

Information for patients having a bone scan



The Royal College of Radiologists

The leaflet tells you about having a bone scan. It explains what is involved and what the possible risks are. It is not meant to replace informed discussion between you and your doctor, but can act as a starting point for such a discussion.

Whether you are having a bone scan as a planned or an emergency procedure, you should have sufficient explanation before you sign the consent form.

The radiology department

The radiology department may also be called the x-ray or imaging department. It is the facility in the hospital where radiological examinations of patients are carried out, using a range of x-ray equipment, such as a CT scanner, an ultrasound machine and a MRI (magnetic resonance imaging) scanner.

Radiologists are doctors specially trained to interpret the images and carry out more complex examinations. They are supported by radiographers who are highly trained to carry out x-rays and other imaging procedures.

What is nuclear medicine?

Firstly, what is nuclear medicine? Nuclear medicine is the name given to the use of radioactive isotopes linked to certain chemicals to produce an image of different parts of the body. These isotopes emit gamma rays, which are similar to x-rays. The radiation does not stay in your body for very long, as the isotope decays within a few hours.

The isotope preparation is generally injected into a vein, but may be swallowed or inhaled, and is taken up by a specific organ. Radiation from the isotope is then detected by a special camera, called a gamma camera, and an image is produced on a television screen. Unlike ordinary x-rays, nuclear medicine can also be used to show how well an organ is working, as well as what it looks like.

What is a bone scan?

In the case of a bone scan, you will receive an injection in your arm of a small quantity of liquid radioisotope preparation and it takes about 3–4 hours to be fully absorbed by the bones. During this time, you may leave the hospital if you are an outpatient unless you are needed for some pictures early in the process.

When the pictures are being taken, the gamma camera is passed over the body to detect the radiation coming from the radioisotope in the bones. This builds up an image of the bone structure, as determined by the blood flow in the bones and the activity of the bone to generate cells. This can highlight certain information which helps the doctor to diagnose your condition.

Are there any risks?

As the gamma rays are similar to x-rays, there are small risks associated with being exposed to radiation. However, the radiation decays away over a period of a few hours and the total amount of radiation involved is kept to a minimum. This is comparable to the natural radiation we all receive from the environment over a period of nearly two years. This adds very slightly to the risk of, for example, developing a cancer. However, as one in three of us will develop a cancer at some stage during our lives, the added risk is very small. Indeed, the risks from missing a serious disorder by not having a bone scan are considerably greater.

Are you required to make any special preparation?

No, you may eat normally and you should take any medicines you need as usual. After the injection you should drink plenty of fluids, at least 6 to 8 cups of fluid before the scan, unless you normally have to restrict your fluid intake. You will probably need to empty your bladder frequently. If you leave the radiology department, you do not need to take any special precautions, but if you stay in the department then you should use the special toilet for nuclear medicine patients.

If you are pregnant or breastfeeding

If you are pregnant, or think you may be pregnant, you should inform the department before attending, and certainly before the isotope is administered.

Also, as some radioactive substances are excreted in breast milk, if you are breastfeeding, inform the department on arrival and you will be advised as to whether you will need to take any precautions.

Normally, mothers should stop the feeding for 24 hours afterwards.

Can you bring a relative/friend?

Yes, but for reasons of safety they may not be able to accompany you into the x-ray room, only in very special circumstances.

When you arrive

You should go to the reception desk in the department, after which you will be shown where to wait until collected by a radiographer or other member of staff.

Within the department, the toilets and public phone are clearly signposted, should you need to use them at any time.

Who will you see?

You will be cared for by a small team comprising mainly radiographers. A radiologist will subsequently examine the record of the images prior to writing a report on his/her findings.

Upon collection

The radiographer will explain the procedure, and you have the opportunity to ask any questions. You may be asked some questions about your health. The radiographer, or a radiologist, will then give

you the injection of radioisotope preparation into a vein, generally the one near your elbow. This is really just like having blood taken.

Unless you are needed for any pictures early on in the process, there is then a 2 to 4 hour delay to allow the isotope to be absorbed by the bones, during which time you may leave the hospital if you are an outpatient and return home.

What happens during the scan?

On return, you will be asked to visit the special toilet to empty your bladder. You do not need to undress but you should remove any jewellery or metallic objects such as keys, coins or buckles. You will be taken to the examination room and made comfortable lying on the couch and breathing normally throughout. The radiographer will position the gamma camera over one end of your body and ask you to lie still. Usually, the camera will slowly scan the whole length of your body, after which the radiographer will re-position the camera below the couch and repeat the process. Sometimes the camera takes pictures in segments.

The radiographer will remain in the room with you, and will watch the images as they are displayed on a monitor. It may be necessary to take one or two more localised views, if more detail is required.

Afterwards, it may also be necessary to arrange for one or two x-rays, to give extra information about any possible abnormality.

Will it be uncomfortable?

No. Apart from the normal injection you will not feel anything.

How long will it take?

Apart from the 2–4 hours while the isotope is absorbed into the bones, the scanning process usually takes about 30 minutes, and your total time in the department will usually be less than one hour.

Are there any after-effects?

No, the injection causes no side-effects, nor will you feel sleepy. You can drive home afterwards and go about your normal activities.

In addition to the case of mothers who are breastfeeding, mothers with young children should notify the radiographer, who will explain that it is advisable not to have prolonged close contact with them for

the rest of the day. This is to avoid them being exposed to unnecessary radiation.

When will you get the results?

The scan will be examined after your visit and a written report on the findings sent to your referring doctor which is normally available in 14 days.

Finally...

Please remember that the isotope preparation required for this examination is ordered especially for you. If you are not able to attend, please let the department know in good time, so that it can be used for someone else.

Other sources of information

Websites

For general information about radiology departments, visit The Royal College of Radiologists' website: www.goingfora.com

NHS Direct

For health advice or information you can call NHS Direct on 0845 45647 or visit the website: www.nhsdirect.nhs.uk

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This leaflet has been prepared by the Clinical Radiology Patients' Liaison Group (CRPLG) of The Royal College of Radiologists.

Board of the Faculty of Clinical Radiology

The Royal College of Radiologists, March 2008

Notes for medical staff

This patient information leaflet may be downloaded and, if necessary adapted, for medical use and is also a direct source of information for patients accessing this website. It has been produced by the Clinical Radiology Patients' Liaison Group of The Royal College of Radiologists. If being used for a hospital leaflet, it is recognised that certain other information would need to be included for the patient as described below.

The appointment arrangements

- **Details of investigation**
- **Date, time and location**
- **What the patient should do if they are unable to attend**
- **Contact telephone number(s)**

Special instructions

- **Preparations required before attending**
- **Advice on dealing with personal valuables**

How to find the site

- **Hospital, transport, parking**
- **Department, directions, map**

Special needs

- **Information for those with a disability (parking, nearest drop-off point, transport within hospital)**
- **Special language needs**
- **Help for deaf/hard of hearing, blind/partially sighted**