

*The* ROYAL MARSDEN

NHS Foundation Trust

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Having a positron emission tomography  
(PET/CT) scan (PSMA)

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**Nuclear Medicine**

**Patient Information**



**NHS**



## Introduction

Your doctor has recommended that you have a PSMA PET/CT scan. This is a nuclear medicine test combining a PET scan and a CT scan.

## What is positron emission tomography (PET)?

PET is a medical imaging technique in which a radioactive tracer is injected into a vein. The tracer used for this PET scan is PSMA (prostate-specific membrane antigen), which binds to a form of protein present in all prostatic tissue. Abnormal prostate cells will absorb far more of the tracer and as such show up on the scan. This radioactive tracer has a short shelf life and is made on the day of the scan. Please note that appointments may be cancelled at short notice if there are tracer production problems.

## What is CT?

A CT (Computerised Tomography) scan uses x-rays to produce images of the body. By combining PET and CT, we are able to provide important information about many conditions affecting the different organs of your body. This will help your doctor to plan appropriate treatment for you.

## Is there any risk from the radiation?

We will expose you to ionising radiation when we carry out this examination. We are all exposed to ionising radiation from naturally occurring sources such as cosmic rays, certain types of soil and rocks and even food we eat. Ionising radiation can cause cell damage that in turn, after many years, may turn cancerous. The radiation associated with your exam will therefore carry a small risk which is less than 0.1% This risk will be far outweighed by the benefits of having this exposure. We will also tailor the amount of radiation we use to you.

**Please read the *Important points* section towards the end of this leaflet. If you have any concerns, please contact us.**

## **What preparation do I need for my PSMA PET/CT scan?**

No special preparation is required for this scan.

## **How is a PSMA PET/CT scan carried out?**

When you arrive at the department we will take you to a preparation room. We will give you a small injection of radioactive tracer into a vein and we will ask you to relax in the room for approximately one hour prior to your scan.

After one hour, we will ask you to move into the scanning room and onto the scanning bed. The scan will take approximately 20 to 45 minutes. Depending on the requested scan, you will be asked to have your arms above your head or down by your side.

## **Are there any side effects?**

The tracer that we inject will not produce any side effects. You can continue with your usual daily activities. In particular it will not make you drowsy and so will not prevent you from driving a car.

## **What happens after my PSMA PET/CT scan?**

Once the scan is completed you will be able to leave the department immediately. You will be able to eat and drink what you like. You may go anywhere you wish but we ask you to avoid prolonged close contact with pregnant individuals and young children for the rest of the day. This is to avoid exposing children to unnecessary radiation.

## **How will I get the results of my PSMA PET/CT scan?**

Your PET/CT scan will be reported on by the nuclear medicine consultant within 24 hours of completion. The results of your test will then be made available to the doctor who referred you.

## Important points

- Due to the nature of these investigations we advise that **you should not be accompanied by anyone who is pregnant and should not bring young children to the department.** With most of these investigations the level of radioactivity will have decreased to a safe level by the time you arrive home after the scan. However some investigations need more specific restrictions with regards to contact with young children and these will be explained.
- If you are afraid of needles you can ask for a spray to numb the area, before your injection.

## Contact details

If you have any queries please contact us on:

**The Royal Marsden, Sutton**

Tel: 020 8661 3762 / 3286

**The Royal Marsden, Chelsea**

Tel: 020 7811 8541

Email: [rmh-tr.rmuclearmedicine@nhs.net](mailto:rmh-tr.rmuclearmedicine@nhs.net)

Alternatively, please call:

**The Royal Marsden Macmillan Hotline: 020 8915 6899**

You can ring the hotline 24 hours a day, 7 days a week.

Call us straight away if you are feeling unwell or are worried about the side effects of cancer treatments.

This service provides specialist advice and support to all Royal Marsden patients, as well as to their carers, and both hospital and community-based doctors and nurses caring for Royal Marsden patients.

## References

This booklet is evidence based wherever the appropriate evidence is available, and represents an accumulation of expert opinion and professional interpretation.

Details of the references used in writing this booklet are available on request from:

The Royal Marsden Help Centre

Telephone: Chelsea 020 7811 8438 / 020 7808 2083

Sutton 020 8661 3759 / 3951

Email: [patientcentre@rmh.nhs.uk](mailto:patientcentre@rmh.nhs.uk)

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Should you require information in an alternative format please contact The Royal Marsden Help Centre.

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[royalmarsden.org](http://royalmarsden.org)  
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