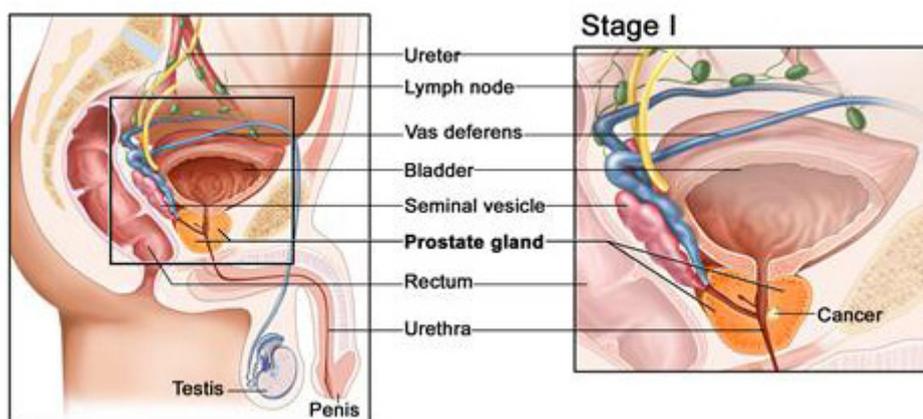


**Prostate cancer is second only to lung cancer as the leading cause of cancer-related deaths in men. It is one of the most common cancers in African men, estimated to constitute 9.5 percent of all male cancers. The good news is prostate cancer is treatable when detected early.**

## Background

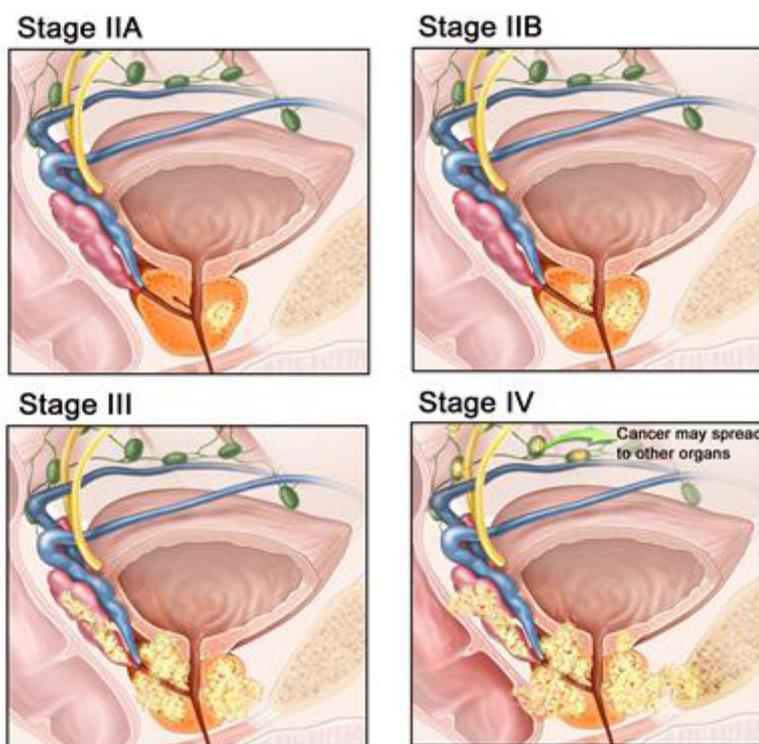
Second only to lung cancer, prostate cancer is the leading cause of cancer-related deaths in men. It is one of the most common cancers in African men, estimated to constitute 9.5 percent of all male cancers. The condition is present in 30 percent of men more than 50 years of age and in 70 percent of men more than 80 years old. About 9.5 percent of men will have a clinical diagnosis of prostate cancer in their lifetime, and 2.9 percent will succumb to this malignancy. However, prostate cancer is treatable when detected early.



## Stages of cancer

Cancer staging describes how much and where the cancer is located.

- In stage I, the cancer is only found in the prostate.
- Stage II is more advanced than stage I, but the cancer has not spread outside the prostate.
- In stage III, cancer has spread beyond the outer layer of the prostate and may have spread to the seminal vesicles.
- In stage IV, cancer may have spread to the semi-nal vesicles, rectum, bladder, pelvic wall, or to distant parts of the body which may include lymph nodes or bones.



## Grading of prostate cancer

Grading is used to describe how abnormal or aggressive the cancer cells appear. The grade helps to predict longterm results, response to treatment and survival. The Gleason scale is the most common scale used for grading prostate cancer. This system assigns cancer cells a score from 1 to 10.

## Diagnostic tests

Healthy men without a clinical disease (screening) or with clinical suspicion of prostate cancer are offered a test called prostate specific antigen (PSA). Men presenting with raised or rising PSA levels should be offered a biopsy as the abnormal PSA is non-specific in diagnosing cancer. The PSA level may be elevated in non-cancerous conditions such as benign prostate hypertrophy and prostatitis.

