Nuclear Medicine

1. Here, you will meet radiographers and nuclear medicine physicians. Radiographers take images of the inside of your body and make sure you are comfortable during the examination. Nuclear medicine physicians are doctors who specialise in nuclear medicine.

In nuclear medicine, we take images from inside the body using a tracer together with a small amount of radioactive substance. This helps the scanner show how your body is working. The substance is safe in the small amounts used and is usually given as a small injection in your arm, or sometimes as a capsule to swallow, depending on the examination.

Images are taken using gamma cameras or SPECT/CT scanners. **You will find more information about your specific examination, including how long it will take, in your appointment letter -please remember to read all pages carefully.** In Nuclear Medicine, we use both SPECT/CT scanners and gamma cameras to take images.

You can read more about:

- SPECT/CT on page 3
- Gamma camera on page 5

We also carry out uptake measurements and ultrasound examinations here.

You can read more about:

- Uptake measurements on page 7
- Ultrasound on page 8

2. Turn right when you enter the Department of Radiology. You will find the PET and Nuclear Medicine section at the far end of the corridor.

You will also find toilets along this corridor.

3. There is a receptionist at the service desk, for any queries or required help, located just beside the waiting area.

Toilets are available nearby.

4. This is waiting area B219 for Nuclear Medicine and PET. You will be collected from here when it is your turn. In the waiting area, there is a bed where you can lie down if you feel the need to rest.

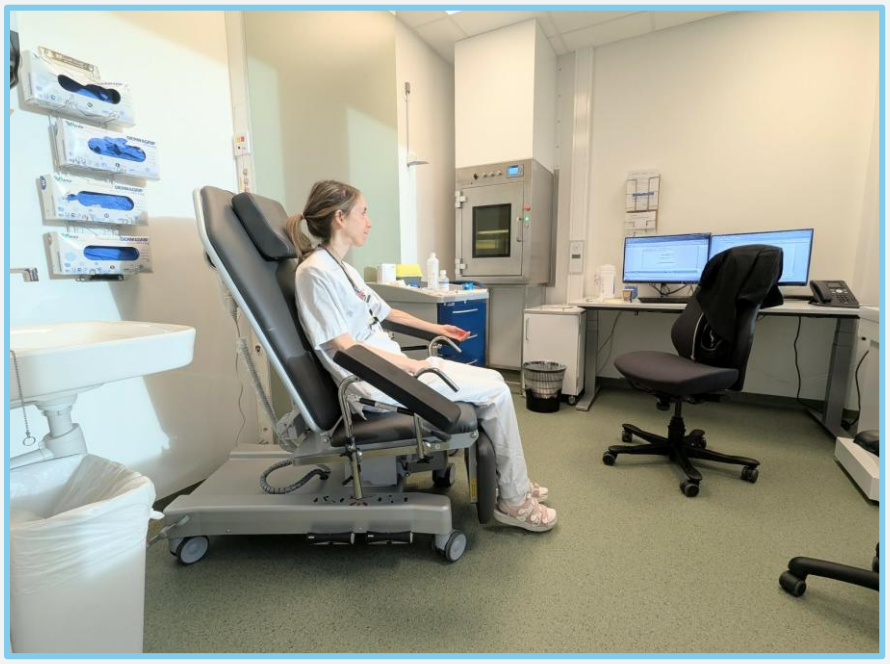
Sometimes the TV may be on. Please feel free to let us know if you would like the volume turned down.

There is also a dispenser with cold and hot drinking water available, as well as facilities for hand-washing.

SPECT/CT

5. A SPECT/CT scanner is a machine that can take both nuclear medicine images and CT images. The scanner consists of a examination table that you lie on, two detectors, and a CT unit.

If you are having a SPECT/CT examination, the radiographer will first collect you and take you to the injection room.



6. Here you can see one of our injection rooms.
To make it possible to take images, you will receive a small injection in your arm, where the radiographer gives you a small amount of radioactive substance. This is a routine part of the examination.

You will be seated in a chair, as shown here by the radiographer. The chair has an adjustable backrest, footrest and armrests so that you can sit comfortably, and the radiographer has all the necessary equipment within easy reach.

The radiographer will explain the examination you are going to have, how long it will take, and where you should wait before the examination starts.

7. This is a SPECT/CT scanner. The SPECT/CT scanner has two detectors that record the signals from the radioactive substance you have been given.

In some examinations, the detectors remain completely still and only the examination table moves. In other examinations, the detectors will move slowly and gently around the table you are lying on.

During the examination, you will hear soft humming and whooshing sounds. This is normal and simply means that the scanner is working as it should.

8. The detectors are the large blocks on the scanner. They are the parts that record the signals coming from the radioactive substance you were given before the examination. The detectors adjust their distance to the size of your body so that they come quite close to you, but they will not touch you.

Depending on what is being examined, you may be asked to lie with your arms raised above your head or resting by your sides. Here, the radiographer shows what it will look like if you are lying on your back with your arms above your head.

