

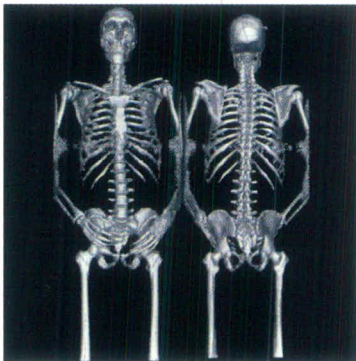


SAIFEE HOSPITAL

under the auspices of Saifee Hospital Trust Reg. No. E-5448 (Bom)

DEPARTMENT OF NUCLEAR MEDICINE

Bone Scan Imaging Patient Information



Using nuclear medicine to look for Bone abnormalities

When you think of bones you may picture dry, brittle structures similar to what you'd find in a museum or what anthropologists find buried in the desert. But the bones inside your body are anything but static — they're alive and active, providing support for your body and serving as your body's warehouse for important minerals. Inside some of your bones is a soft core called bone marrow that manufactures blood cells.

This process of growth and change is part of your body's metabolism — natural processes that create and use energy. Changes in your bone metabolism can be caused by a number of specific problems. To get a picture of your bone metabolism, your doctor may use a procedure called a bone scan.

What is a bone scan?

Your doctor may order a bone scan to help diagnose subtle or hidden bone fractures that may not show up on a routine X-ray, such as a stress fracture. Bone scans can also help detect:

- Bone cancer
- Bone infections
- Arthritis
- Causes of unexplained bone pain

A bone scan falls under the category of nuclear medicine, which means that it uses tiny amounts of radioactive materials called tracers (radionuclides). Tracers accumulate in certain organs and tissues, such as bones. Once introduced into the body, tracers emit waves of radiation that are detected by a special gamma camera. This camera produces images that are interpreted by radiologists or nuclear medicine specialists.

In a sense, a nuclear procedure such as a bone scan is the opposite of a standard X-ray examination. An X-ray passes radiation into or through your body to create an image on film placed on the other side of your body. In a nuclear scan, the source of radiation is inside your body and travels to the surface, where a camera detects it.

Who is it for?

Your doctor may order a bone scan to determine whether you have any bone abnormalities that may signify one of the following disorders:

- Fractures
- Arthritis
- Paget's disease
- Bone tumors
- Infection of the bone (osteomyelitis)
- Fibrous dysplasia
- Osteomalacia or rickets
- Unexplained pain
- Avascular necrosis

Sometimes your doctor will order a bone scan to determine whether cancer, such as prostate, lung or breast cancer, has spread to the bone (metastatic disease).

How do you prepare?

No special preparation is required on your part before a bone scan, though you may be asked to remove jewelry or other metal objects. You can eat or drink anything you like before the test.

As with most tests, tell your doctor if you're pregnant or think you might be pregnant. Bone scans aren't performed on pregnant women because of concerns about radiation exposure to the fetus.

How is it done?

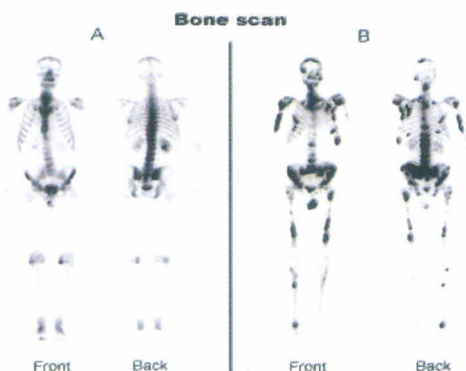
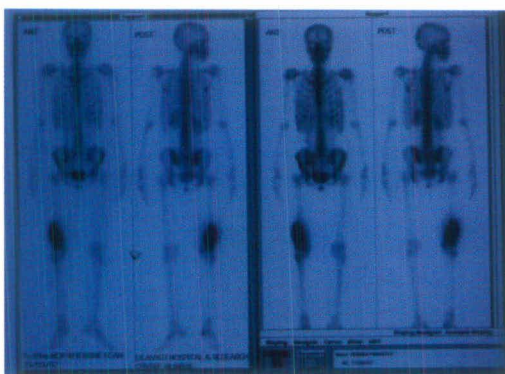
A bone scan can be divided into two basic parts:

The injection. You will receive an injection of tracers into a vein in your arm. You'll then wait about two to four hours to allow the tracers to circulate and be absorbed by your bones. You may be allowed to leave the health care facility while you're waiting. Your doctor will ask you to drink several glasses of water so you'll urinate frequently — this removes unabsorbed radioactive material from your system.

The scan. During the scan, you'll be asked to lie very still on a table while a machine with an arm-like device supporting the gamma camera passes over your body and records the pattern of tracer absorption in your bones. This is painless. A scan of your entire skeleton takes about 30 minutes. Scanning a limited area of your body takes from 20 to 45 minutes.

In some cases, your doctor might order a three-phase bone scan, which includes a series of images taken at different times. A number of images are taken as the tracer is injected, then again shortly after the injection and two to four hours later.

For certain conditions your doctor might order a single photon emission computerized tomography (SPECT) scan. This can help analyze conditions that are especially deep in your bone or in places that are difficult to see. A SPECT scan takes about 45 minutes to an hour.



After the test

Once inside your body, the tracers don't remain active for long. The radioactivity disappears within one to three days.

You should feel no side effects after the procedure, and no aftercare is necessary. If you're breast-feeding, your doctor might ask you to stop for 24 hours after the tracer injection.