



# Hormone Therapy

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This chapter contains general information about hormone therapy. If you have any specific questions about your individual medical situation you should consult your doctor or other professional healthcare provider. No website or leaflet can replace a personal conversation with your doctor.

**Contributors:**

Mr. Eamonn T. Rogers, Galway (IE)  
Assoc. Prof. Philip Cornford, Liverpool (UK)  
Mr. John Dowling, Dublin (IE)  
Dr. Pierre Mongiat-Artus, Paris (FR)  
Dr. Markos Karavitakis, Iraklio (GR)

This information has been reviewed by a lay panel.

# Hormone Therapy

## About hormone therapy

### What is hormone therapy?

Prostate cancer is one of the most common cancers among men. But advances in science mean, in most cases, it is a treatable condition. Hormone therapy is an effective treatment for prostate cancer that aims to stop the cancer from growing. The type of hormone therapy you are offered will depend on the **stage** and **grade** of your cancer.

When you start your cancer journey, all the different terms can get very confusing. We know it can be frustrating when a type of cancer or treatment has several different names too!

Hormone therapy is also often referred to as:

- Androgen suppression therapy
- Androgen deprivation therapy, or ADT
- Chemical castration
- Surgical castration

### How does hormone therapy work?

Hormone therapy works by reducing the level of testosterone in your body, a hormone that is mainly produced in your testicles. It affects your appearance and sexual development, helps your body build muscle and bone mass, and affects your sex drive. While testosterone is an important hormone for most men, if you have prostate cancer, testosterone allows prostate cancer to grow.

Hormone therapy controls how much testosterone there is in your body. Treatments include injections, implants, tablets, or a nasal spray. The aim is to stop the growth of your tumour.

The most common categories of hormone therapy include:

- **LHRH** agonists
- LHRH antagonists
- Anti-androgen
- Abiraterone
- Orchiectomy

In some cases, these treatments may be combined.

### What are the risks and side effects of hormone therapy?

Hormone therapy is a useful and effective treatment for men with prostate cancer, but nearly every treatment has risks and side effects. The main risks and side effects of hormone treatment are caused by how they affect testosterone. Your body will react to hormone therapy in different ways, but the side effects usually go away when treatment stops.



#### Stage

Cancer “stages” are used to explain the size of the tumour and how far the cancer has spread.

#### Grade

Grades give your doctor an idea of how fast the tumour might grow, and cancer might spread. In general, a lower grade indicates slower-growing cancer, and a higher grade indicates a faster-growing one.

#### LHRH

Luteinising hormone-releasing hormone (LHRH).

The most common risks and side effects include:

- Hot flushes
- Fatigue
- Breast tenderness
- Lower sex drive
- Erectile dysfunction
- Osteoporosis
- Diabetes
- Cardiovascular problems
  - Clinical studies have shown that some types of hormone therapy are linked to an increased risk of serious cardiovascular problems. This means that if you already have cardiovascular disease, hormone therapy may increase your risk of having a heart attack, stroke, or other serious complication. Both you and your doctor should be aware of this increased risk. You can find out more information about the risk of cardiovascular disease and hormone therapy [here](#).

Different treatments cause different side effects, and these can vary from person to person. When you are prescribed hormone therapy, your treatment will contain a leaflet that provides detailed information about the drug, its use, and the known side effects. It is important to read these leaflets carefully before starting using any new treatment, so you are aware of what to expect and when to contact your doctor for more advice.

### **How long will I need to have hormone therapy?**

Typically, you will need to visit your doctor every 3 months after starting hormone therapy to see how the treatment is working.

Some men need continuous hormone therapy; others take the treatment for a while and then stop and take a break, called intermittent therapy. Your doctor will discuss with you whether you need hormone therapy for life or intermittently. This largely depends on how well your cancer is controlled and how your PSA level behaves over time.

Intermittent hormone therapy can potentially limit the side effects of treatment while still maintaining good overall cancer control. However, intermittent hormone treatment requires regular monitoring of your PSA levels. Your doctor will agree a PSA level with you that, once reached, means you will need to start hormone therapy again. The periods off treatment may also get briefer as the years go by.

### **What happens if hormone therapy stops working?**

With time, prostate cancer cells can become resistant to hormone therapy, and the cancer may start to grow again. Should this happen to you, your doctor will discuss your treatment options with you.

## **Different types of hormone therapy**

### **How does hormone therapy work?**

Hormone therapy works by reducing the level of testosterone in your body, a hormone that is mainly produced in your testicles. It affects your appearance and sexual development, helps your body build muscle and bone mass, and affects your sex drive. While testosterone is an important hormone for most men, if you have prostate cancer, testosterone allows prostate cancer to grow. So the aim of treatment is to stop the growth of your tumour.

The most common categories of treatment include LHRH agonists, LHRH antagonists, anti-androgens, abiraterone, and orchidectomy. The type of treatment you are offered will depend on the **stage** and **grade** of your cancer. Your doctor will discuss your treatment plan in detail with you, but you may find the following table gives you a helpful overview.

