



## Status of mp-MRI Prostate 2012: Report from the MRI Prostate Working Party

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Dear Colleagues

Following recent media coverage and NetWit discussion regarding the role of MRI in prostate cancer diagnosis and treatment, a position paper was developed (see attached).

After discussion with the authors, the Board of Directors have come to an interim position on this form of imaging for the diagnosis and treatment of prostate cancer.

USANZ welcomes this rapidly advancing imaging technique that may assist Urologists and their patients in managing the diagnosis and treatment of CaP. Following a recent seminar in Sydney, where internationally recognised experts delivered and debated the latest developments in mp-MRI, a working party was set-up and a document summarizing the potential uses of mp-MRI was produced and signed by all of the authors.

USANZ recognises that Australian studies are currently underway and we await these results and others from world literature. USANZ's position is that the technique has merit in an academic trial setting and encourages recruitment of patients for the purposes of research with full disclosure to the participants of the experimental nature of this endeavour.

USANZ is mindful to reassure patients and their treating Urologists that mp-MRI is currently not standard care in the management of CaP. Until further research matures, which either confirms, equivocates or rejects its role, then patients should remain confident that if they are not having mp-MRI (including mp-MRI guided biopsies) their management remains entirely appropriate.

USANZ recognises the rapidly evolving research in all areas of Urology and will respond accordingly once formal peer-reviewed evidence is available.

Kind regards

**Stephen Ruthven**  
President





## Status of mp-MRI Prostate 2012

### Report from the MRI Prostate Working Party

Prostate cancer is a major health issue and places a large burden on society due to being extremely common and leading to significant morbidity and mortality. Its management is complicated by extremely variable behaviour patterns between individuals, ranging from slow growing, and insignificant tumours to rapidly growing, life threatening tumours. Early detection using risk-adjusted screening strategies includes a PSA blood test and digital rectal examination in appropriately chosen populations following a clinical history and informed consent (see separate USANZ 2009 policy statement on PSA screening, available online at [www.USANZ.org.au](http://www.USANZ.org.au)). Recent large, randomised trials throughout the world have confirmed the benefits of early detection but have also confirmed that there is a problem of over detection of many indolent cancers that do not require treatment. This has resulted in the increased use of active surveillance (monitoring) in the management of these low-risk prostate cancers.

Up until now the vast majority of prostate cancers are difficult to image and therefore remain invisible and difficult to detect. The current strategy to confirm the presence of a prostate cancer is to take random samples of the prostate under ultrasound guidance. Whilst this technique is the current gold standard and will detect many significant tumours it may equally miss significant tumours in some cases and detect insignificant, non-dangerous tumours in other cases. It is for this reason that urologists are careful to tailor both detection and treatment to the individual patient.

Against this background, Magnetic Resonance Imaging (MRI) is emerging as a potential imaging modality that may aid in the detection, localisation, assessment of aggressiveness, staging and treatment of patients with prostate cancer. This has come about due to the development of new techniques in Multiparametric MRI (mp-MRI) and improved standardisation in recent years in specialised MRI centres. Whilst mp-MRI appears to be an imaging modality with great potential in many areas of prostate cancer detection and management, at this stage its technique and exact use is evolving and still in its infancy. Studies throughout the world are currently evaluating the accuracy of mp-MRI, when and how best to perform it, how to credential radiologists to appropriately report and how to incorporate it into existing diagnostic and management strategies

The Urological Society of Australia and New Zealand currently recommends the following:

1. Mp-MRI should be performed by experienced radiologists appropriately trained in the use of multi-parametric MRI to aid urologists in the management of individual patients;
2. Mp-MRI should be used selectively in the management of patients with prostate cancer and interpreted appropriately by experienced urologists;
3. Mp-MRI should not be considered a definitive study on its own but rather one part of a comprehensive assessment to assess the presence, location, aggressiveness and extent of prostate cancer and then added to other factors such as history, examination and other tests in the management of patients with prostate cancer. This is best done under the supervision of a urologist.

MRI is not currently reimbursed by Medicare or private health funds for prostate imaging and USANZ is working with ANZUCA towards funding from the government in those areas where evidence supports its use.



Current potential uses of mp-MRI in the detection and management of prostate cancer include:

1. Early detection - The current gold standard for early detection is the combination of PSA and digital rectal examination. There is early evidence that mp-MRI may have a role in high-risk individuals (patients with a strong family history and genetic abnormalities) and also in those where the PSA and digital rectal examination are equivocal. There is very limited information about its role in early detection.
2. To assess the location and aggressiveness of prostate cancer - There is emerging evidence that mp-MRI in some cases can assess the extent, volume and aggressiveness of individual tumours. Trials are currently underway to compare its accuracy to current standards of transrectal and transperineal biopsy. At this stage while biopsy confirmation of tumour remains the gold standard, MRI has a definite role in helping to locate tumours and thus guide locations for biopsy, particularly when a previous biopsy has been negative and the PSA continues to rise. It also has a definite role in the selection of patients for active surveillance in combination with repeat biopsy to ensure a higher grade more aggressive tumour has not been missed. It has an emerging role in guiding biopsies where tumours have proved elusive to current biopsy techniques.
3. Surgical and radiotherapy planning and selection of treatment modality - An mp-MRI has an increasing role in patients with more aggressive prostate cancers to help assess extent of tumour both within the prostate, in lymph glands and in bones. At this stage the exact group of patients that it is most appropriately used is unknown. It is, however, recommended in patients with high-risk prostate cancers. The information derived from this study should be, however, interpreted in light of other standard investigations and biopsy information. MRI can also help surgical and radiotherapy planning but must be used in careful collaboration with the surgeon and radiotherapist. Examples of its use in surgery include the possible preservation of erectile nerves, the need for wider resection of the apex, bladder neck, seminal vesicles and urethra and for prediction of continence after surgery. The potential roles within radiotherapy include assessing the need to increase the radiotherapy dose to certain areas of the prostate including the seminal vesicles and also determining the need and the dose to the lymph glands of the pelvis.
4. Monitoring prostate cancer patients after treatment - MRI has a potential role in patients with active surveillance in monitoring tumours. At this stage its exact use in this role is emerging, promising but still subject to clinical trials. An mpMRI also has a potential role in patients with PSA recurrence after definitive treatment. Whilst its accuracy in this role is not yet known, its use is likely to increase, as there are no good alternative modalities currently available. Again its exact clinical use is emerging.

## CONCLUSION

MRI is an emerging modality in the detection, localisation, assessment of grade and stage and treatment planning in men with prostate cancer. At this stage whilst its role is emerging its exact use is unknown. When using this modality it is essential that it forms part of the overall clinical assessment under the supervision of a urologist and is performed by appropriately trained radiologists using a structured and internationally accepted reporting system.



# UROLOGICAL SOCIETY OF AUSTRALIA AND NEW ZEALAND

These guidelines were drafted by Lawrentschuk N1, Thompson J2, Frydenberg M3, Thompson L4, Stricker P5 on behalf of ANZUCA (Australian and New Zealand Urologic Cancer Association) and USANZ (Urological Society of Australia and New Zealand)

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