Read more about **X-rays** on the NHS website.

CT scan
CT stand for 'Computed Tomography'. A CT scan uses X-rays to take detailed pictures of the inside of the body, including your bones. CT scans take around 10 to 20 minutes and are painless.

Some broken bones can be difficult to see on an X-ray so your healthcare professional may refer you for a CT scan.

Your healthcare professional may also refer you for a CT scan if you have back pain. This is because a CT scan can help identify if the back pain is caused by a **spinal fracture** or something else.

Does a CT scan measure bone density and strength?
A CT scan can measure bone density. But CT scans are not usually used for this purpose. This is because they use a higher level of radiation than a **DEXA scan**.

Read more about **CT scans** on the NHS website.

MRI scan
MRI stands for 'Magnetic Resonance Imaging'. An MRI scan does not use radiation, like X-rays and CT scans. It uses strong magnetic fields and radio waves to take detailed pictures of the inside of your body. This includes your bones.

An MRI scan usually takes between 15 to 60 minutes. It is not painful.

Some broken bones can be difficult to see on an X-ray so your healthcare professional may refer you for an MRI scan.

Your healthcare professional may also refer you for an MRI scan if you have back pain. This is because an MRI scan can help identify if the back pain is caused by a **spinal fracture** or something else.

MRI scans are not used to measure bone density and strength.

Read more about **MRI scans** on the NHS website.

Is an MRI or CT scan better at looking at my bones?
MRI and CT scans can both give detailed images of bones. The type of scan your healthcare professional recommends depends on your medical history and symptoms.

Scans to understand bone density and strength

A DEXA scan is currently the best way to measure bone density and strength. Your results can help your healthcare professional understand how strong your bones are. Your results can also help them understand your chance of osteoporosis and future broken bones. Find out more about **DEXA scans**.

Other types of scans, like REMS and Ultrasound, may help us to understand bone density and strength. But they are not currently used to diagnose osteoporosis. We need more research to understand how they can be used in practice.

REMS

REMS stands for 'Radio-frequency echogenic multi-spectrometry'. It uses sound and radio waves to measure bone density and strength.

It is not routinely offered on the NHS. But some private clinics offer REMS.

REMS is a promising technology. Some research has shown there may be some advantages to using REMS to measure bone density. For example, it does not use radiation and the machine is easy to move around. It may also measure the quality of bone.

But research has not shown if REMS is as useful or reliable as a **DEXA scan** to diagnose and monitor osteoporosis. And it is not possible to compare REMS scan results with DEXA scan results.

We need more research to find out how REMS can help us understand the strength of your bones and if you would benefit from an osteoporosis medicine.

Ultrasound scan

Ultrasound scans use sound waves to create an image of the inside of your body. They are sometimes called quantitative ultrasound.

Ultrasound scans are not routinely offered on the NHS to look at bone density and strength. This is because ultrasound is not as well developed as **DEXA**.

Some private companies offer ultrasound scans as a way of measuring bone density. This is because the machines are cheaper, smaller and easier to move around than DEXA machines.

Most of the research looking into ultrasound has involved women who are 75 years or older. Some studies have shown a link between a low ultrasound result and an increased chance of breaking a bone in the hip. But we need more evidence to understand what ultrasound results mean and how they can help us understand bone strength.

Healthcare professionals cannot use ultrasound scan results to make decisions about osteoporosis medicines. This is because results are hard to interpret and compare with DEXA scan results.

Find out more about **ultrasound scans** on the NHS website.

Other tests for bone health

Blood and bone marker tests are not used to diagnose osteoporosis or to find out your chance of breaking a bone. But your healthcare professional may refer you for these tests to understand your bone health.

Blood tests
Your healthcare professional may refer you for a blood test while you are being investigated for osteoporosis. This is because blood tests are sometimes used to diagnose and rule out **medical conditions** that can cause osteoporosis.

For example, you may have a blood test to check your calcium levels if your doctor thinks you have **hyperparathyroidism**. Or you may have a blood test to check your inflammatory markers if they think you have an autoimmune condition, like **rheumatoid arthritis**. Inflammatory marker blood test results are written down as CRP or ESR.

Blood tests can rule out **conditions** that may look similar to osteoporosis.

Find out more about **blood tests** on the NHS website.

Bone markers
Two types of cells are constantly at work inside our bones. And they leave behind traces, or markers, in our blood. These are called bone markers.

You may see bone marker test results written down as P1NP, CTX and NTX.

Bone marker tests may be helpful to understand how your osteoporosis medicine is working over time. Bone markers might be helpful if you are taking these osteoporosis medicines:

- **alendronate**
- **ibandronate**
- **risedronate**
- **zoledronate**
- **raloxifene**
- **denosumab**.

Many people do not need to have a bone marker test. This is because there are other ways for healthcare professionals to know if your osteoporosis medicine is working. Such as if you have broken a bone or your DEXA scan results.

Bone markers are only used in specialist centres and normally for research.

An osteoporosis specialist may refer you for a bone marker test. This may be a blood test or urine sample. It is important that the specialist looks at the results. This is because bone marker test results can be difficult to interpret.

Different things, like the medicines you are taking, can affect the result. You will also often need to have multiple tests over a period of time to get a meaningful result.

Read our tips on **how to get the most from your appointment when talking to your GP** about scans and tests for osteoporosis.

More support and information

About our health information
Our health information is written by the health information team and is reviewed by healthcare professionals and people living with osteoporosis. We make every reasonable effort to ensure the content is accurate and up-to-date.

Our information is not a substitute for medical advice provided by your own doctor or other healthcare professional. Please always talk to a healthcare professional to discuss your bone health. ROS is not responsible for and we cannot accept liability for misinterpretation, misuse of information, loss, harm or damage arising from any reliance on or use of the information or guidance provided.

For more information about osteoporosis visit **theros.org.uk/info** or call **01761 471771** to order printed information.

Support for you
The Bone Health and Osteoporosis UK online community is a welcoming and safe space for you to share your experiences with others. Whether you're living with osteoporosis or supporting someone, our community is here for you. Visit **theros.org.uk/online-community**

We have a network of support groups across the UK, which are run by volunteers. Our groups provide support by organising regular meetings – both face-to-face and online. Regardless of where you live, you can join an online meeting from anywhere in the UK. Find your local support group and view the online programme at **theros.org.uk/support-groups** or email **volunteerengagement@theros.org.uk**

Our specialist Helpline nurses are here to answer your questions or concerns about bone health or living with osteoporosis. Visit **theros.org.uk/helpline**

Join the Royal Osteoporosis Society and, from just £3 a month, we'll always be in your corner. Whether you need information to make sense of your diagnosis, or guidance on ways to live well with osteoporosis, we're here for you.

No matter what the future has in store. Join today at **theros.org.uk/membership** or call **01761 473287**

About the Royal Osteoporosis Society

We're the Royal Osteoporosis Society – the UK's largest national charity dedicated to improving bone health and beating osteoporosis. And we're here for everyone. We equip people with practical information and support to take action on their bone health.

Working with healthcare professionals and policy-makers, we're influencing and shaping policy and practice at every level. We're driving the research and development of new treatments, to beat osteoporosis together.

How you can help
As an independent charity, we don't receive any government funding. So we can only continue to provide our services through the generosity of our supporters.

We would appreciate any donation you're able to give to support our work. If you'd like to donate, visit **theros.org.uk/donate** or call **01761 473287**

Your donation will help us support more people with osteoporosis.

To find out about volunteering, visit **theros.org.uk/volunteer**

Last review: November **2025** **Next review:** November **2028**