



My PSA is High!

by Dr Gerald Tan

What happens next, doc?

The prostate-specific antigen (PSA) blood test for men is a quick way to assess the likelihood of having prostate cancer. Prostate cancer remains the most common cancer affecting men in the United States, Europe, and Australia, and it is the third most common cancer affecting men in Singapore.¹

PSA is a protein produced by cells in the prostate gland, and most urologists around the world consider PSA levels of less than 4.0ng/dl as normal. PSA levels higher than 4.0ng/dl are associated with a higher risk of having prostate cancer, although this may also be due to other causes such as prostate enlargement, inflammation of the prostate (prostatitis), recent ejaculation and /or prostate surgery.²The PSA blood test is often done as part of health screening packages for men older than 50 years of age, as the likelihood of prostate cancer increases with age.

What happens next if PSA is raised above 4.0ng/dl?

When men are found to have a PSA blood test > 4.0ng.dl, they will often be referred to a urologist for further assessment. The urologist will usually ask about symptoms caused by prostate disease such as slow urinary flow, painful or frequent urination, or visible blood in the urine. He will usually use a bedside ultrasound to measure the size of the prostate gland, followed by a digital rectal examination to feel for possible nodules or areas of inflammation in the prostate. He will then discuss the option of proceeding with a prostate biopsy to obtain cells for histological diagnosis to rule out prostate cancer.

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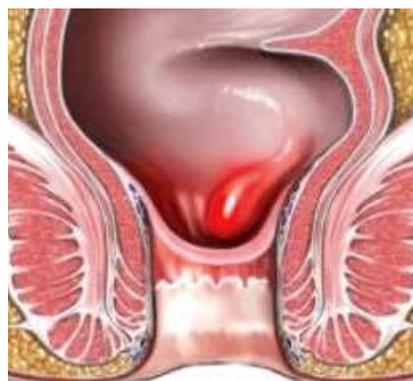


Figure 2. Possible complications of a prostate biopsy include (A) bleeding from the rectal wall, and (B) sepsis presenting with high fevers, chills, sweats or lethargy.

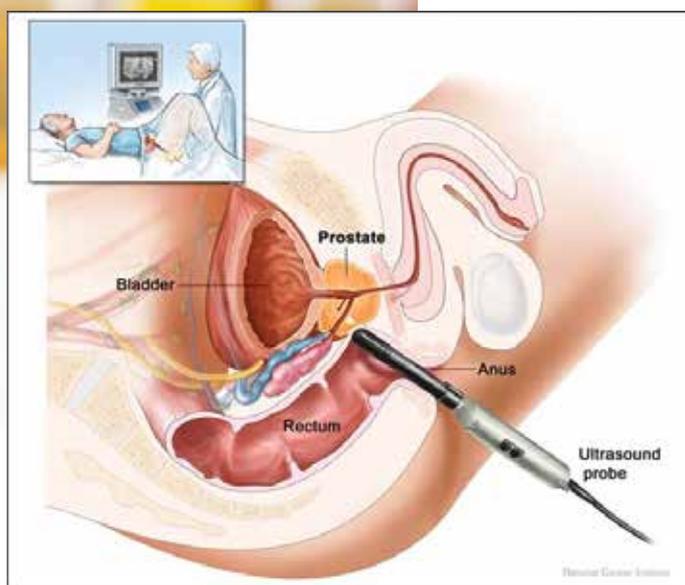


Figure 1. Illustration of a transrectal ultrasound-guided biopsy of the prostate gland.

Men whose PSA results fall in the 4.0 – 10.0ng/dl range have a one in seven chance of being diagnosed with prostate cancer on prostate biopsy. However, men whose PSA levels are > 10.1ng/dl have a greater than 50% chance of having prostate cancer, which is oftentimes an aggressive form. For the latter group, they should not delay proceeding with a prostate biopsy to confirm or exclude the presence of cancer cells in the prostate.

What does a prostate biopsy involve?

Most urologists perform a prostate

biopsy using a transrectal ultrasound probe [Figure 1]. This short procedure is performed in the clinic or day surgery centre, usually under mild sedation for patient comfort. The patient is requested to lie on his side, and the rectum is cleansed with an antiseptic solution. A transrectal ultrasound probe is then inserted into the rectum under lubrication, and images of the prostate gland are taken. Local anaesthetic is administered to the nerves running alongside the prostate gland, and twelve or more cores of the prostate are taken with ultrasound guidance using a quick-firing needle. After the biopsy is completed, the urologist will check for any bleeding from the rectum, and if necessary place a gauze or inject some medicine to the bleeding points. The patient is then woken up, and asked to consume a few cups of fluid. Once he is able to pass urine, he may be discharged and a date given for him to return to discuss the prostate biopsy report, which usually takes less than a week to be finalised.

What are the risks associated with a prostate biopsy?

In the overwhelming majority of patients, transrectal ultrasound-guided (TRUS) biopsies of the prostate are safe and uneventful. Whilst uncommon, possible complications include (1) persistent bleeding from the rectum; (2) difficulty passing urine after the biopsy (urinary retention); and (3) severe infection (known as sepsis) from bacteria being translocated from the rectum into the prostate [Figure 2]. The incidence of TRUS-biopsy sepsis is relatively low (<5%), but should be always be suspected if patients develop fever, chills, sweats, or lethargy after the procedure. When detected early, patients with TRUS-biopsy sepsis often recover within a few days with prompt hospital admission and treatment with broad spectrum intravenous antibiotics and supportive medications.

Are there any other alternatives to a prostate biopsy to exclude the possibility of prostate cancer?

