

Positron Emission Tomography (PET) Scan

Adult and Child/Young Person | Informed consent: patient information

A copy of this patient information sheet should be given to the patient or substitute decision-maker or parent/legal guardian/other person* of a child or young person to read carefully and allow time to ask any questions about the procedure. The patient information sheet should be included in the patient's medical record.

In this information sheet, the word 'you' means the patient unless a substitute decision-maker, parent, legal guardian or other person is providing consent on behalf of the patient, in which case the word 'you' means the substitute decision-maker, parent, legal guardian or other person when used in the context of the person providing consent to the procedure.



1. What is a Positron Emission Tomography (PET) scan and how will it help me?

Positron Emission Tomography (PET) scan is a diagnostic technique that produces images that show the biochemical function of an organ or tissue.

A small amount of 'positron-emitting' radioactive tracer is injected via an intravenous (I.V.) cannula. The PET scanner detects emissions coming from the radioactive tracer and creates an image showing the distribution of the radioactive tracer in your body.



Image: PET/CT scanner.
ID: 2323949323. www.shutterstock.com

The amount of radioactive tracer taken up by various parts of the body identifies it as normal or abnormal which allows the early detection of disease. A PET scan can often detect disease before it shows up on other imaging tests.

PET/CT

PET scans can be performed in combination with a Computed Tomography (CT) scan. The scanner looks like a large doughnut with a table in the middle. The table moves through the circular hole in the centre of the scanner. CT scans produce cross-sectional images of the body using x-ray radiation. This shows the anatomical structure of your organs and tissues. The images from the CT scan are fused together with the PET images so function and structure can be seen together. Sometimes we perform the PET CT scan after giving iodinated contrast.

For more information on CT scans and the use of iodinated contrast, please read the information sheet *Computed Tomography (CT) Scan*. If you do not have one of these information sheets, please ask for one.

Preparing for the procedure

The Nuclear Medicine department will give you instructions on how to prepare for the procedure.

You may be required to fast for your PET scan. This means no food or fluids other than water. You will be given personalised instructions when to start fasting.

It is important to be well hydrated before your scan. Please drink several cups of water before your arrival.



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It is important that you arrive on time for your appointment and follow all the preparation steps that are given to you. The procedure may not be able to go ahead if you do not follow all your preparation requirements or are late for your appointment.

Please tell the doctor/clinician if you are breastfeeding or pregnant, or suspect that you may be pregnant.

It is important that you lie still for the scan. Supporting straps and foam pads may be used to help with this. If a child/young person is unable to lie still, sedation or a general anaesthetic may be required. Sedation or a general anaesthetic is not available at all sites, and would need to be organised prior to the date of your scan. Please contact the Nuclear Medicine department to discuss.

If your child/young person is booked for an anaesthetic, please read the information sheet *About Your Child's Anaesthetic (for child/young person)*. If you do not have one of these information sheets, please ask for one.

For a parent/legal guardian/other person of a patient having a PET scan

To prepare the patient for this procedure and to ease their concerns, tell them what they can expect to happen during the procedure. This information sheet will assist you with this.

We welcome your help and support in preparing the patient for the procedure and in explaining why it's so important to lie still.

At the discretion of the procedure staff:

- a parent/adult (unless pregnant) may be invited into the procedure room to support the patient
- if the patient is having a general anaesthetic you may be able to see them off to sleep. Once they are asleep you will be asked to leave the procedure room and wait in the waiting area.

Other children are not allowed into the procedure room, and they must be supervised at all times by another parent/adult.

During the procedure

You may be required to change into a hospital gown, go to the toilet and remove any metal or jewellery that you are wearing.

The radioactive tracer is administered via an intravenous (I.V.) cannula. An I.V. cannula is a small plastic tube inserted into a vein, usually in your hand or arm.

Once the tracer has been given, you may need to lie/sit still in a quiet room for approximately an hour, this is referred to as the uptake time. The uptake time is needed to allow the tracer substance to reach the target organ or tissue. After the uptake time, you will go through to the scanner and be positioned on the table ready for the scan.

The scan itself should not cause you any pain. The Nuclear Medicine Technologist will not be in the room during the scan, but they will be able to see you, and speak with you via an intercom.

During the scan, the table will move through the scanner. You should remain as still as possible, as the slightest movement can blur the images.

