

MRI Prostate “Multiparametric Imaging”

High resolution T2 imaging with 2 functional imaging techniques

At Dr Jones & Partners we are committed to delivering the highest quality prostate imaging to your patients. World class multiparametric prostate imaging uses 3 complimentary MRI techniques to increase the sensitivity and specificity of tumour detection and provide information on tumour aggressiveness. MRI aims to detect higher grade tumour of Gleason 7 and above. It can be useful to confirm low grade disease or to find anterior tumours in a patient with high clinical suspicion but negative biopsies.

High resolution T2 Provides anatomical detail.

This sequence identifies tumour beyond the gland as a nodule or pushing border. Anterior tumours tend to have a “smudged charcoal” appearance. It can be difficult to detect the tumour as several other things cause low T2 signal, including haemorrhage.

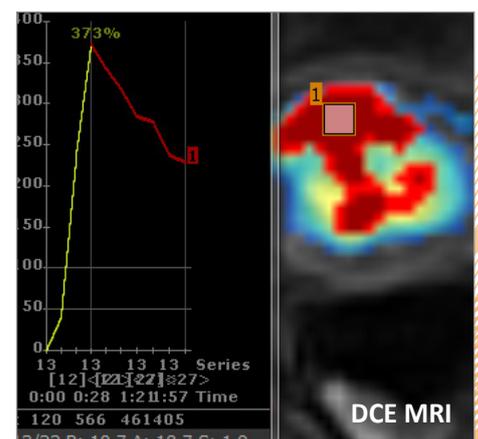
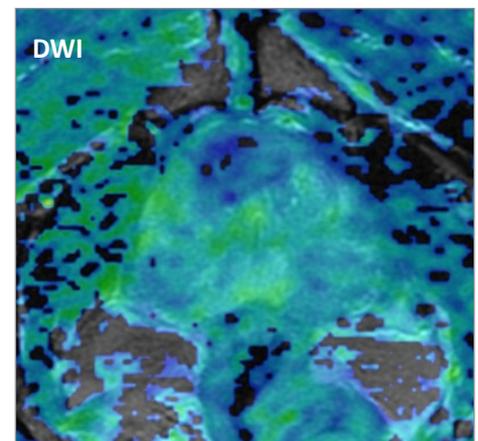
Note that post biopsy haemorrhage is one of the biggest problems in accurately staging T3 disease. ESUR guidelines recommend a wait of at least 4-6 weeks after biopsy for an MRI scan.

Diffusion imaging (DWI) Assesses the diffusion of water molecules within tissues.

Tumours have tighter packed cells than normal tissue, so the amount of diffusion is restricted. If a tumour has obvious restricted diffusion it is likely to be a more aggressive dominant nodule. Tumour looks dark on the ADC map and bright on the DWI image. Using higher b values helps the tumour stand out from normal prostate. DWI increases specificity and sensitivity, often highlighting unexpected anterior zone tumours. ADC values are used in research to predict final Gleason grade.

Dynamic contrast enhanced MRI (DCE-MRI) Gadolinium improves sensitivity in detecting prostate cancers.

Acquiring multiple short images of the prostate during and after an injection of i.v. gadolinium improves sensitivity in detecting prostate cancers. Tumours usually show intense uptake of contrast with rapid washout generating a ‘type 3’ malignant enhancement curve. True DCE-MRI involves up to 30 sequences acquired over 3 minutes to generate enhancement curves. These are evaluated on specialized software to help identify tumour location.



Specialised Urological Imaging Services

MRI Prostate

Dr Jones & Partners offers state of the art multiparametric MRI at 5 clinics across central Adelaide. All five locations offer:

- + State of the art prostate and body imaging.
- + Wide bore and ultra-short design increasing patient comfort.
- + Increased availability with less waiting times for your patients.
- + Shorter scan times.
- + Scans reviewed by sub-specialist Dr Jones & Partners Radiologists.

Other Urological Imaging Services Available at Dr Jones & Partners

CT Urogram

CT - Non contrast and post contrast imaging available at all sites in rural and metropolitan Adelaide (ask our staff about same day metropolitan work-up for rural patients).

DUAL SOURCE available at SAHMRI, Calvary Wakefield Hospital and St Andrew's Hospital - is particularly useful for younger patients and for stone characterization. The ability to subtract the contrast to give a 'virtual non contrast run' means only one radiation exposure for the patient. It can also differentiate calculi chemical composition, in particular separating uric acid from other predominantly calcified stones.

MRI Renal and Testis

For difficult cases, MRI can be an excellent problem solving modality. Also useful for detecting urethral diverticula. Performed on the non-rebatable MRI's at SAHMRI, St Andrews Hospital and Tennyson Centre, Kurralta Park.

Multi-Disciplinary Meetings

Dr Jones & Partners Radiologists, Dr Tim Wells and Dr Mitchell Raeside regularly present cases at the fortnightly urology MDM held at St Andrew's Medical Centre.

MRI Prostate Services available at these clinics:

SAHMRI

Referrer Priority Line:
1800 875 290
North Terrace,
Adelaide

Kurralta Park

Referrer Priority Line:
8193 9555
520 South Road,
Kurralta Park

Mt Barker Central

Referrer Priority Line:
8188 7750
6/20b Druids Ave,
Mt Barker

Southern Specialist Centre

Referrer Priority Line:
8307 3418
Cnr Main Sth & O'Sullivan's Beach Rds,
Morphett Vale

St Andrew's Hospital

Referrer Priority Line:
8402 4488
350 South Terrace,
Adelaide



For clinical questions, call and speak to:

Dr Kirsten Gormly, Dr Tim Wells
or Dr Mitchell Raeside