The cornerstone of prostate cancer diagnosis is biopsy.

Therefore, the diagnosis of prostate cancer should only be made once the histology confirms cancer.

After the prostate cancer is diagnosed, several tests are done to confirm whether cancer cells have spread within the prostate or to other parts of the body.

The following tests and procedures may be used in the staging process:

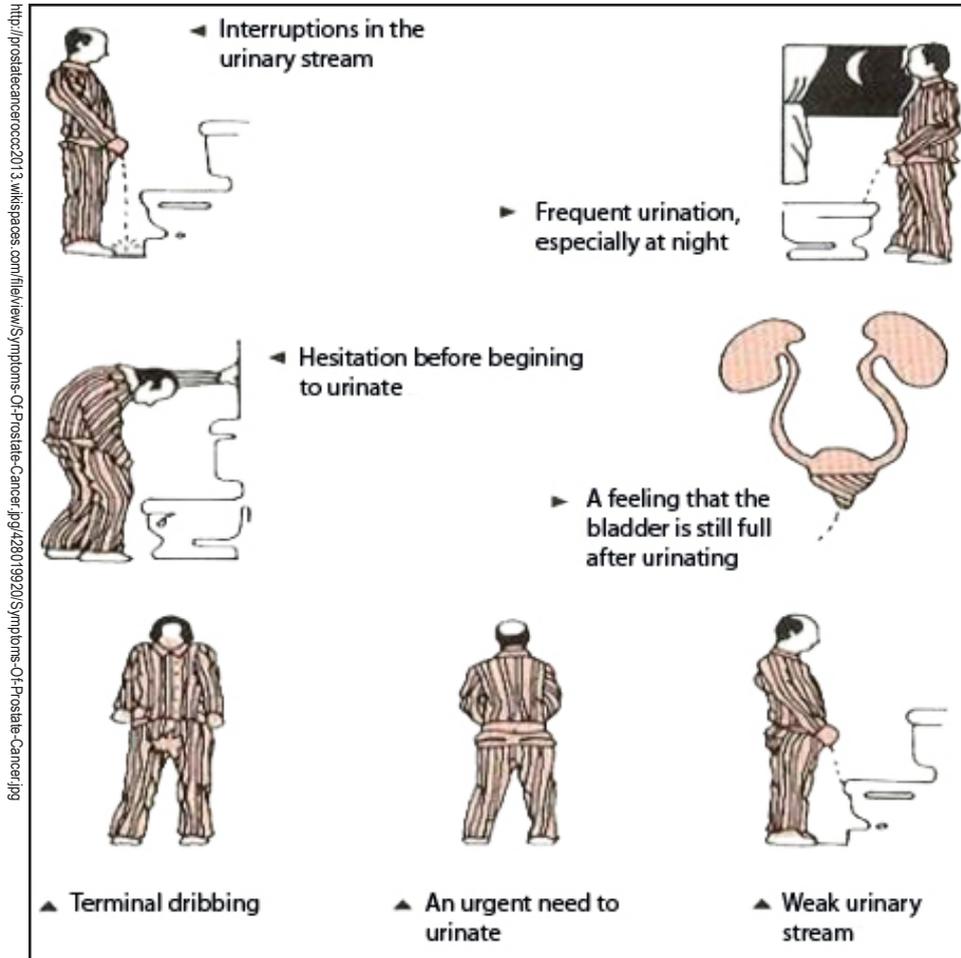
- i. A bone scan detects whether there are rapidly dividing cells such as cancer cells in the bone. Magnetic resonance imaging (MRI) uses a magnet, radio waves and a computer to make a series of detailed pictures of areas inside the body.
- ii. Computerised axial tomography (CAT scan) makes a series of detailed pictures of areas inside the body, taken from different angles.
- iii. Pelvic lymphadenectomy is a surgical procedure which removes the lymph nodes in the pelvis to look for cancer cells under a microscope.
- iv. Seminal vesicle biopsy is the removal of fluid from the glands that

make semen (seminal fluid) using a needle aimed at analysing the fluid for cancer cells under a microscope.

The process of staging helps the doctor to plan treatment.

## Management

There are several treatment options available for localised disease, namely active surveillance, radical prostatectomy, external beam radiotherapy and brachytherapy. In the case of metastatic prostate cancer, the usual primary treatment is hormone therapy (androgen deprivation or anti-androgens). However, this mode of treatment is also increasingly being used for men with locally advanced, non-metastatic disease.



## Signs and symptoms

Cancer in its early stages rarely produces symptoms. Symptoms of urinary obstruction usually occur in advanced stages of cancer. There may be blood in the urine or semen, painful ejaculation, urinary retention, difficulty and frequency of urination, and decreased size and force of the urinary stream.

