

Study urges caution about prostate cancer screening

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Despite screening offering gains in mortality from prostate cancer, men are more likely to die with the disease than from it. Credit: Oleh Slobodeniuk/Flickr, CC BY-SA

Prostate cancer screening could reduce deaths from the disease but it should not be routine, according to a [study published today](#) in the medical journal *The Lancet*.

Evidence from the [European Randomised study of Screening for](#)

[Prostate Cancer](#) (ERSPC) shows screening reduces prostate cancer deaths by 15% after nine years and 21% after 13 years. One in 780 men who were screened avoided death from prostate cancer in the following 13 years.

The study, which looked at men between the ages of 50 and 74 from eight European countries, randomly divided participants into two groups – one that would receive the prostate specific antigen (PSA) test every four years (two years in Sweden) while the other was not screened.

After non-melanoma skin cancer, prostate cancer is the [most common cancer in Australian men](#), and accounted for 30% of all new internal cancers in men in 2010.

"Going back 30 years, prostate cancer was mostly diagnosed when it was already too late to be successfully treated," said Bruce Armstrong, professor of public health at the University of Sydney.

"All that changed when radical prostatectomy came along. And in around the same period of time, it was realised that PSA testing might be useful for early detection."

The PSA test measures a prostate-specific antigen (an antigen is something that induces an immune response) in the blood. Although it's the only practical tool we have for detecting prostate cancer early, it is not particularly accurate.

The perils of PSA

"The problem with the PSA test is that, although it's prostate specific, it's not prostate cancer specific," said associate professor of evidence-based practice at Monash University Dragan Ilic.

"So men who have an enlarged prostate, for example, or an inflamed prostate due to some sort of bacterial infection may also have a very elevated PSA test result. That's where the limitations of the PSA test arise."

Widespread use of the PSA test saw prostate cancer rates shoot up, said Armstrong, and anyone looking at that and knowing about screening tests would say "wow, we're finding a lot of cancer here and possibly quite a lot that would never come to light were it not for the PSA test".

The PSA test is said to be only about 60% to 70% accurate, but all men who have above a certain level of prostate-specific antigen are usually sent for a trans-rectal ultrasound-guided biopsy. While necessary to diagnose prostate cancer, when it is there, biopsy carries a small risk of infection.

"The problem with the PSA test, and to some extent the biopsy, is that it can't readily distinguish between slow-growing cancers of the prostate, which the majority are, and fast-growing cancers, which are the ones that threaten life," said Ilic.

This appears to be the reason why the study authors do not recommend population-wide PSA screening. The worry of diagnosis of a cancer that was never itself going to cause harm is only the start of a series of harms.

Over diagnosis and over treatment

Study leader Professor Fritz Schröder from Erasmus University Medical Center in the Netherlands told *The Lancet* that while PSA screening delivered a substantial reduction in prostate cancer deaths, similar or greater to that reported in screening for breast cancer, over-diagnosis occurred in roughly 40% of cases detected by screening, resulting in a high risk of over-treatment and common side effects, such as

incontinence and impotence.

Ultimately, it really starts to bite when treatment is given for a cancer that would not otherwise have caused a problem, Armstrong said.

Somewhere around 70% of men will be rendered unable to obtain an erection firm enough for sexual intercourse following radical treatment, and around 15% will have some problem with urinary continence on a long-term basis, he added.

Ilic said the commonly used line was that men were more likely to die with prostate cancer than from it.

"Consider this 20% lower chance of dying. One way to look at that is if you look at the figure of one in ten lifetime risk of being diagnosed with cancer as the baseline," he said. "A 20% reduction in 10% is not all that significant."

"I see the evidence as currently favouring a beneficial effect from PSA testing but it remains an open question whether or in what circumstances the benefits are sufficiently great to counter the harms of what is fairly substantial over-diagnosis," Armstrong said.

More information: *The Lancet*, [www.thelancet.com/journals/lan ... 614\)60525-0/abstract](http://www.thelancet.com/journals/lan...614)60525-0/abstract)

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