

A large, stylized teal graphic on the left side of the page, composed of several concentric, curved segments that resemble a partial circle or a stylized letter 'C'.

# Positron Emission Tomography with Computerised Tomography Scan (PET-CT)

Radiology

**A guide for patients and carers**

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## What is a PET-CT Scanner?

A PET-CT scanner is a machine which combines a positron emission tomography (PET) scanner with an x-ray computed tomography (CT) scanner in the same unit. It enables us to see how organs are working and also gives us anatomical information. A PET-CT scan can help your doctor diagnose and assess your condition and response to treatments. It can also be used for radiotherapy treatment planning (the process of designing personalised radiotherapy).

For this scan you will be given an injection containing a small amount of radioactivity called a tracer.



## Are there any risks?

There are small risks associated with the radiation dose you receive from the tracer you are given and from the CT scan.

Radiation is a form of energy which occurs naturally in our environment and can also be man-made. We are all exposed daily to natural sources of radiation.

In PET-CT we use man-made radioactivity. The injected radioactive tracer will decay quite rapidly meaning most of it will have gone within a few hours after your scan.

The total amount of radiation you receive during a PET-CT scan is similar to the amount you receive from natural background radiation over three to four years. The expected benefits from the scan outweigh any risks from the radiation dose.

The staff working in PET-CT are highly trained to ensure your radiation dose is kept as low as possible.

## What is the preparation for a PET-CT scan?

Please avoid any strenuous exercise for 24 hours prior to your scan.

A few days before your scan we will call you to confirm your appointment. We will ask you some questions and answer any queries you may have.



If you are a diabetic, please make sure that you tell us so that we can give you more detailed instruction about eating and taking your medication.

### **On the day of your scan:**

- For 6 hours prior to your appointment time (unless we tell you otherwise)
  - Do not eat anything
  - Drink plenty of plain water only
- Arrive on time. The radioactive tracer is produced specifically for you and has a very short shelf life. If you are late, we may not be able to proceed with your scan
- Do continue to take your usual medications (unless we tell you otherwise) and please bring a list of your current medications with you
- Leave your jewellery at home as you will be asked to remove all metal for the scan. If you wear comfortable, loose fitting, metal free clothes you may avoid having to change into a hospital gown

Before carrying out your PET-CT scan, it is very important that we know if you are breastfeeding or are (or think you may be) pregnant. If this is the case, please contact us before you attend for your appointment.

## What will happen during my appointment?

We will fully explain the procedure to you when you arrive for your appointment. We will then do a blood test to check the glucose level in your blood. This is done with a small pin prick in your finger.

A cannula will be inserted into a vein in either your arm or hand - this is then used to inject the radioactive tracer. After this, we will



ask you to sit quietly and relax alone for around 60 minutes. This is because reading a book, using your mobile phone or talking to a friend can affect how the tracer is distributed through your body. You will be encouraged to drink water.

Just before we start the scan, we will ask you to empty your bladder. Once on the scanner bed, we will get you comfortable so that you can stay still for the duration of the scan (which usually takes 25-35 minutes). Typically, we ask people to lie with their arms raised above their head or by their sides. The scan bed moves slowly through the circular scanner and the pictures are acquired. The total time of your appointment with us will be around 2 hours.



## What happens after my PET-CT scan?

Following your PET-CT scan, we will ask you to remain in the department for around 15 minutes. This is so we can check that we have all the information we need. We will also offer you something to eat and drink.

For the rest of the day, we advise that you drink plenty of fluid, empty your bladder regularly and avoid close contact with children and anyone who is pregnant.

## When will I get the results?

We will not be able to give you any results on the day of your scan.

A doctor who specialises in PET-CT will examine the images and report your scan. The report will be sent to the doctor who requested your scan. You should get your results at your next clinic appointment.

If you have any questions please do not hesitate to contact the PET-CT department directly on **0151 556 5018**.

Please be aware, we scan patients who have been referred for investigation of a range of conditions, not only for cancer.

If appropriate, however, for general information you can contact the Macmillan Cancer Information and Support Helpline on **0151 556 5570** or drop into the centre located in the foyer of the main building.



## How do we share your images?

The Clatterbridge Cancer Centre works closely with other organisations for support with patient care. This may mean that your images may be shared with other Trusts.

Anonymised patient information and images are used for training, teaching and research purposes within this trust, which is committed to the continuing professional development of staff and to protecting the privacy and confidentiality of its patients.

If you would prefer not to have your images used for these purposes, please notify the staff member performing the examination. This will not have any detrimental impact on the level of care you are provided.

## Can I bring a relative or friend?

You may wish to bring a companion with you when you attend for your PET-CT scan. Please be aware that under normal circumstances they will not be able to stay with you during the scan or during the preparation period prior to your scan. We strongly advise that you do not arrive with anyone who may be pregnant or children of any age. Your companion is welcome to wait for you in our waiting area or in one of our cafes.





## How we produce our information

All of our leaflets are produced by staff at The Clatterbridge Cancer Centre and this information is not sponsored or influenced in any way. Every effort is made to ensure that the information included in this leaflet is accurate and complete and we hope that it will add to any professional advice you have had. All our leaflets are evidence based where appropriate and they are regularly reviewed and updated. If you are concerned about your health in any way, you should consult your healthcare team.

We rely on a number of sources to gather evidence for our information. All of our information is in line with accepted national or international guidelines where possible. Where no guidelines exist, we rely on other reliable sources such as systematic reviews, published clinical trials data or a consensus review of experts. We also use medical textbooks, journals and government publications.

References for this leaflet can be obtained by telephoning 0151 556 5570.

If you need this leaflet in large print, Braille, audio or different language, please call 0151 556 5570.

**If you have a comment, concern, compliment or complaint, please call 0151 556 5203.**

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