



***Will I glow  
in the dark?***  
An illustrated Q&A







**These are some of  
the real questions that  
nuclear medicine  
physicians and  
technicians get asked.**

Whilst the illustrations appear humorous, we hope the answers will ease any of your concerns regarding these safe diagnostic procedures.



*«When will you start injecting the radioactive substance?»*

*«It's already done!»*

## **Do I have to do anything special in preparation for my scan?**

When you receive confirmation details about your nuclear medicine appointment, there will be further information on what you need to do in preparation for your particular scan, what clothes you should wear or whether you need to fast beforehand. It depends on the particular scan you are having.

## **Is it going to be painful?**

Nuclear Medicine scans (sometimes called tests or procedures) are both safe & painless.

The injection of a radiopharmaceutical is not any more painful than any other injection that you may have had.

## **Can I feel**

### **the radioactivity inside me?**

Radiopharmaceuticals are attracted to specific tissues, bones and organs in the body. The amount is carefully selected to provide the least amount of radiation exposure to the patient but ensuring an accurate scan.

The doses are extremely low.

You will not feel anything.

## **After injection, will I irradiate or contaminate?**

As long as you do not touch the radioactive substance you are just exposed to its radiation, e.g. you are not radioactive when you leave the room of a patient that was recently injected. On the contrary, if this substance comes in contact with your body, then you are contaminated. The

radioactive solution that is injected is both contaminating and irradiating you. As long as you are not touching someone else you are not transferring the radioactive substance. You are just exposing your environment to radiation. But as an injected patient you are contaminating the objects around you, such as your bed sheets, your toothbrush and the toilets.

## Am I radioactive when back home? Am I a risk to my family?

Depending on the procedure you had, you may have a certain amount of radioactivity remaining in your body, from a few minutes to a few hours. You will stay in the Nuclear Medicine Department for a short period after your scan while the radioactivity fades before you are safely discharged to go back to work or home.



*«Darling, do you not think you are being over cautious,  
your scan was a few days ago...»*

## **I am claustrophobic, how long will I have to stay in the scanner?**

The cameras use the latest up to date technology and can take many hundreds of images very quickly. How long you remain in the scanner will depend on what organ is being scanned, i.e. heart, liver, head. The imaging suite in many departments are very calm , some even play relaxing music.

## **Why do I have to stay still?**

A special camera, ( SPECT/PET) detects the radiopharmaceutical in the bones, tissues or organs of your body and is taking many images, like a regular photographing process. It will be better if you stay still so the images are clear.

## Are the nurses radioactive?

Of course not. The nurses and technologists are exposed to levels of radiation, which are very carefully controlled by legislation. They all take precautions to ensure that radiation levels are kept to within safe limits for both them and you. Whilst you are having your scan, they are closely observing you from behind a glass window and you can both talk to one another as they control the camera and make sure the images are as good as possible.



*«I want to be handled by the less radiation emitting of both of you!»*

## Can children also be injected with radiopharmaceuticals?

Of course yes, but the doctor will just have to adapt the dose to age and weight.



*«Give him an injection as well, he is my friend,  
we share everything!»*

## What if I'm pregnant?

Before having a scan, please let your doctor know if you are or may be pregnant, as you would do it with any other medical exam.

## What about breast feeding?

If you are breast feeding, the doctor will highly recommend stopping breast feeding for a couple of days or more.



*«Hi everyone, am just back from visiting Grandma at the Nuclear Medicine Department. No need to be alarmed, I am safe.»*

## **How long will I stay radioactive?**

Radioactivity fades quickly with time. Scientists say it decays. In nuclear medicine, physicians are using radioactive substances that decay very quickly and your radioactivity will disappear within one to a few days after injection. Nothing to do with these radioactive substances that decay over billions of years.

## Are there going to be long-term side effects from having a nuclear medicine scan for me and others?

There should not be any side effects for you or your family, as the dose you are given is so low that it would be compare to the normal radiation level you are exposed to over an average month, from daily living.



*«No I'm not afraid about Grandpa being radioactive, I don't want him to repeat all the stories of his childhood...»*

## **If radioactivity is safe, why is nuclear medicine not used more widely?**

Nuclear Medicine, unlike other scans or tests provides information about the function of virtually every major organ, bone & tissue in the body.

For certain questions nuclear medicine provides the best answers but there are other techniques that are more appropriate in other cases, for example cardiac echo to see the borders of the heart chambers.



*«No, I assure you. It is not me that made  
these insects glow in the dark.»*



*«My dog has radiophobia, he chooses only non-radioactive trees.»*

## **I prefer X-rays as there is no radioactivity!**

The general impression is that X-rays are safe, while radioactivity is not. X-rays are just another form of radiation. Nuclear Medicine scans are amongst the safest diagnostic imaging tests available. A nuclear medicine scan is as safe if not safer than an X-ray. The radiation in a NM scan is comparable to, or often less than that of a diagnostic X-ray.



*Association of Imaging Producers & Equipment Suppliers*  
European Industrial Association for Nuclear Medicine and Molecular Healthcare

If Nuclear Medicine is playing a key role in the current imaging revolution going on for new diagnostics, it remains a complex discipline to be explained to all stakeholders. Very few people are aware of all the workings of this technique. Moreover, even less know about the high potential of radiolabeled molecules in therapeutic applications, which may change the way of treating cancer patients in a very near future.

AIPES (Association of Imaging Producers & Equipment Suppliers), through its dedicated Working Group, has as a task to provide all relevant information regarding Nuclear Medicine and Molecular Imaging industry to all communities. This information must cover all aspects of Nuclear Medicine, in particular:

- the principle of radioactivity used in healthcare,
- the radiopharmaceutical tracers and drugs manufacturing,
- the imaging processing by explaining all different imaging techniques,
- the potential benefits of Nuclear Medicine for patients,
- the potential of this technology through the new research and development programs.

AIPES brings the major pharmaceutical laboratories in nuclear medicine together with the major producers of medical equipment for this area of medicine, both multinationals and local medium size companies. In addition to its role as provider of a forum for addressing specific radio-pharmaceutical issues and its role as an industrial partner to the European Association of Nuclear Medicine and any other European medical society that could help in the promotion of diagnostic imaging, AIPES has as its goal, to communicate to the public the medical potential and the latest technical developments in the field of nuclear medicine.

An initiative of the Aipes Nuclear Medicine Awareness Working Group.



[www.whatisnuclearmedicine.com](http://www.whatisnuclearmedicine.com)

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