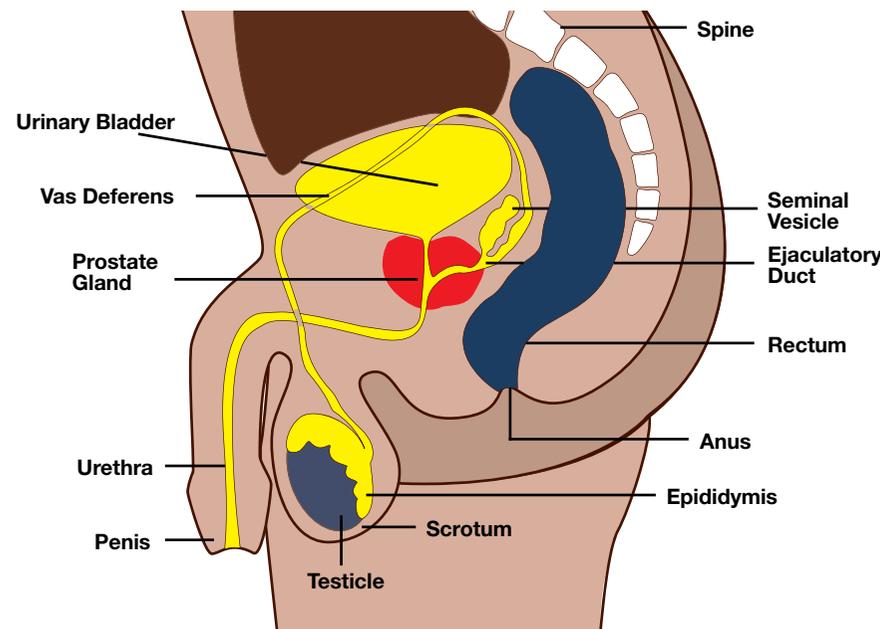


## The Early Detection Of Prostate Cancer In General Practice: **Supporting Patient Choice**

These resource cards aim to support the general practitioner assisting a patient making a choice about prostate cancer testing. This decision is ideally both informed and consistent with the patient's personal preferences<sup>(1-4)</sup>. Page one is a show card to use with your patients, giving suggestions for a discussion of pros and cons. Page two provides more detail for this and is intended for your use. Page three overviews PSA value ranges.

### SIX DECISION STEPS – TALK TO YOUR PATIENT ABOUT:

1. What is your main concern?
2. What is prostate cancer and what tests are there?
3. What is your risk?
4. What are the pros and cons of early detection?
5. What is most important to you?
6. Your decision.



### What is your risk?<sup>(5-6)</sup>

- Of 1000 men who are aged 50 years, 163 will be diagnosed with prostate cancer before the age of 80.
- Younger men have a smaller chance of a diagnosis than older men. But if they are diagnosed with prostate cancer, younger men are more likely to die prematurely from it. This is because there is more time for the cancer to progress and younger men are less likely to die of other causes.

What is the chance of a diagnosis of prostate cancer within the next 10 years?

For a man aged 40	1 in 1000
For a man aged 50	18 in 1000
For a man aged 60	59 in 1000
For a man aged 70	86 in 1000
For a man aged 80	101 in 1000

- Family history increases risk, for example, a man with a father or brother diagnosed has at least twice the risk of a diagnosis. The risk increase is highest in relatives of men diagnosed before age 60 years, and decreases with increasing age of the affected relative.

### What is most important to you?

#### For: Is this like you?

- ✓ I'm concerned that I might get prostate cancer.
- ✓ I want the best chance of finding it early if I do get it.
- ✓ I'm not interested in waiting for all the proof to be in.
- ✓ I want to do everything possible to reduce my risk of dying from prostate cancer.

#### Against: Is this like you?

- ✓ I think my chance of getting prostate cancer is low.
- ✓ I am not convinced about the effectiveness of testing.
- ✓ I am more concerned about avoiding treatment side-effects if there is no guarantee I would be reducing my risk of dying from prostate cancer.

## SIX DECISION STEPS – TALK TO YOUR PATIENT ABOUT:

### 1. Clarify the patient's main concern

- General health check and/or:
- Lower urinary tract symptoms (LUTS) – reassurance that this does not make him more at risk. Refer to Andrology Australia website for LUTS management <sup>(7)</sup>.
- Family history, confirm one or more first degree relatives diagnosed before 60 years of age.