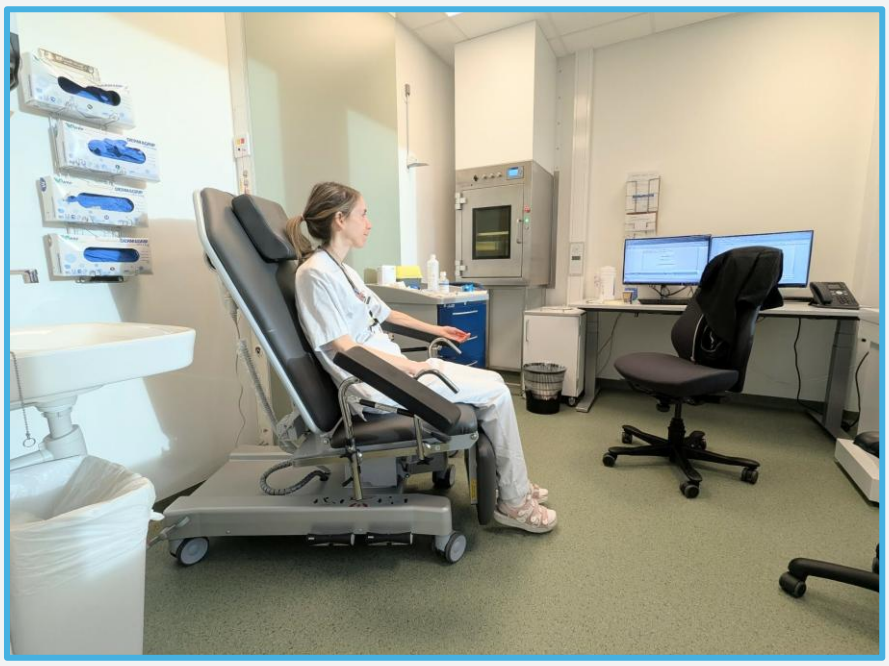
You are welcome to close your eyes while lying on the table if you wish, and you can let us know at any time if anything feels uncomfortable.

Please be prepared to remove any clothing, jewellery or metal items from the area of the body being examined.

Gamma camera

9. A gamma camera consists of a examination table and detectors attached to a large ring. You will not feel anything while the images are being taken -all you need to do is lie as comfortably and as still as you can.

If you are having an examination using the gamma camera, the radiographer will first collect you and take you to the injection room.



10. Here you can see one of our injection rooms.
To make it possible to take images, you will receive a small injection in your arm, where the radiographer gives you a small amount of radioactive substance. This is a completely safe, and part of routine practice.

You will be seated in a chair, as shown here by the radiographer. The chair has an adjustable backrest, footrest and armrests so that you can sit comfortably, and the radiographer has all the necessary equipment within easy reach.

The radiographer will explain the examination you are going to have, how long it will take, and where you should wait before the examination begins.

11. This gamma camera has two detectors. They look like large blocks, and these are the parts that create the images.

Please be prepared to remove any clothing, jewellery or metal items from the area of the body being examined.

12. Here you can see the detectors attached to the ring. They adjust their distance to the size of your body so that they come quite close to you, but they will not touch you. The ring allows the detectors to move slowly and smoothly around your body.

13. Here, the radiographer shows what it will look like if the detectors move around your upper body.

14. Here you can see what it may look like if the detectors move around your abdomen.

For some examinations, you may be asked to sit close to the detectors on a chair.

During the examination, you will hear soft humming and whooshing sounds from the gamma camera. This is normal and simply means that the equipment is working as it should.

Uptake measurement

15. You will come here if you are having a radioactive iodine uptake test or radioiodine treatment. An uptake test is an examination used to see how a gland in your throat is working, and this is often also examined using ultrasound. Before you swallow a tablet called an iodine capsule, you will have a consultation with a nuclear medicine physician, who will explain the examination to you.

16. This device is used to measure the uptake after you have swallowed the iodine capsule.

Here, one of the radiographers shows how the device is positioned in front of your neck to take the measurement. The test takes about two minutes. If it is difficult for you to stand for that long, you may sit on a chair instead.

Please be prepared to remove any clothing, jewellery or metal items from the area being examined.

The device makes no sound while the measurement is taking place.

Ultrasound

17. For some examinations of the neck, we often carry out an ultrasound at the end. Ultrasound creates images by sending sound waves into the body, and the ultrasound machine converts these signals into images on the screen.

The lighting is dimmed during the examination to make it easier to see the images on the screen. You may hear soft humming or whooshing sounds from the ultrasound machine while the examination is taking place.

18. You will lie on this examination table while the nuclear medicine physician gently moves an ultrasound probe with ultrasound gel over the area being examined.

Please be prepared to remove any clothing, jewellery or metal items from the area of the body being examined.

19. An ultrasound probe is a hand-held device used to take ultrasound images. It is placed gently against the area being examined, together with an odourless ultrasound gel.

The gel may feel a little cold on the skin. The gel helps the probe make good contact with the skin so that clear images can be produced.

You will be given a towel to wipe off the ultrasound gel before you go home. Please let the nuclear medicine physician know if you would also like a damp cloth.