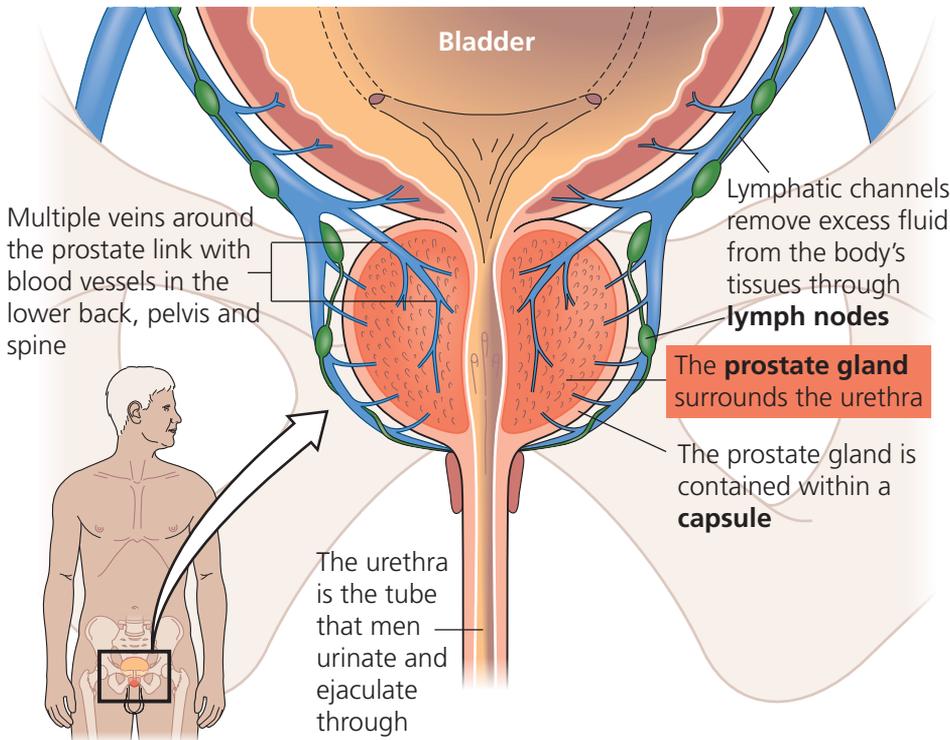




Staging of prostate cancer

What is the prostate gland?



The **prostate gland** is below the bladder. It surrounds the urethra – the tube that carries urine from the bladder to the penis. The prostate gland produces fluid that is mixed with sperm from the testicles to make semen.

What is prostate cancer?

The prostate gland is usually about the size of a walnut but it may grow bigger with age. In some men, it grows because old cells do not die when they should. This is not cancerous and is known as benign prostatic hyperplasia (BPH) or enlarged prostate. However, in some men the gland grows because the cells multiply incorrectly – this is prostate cancer.

Why is the clinical stage important when talking about prostate cancer?

Your doctor needs to know the clinical stage of your prostate cancer so that they can decide if treatment is needed, when to start treatment, and what treatment to use.

How is the clinical stage identified?

The clinical stage of prostate cancer is worked out from **1 TNM stage** **2 PSA level** **3 Gleason score**.

Digital rectal exam (DRE): Your doctor will insert a gloved and lubricated finger into your rectum to feel your prostate gland. Depending on what is found, you may need scans to see if the tumor is still contained inside the prostate capsule or whether it has spread further.

1 TNM stage

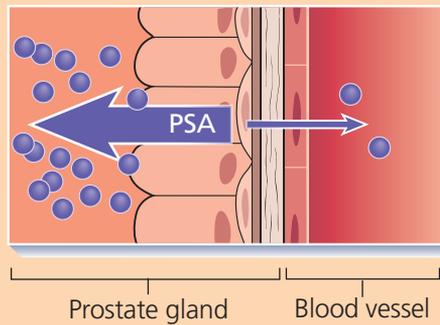
The Tumor (T), Nodes (N), Metastases (M) (TNM) system is used to describe how far a tumor has spread. It is used in many different types of cancer. The table shows how the T, N and M scores are determined in prostate cancer.