### 2. Provide basic information on prostate cancer and tests available

- What the prostate is, where it is, that it grows bigger with age and can cause urinary symptoms over the age of 50 years.
- What prostate cancer is, how it is controlled by the male hormone, in most men it grows quite slowly, although rapidly in some.
- For early detection a blood test (PSA) and digital rectal exam (DRE) are needed. These are screening not diagnostic tests. If either or both are suspicious, that does not necessarily indicate cancer. To find this out a prostate biopsy is needed.
- Chance of cancer given positive PSA test is one in three. Chance of cancer given both abnormal PSA and DRE tests is one in two. Cancer can still be present with a normal PSA.

### 3. Provide an estimate of this patient's risk of a diagnosis based on age and family history (assumes no previous PSA result available)

- Risk of getting prostate cancer increases with age. However, given a diagnosis older men are less likely to die prematurely from it – there is less time for the cancer to progress and more competing causes of death. Testing is not normally recommended in men with life expectancy <10 years.
- Of 1000 50-year-old men, about 163 will be diagnosed with prostate cancer and 25 will die from prostate cancer before the age of 80 years. Less than one man in 1000 will be diagnosed with prostate cancer in their 40s <sup>(5)</sup>.
- These risks are population estimates and assume that everyone is the same. International comparisons tell us that some men are at greater risk than others, possibly related to lifestyle and diet.
- Family history increases risk. A man with a father or brother diagnosed has at least twice the risk of a diagnosis <sup>(6)</sup>.
- Men who are between the ages of 50-75 years <sup>(1)</sup> and men older than 40 years <sup>(4)</sup> at increased risk (for example, family history) are most likely to benefit from the early detection of prostate cancer.

www.prostatehealth.org.au • www.urosoc.org.au • www.andrologyaustralia.org  
• www.prostate.org.au

### 4. Explain pros and cons of early detection

#### Pros

- Early prostate cancer has no symptoms – PSA testing can lead to the detection of prostate cancer before it causes symptoms and/or when it is still confined within the prostate gland (localised).
- Treatment for localised prostate cancer can potentially cure the disease.
- Prostate cancer that is still confined to the gland may progress over time.
- Prostate cancer that has spread beyond the prostate gland is usually no longer curable and treatment for advanced cancer has significant quality of life effects.

#### Cons

- Some prostate cancers grow slowly and don't threaten life, but detection and treatment for prostate cancer can affect quality of life.
- A PSA test can be abnormal when cancer is not present (happens two out of three times for a positive test), however a biopsy is needed to find out. Explain what a biopsy involves.
- There is limited clinical trial evidence that PSA testing saves lives and whether men who are monitored by testing (screened) live longer. Because of this lack of evidence of effectiveness, medical authorities do not currently recommend population screening for prostate cancer, although this may change in the future.

#### Treatment side-effects

- Potentially curative treatments for localised prostate cancer include surgery and radiation therapy (external beam and brachytherapy). Treatments are associated with significant risk of impotence, and less commonly urinary incontinence and bowel problems. Prevalence and profile of side-effects vary for different treatment types <sup>(8)</sup>.
- Advanced prostate cancer is treated primarily by hormonal manipulation. Side-effects include impotence, loss of libido, fatigue, osteoporosis and cognitive changes <sup>(9)</sup>.

Two recently published clinical trials of prostate cancer screening, one American, one European published conflicting results <sup>(10-13)</sup>. The US study did not find a difference in prostate cancer deaths but had high levels of screened men in the control group. Taking into account both contamination and non-compliance, the European trial found a 31% reduction in prostate cancer deaths but at a high cost: over 1400 men needed to be screened and 48 men managed to prevent one death from prostate cancer.

### 5. Help the patient clarify their values

- Give examples of reasons men have given who have had or not had the test.
- Use table of 'What is most important to you?' Ask the man to consider if any of these points seem like his feelings or view.

### 6. Confirm decision

- Ask what questions he has. Check understanding.
- Does he want to decide now or take the written patient information and think about it?
- If the man chooses to be tested, discuss a prostate cancer risk management plan (see page three).

