



Brighton and Sussex
University Hospitals
NHS Trust

What is Nuclear Medicine?

Department of Nuclear Medicine

All Nuclear Medicine procedures and scans involve the use of ionising radiation, a form of energy that is found in both natural and man-made sources. We are surrounded by sources of natural radiation all the time in our everyday lives; examples include radioactivity in building materials, rocks and soil, radiation coming from space - even the air we breathe and food we eat contain small amounts of radiation.

Nuclear Medicine scans and therapies involve putting a radioactive substance into your body. The radioactive element is attached to a suitable drug. This is taken up in a specific part of your body, and depending on the type of drug there may be a delay before this happens.

In the majority of nuclear medicine scans, the radioactive element used is Technetium (pronounced tek-nee-shee-um). This has a half-life of six hours – which means the amount of radioactivity inside your body will halve every six hours. After 24 hours, most of the radioactivity will be gone.

In a nuclear medicine scan the radioactivity is detected by a scanner, and gradually forms an image. In nuclear medicine therapies the emitted radiation is used to treat a specific part of your body.

Justification

UK law requires medical exposures using ionising radiation to be justified. In other words, your nuclear medicine procedure will only be authorised if our clinicians decide that the benefits significantly outweigh the risks. Also, if our consultant feels that a different procedure with a lower radiation dose is more suitable, your referring doctor will be informed.

What are the risks to me?

The most common risk associated with medical radiation exposures is a slightly higher chance of developing a cancer in the future. For nearly all medical imaging the risk is too low to be detected. The risk is very small when compared with the lifetime chance of a person developing cancer, which is one in two. As an example, the typical radiation dose for a bone scan is approximately the same as one year of natural background radiation.

The risk from the medical radiation exposure is much smaller than the risk of not having the procedure, and potentially important information being missed.

Female patients must let us know if they think they may be pregnant, or are currently breast-feeding, before their appointment date. We may have to amend or cancel your scan.

What are the risks to others?

The radiation risks to others because of your scan are very small; however, we do ask that patients avoid close contact with pregnant ladies and small children (for example having a child sit on your lap for more than 30 minutes) for approximately 12 hours after their scan. This period will be longer for therapies and specific advice will be given in these cases.

Any More Questions?

Please feel free to ask our staff, before, during or after your visit, any questions you may have regarding the risks and benefits of using ionising radiation in your care.

The department of Nuclear Medicine can be contacted on:

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Disclaimer

The information in this leaflet is for guidance purposes only and is in no way intended to replace professional clinical advice by a qualified practitioner.

Ref number: 700.1
Publication Date: May 2018
Review Date: May 2020