The PET scan itself usually takes 15–30 minutes, but the whole procedure can take up to 3 hours.

If a child/young person is having an anaesthetic, this time will be longer due to the recovery time required.



2. What are the risks?

In recommending the procedure, the doctor/clinician believes that the benefits to you from having the procedure exceed the risks involved. There are risks and possible complications associated with the procedure which can occur with all patients – these are set out below. There may also be additional risks and possible complications specific to your condition and circumstances which the doctor/clinician will discuss with you. If you have any further concerns, please ensure that you raise them with the doctor/clinician.

Common risks and complications

- minor pain, bruising and/or infection from the I.V. cannula.

Uncommon risks and complications

- an allergy to injected medications may occur, requiring further treatment
- the procedure may not be possible due to medical and/or technical reasons.

Rare risks and complications

- death because of this procedure is very rare.

Breastfeeding

Most tracers are passed through breast milk. The impact of the tracer on breastfed babies is unknown. If you are breastfeeding, you may be advised to express and discard breastmilk in the days after your scan.

Risks of radiation

The risks of radiation exposure from this procedure need to be compared to the risks of your condition not being treated. Exposure to radiation may cause a slight increase in the risk of cancer to you over your lifetime. However, the potential risk is small compared to the expected benefit of this procedure¹.

What are the risks of not having a PET scan?

There may be adverse consequences for your health if you choose not to have the proposed procedure. Please discuss these with the referring doctor/clinician.



3. Are there alternatives?

Making the decision to have a procedure requires you to understand the options available. Please discuss any alternative procedure options with your doctor/clinician.



4. What should I expect after the procedure?

The tracer used for PET scans is short-acting and begins to disappear as soon as it is given. Most are undetectable within a day.

Tracers do not impact your ability to drive, and you should not feel any different to how you felt on arrival for the scan.

The Nuclear Medicine department will discuss any specific instructions that you need to follow after your procedure.

The I.V. cannula will be removed if it is no longer required.

You will receive the results of your procedure from your treating team at your next follow-up appointment. Please make an appointment if you do not already have one.



5. Who will be performing the procedure?

Nuclear medicine scientists/technologists, doctors and nurses make up the nuclear medicine team. All or some of these professionals may be involved in your procedure.

A doctor/clinician other than the consultant/specialist may assist with/conduct the clinically appropriate procedure. This could include a doctor/clinician undergoing further training, however all trainees are supervised according to relevant professional guidelines.

If you have any concerns about which doctor/clinician will be performing the procedure, please discuss this with the doctor/clinician.

For the purpose of undertaking professional training in this teaching hospital, a clinical student(s) may observe medical examination(s) or procedure(s) and may also, subject to your consent, assist with/conduct an examination or procedure on you.

You are under no obligation to consent to an examination(s) or a procedure(s) being undertaken by a clinical student(s) for training purposes. If you choose not to consent, it will not adversely affect your access, outcome or rights to medical treatment in any way.

For more information on student care, please visit www.health.qld.gov.au/consent/students.



6. Where can I find support or more information?

Hospital care: before, during and after is available on the Queensland Health website www.qld.gov.au/health/services/hospital-care/before-after where you can read about your healthcare rights.

Further information about informed consent can be found on the Informed Consent website www.health.qld.gov.au/consent. Additional statewide consent forms and patient information sheets are also available here.

Staff are available to support patients' cultural and spiritual needs. If you would like cultural or spiritual support, please discuss this with your doctor/clinician.

Queensland Health recognises that First Nations People's culture must be considered in the patient's clinical care to ensure their holistic health and individual needs are met.



7. Questions

Please ask the doctor/clinician if you do not understand any aspect of this patient information sheet or if you have any questions about your proposed procedure.

If you have further questions prior to your appointment, please contact the Nuclear Medicine department via the main switchboard of the facility where your procedure is booked.



8. Contact us

In an emergency, call Triple Zero (000).

If it is not an emergency, but you have concerns, contact 13 HEALTH (13 43 25 84), 24 hours a day, 7 days a week.

References:

1. Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). Ionising radiation in our everyday environment, 2021. Available from www.arpansa.gov.au

* Formal arrangements, such as parenting/custody orders, adoption, or other formally recognised carer/guardianship arrangements. Refer to the Queensland Health 'Guide to Informed Decision-making in Health Care' and local policy and procedures.