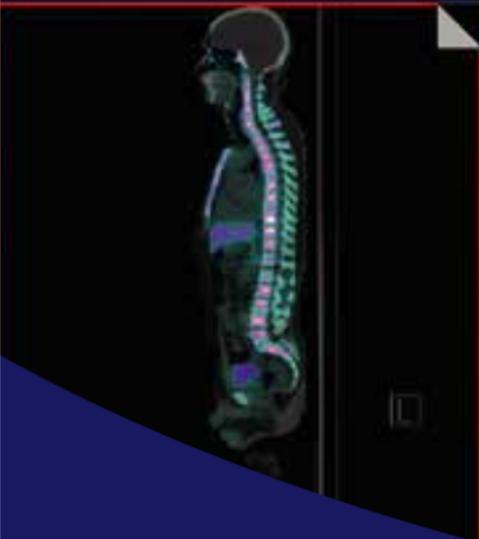
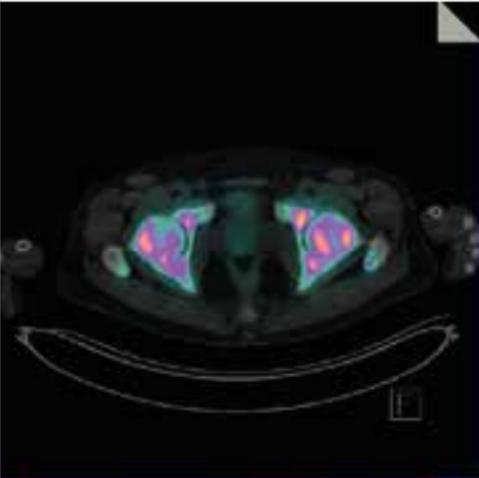




# 68Ga-PSMA PET CT/MR Scan



# What is PSMA?

**PSMA (Prostate Specific Membrane Antigen) is a membrane glycoprotein which is over-expressed manifold on prostate cancers.**

**Prostate cancer is one of the most common malignancies in men, and a significant proportion of patients diagnosed with prostate cancer progress to advanced metastatic disease. While MRI, CT scan and Tc-99m bone scan are used conventionally to detect distant metastasis and localised disease, detection of early metastases at low PSA level remain a challenging task.  $^{18}\text{F}$ -FDG PET, which is useful in other solid cancers, is not used routinely to diagnose early stages of prostate cancer due to paucity of FDG uptake in most of the prostate cancers.**

## New Tracer for detection of Prostate cancer

Gallium-labelled prostate-specific membrane antigen ligand ( $^{68}\text{Ga}$ -PSMA), is a novel PET scan which is rapidly gaining popularity worldwide.

$^{68}\text{Ga}$ -PSMA has been shown to be highly effective in the detection of prostate cancer cells in regional nodes and distant metastatic sites as well as early detection of site of relapse following definitive treatment of the disease. Lesions suspicious for metastatic prostate cancer present with high tumour to background contrast resulting in superior detection rate even when the level of PSA (prostate specific antigen) is low.

### Why choose $^{68}\text{Ga}$ -PSMA for prostate cancer staging?

$^{68}\text{Ga}$ -PSMA PET CT/MR Imaging identifies tumor cells producing PSMA antigen with excellent sensitivity & specificity, therapy detecting lesions remaining unidentified by conventional methods.

- **Tumour specific**

Prostate specific membrane antigen is a cell surface protein over-expressed on prostate cancer cells compared to benign prostatic tissue.

$^{68}\text{Ga}$ -PSMA detects presence of prostate cancer cells directly, rather than indirect indicators of disease such as increased bone turnover (bone scan) or enlarged lymph node.

- **High sensitivity and specificity**

Superior tumour to background contrast compared to other molecular tracers (eg.  $^{18}\text{F}$ -Choline) allows for detection of disease in small regional nodes and distant disease in bones or visceral organs.

## What are the preparations for the $^{68}\text{Ga}$ -PSMA PET Scan?

- There is no specific diet preparation for the examination although patient should preferably fast for 2 hours.
- Please dress comfortably. You will be changed to a hospital gown prior to the start of the examination.

## How long can I expect to be in the department?

- The imaging time will take about 20 minutes to 60 minutes depending whether complete MR imaging of the prostate is required.
- Please plan approximately 2 to 3 hours to be in the department.

## What happens after the examination?

- You will feel fine and there are no side effects from the injected  $^{68}\text{Ga}$ -PSMA.
- You may resume your normal diet and activities eg driving.
- You should drink additional fluids for several hours after the scan.
- The scan results will then be sent to your doctor.

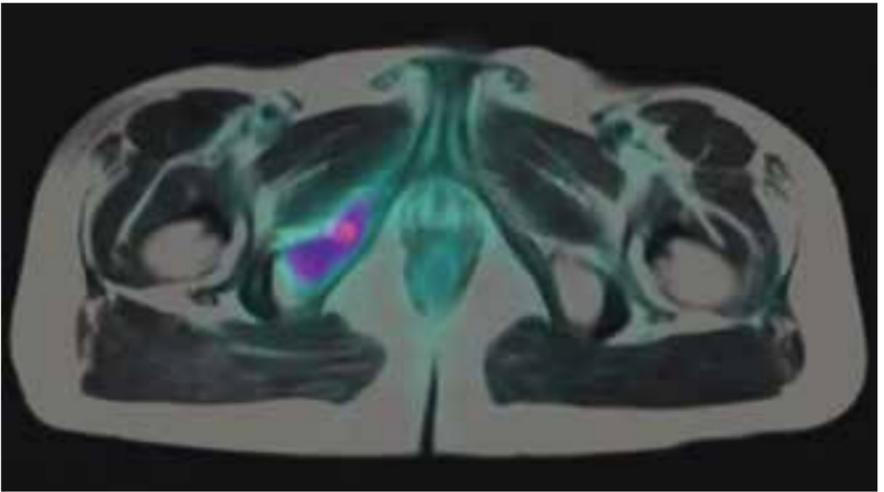


## What are the risks?

- Although a radioactive substance is used during a PET scan, the amount of radiation that you're exposed to is low. The amount of radiation in a radiotracer dose isn't enough to affect the normal processes of your body.

## What are the limitations of $^{68}\text{Ga}$ -PSMA PET Scan?

- A negative PET scan does not completely rule out malignancy or metastases. The results will need to be discussed with your primary physician or urologist.



*Early detection of site of recurrence in patients with low level PSA rise who have had definitive therapy.*



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