

PSA Information Sheet

What is PSA?

PSA (Prostate Specific Antigen) is an enzyme produced by the prostate which is important for fertility. It is normal to have small amounts of PSA in the blood stream.

Higher levels of PSA in the blood may be an indication of the presence of prostate cancer.

Although PSA is a good test for detecting cancer it is not perfect and just because you have an elevated PSA it does not mean that you have cancer.

There are a number of reasons why your PSA may be up. The most common reason is that your prostate is enlarged.

Non-cancerous enlargement of the prostate is an almost invariable consequence of aging and while this may cause bladder or voiding problems, it, in itself, is not at all associated with cancer. As the prostate enlarges it produces more PSA and thus different PSA thresholds are employed according to a patient's age e.g. whilst a PSA of 4 might be considered quite normal in a 70 year old it would be abnormally high in a 50 year old.

The generally agreed thresholds are:

40-50y < 2

50-60y < 4

60-70y < 5

Urine Infection

Another non-cancerous cause for an elevation of the PSA is prostatic inflammation or a urine infection. A urine infection in particular can cause the PSA to rise to very high levels - even into the 100s.

Day-to-day Variations

The PSA level can vary day-to-day and we would always like a confirmation of an elevated PSA prior to proceeding with further investigations, such as prostate biopsy.

The Rise Rate

The rate of rise of the PSA test is also an important factor to consider. If the PSA rises more than 1 unit per year (even though the absolute level may still be within the normal range for age) then this is an indication to look further.

Most men who have a mildly elevated PSA will not have cancer. If the PSA is less than 10 then the risk of cancer is only around 25%. If cancer is detected at these low levels of PSA then it is likely to be at an early stage where curative options are

possible. Of course not all men who have prostate cancer need curative (or indeed any), treatment and these issues are addressed in the prostate cancer section.

Who should have a PSA test?

PSA testing is controversial. Not all men who have an elevated PSA have prostate cancer and not all men with prostate cancer need treatment. In general, however, a young, otherwise healthy man is likely to benefit from the finding of prostate cancer

We recommend annual PSA testing from the age of 45 - or 40 if there is a history of prostate cancer in the family. A family history of prostate cancer is a significant risk factor which is more important the greater the number of affected family members.

In older, or less healthy men (say, with a life expectancy of less than 10-12 years), it is not so important to pick up early prostate cancer because non-curative treatments are probably just as good as curative ones over this timespan. This does not mean that a PSA should not be done however, it just means that the triggers for biopsy and intervention are at higher PSA levels.

Is it important to have a digital rectal examination (DRE)?

Many men are concerned about this. If your PSA is persistently elevated above the threshold and if you are otherwise healthy then you are likely to need a prostate biopsy and as such the DRE can wait until you see your urologist. If however your PSA is normal then, because a small proportion of prostate cancers are missed by the PSA test alone, a DRE is required.

Ongoing testing

If both the DRE and PSA are normal then you can be pretty reassured that there is nothing going on. Just because you are OK this year though doesn't mean that you are not going to develop something next year and as such we recommend annual testing until around 70 years of age.

Good News (Maybe)

Although yet to be confirmed, a paper published on 16 April 2013 in the British Medical Journal provides some evidence that if your PSA is less than 1.0ng/ml at age 45, at 50 and still at 60 then your chances of ever developing prostate cancer are very low.