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# Prostate specific antigen

## Useful screening tool or potential liability?

### Background

The uncertainty regarding prostate specific antigen (PSA) screening for prostate cancer has not been alleviated, despite recent randomised controlled trials and position statements released by authoritative bodies.

### Objective

This article summarises authoritative position statements by representative bodies in Australia and describes legal considerations for a general practitioner when deciding whether to order PSA tests as a screening tool for prostate cancer.

### Discussion

Prostate specific antigen as a primary screening tool is generally not endorsed by most authoritative bodies in Australia, with the exception in some circumstances for men 55–69 years of age. Where asymptomatic patients request a PSA be undertaken, a GP can be justified both to order a PSA test or not to, such is the context of peer professional opinion provisions in Australian legislation and conflicting authoritative position statements regarding PSA. Where there is still ongoing uncertainty, the matter may be appropriately referred for specialist consideration.

**Keywords:** medicolegal aspects; prostatic neoplasms; prostate specific antigen; mass screening



In 2009, the preliminary results of two ongoing randomised, controlled trials to determine the effect of screening on prostate cancer mortality were published: The Prostate, Lung, Colorectal and Ovarian (PLCO) Cancer Screening Trial<sup>3</sup> in the United States and the European Randomised Study of Screening for Prostate Cancer (ERSPC).<sup>4</sup>

The results of these trials have attracted significant attention in the profession. The PLCO Cancer Screening Trial, in assessing approximately 76 000 men, concluded that annual prostate cancer screening, in comparison to usual care practices, led to no reduction in death rates after 7 years, and had no indication of benefit at 10 years of follow up.<sup>3</sup> The ERSPC in comparison, found in their study (of approximately 162 000 men, comparing patients offered PSA screening at varying intervals with patients not offered screening) a relative reduction of approximately 20% in the rate of death from prostate cancer among men aged 55–69 years.<sup>4</sup>

Criticism of both studies has been strong,<sup>5</sup> and the conflicting results of these studies, as well as potentially inherent methodological limitations, may understandably be unsettling for the primary care physician when considering the utility of PSA testing in prostate cancer screening. Furthermore, there is no absolute limit under which prostate cancer would not be detected.<sup>6</sup> This creates a situation where there is still no well accepted evidence for the efficacy of PSA screening. A general practitioner may look to authoritative professional bodies for guidance, but these unfortunately, may also be interpreted as being in conflict with one another in their approach to the use of PSA.

### Position statements

The Urological Society of Australia and New Zealand (USANZ), after review of the results released in the PLCO trial and the ERSPC,

The use of prostate specific antigen (PSA) as a screening tool for prostate cancer has long been a subject of investigation and debate. Until recently, very little evidence in the form of randomised trials existed advocating for or against the use of the test. This, coupled with the well documented risks that may result from overdiagnosis and overtreatment following false positive PSA,<sup>1,2</sup> may cause apprehension among primary care physicians concerned about potential legal ramifications of adverse outcomes following unnecessary screening.

described the PLCO trial as being fundamentally flawed, and has advocated for patients to have access to PSA based testing on request, although routine population based prostate cancer screening with the PSA blood test is not supported as public health policy.<sup>7</sup> However, in their position statement from 23 September 2009, USANZ also recommended PSA and digital rectal examination (DRE) be offered to patients aged 55–69 years, after they are provided with information about the risks and benefits of testing.<sup>7</sup>

However, the Cancer Council of Australia (CCA), in their current position statement, states that there is 'no formally established, or consistently taken, approach in how to interpret the results of a PSA test or how to proceed on the basis of that interpretation'.<sup>8</sup> The CCA also does not advocate the use of PSA for population based screening, but does support a patient centred, informed decision making approach where individual decisions about prostate cancer testing are made.<sup>8</sup>

The Royal Australian College of General Practitioners (RACGP), in its *Guidelines for preventive activities in general practice*<sup>9</sup> states that routine screening for PSA is not recommended and that patients should make their own decision about being tested for prostate cancer after being fully informed of the potential benefits, risks and uncertainties of prostate cancer testing. In this publication, the guidelines suggest that responding to patients' concerns and fulfilling medicolegal responsibilities are factors to be considered during such discussions.<sup>9</sup>

## Clinical decision making

In order to make clinical decisions about ordering PSA tests, and for patients to make informed decisions on whether to proceed, a balance needs to be struck that takes into account multiple factors including, current practice advised by the known evidence base; the position of reliable authoritative bodies; current legislation and the common law in the relevant jurisdiction; and the nature of a number of clinical scenarios with which the doctor may be faced.

