**Prostate Cancer**

**Epidemiology**

* [Prostate cancer](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=445079&version=Patient&language=English) is found mainly in older men. In the U.S., about 1 out of 5 men will be [diagnosed](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=46450&version=Patient&language=English) with prostate cancer.
* Signs of prostate cancer include a weak flow of urine or sudden urge to urinate or sometimes frequent urination (especially at night).
* Differential diagnosis with prostate hyperplasia ( BPH)

 **Diagnosis**

* **Biopsy**: it is necessary to detect cancer cells and measure gleason score which ranges from 2-10 and describes how likely it is that a [tumor](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=46634&version=Patient&language=English) will spread. The lower the number, the less likely the tumor is to spread.

Only a prostate biopsy can diagnose this cancer.

* [**Digital rectal exam**](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=45668&version=Patient&language=English) **(DRE)**: The doctor or [nurse](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=269445&version=Patient&language=English) inserts a lubricated, gloved finger into the rectum and feels the prostate through the rectal wall for lumps or [abnormal](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=44636&version=Patient&language=English) areas.
* [**Prostate-specific antigen (PSA) test**](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=322878&version=Patient&language=English) : it is increased in those with prostate cancer and may also be high in men who have an [infection](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=45364&version=Patient&language=English) or [inflammation](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=44042&version=Patient&language=English) of the prostate or even in BPH ,

So, PSA test results cannot diagnose prostate cancer.

There is no specific normal or abnormal level of PSA in the blood.

Older men typically have slightly higher PSA levels than younger men.

In the past, most doctors considered PSA levels of 4.0 ng/mL and lower as normal.

However, more recent studies have shown that some men with PSA levels below 4.0 ng/mL have prostate cancer and that many men with higher levels do not have prostate cancer.

Factors can cause a man’s PSA level to fluctuate:

1. [Prostatitis](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=CDR0000257216&version=Patient&language=English), [urinary tract](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=CDR0000046095&version=Patient&language=English) infection, Prostate biopsies and prostate surgery also increase PSA level.
2. Drugs—including [finasteride](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=CDR0000045336&version=Patient&language=English) and [dutasteride](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=CDR0000488413&version=Patient&language=English), lower a man’s PSA level.
3. PSA level may also vary somewhat across testing laboratories.
* [**Transrectal ultrasound**](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=46632&version=Patient&language=English): Transrectal ultrasound may be used during a [biopsy](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=45164&version=Patient&language=English) procedure.

The [prognosis](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=45849&version=Patient&language=English) (chance of [recovery](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=454708&version=Patient&language=English)) and treatment options depend on the following:

* The [stage](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=45885&version=Patient&language=English) of the cancer (level of PSA, Gleason score, grade of the tumor, how much of the prostate is affected by the cancer, and whether the cancer has spread to other places in the body).
* The patient’s age.
* Whether the cancer has just been diagnosed or has [recurred](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=46556&version=Patient&language=English) (come back).

Treatment options also may depend on the following:

* Comorbid disease
* The expected [side effects](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=46580&version=Patient&language=English) of treatment.
* Past treatment for prostate cancer.
* The wishes of the patient.
* Stage of cancer: In prostate cancer, staging tests may not be done unless the patient has [symptoms](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=45022&version=Patient&language=English) or signs that the cancer has spread, such as bone pain, a high [PSA](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=44867&version=Patient&language=English) level, or a high [Gleason score](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=45696&version=Patient&language=English).

Most men diagnosed with prostate cancer do not die of it.

Main site for metastasis of prostate cancer: Bone

**Stages of prostate cancer**

**Stage I, also called T1, describes when tumor cells are found in less than 5% of prostate tissue and the cells are low-grade.** In [stage I](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=45129&version=Patient&language=English), [cancer](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=45333&version=Patient&language=English) is found in the [prostate](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=46539&version=Patient&language=English) only. Gleason score 6 or less, and PSA 10 or less

**Stage II (T2) describes more extensive or more aggressive cells that are confined to the prostate.**

In [stage II](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=45130&version=Patient&language=English), [cancer](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=45333&version=Patient&language=English) is more advanced (extensive or aggressive) than in [stage I](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=45129&version=Patient&language=English), but has not spread outside the [prostate](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=46539&version=Patient&language=English). Stage II is divided into stages IIA and IIB.

**In stage III, or T3, the tumor has grown through the capsule that contains the prostate.** [cancer](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=45333&version=Patient&language=English) has spread beyond the outer layer of the [prostate](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=46539&version=Patient&language=English) and may have spread to the [seminal vesicles](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=46576&version=Patient&language=English).

**In Stage IV (T4), the cancer has spread beyond the prostate to other organs.**

As prostate cancer progresses from Stage I to Stage IV, the cancer cells grow within the prostate, through the outer layer of the prostate into nearby tissue, and then to lymph nodes or other parts of the body.

**Treatment**

Prostate cancer can be slow growing and, for many men, the disease may never progress or cause any symptoms. In other words, many men with prostate cancer will never need any treatment.

**Watchful waiting**

Watchful waiting is a way of monitoring prostate cancer that is not causing any symptoms or problems. This mean start treatment until you get symptoms, such as problems passing urine or bone pain. At this point you may need treatment called hormone therapy to help manage symptoms.

Watchful waiting may be suitable for asymptomatic cancer in older men specially those with comorbid diseases

Advantages avoidance treatment side effects which negatively affect patient quality of life

Treatments for prostate cancer like radiotherapy or surgery (radical prostatectomy) can cause side effects such as problems with erections, problems passing urine and bowel problems.  For some men these side effects may be long term and may have a significant impact on their quality of life. If you decide to go on watchful waiting you will avoid the side effects of treatment.

**Surgery: radical prostatectomy**

Remove prostate It is an option for men with cancer that is contained within the prostate ([localised prostate cancer](http://prostatecanceruk.org/information/prostate-cancer/treatment/localised-prostate-cancer%22%20%5Co%20%22Localised%20prostate%20cancer)) and who are otherwise fit and healthy.

**Hormone therapy**

Hormone therapy treats prostate cancer by stopping the hormone testosterone from reaching the prostate cancer cells.

if there are cancer cells in the prostate gland, testosterone can cause them to grow faster. In other words, testosterone 'feeds' the prostate cancer.

**What types of hormone therapy are there?**

**LHRH agonists**
are given by injection or as a small implant inserted under the skin. There are several different LHRH agonist drugs. Some of the common ones are:

* goserelin (brand names: Zoladex, NovGos)
* leuprorelin acetate (brand name: Prostap)
* buserelin acetate (brand name: Suprefact)
* triptorelin (brand names: Decapeptyl, Gonapeptyl Depot).

**GnRH antagonists**At the moment, there is only one kind of GnRH antagonist called [degarelix](http://prostatecanceruk.org/toolkits/degarelix-%28firmagon%29) (brand name Firmagon). This type of drug is given by injection and is only available in some hospitals.

**Surgery to remove the testicles (orchidectomy)**
**Anti-androgens**These are tablets that stop testosterone from reaching the cancer cells. There are several different anti-androgens, including:

* bicalutamide (one brand name is Casodex)
* flutamide
* cyproterone acetate (one brand name is Cyprostat).

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