

Bone Densitometry

How to prepare for your exam

Bone densitometry is used to assess your bone health and fracture risk. Read this handout to learn about how this exam works, how to prepare for it, how it is done, what to expect during the exam, and how to get your results.

What is bone densitometry?

Doctors use X-rays to view and assess bone fractures and other injuries of the *musculoskeletal system* (skeleton and muscles). But, a plain X-ray is not the best way to screen for *osteoporosis* (thinning of the bones) or for measuring *bone mineral density* (BMD).

To detect osteoporosis and accurately measure BMD, doctors use a form of imaging called *dual-energy X-ray absorptiometry* (DXA). A DXA scan is a quick and painless exam. It is ideal for measuring bone loss.

DXA scans usually measure bone density in the lower spine and hips. But, your non-dominant forearm may be scanned instead if you:

- Have *hyperparathyroidism*
- Have had a hip replacement or spinal fusion, or there is another reason that your lower spine and hips cannot be scanned

How does the exam work?

The DXA scan uses 2 very low-dose X-ray beams, 1 with high energy and 1 with low energy, to measure bone density. The BMD is then put into a database and given 2 types of scores:

T-Score

This number shows the amount of bone you have compared to a young adult of your same *gender* (sex) with peak bone mass.



For your DXA scan, you will lie on a padded table while a sensor arm passes over the area being scanned.

- A T-score above -1 is considered normal.
- A T-score between -1 and -2.5 shows osteopenia, the first stage of bone loss. Osteopenia means that there is an increased risk for fracture.
- A T-score below -2.5 shows osteoporosis. Osteoporosis usually means there is a high risk for fracture.

Z-Score

This number shows the amount of bone you have compared to other people in your age group who are your same size and gender. If your Z-score is below -2.5:

- You have secondary osteoporosis.
- You may need more medical tests.

How should I prepare for the exam?

- Eat your meals as usual.
- Do **not** take calcium supplements for at least 24 hours before the exam.
- Wear loose, comfortable clothing.
- **Do not wear any metal zippers or metal buttons.**
- Tell your doctor if you recently:
 - Had a barium exam
 - Received a *contrast material* for a computed tomography (CT) or radioisotope scan

If you have had one of these exams recently, you may need to wait 10 to 14 days before having a DXA exam.

- Tell your doctor or X-ray technologist if there is any chance you may be pregnant.

How is the exam done?

- The DXA exam takes about 10 minutes, depending on the equipment used and the parts of your body that are scanned.
- You may be asked to undress and put on a hospital gown.
- **If your spine or hips are being scanned**, you will then lie on a padded table. The table has an X-ray source below it and a sensor above it.

The technologist will then help position you for the scan:

- If your spine is being scanned, your legs may be supported on a padded box to keep your pelvis and lower spine flat.
- If your hips are being scanned, the technologist will strap your feet to a wedge. Your legs will be rotated slightly inward.

The sensor will slowly pass over the area, making an image on a computer screen.

- **If your forearm is being scanned**, you may either lie down or sit in a chair. The forearm scan lasts only about 30 seconds.

What will I feel during the exam?

- DXA bone densitometry is a painless, non-invasive exam.
- While you are lying on the table, you may be asked to hold an awkward position for a short time, while the arm of the machine passes over your body.
- You must stay as still as you can during the exam. This will help create a clear, useful image of your bones.
- You do not need to have *anesthesia* (medicine to make you sleep) for this exam.
- Radiation exposure from the exam is very low.

Who interprets the results and how do I get them?

The radiologist will not talk with you about the results. A *metabolic bone disease specialist* or a *board certified radiologist* will review your DXA exam and interpret your results.

A report will then be sent to the doctor who ordered the exam or to your primary care provider, or both. These care providers will then work with you to create a treatment plan as needed.

Results are usually ready within a few days.

Questions?

Your questions are important. Call your doctor or health care provider if you have questions or concerns.

- UWMC Imaging Services: 206-598-6200
- Harborview Imaging Services: 206-744-3105