## Opportunistic PSA screening

One scenario is where a patient presents to a GP, the patient is asymptomatic and without specific risk factors for prostate cancer, and the GP

requests a PSA without any initiating request by the patient. As mentioned, neither the RACGP nor the CCA advocate population based screening in this manner as a public health policy. This would suggest against individual *ad hoc* PSA tests as an investigative tool without firm indication.<sup>8,9</sup> The USANZ tends to agree with this position, except in the male population aged 55–69 years, where case finding with PSA and DRE testing appears to be endorsed.<sup>7</sup>

## PSA screening requested by the patient

The scenario changes when a patient presents to the GP, and without any symptoms or other specific risk factors for prostate cancer, requests a PSA test be done in order to screen. If the doctor declines, and it transpires that the patient had prostate cancer at the time, an interesting question would arise as to whether the doctor has breached a professional duty to the patient. In order for negligent conduct to be proven, it must be established, among other things, that the doctor breached a duty of care to the patient and that this breach caused damage or harm. In this context, a patient may have significant difficulty establishing causation because the patient may not be able to prove that they had prostate cancer at the time of the doctor's refusal if a PSA test was not undertaken or was done at a later date. The difficulty in establishing causation would however, vary case-by-case, based on factors such as the amount of time elapsed before cancer was finally diagnosed, the degree of disease present at the time of diagnosis, and the occurrence of other confounding factors in the interim.

Issues surrounding causation notwithstanding, under Victorian statute, a professional is not negligent in the provision of a professional service if it is established that the professional acted in a manner that was widely accepted in Australia as competent professional practice in the circumstances by a significant number of respected practitioners in the field.<sup>10</sup> Similar legislation also exists in other Australian states, eg. the *Civil Liability Act* (NSW) 2002.<sup>11</sup> It should also be noted that the same approach does not apply with issues of liability for failure to warn of risks or provide information.

Although Victorian legislation, when referring to 'a significant number of respected practitioners

in the field', does not specifically require the opinions of authoritative professional bodies, such as the USANZ and the CCA to be followed, from the practical perspective of the clinician, these may be relevant in determining the direction in which peer professional opinion falls. This creates uncertainty where there are conflicting positions taken by authoritative bodies. Fortunately, the fact that there are differing opinions that are widely accepted in Australia by a significant number of respected practitioners in the field concerning a particular matter, does not prevent any one or more of those opinions being relied upon.<sup>12</sup> As long as a doctor's act or omission is supported by a responsible body of medical opinion, then the doctor's action is unlikely to be held as negligent, even if an equally responsible body takes an opposing view. Where a court has regard to expert opinion on the undertaking of PSA testing, even where that expert opinion is inconsistent with other expert opinion, it will not be for the judge to determine which opinion is correct, unless it can be shown that one opinion was irrational or unreasonable in the relevant context. In either case, where a GP initiates testing without request for the patient aged 55–69 years, or in the case of the patient who requests a PSA without firm indication, the opinions of responsible medical bodies vary. On this basis, a GP may be justified in recommending either that the test be ordered or not, provided the decision either way is made by the patient in an informed manner. As position statements frequently change, GPs should strive to keep abreast of current practice guidelines as evidence accumulates.

## Ambiguity of positive or negative results

Where a PSA test is ordered, whether as a primary screening tool or not, and a positive result is obtained, the meaning of that result will not necessarily be clear. Considering whether to act on a PSA level may depend on numerous factors, including patient age, prostate size, suggestions of urinary tract infection; the cut off level used; findings on DRE; or where there are fluctuations in PSA levels, which may occur at low, or even normal levels. Furthermore, there is a range of interlaboratory variability with regard to PSA assays,<sup>13</sup> and a range of factors, independent of prostate cancer, can affect

PSA levels.<sup>14–16</sup> Tools such as PSA kinetics, in particular PSA velocity and modifications of PSA testing (eg. age adjusted PSA, free/total PSA ratio, complexed PSA and PSA density of the transition zone) at present each have individual trade offs between sensitivity and specificity, and on the basis of current evidence a consensus has yet to be reached on optimal strategies for these measurements.<sup>13,17,18</sup> The degree to which it is a GP's duty to explore these methods of PSA interpretation is at this stage uncertain.

In determining the utility of PSA as a screening tool, and the interpretation of a PSA result, the standard of care may differ between GPs and urologists. In a review of the law of negligence conducted in 2002, which led to several amendments to the statutory law of negligence in all Australian states, it was recommended that in cases involving an allegation of negligence, the standard of reasonable care should be determined by reference to what could reasonably be expected of a person professing that skill.<sup>19</sup> Given the conflicting results of recently published clinical trials and the complexity and uncertainty of PSA interpretation, GPs faced with the task of interpreting an equivocal PSA test, if uncomfortable or uncertain as to its inherent limitations, might reasonably refer the matter to a specialist for consideration before continuing with further management.

## Conclusion

The decision by a GP to order a PSA test, whether opportunistically or at the patient's request, has not been made easier following the inconclusive and conflicting results of recent randomised controlled trials.

Authoritative medical opinions in Australia differ in their approach to PSA testing, and GPs have an ongoing duty to determine their own position in this regard. Nonetheless, whether a GP orders a PSA test or not, such an act or omission is unlikely to be considered negligent so long as it is supported by a responsible body of medical opinion.

If GPs are uncomfortable or uncertain ordering or interpreting PSA testing, the matter may be referred to a specialist for consideration.

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