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New technology gives hope for prostate cancer screening

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Dr Rajeev Jyoti with a DynaTrim used for prostate biopsy and the 3.0T MRI machine at Calvary Hospital. *Photo: Jeffrey Chan*

New technology is offering hope that men could one day avoid having to undergo an invasive procedure to determine whether they might have prostate cancer.

A new advanced MRI machine, such as this one at Calvary Hospital, has shown promising early advances for prostate cancer diagnoses.

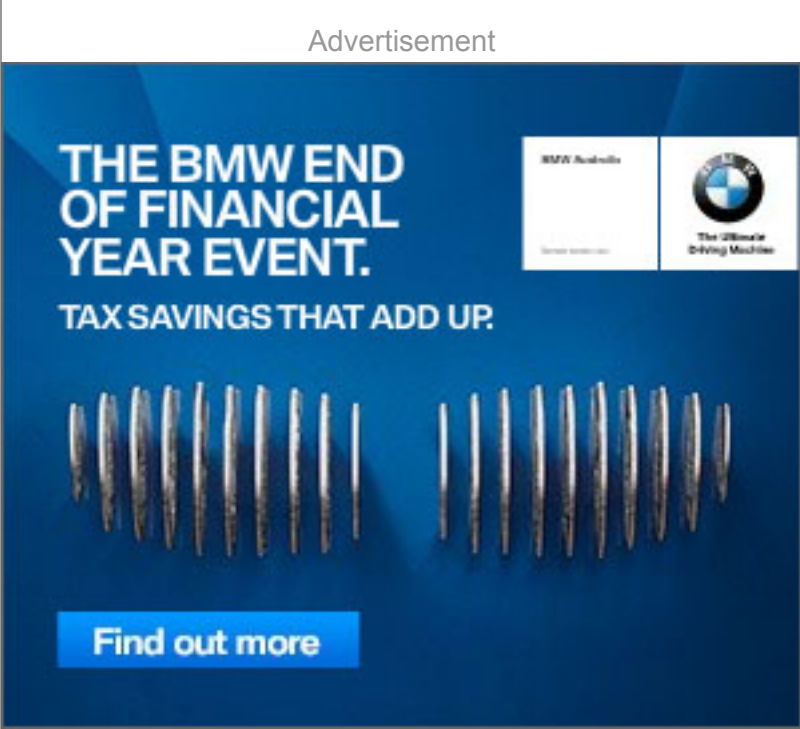
Radiologist Rajeev Jyoti, from Universal Medical Imaging, said advances in MRI technology meant previously hidden areas, such as the prostate, could now be detected.



Dr Rajeev Jyoti inspect prostate scans done on the 3.0T MRI machine. *Photo: Jeffrey Chan*

"The 3.0 Tesla MRIs, since they have arrived for the clinical practice, have enabled a lot of imaging that was not possible earlier, especially small

tissues deep in the body which require more MRI or magnet strength, to give enough signals to be able to adequately make a diagnosis," Dr Jyoti said.



"The prostate is one example because it's a tiny tissue, a walnut-sized tissue deep in the pelvis, so imaging the prostate was always hard."

Dr Jyoti said MRI was currently being used for the "clinical work up" of patients suspected of having prostate cancer and it has not yet become a screening tool for prostate cancer.

Prostate Cancer Foundation of Australia chief executive Dr Anthony Lowe said while the technological advancements were promising, they needed to be approached with caution.

"Currently the only way to diagnose prostate cancer is with a biopsy and there are issues with that - it's obviously very invasive and before anaesthetic was used, with a transrectal biopsy, very painful as well. It can cause quite significant bleeding, rates of sepsis from transrectal biopsy are generally going up because bugs are becoming more and more resistant to antibiotics," Dr Lowe said.

"The excitement of course, is that it [an MRI scan] could potentially be a non-invasive way to diagnose prostate cancer and also an important tool to differentiate between significant and insignificant prostate cancer.

"But at the moment, none of this has actually, really, conclusively been shown to work. The most important issue is that to do all of that, you need an expensive MRI machine - you need at least a 3.0 Tesla machine - and you need to do multiparametric MRIs so not all centres are going to offer that and not all specialists who do it, have the skills to interpret what they're looking at, at the moment.

"Really, at the moment, it's at the research phase where centres that have this very specialist equipment and the specialists who know how to use and interpret the results from it, are starting to report some quite good results. They're probably a little bit too enthusiastic about the results they've managed to get so far. It's very exciting, it's very promising but it hasn't been shown definitively to actually work yet."

Dr Jyoti said current tests to diagnose prostate cancer had their problems.

"If a patient has a risk of prostate cancer, they go to their GP or have a PSA test which gives some idea that something may not be right, goes to the urologist, gets a digital examination, still not sure and then they have a biopsy," he said.

"A TRUS biopsy is a blind biopsy ... so it's basically random sampling in the hope of hitting the cancer so that's what we had for diagnosing prostate cancer until recently.

"What has changed with this new technology is that we are now in a position to see almost all aggressive cancers - we have a visual of prostate cancer now.

"When a patient comes for an MRI, we have a beautiful picture of the prostate. It's a multiparametric MRI because we take multiple views of the prostate but with different parameters - black and white, colour, red tone, green tone. Each has its own characteristic to pick a cancer so every parametric gives us an idea as to how bad that cancer is."

Dr Jyoti said the MRI images were then "scored" to determine whether the patient's prostate was normal, benign, "in between" or if cancer was "quite likely" or "very, very likely".

"Like any new technology- there are many challenges that will be overcome with better understanding and experience."

He said it was hoped the MRI technology could one day reduce the need for men to undergo painful and invasive biopsies to determine if they had prostate cancer.

Concerns have previously been raised over current prostate cancer screening methods - such as PSA tests giving false positives and negatives - and some doctors are concerned about the risks associated with biopsies, such as pain, bleeding and life-threatening infection.

A recent article in Inside Story, by infectious diseases physician Dr Frank Bowden, said treatment for prostate cancer could cause impotence and incontinence and cured only 2-3 per cent of men who received them.

The Prostate Cancer of Foundation advises men over the age of 50 - or 40 for those with a family history of prostate cancer - to talk to their doctor about testing for prostate cancer as part of their annual health check-up.

Dr Lowe said men should make an individual informed decision about testing based on the latest available evidence on the benefits and potential harms of testing and subsequent treatment for prostate cancer.

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