Hormone therapy	Type	Method	Effect
<b>LHRH Agonists</b>	Medicinal	Injection, implant, or nasal spray	Stops the testicles from producing testosterone while the treatment is being taken,
<b>LHRH Antagonists</b>		Injection	
<b>Anti-androgens</b>		Tablets	
<b>Abiraterone</b>		Tablets	
<b>Orchidectomy</b>	Surgical	Surgery	Permanently stops the testicles from producing testosterone - cannot be reversed

**LHRH** agonists are usually given as injections or implants. They work by blocking messages from the brain that tell your testicles to make testosterone.

Common LHRH agonists are shown below. All drugs have a generic name and a name given by the pharmaceutical company that produces them. This is called a trade name.

Generic name	Trade name(s)
Buserelin	Suprefact®
Goserelin	Zoladex®, Reseligo®
Leuprorelin or Leuprolide	Eligard®, Staladex®, Enanton®, Prostag®, Lucrin®, Lutrate®
Triptorelin	Decapeptyl SR®, Salvacyl®, Diphereline®, Gonapeptyl®

Your doctor will discuss which LHRH agonists treatment is recommended for you.

It is common for the body to produce a testosterone surge when you first start LHRH agonist treatment. This is called a “flare”. Flares can make your symptoms worse to begin with, and they may cause the tumour to grow quickly for a short time. Because of this, you will also be given tablets to take, known as anti-androgens. These tablets stop testosterone from reaching the cancer cells, so they cannot grow.

### LHRH antagonists

LHRH antagonists work in a slightly different way to LHRH agonists. They prevent the testicles from making testosterone but do not cause flares as LHRH agonists do, so you will not need to take anti-androgen tablets.

Degarelix (Firmagon®) is the LHRH antagonist treatment available in Europe. It is given as a monthly injection under the skin.



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#### LHRH

Luteinising hormone-releasing hormone (LHRH).

## Anti-androgens

Anti-androgens are a group of drugs that stop testosterone from entering the cancer cells, preventing the cells from growing. They are usually given alongside other hormone treatments or **radiotherapy**. But you may be offered anti-androgen treatment on its own to see if it will shrink your tumour.

If you are prescribed anti-androgen tablets, you will also need to have regular blood tests. This is to check your levels of blood cells and how well your liver and kidneys are working.

Your doctor will discuss which anti-androgen drug best manages your stage of prostate cancer. You may want to know the names of the different anti-androgen drugs that may be available to you.

Generic name	Trade name(s)
Bicalutamide	Casodex <sup>®</sup> , Bicalutamid <sup>®</sup>
Flutamide	Flutasin <sup>®</sup> , Flutamid <sup>®</sup>
Nilutamide	Anandron <sup>®</sup>
Cyproterone	Cyprostat <sup>®</sup>
Apalutamide	Erleada <sup>®</sup> , Erlyand <sup>®</sup>
Darolutamide	Nubeqa <sup>®</sup>
Enzalutamide	Xtandi <sup>®</sup>

## Abiraterone

Abiraterone (Zytiga<sup>®</sup>, Yonsa<sup>®</sup>) is another type of hormone therapy. It is usually offered to men with **advanced prostate cancer** whose cancer does not respond to other treatments, but you may be offered abiraterone if your doctor believes it may be beneficial to you. It is taken as tablets rather than injections.

Like other hormone treatments, it works by stopping the body from producing testosterone, but differently from other treatments. Abiraterone treatment is not a cure, but it can help keep the cancer under control and help with some of your symptoms.

If you choose to take abiraterone, you will also have to take steroid tablets. Taking steroids in combination with abiraterone will lower your risk of having side effects of the treatment.

## Orchidectomy

Some men may be offered an operation, called an orchidectomy, to help control their prostate cancer. An orchidectomy is a form of hormone therapy that involves having surgery to remove both testicles. It is usually done using a local anaesthetic, so you will not feel anything during the surgery, but you will be awake.

Having an orchidectomy to manage prostate cancer is not usually recommended ahead of hormonal therapy, but it is recommended in patients who cannot take hormonal therapy or those who are experiencing severe side effects of their treatment. Once done, an orchidectomy cannot be reversed.

Although the surgery is considered minor, we understand having your testicles removed is a major decision! You may find it helpful to talk to other men who have had an orchidectomy and understand the journey ahead.



### Radiotherapy

Radiotherapy uses high energy x-ray beams (radiation) to destroy cancer cells.

### Advanced prostate cancer

Cancer that has spread from the prostate to other parts of the body through the bloodstream.



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**European Association of Urology**

PO Box 30016

NL-6803 AA ARNHEM

The Netherlands

e-Mail: [info.patientinformation@uroweb.org](mailto:info.patientinformation@uroweb.org)

Website: [patients.uroweb.org](http://patients.uroweb.org)