In patients with a mildly raised serum PSA of 4.0 – 10.0ng/dl, the

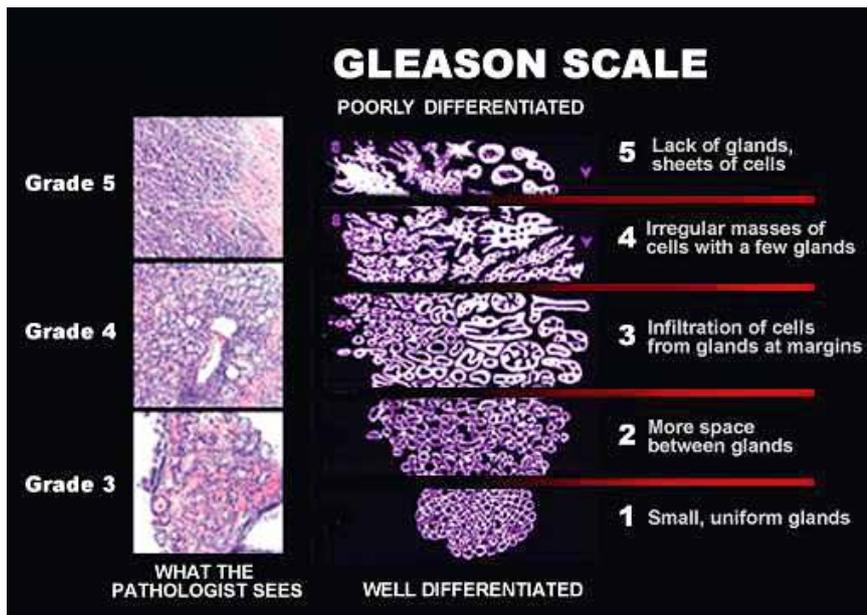


Figure 3. The Gleason scale for ascertaining the aggressiveness of cancerous change in the prostate gland.

likelihood of finding clinically significant prostate cancer is less than 15%. In this group of patients, their urologist may suggest a trial of antibiotics and medications for suspected prostatitis first, before repeating their PSA test 6-8 weeks later to see if it has fallen back to normal levels. However, this strategy is not advised for men whose PSA levels are > 10.1ng/dl, as the chance of detecting aggressive prostate cancer is quite high. In the latter group, they should not delay having a prostate biopsy to obtain early histological diagnosis for treatment planning.

What will my prostate biopsy report tell me?

When the prostate biopsy cores are sent to the laboratory, the

report confirm the presence of cancerous change, your urologist will advise you to proceed with tests to accurately stage the extent of prostate cancer spread. These will involve (1) magnetic resonance imaging (MRI) scan of the prostate, to see if the cancer has spread outside the capsule of the prostate gland and / or involved the nearby lymph nodes, and (2) a whole body bone scan to see if the cancer cells have spread to the bony skeleton [Figure 4]. Based on how early or advanced the stage of prostate cancer is, your urologist will then advise you on the most appropriate treatment available in your region.

Many people say PSA screening leads to over-diagnosis and unnecessary overtreatment of early prostate cancer, which is actually quite harmless. Do you think I should still go for my annual PSA blood test?

PSA screening was controversial a few years ago because it identified many men with early indolent prostate cancer, which carries a low risk of spreading outside the prostate gland. Such men may have been advised to go for treatment such as surgery or radiation, with their consequent side effects.

In 2015, we now have good practice guidelines and clinical data to show that men diagnosed with indolent (low-risk) prostate cancer

pathologist will stain them for examination under the microscope to look for evidence of cancerous change to the architecture of the prostate gland. If present, the pathologist will then assign a Gleason score from 2 to 10 to describe the aggressiveness of cancerous change in the prostate [Figure 3]. Prostate cancers with a Gleason score of 6 or below are usually considered indolent or low risk, whilst those with a score of 8-10 are deemed highly aggressive and mandate early definitive treatment.

If my biopsy report comes back showing prostate cancer, what happens next?

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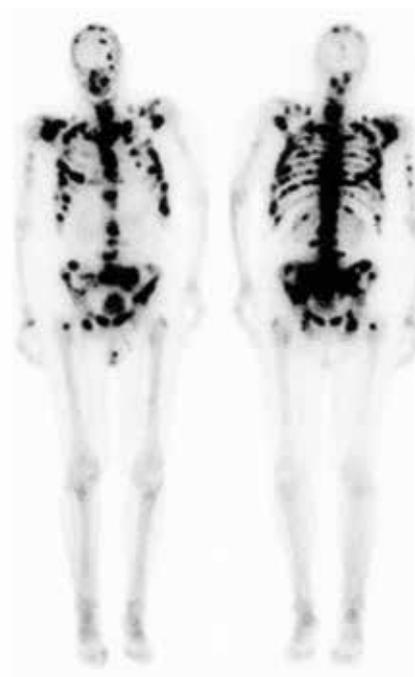


Figure 4. Staging of prostate cancer is usually assessed with (A) Magnetic resonance imaging of the prostate gland, and (B) whole body bone scan.

may be safely monitored in an active surveillance programme (often for many years), until their repeat PSA levels or prostate biopsy reports show aggressive cancerous change. Active surveillance seeks to delay definitive treatment for early prostate cancer till it is clinically necessary, and has been validated in many large long-term studies to be a safe treatment approach.⁵

As such, the Singapore Urological Association continues to encourage men above the age of fifty years to go for their annual PSA blood test. Early detection, surveillance and cure for organ-confined prostate cancer is still a better option than a late diagnosis of advanced prostate cancer, with its bleak outlook and limited treatment options. **MG**



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