## The Early Detection of Prostate Cancer in General Practice: Referral Guide for Prostate Testing

This information is provided with the view that if a man chooses to be tested, he hopes to have the cancer detected at an early stage so that treatment options have the chance for cure. Testing of men with life expectancy less than 10 years is not normally recommended<sup>(4)</sup>. If PSA testing is performed a DRE is also recommended.<sup>(1)</sup>

### Normal ranges for PSA

Standard PSA normal range cut off: 4.0 ng/ml

Age-based normal ranges for PSA (ng/ml) Oesterling 1995<sup>(14)</sup>

Age range	50th percentile (median)	95th Percentile (upper limit of normal)
40-49	0.65	2.0
50-59	0.85	3.0
60-69	1.39	4.0
70-79	1.64	5.5

*Differences in type of PSA assay can cause differences in age-based ranges*

Men whose PSA is above the 50th (median) but below the 95th percentile have been shown to be at higher long-term risk of prostate cancer compared with those below the median<sup>(15,16)</sup>. A single PSA after age 40 may be helpful in determining risk of future prostate cancer.<sup>(3)</sup>

**Normal rate of change (velocity).** PSA velocity is calculated from at least three PSA measurements over 12 to 18 months, with a higher rate suggestive of increased cancer risk.<sup>(17)</sup> A threshold of 0.75ng/ml/yr is frequently used as a threshold to predict cancer<sup>(17,18)</sup>. PSA velocity increases with age and a lower cutoff has recently been proposed for men less than 60 years of age<sup>(19)</sup>.

**Percentage free PSA** (free to total percentage or FTP) is lower when cancer is present and may be helpful to distinguish cancer from benign prostatic enlargement in men with intermediate total PSA ranges (2.0-10.0 ng/ml)<sup>(14)</sup>. Cancer is likely if FTP is below 10% and a low risk if FTP is over 25%.

#### Accuracy of test

The accuracy of the test is influenced by the normal threshold used, the period of follow-up and the number of cores at biopsy<sup>(4)</sup>. According to a retrospective study<sup>(16)</sup>, the sensitivity of a PSA level of 4.0 µg/L or higher was about 91% for detecting aggressive cases of prostate cancer that developed within 2 years of screening. For non-aggressive cases it was 56%. Amongst men followed for 10 years without developing a diagnosis of prostate, 9% had an initial PSA level of 4 ng/ml or greater (specificity of 91%).

### Non cancer contributors to increases in PSA<sup>(20)</sup>

1. Benign prostate enlargement – accounted for to some extent by using age-based reference ranges and percentage free-PSA (see left).
2. Ejaculation: both total PSA and % free PSA increase (can remain altered for 6-48 hours).
3. Urinary infection.
4. Urinary retention (48 hours after resolution, PSA decreased by 50%).
5. Prostatitis or sub-clinical prostate inflammation (can remain higher for at least 6 weeks following resolution).
6. Prostatic massage but probably not routine DRE (prudent to take blood prior to DRE).
7. Prostate needle biopsy.
8. Bicycle riding has been reported not to change the PSA level<sup>(21,22)</sup>.
9. Different manufacturer assays may cause variation (up to 10%).

\* *Other investigations to consider: MSU, Electrolytes, Creatinine*

#### Consider referral if:

- PSA exceeds upper limit of normal for age range
- PSA exceeds 4ng/ml or upper limit of normal for age range (95th percentile-see table)
- PSA rate of change from a normal base is high
- DRE indicates nodularity or hard prostate

#### Consider follow-up if:

- PSA is in upper ranges of normal for age (exceeds median)
- Patient has a family history of prostate cancer
- Patient requests testing for the purpose of early detection

Recommended follow-up intervals for the detection of early stage cancer may vary depending on the result of the PSA test<sup>(23-25)</sup>. Medicare Benefits Schedule for PSA as of November 2009, one patient episode in a 12 month period that includes both total and free-to-total when the PSA is at or above the age-specific range. Up to four PSA ratios in 12 months are allowed in certain circumstances: refer to [www.health.gov.au/MBSONLINE](http://www.health.gov.au/MBSONLINE).

## The Early Detection of Prostate Cancer in General Practice: Referral Guide for Prostate Testing

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