ProsTIC
Prostate Theranostics Imaging Centre of Excellence

Peter Mac
Peter MacCallum Cancer Centre
Victoria Australia

PSMA Therapy Patient Information

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What is Prostate Cancer?

Prostate cancer occurs when abnormal cells develop within the prostate gland. In some circumstances, this type of cancer can be treated with surgery or radiation. Prostate cancer can also spread to other parts of the body - known as metastatic disease. Metastatic prostate cancer can be treated with hormone therapy and chemotherapy, but it can become resistant to these treatments. More information on prostate cancer can be found on the Cancer Council website **www.cancer.org.au.**

When the standard treatments for metastatic prostate cancer are no longer effective, a treatment therapy known as PSMA therapy is one of the newest treatments your Oncologist might consider.

What is PSMA & PSMA PET/CT?

Prostate Specific Membrane Antigen (PSMA) is a protein expressed on the surface of prostate cancer cells. PSMA is also present on salivary glands, tear ducts, small bowel and kidneys. With the use of a PET/CT scanner and an injected radiotracer that attaches to PSMA, we are able to see where the cancer is in your body and create a three dimensional picture. This picture helps your medical team understand if your prostate cancer may suitable to receive PSMA therapy. From previous clinical trials we know approximately 70% of men will be eligible for this form of treatment.

What is PSMA Therapy?

For PSMA Therapy, we use a PSMA targeting molecule similar to the one used for imaging, but instead of highlighting where the cancer is, its role is to kill the cancer. This different radiotracer is called Lutetium-177 (^{177}Lu-PSMA). Once it is injected into your vein, it finds its way to prostate cancer cells wherever they are in your body. Lutetium-177 is a form of radiation that is strong enough to kill cancer cells. A benefit of this type of therapy is that the radiation emitted only travels approximately 1 mm, therefore directly affecting the cancer cells and minimising damage to other healthy cells.

Videos and more information explaining PSMA therapy can be found on the internet by visiting **www.petermac.org/prostic**.

Is PSMA Therapy right for you?

PSMA therapy continues to be investigated as part of clinical trials in Australia and overseas.

If you are not participating in one of our clinical trials, and have tried other standard treatments, such as chemotherapy and hormone therapy, you may be eligible to have PSMA therapy as your next treatment option.

The Therapeutic Goods Administration allow doctors to give unlicensed treatments using a scheme called the Special Access System.

If you are deemed eligible for PSMA therapy, in addition to the first PSMA PET/CT scan, we will perform a second scan called a FDG PET/CT. Both of these scans together help your medical team understand if you are going to benefit from this treatment. PSMA therapy is not yet approved in Australia.

We will arrange a consultation, either in a clinic or via telehealth for you to speak to a Nuclear Medicine specialist. They will explain the benefits and risks of PSMA therapy, and if it is right for you.

For your first appointment with the Nuclear Medicine specialist please bring with you:

- Name of your general practitioner (GP) & treating team.
- List of your previous treatments.
- Current medications.
- Past history and current medical conditions.
- Write down any questions you would like answered.
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What does PSMA Therapy involve?

PSMA Therapy is a treatment that requires you to visit the Cancer Imaging department on level 5 at Peter Mac Parkville Campus, for a number of visits.

- Each treatment requires 2-3 visits to Peter Mac in the same week. We treat you as an outpatient, you will not be required to stay in hospital overnight.
- The treatment is given every 6 weeks
- You could have up to 6 cycles of treatment.

How effective is PSMA Therapy?

The effectiveness of PSMA therapy varies from person to person. PSMA therapy is not a cure for prostate cancer.

The main goals of treatment are to:

- Reduce your pain, fatigue and other symptoms that may be caused by your prostate cancer.
- Reduce the size and growth rate of your tumors.
- Improve your quality of life.

Your specialist will measure your response by assessing how you feel, your blood tests and your scan results.

What preparation is required?

There is no personal preparation that is required before your appointment. However, we do ask you to drink plenty of fluids before and after attending your treatment. We encourage you to bring items to keep you occupied such as an iPad, books and magazines while you are here.

What happens during each cycle of Therapy (Day 1&2)?

