

Prostate Cancer



What is the prostate?

The prostate is a walnut-sized gland that forms part of the male reproductive system. It is located in front of the rectum, just below the bladder.

One of its main functions is to squeeze fluid into the urethra during sexual climax. This fluid energizes the semen and makes the vaginal canal less acidic.

What is prostate cancer?

- A disease in which malignant (cancerous) cells form in the tissues of the prostate.
- It is not the same as Benign Prostatic Enlargement (non cancerous growth of the prostate) although its symptoms may be similar.
- 1 man in 6 will be diagnosed with prostate cancer.
- It has a worse prognosis in Afro-Caribbean men.
- 70% of cases are found in men over 65 years.
- It can be screened for and early detection increases survival.

What causes it?

There is no known specific cause of prostate cancer, but risk factors include:

- **Family:** having a first degree relative who has had prostate cancer
- **Age:** it is uncommon in men below 50 and more common in men over 70.
- **Race/ Ethnicity:** it is more common in Africans, African-Americans and Afro-Caribbean men.

Symptoms and Diagnosis

Most men have no symptoms, however, symptoms that may suggest that you have prostate cancer include:

- Weak or interrupted flow of urine
- Frequent urination (especially at night)
- Difficulty urinating
- Pain or burning during urination
- Blood in the urine or semen
- Pain in the back, hips or pelvis that does not go away
- Painful ejaculation
- Weight loss

You should see a doctor if you have any of the above symptoms.

These symptoms occur as a result of obstruction of the urethra as well as metastasis of the cancer to other parts of the body, particularly to the bones

When you see your doctor, a history will be taken of the problems you are having and your prostate will be examined. The prostate is examined in the following ways:

1. The first examination done is a DRE or digital rectal examination. A gloved finger is inserted into the rectum to feel the part of the prostate next to the rectum.
2. A blood test called the **PSA** (Prostate Specific Antigen) is also performed. PSA is a protein produced by the prostate that increases as the prostate enlarges. Its values tend to be elevated in patients with prostate cancer, so it is used as a screening test in conjunction with the DRE.
3. An ultrasound scan of the prostate is done to determine its size, weight and look for any suspicious areas and growths.
4. To make a diagnosis of prostate cancer, a tissue sample must be taken from the prostate. One of the ways of doing this is by Trans-rectal Ultrasound Guided Biopsy.

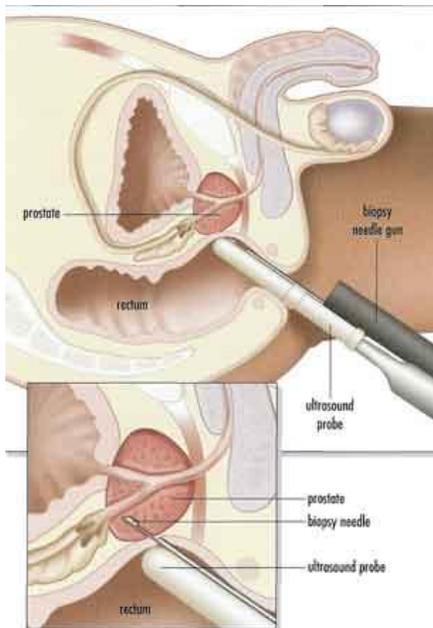


Fig 1: Trans-rectal Ultrasound Guided Biopsy

Treatment

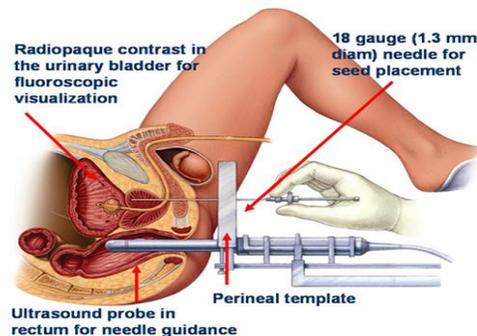
Treatment for prostate cancer is dependent on the Stage of the cancer which indicates whether it is localized to the prostate or if it has spread to other parts of the body. The Gleason score is also an important tool in determining the prognosis of a patient with prostate cancer as well as what treatment method is appropriate.

Standard treatment regimens include:

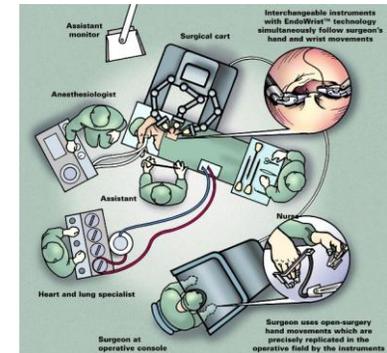
1. **Watchful waiting/ active surveillance:** closely monitoring patients until their symptoms change. Particularly in patients who are not fit for surgery.
2. **Surgery:** aimed at removing the prostate (radical prostatectomy) and its surrounding tissues, or removing affected lymph nodes. A Transurethral Resection of Prostate (TURP) may also be done. Some side effects of surgery include impotence and incontinence
3. **Radiation therapy**
4. **Hormone therapy** (to reduce testosterone levels)
5. **Chemotherapy**
6. **Biological Therapy**
7. **Cryotherapy**

Newer treatments include:

Brachytherapy: this is used for early stage prostate cancer. Radioactive seedlings are placed into the prostate under ultrasound guidance to emit high doses of radiation, which kill cancer cells in the prostate. Localised disease only.



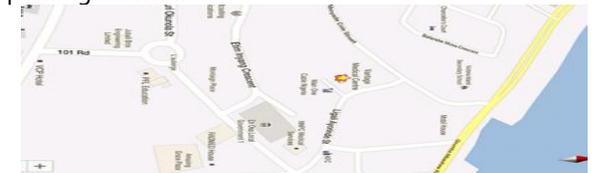
2. **Robot assisted prostatectomy:** with the aid of robot, the surgeon removes the prostate.



3. **High Intensity Focused Ultrasound (HIFU):** High frequency ultrasound waves are delivered to the prostate. It is currently being evaluated as an alternative to surgery and a first line treatment for early prostate cancer.

Advanced Disease (Castrate Resistant Prostate Cancer)

In some patients, treatment with androgen depleting therapy (ADT) and surgery does not halt the progression of prostate cancer. This is usually seen as a continued rise in PSA levels and new metastases on bone scan. Docetaxel (chemotherapy) based therapies have hitherto, been the gold standard, however newer therapies are emerging. A vaccine called sipuleucel –T and hormone manipulation using abiraterone acetate have been shown to prolong survival.



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