Tumor			
T1 <ul style="list-style-type: none"> Not detected on DRE or scans Inside capsule 	T2 <ul style="list-style-type: none"> Felt on DRE Inside capsule T2a or b means it is on one side of the gland; T2c means it is on both sides 	T3 <ul style="list-style-type: none"> Spread outside of capsule (T3a) and possibly into seminal vesicles, tubular glands above the prostate (T3b) 	T4 <ul style="list-style-type: none"> Spread to areas in the pelvis
Nodes		Metastases	
N0 Cancer has not spread to lymph nodes	N1 Cancer has spread to lymph nodes	M0 Cancer has not spread to distant parts of the body	M1 Cancer has spread to distant parts of the body

2 PSA level

Prostate-specific antigen (or PSA) is a protein that is made in the prostate gland. It helps to keep semen liquid. Small amounts of PSA end up in the blood and can be measured. Cancer cells produce more PSA than healthy cells, and cancer cells become disorganized, allowing more PSA to get into the blood. The level of PSA in the blood therefore usually rises in men with prostate cancer. However, PSA levels in the blood may rise for other reasons (infection, recent ejaculation, enlarged or inflamed prostate). Your doctor will measure your PSA level regularly but will also consider other information.

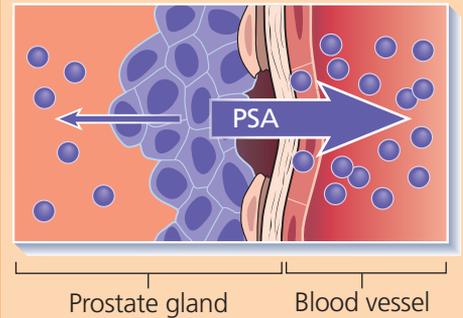
Normal



Healthy cells in the prostate are organized in a tight pattern. Only small amounts of PSA get into the blood.

With prostate cancer

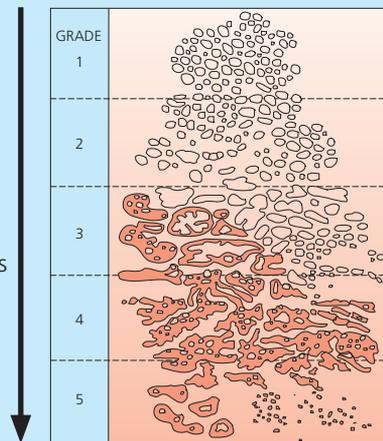
In cancer, the cells in the prostate become disorganized and the layers between the blood vessel and prostate are disrupted, so more PSA can leak into the blood.



3 Gleason score

A small piece of tumor (a biopsy) may be taken using a thin needle, under local anesthetic. Cells from the biopsy tissue are examined under a microscope.

As cancer develops the cells become less organized



Biopsy samples usually contain more than one grade of cells. The pathologist will look at several samples from your biopsy tissue.

The Gleason score is determined by adding the **most common grade** and the *highest grade*, e.g. **3 + 5 = 8**.

- 6 = slow growing
- 7 = moderate growing
- 8, 9, 10 = fast growing

Working out your clinical stage

You can use the table below to work out the clinical stage of your prostate cancer. Find the row that matches your **TNM stage**, **PSA level** and **Gleason score** and then follow the row across to find your clinical stage (shown in the pink column).

EXAMPLE: TNM stage = **T1,N0,M0**; PSA level = **15** ng/mL; and Gleason score = **5** matches **row 2** so this is **clinical stage IIA**.

TNM stage	PSA level (ng/mL)	Gleason score	Clinical stage	General description
T1 or T2a, N0, M0	Less than 10	6 or less	I	Localized disease
T1, N0, M0	10 or more but less than 20	6 or less	IIA	
T1, N0, M0	Less than 20	7		
T2a or b, N0, M0	Less than 20	7 or less		
T1 or T2, N0, M0	20 or more	Any	IIB	
T1 or T2, N0, M0	Any	8 or higher		
T2c, N0, M0	Any	Any		
T3, N0, M0	Any	Any	III	Locally advanced
T4, N0, M0	Any	Any	IV	Advanced
Any T, N1, M0	Any	Any		
Any T, any N, M1	Any	Any		

The staging information also indicates the risk of the tumor growing or spreading, which helps your doctor to decide when to start treatment and what treatment to choose.

For more information on staging, and prostate cancer in general, visit  www.here4you.co.za