

# PET – CT scan

(English)

Your physician has referred you to the department of Radiology, Nuclear Medicine and PET Research for a PET-CT scan. PET-CT is a scan combining PET and CT and produces highly detailed views of the body. A combined PET-CT study is able to provide detail on both the anatomy and function of organs and tissues by superimposing the precise location of abnormal metabolic activity (from PET) against the detailed anatomic image (from CT).

On the day of your scan, please register ten minutes before your scheduled appointment at our reception. Location as stated in your appointment letter.

Please plan to spend two to three hours at our department. When you arrive, you will be asked a number of health history questions. We will then check your height, weight and your body's glucose (sugar) level; if this level is normal, you will then receive an injection of a small amount of radioactive glucose (FDG) in your arm. FDG is not considered harmful to your health and there will be no side-effects from this injected radiotracer. You will then be required to rest quietly for thirty to sixty minutes, avoiding movement and talking while the injected material circulates through your body.

During the CT scan an injection of contrast medium is sometimes administered via an intravenous line in the arm, depending on the type of scan that has been requested. This dye contains iodine. It is not radioactive and it shows up as white areas on the scans, helping the radiologist to differentiate between blood vessels and other anatomical structures. Allergic reactions are extremely rare and are usually mild, however you will be asked about allergies and all medicines you are taking to assess your suitability for the injection. If you have a known allergy to contrast material, your doctor may prescribe medication to be taken in advance to reduce the risk of a reaction. Please also inform us of any recent illnesses or other medical conditions and if you have a history of hay fever, asthma, diabetes, thyroid or kidney disease. Patients with kidney disease may require an extra blood test to determine renal function.

If contrast is used during your scan, you will likely experience a warm, flushed sensation and a metallic taste in your mouth during the injection of the contrast materials that lasts for at most a minute or two. You may experience a sensation that you have to urinate; however, this is actually a contrast effect and subsides quickly.

Some of the administered contrast medium and FDG may be excreted in small amounts in breast milk. If breast feeding, it is advisable to express your milk before the scan so that this can be used to provide a feed after the scan. Furthermore, milk should be collected and discarded for 24 hours after the scan. Normal breast feeding can resume after that.

## **Preparation**

- Please let us know if you are pregnant (or could be) or are breast feeding;
- Do not eat anything for six hours before your scan. You may drink tea or coffee but do not add milk, sugar or artificial sweetener;
- During the two hours before your appointment time, please drink approximately one litre of water;
- You may take your medicines as normal unless your referring physician has prescribed otherwise. If you are diabetic it is important to contact our department before your appointment as you may receive alternative instructions;
- You should not perform intensive exercise before your PET-CT scan.

## **The scan**

- You should wear warm, comfortable clothing for your scan;
- Metal objects, including jewellery, eyeglasses, dentures, hearing aids and hairpins, may affect the CT images and should be removed prior to your exam. Bras containing metal underwire should also be removed and any piercings, if possible.
- You will then be asked to lie on a table without moving (but breathing normally) while the scan is taking place. The table will move back and forth through the scanner several times. Our technologist will communicate with you during the scan via an intercom. For some scans you may be asked to hold your breath for short periods;
- The combined scans usually take forty to sixty minutes to complete. (The CT scan takes less than two minutes. The PET scan takes twenty to thirty minutes.) It is important that you lie as still as possible to ensure the best possible quality of images. You may bring a music CD to listen to. If you have claustrophobia or are unable to lie in one position for the required time, please let us know;
- When the scan is completed, and the technician has checked the images, you will be free to leave the department;
- If you had an intravenous line inserted for the procedure, it will be removed;
- Through the natural process of radioactive decay, the radiotracer in your body will lose its radioactivity over time and will also pass out of your body through your urine during the hours following the scan. You should drink plenty of water to help flush the radioactive material out of your body as instructed by the nuclear medicine personnel.

## **The Results**

A physician who has specialist training in nuclear medicine will analyze and interpret your images and send a report to your referring physician, who will discuss the scan results with you. Please ensure you have arranged an appointment with your physician.

## **Important**

Please do not be late for your appointment, or you may not be able to have your scan that day. Your FDG injection is prepared especially for your scheduled scan time and has a very limited shelf-life. It is also expensive! If you are unable to keep your appointment for whatever reason, please let us know as soon as possible so that we can reassign your scan to another patient and avoid unnecessary costs.

## **Questions**

Should you have further questions, please feel free to call us on Monday to Friday during office hours at telephone number (020) 444 2886.