

# patient information

Positron Emission Tomography/  
Computed Tomography

PET/CT



**QUEENSLAND X-RAY  
PET/CT CENTRE**

## PET/CT

### What is a PET/CT scan?

Positron Emission Tomography (PET) is an imaging procedure showing the chemical function of an organ or tissue rather than its structure. A radioactive glucose (or tracer) is injected via a vein and is then taken up by tissues in your body. The PET scanner detects the activity within your organs and tells whether it's normal or not. CT imaging is a highly advanced form of X-ray which shows the anatomical detail inside the body and detects alterations of structure caused by disease.

A PET/CT scanner is a very specialised device. The scans from the PET camera show abnormal functioning disease within the body which is overlaid on the anatomical map provided by the CT scanner.

### Why is PET/CT Useful?

The combination of the two scans has been proven to be extremely sensitive for detecting the early stages of disease, and can detect abnormalities even in the absence of structural change. Small amounts of tumour may be found even if they are undetectable by other imaging procedures or CT alone. This can have a major impact on choosing the best treatment for patients.

PET/CT information can be used to determine what combination of surgery, radiation therapy and chemotherapy is most likely to be successful in managing a patient's cancer. PET/CT can also help to monitor the effectiveness of therapy and assist planning for surgery and radiotherapy.

### What are the risks and side effects?

The PET/CT scan is a very safe and routine procedure. Millions of PET scans have been performed around the world without complications. The radioactive glucose you will receive is very safe and has no known side effects. The amount of radioactivity administered for the PET scan is small and will be out of your system by the end of the day. However, because it takes a few hours to leave your system we suggest you minimise contact with others (especially children and pregnant women) for 2-4 hours following your scan.

CT is also a safe and routine procedure. It may be necessary to have an injection of contrast for the CT part of the scan. You will be asked questions regarding any previous Iodine contrast reactions prior to any scan being performed.



## QUEENSLAND X-RAY PET/CT CENTRE

### **How do I prepare for a PET/CT scan?**

The preparation for a PET/CT is very specific in what you can and cannot do prior to your appointment. The preparation requirements are dependant on the reason for your scan. A detailed preparation sheet will be given to you when you make your appointment.

### **What happens when I come for my scan?**

On arriving at the PET/CT Centre, present any previous imaging you have had to clerical staff. A technologist will confirm that you have undertaken the correct preparation for your scan and make sure you understand the procedure fully. A Nurse will go through a questionnaire with you and a glucose check will be performed via a finger pin prick. A needle will be placed in your arm and the tracer is injected through the needle. After the injection you must wait a minimum of 1 hour prior to your scan. During this 1 hour period you will be resting quietly in a dimly lit room. It is very important during this time to relax, avoid talking, and avoid any significant movement.

### **How will the pictures be taken?**

The PET scanner detects the radiation released from the radioactive sugar injection and uses this to create pictures of your body. The CT scan will image the anatomy and alterations in structure related to disease.

The scan process will involve you lying on your back with your arms raised above the head. The scan will take approximately 20 minutes. The PET and CT images are combined and displayed on a computer screen or photographic film.

### **What happens after the scan?**

We recommend that you resume your normal diet after the examination. You should drink plenty of fluids for the next few days. This will help clear any remaining tracer from your body.

### **When will my results be available?**

When the scan is complete, the images will be reviewed by a Radiologist and specialist in Nuclear Medicine, specially trained in reporting these scans. All your images will be correlated with any previous studies that you may have had. The results of your PET/CT scan will usually be available the next business day.

*Queensland X-Ray PET/CT Centre*  
Level 3, Mater Medical Centre  
293 Vulture Street  
South Brisbane Q 4101

Telephone: (07) 3840 6222

Facsimile: (07) 3844 6203

Opening Hours: 7.00am to 5.00pm Monday to Friday.

This brochure deals with matters of a technical nature in general terms only. Patients should contact Queensland X-Ray personnel or their referring doctor for more details relating to preparation procedures. No responsibility for injury incurred by any person acting or refraining from action in reliance upon any material in this brochure can be accepted by any of the partners or staff of Queensland X-Ray.

© Copyright 2009 Queensland X-Ray Pty. Ltd.  
A.B.N. 40 094 502 208.

Print Date: 08/09

660