Day 1: Treatment Day

- On arrival at Peter Mac, you will be need to attend the admissions desk, on the ground floor. At this time you will be required to sign some paperwork.
- Once you have attended admissions, you will be asked to make your way to Level 5, Cancer Imaging. Please speak to our reception staff on arrival.
- A staff member will guide you into the treatment area.
- A nurse will insert an intravenous cannula (IV) into a vein in your arm.
- The treatment will take 15-20 minutes. This will then be followed by IV fluids. Once the treatment has been given, you are able to go home when you have passed urine and the amount of radiation in your body is measured to be at safe levels. The whole treatment process can take up to 3 hours.
- For safety reasons, we do not allow visitors in the treatment area whilst you are receiving therapy. Your carer/partner will be asked to wait in the waiting area during this time.
- We will give you written radiation safety instructions to follow when you are at home. We will also make an appointment for your scan the following day.
- You may receive some discharge medications to take with you. Please follow the instructions given with those medications.

Day 2: Scanning and Consultation Day

- You will return the next day at the scheduled time for a SPECT/CT scan to measure the effectiveness of the treatment and to have a consultation with the Nuclear Medicine Specialist to discuss your results.
- Please come straight to level 5C & check in at reception.

Next Steps.

You will be asked to have a blood test 3 weeks after your treatment. This test can be done at Peter Mac or at a pathology centre closer to you. We recommend you try to attend the same pathology centre each time for your blood tests.

It is important for you to maintain appointments with your treating Oncologist or Specialist while having PSMA treatment at Peter Mac. These visits should be arranged directly with your Oncologist.

What are the side-effects of treatment?

The side effects listed below are usually well tolerated compared to what you may have previously experienced on other treatments. Your side effects will be carefully monitored by your health care team.

Mild side effects may include:

- Dry mouth
- Dry eyes
- Tiredness
- Nausea
- Reduced hemoglobin (red blood cells that carry oxygen in the body)
- Reduced platelet counts (blood cells that aid blood clotting)

Other possible side effects:

- Vomiting
- Increased pain
- Loss of appetite
- Increased risk of infection
- Reduced kidney function

Possible long term side effects:

- Exposure to radiation may increase the risk of developing new and different cancers after a period of many years.

Radiation safety precautions.

PSMA therapy involves the use of a radioactivity. After treatment you will be radioactive for a short period of time. You are most radioactive for 2 hours after your treatment. Your level of radiation will continue to decrease as time passes. Most of the radiation you are given will leave your body when you pass urine after treatment.

Once you go home, following the guidelines below will ensure the safety of you and your loved ones.

For 5 days from the time of treatment:

- Avoid close contact with anyone for more than 2 hours a day and keep a distance of 2 metres between you and others. Please do not take long trips on public transport.
- Avoid or minimize close contact with young children and pregnant women. Please minimize time to less than 15 minutes and keep a distance of 2 metres between you.
- You should not sleep in the same bed as another person for 3 nights.
- You should take extra care with personal hygiene. When you go to the toilet your urine will still be radioactive. Consider using the toilet in a seated position to avoid any spray of urine. You should flush the toilet twice after use. It is always important to wash your hands thoroughly afterwards.

For carers: If your carer provides assistance in the bathroom, they should wear disposable gloves during this time. If urine catheter bags are used, the urine should be emptied into the toilet. If anyone helps clean up urine, they should wear disposable gloves. Hands should always be thoroughly washed afterwards.

There is a possibility that your radiation levels could trigger detectors at security checkpoints (such as airports). It is important you always carry written documentation of your recent treatment with you.

I'm travelling to Peter Mac from a rural area, is accommodation available?

There is an accommodation coordinator at Peter Mac who can assist you with accommodation arrangements and advise you of benefits available to patients. Please speak to your Nurse for more information.

How much does PSMA Therapy cost?

At Peter Mac we provide compassionate access to PSMA therapy at no charge for Victorian patients. This is made possible due to a generous donation from the US-based Prostate Cancer Foundation, support from the Peter MacCallum Foundation and funding from the Peter MacCallum Cancer Centre. Medicare does not cover this treatment.

Do you require more information?

In the first instance you should discuss any questions with your treating team.

All cancer patients are able to attend the Peter MacCallum Cancer Centre after being referred by their general practitioner or specialist.

You can find further information on referrals here: **www.petermac.org/referrals**

You can find more information on the Prostate Cancer Theranostics and Imaging Centre of Excellence (ProsTIC) here:
www.petermac.org/prostic

The ProsTIC nurse can be contacted:

Monday- Friday: 8.00am – 4.00pm

Phone: 61 3 8559 9817

Email: prostic@petermac.org

Website: www.petermac.org/prostic