Prostate cancer staging with 18F-PSMA PET-CT at Pacific Radiology

The role for PSMA PET imaging in prostate cancer is to help guide appropriate treatment. Recently several studies have shown the great potential of PSMA PET-CT for initial staging, including lymph node staging, and detection of post-treatment disease recurrence, even at very low PSA levels.

Pacific Radiology is now pleased to offer this game changing new radiotracer, for use with PET-CT imaging for staging and restaging of prostate cancer patients.

PSMA PET-CT imaging is a new test in New Zealand. Cyclotek Pharmaceuticals currently supplies sites in New Zealand with this important PET tracer.

The addition of PSMA PET-CT imaging complements the multi-parametric 3T prostate MRI service that is currently available at the Bowen Centre in Wellington and St Georges Christchurch.

T2 Axial MRI fused with 18F-PSMA PET scan. Demonstrates focal uptake within prostate bed.
Advantages of 18F-PSMA PET-CT

› PET-CT imaging with 18F-PSMA can identify prostate cancer (PC) with excellent contrast and a high detection rate even when the level of PSA is low.
› 18F-PSMA PET-CT is excellent for restaging in recurrence/biochemical failure after definitive treatment of prostate cancer
› The use of 18F-PSMA PET provides high diagnostic accuracy and is increasingly used as a staging tool in prostate cancer and in patients with suspicion of recurrent disease.
› PET-CT is a hybrid imaging technique combining functional and anatomical information.

What will the procedure involve?

A PET-CT scan involves an injection, via a vein in the arm, of a radioactive tracer. After the injection there is a wait of 90 minutes to two hours, before the scan takes place.

The scan takes approximately 30 minutes. During the scan you may need an intravenous injection of x-ray contrast. A technologist will discuss this with you at the time of your appointment.

Total appointment time is between 3-4 hours.

What preparation is required?

A personalised instruction sheet will be sent to you with the exact preparation that you will need for your scan. However, please feel free to contact us if you have any questions.

What happens if I’m claustrophobic or need sedation?

If you do need mild sedation for the PET-CT scan, this will be given at the time of the examination. It is essential you have someone to drive you home. You will not be able to operate a machine or drive a car for 12 hours following sedation.

What are the risks of the scan?

PET-CT procedures are very safe and routine procedures. Millions of PET-CT scans have been done around the world without complication.

The radiation dose for the PET-CT scan is similar to conventional CT scans, but it is recommended that you keep some distance from pregnant women and children for four hours after your injection, until the radioactivity in your body has subsided.

When will the results be available?

The results of the PET-CT should be with your referring doctor within one to three working days, after which you can discuss the results with your doctor.

References

Dietlein et al. Comparison of 18F-DCFPy/ and 68Ga-PSMA-HBED-CC for PSMA-PET Imaging in Patients with Relapsed Prostate cancer. Mol Imaging Bio, 2016; 17:575-584

Cases from Pacific Radiology

18F-PSMA PET-CT scan, axial fused image demonstrating focal uptake in the prostate gland.

18F-PSMA PET-CT scan, axial fused image demonstrating focal uptake in para-aortic lymph node.

18F-PSMA PET-CT scan, axial fused image demonstrating focal uptake in a bony metastases on the right at L5.