Cancer may sometimes spread to lymph nodes and bones. Symptoms of metastasis include backache, hip pain, perineal and rectal discomfort, anaemia, weight loss, weakness, decreased urine output and spontaneous pathological fractures.



### Deferred treatment

Deferred treatment includes watchful waiting and active surveillance. Watchful waiting and active surveillance are treatment strategies used for older men who do not have signs and symptoms, or have other medical conditions.

#### a) Watchful waiting

Watchful waiting involves closely monitoring the patient's condition without giving any treatment until signs or symptoms appear or change. The patient would then be treated with resection of the prostate or other procedures to relieve urinary tract obstruction and hormonal therapy or radiotherapy for the palliation of metastatic lesions.

#### b) Active surveillance

Active surveillance is closely following a patient's condition without giving any treatment unless there are changes in test results. It is used to find early signs that the condition is getting worse. The aim is to reduce the proportion of over-treatment in patients with low-risk prostate cancer, without giving up radical treatment, as happens with the watchful waiting strategy.

Active surveillance is indicated in patients who meet the following criteria:

- in younger patients with life expectancy of more than 10 years, stage I prostate cancer;
- in asymptomatic patients with life expectancy of < 5-10 years, stage II prostate cancer;
- in patients who are candidates for active treatment yet wish to defer treatment.

### Radical Prostatectomy

Radical prostatectomy is considered the standard first-line treatment for prostate cancer and is used in patients where the tumour is confined to the prostate. It is indicated in the following:

- patients with low and intermediate risk disease;
- elected patients with high-risk localised disease.

Care elements of radical prostatectomy include assessment for fitness of surgery and prostatectomy.

### Radiation therapy

Radiation therapy is a cancer treatment that uses high-energy X-rays or other types of radiation to kill cancer cells or keep them from growing. There are two types of radiation therapy, namely external beam radiation therapy (EBRT) and brachytherapy (internal radiation therapy).

#### a) External beam radiation therapy

External beam radiation therapy (EBRT) is indicated for the following:

- in localised cancer with adjuvant androgen deprivation therapy in high-risk, localised cancer;
- as post-operative radiation therapy in patients with tumour stage III;
- in locally advanced prostate cancer with androgen deprivation therapy.

#### b) Brachytherapy

Brachytherapy is more suitable for localised cancer. Two modalities of brachytherapy are used, namely permanent low-dose radiation and temporary high-dose radiation. Brachytherapy has a higher predicted probability of maintaining erectile function as compared to EBRT. This risk-benefit ratio is higher for patients with localised disease than for patients with locally advanced disease.

### Hormone therapy

Hormone therapy is a cancer treatment that removes hormones or blocks their action and stops cancer cells from growing. Hormones are substances made by glands in the body and circulated in the bloodstream.

Androgen blockade is indicated in the following instances:

- where a patient with localised disease may be offered androgen deprivation therapy as first-line treatment if there are contraindications to radiotherapy and radical prostatectomy;
- in intermediate and high risk patients.

### Chemotherapy

Chemotherapy is a cancer treatment that uses drugs to stop the growth of cancer cells, either by killing the cells or by stopping them from dividing. When chemotherapy is taken by mouth or injected into a vein or muscle, the drugs enter the bloodstream and can reach cancer cells throughout the body.

### What is covered by the prescribed minimum benefits (PMBs)

Treatable prostate cancer is a PMB condition. According to the PMB regulation, treatable cancers are defined as follows:

- they involve only the organ of origin, and have not spread to adjacent organs;
- there is no evidence of distant metastatic spread;
- they have not, by means of compression, infarction, or other means, brought about irreversible and irreparable damage to the organ within which they originated (for example brain stem compression caused by a cerebral tumour) or another vital organ;
- if points (i) to (iii) do not apply, there is a well demonstrated five-year survival rate of greater than 10% for the given therapy for the condition concerned.

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### Complications

#### **Erectile dysfunction**

Tumour growth or treatments such as surgery and radiation therapy can damage the delicate nerves near the prostate that control erection, leaving a patient unable to achieve or maintain an erection or to engage in sexual activity.

#### **Incontinence**

Prostate cancer can affect the bladder and urethra, leading to problems ranging in severity from an overactive to occasional accidental leakage of urine or complete loss of bladder control.

All medical schemes are required by law to pay for the diagnosis, treatment and care costs of PMB conditions in full. However, not all the treatments described are included at PMB level of care. Most of the treatments mentioned have similar outcomes yet different costs. Should surgery be an option for a member, open radical prostatectomy is considered PMB level of care. Laparoscopic radical prostatectomy is not included at PMB level of care.

Regarding brachytherapy, permanent low-dose radiation is at a PMB level of care but the temporary high-dose radiation, which is a more recently developed intervention, has to be subjected to economic evaluation before it is considered to be at PMB level of care.

