

Hormone therapy

How does hormone therapy work?

Hormone therapy works by either stopping your brain from telling your body to make testosterone, or stopping testosterone from reaching the cancer cells.

Prostate cancer cells usually need the hormone testosterone to grow. Testosterone controls how the prostate grows and develops. It also controls other male characteristics, such as erections, muscle strength, and the growth of the penis and testicles. Most of the testosterone in your body is made by the testicles. A small amount also comes from the adrenal glands, which sit above your kidneys.


Testosterone doesn't usually cause problems but, if you have prostate cancer, it can make the cancer cells grow faster. If testosterone is taken away, the cancer will usually shrink, even if it has spread to other parts of your body.

Hormone therapy on its own won't cure your prostate cancer. If you have hormone therapy on its own, the treatment will aim to control your cancer and delay or manage any symptoms. Hormone therapy can also be used with other treatments, such as radiotherapy, to make them more effective.

[Read about all treatments for prostate cancer.](#)

Watch our video about hormone therapy to find out more:

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Chapter 17. Hormone therapy

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What types of hormone therapy are there?

- What are the advantages and disadvantages of hormone therapy?
- What does treatment involve?

- Questions to ask your doctor or nurse
- More information
- About us

This fact sheet is for men who are thinking about having hormone therapy to treat their prostate cancer. Your partner or family members might also find it helpful.

We describe the different types of hormone therapy, how they are used and the possible side effects.

Each hospital or GP surgery will do things slightly differently. Use this fact sheet as a general guide to what to expect and ask your doctor or nurse for more details about your treatment and the support available to you. You can also speak to our Specialist Nurses

Read more about dealing with the side effects of hormone therapy in our booklet, *Living with hormone therapy: A guide for men with prostate cancer*.

How does hormone therapy treat prostate cancer?

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

Testosterone controls how the prostate gland grows and develops. It also controls male characteristics such as erections, muscle

Hormone therapy

This fact sheet is for men who are thinking about having hormone therapy, or are already receiving hormone therapy, to treat their prostate cancer.

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Who can have hormone therapy?

Hormone therapy is an option for many men with prostate cancer, but it's used in different ways depending on whether your cancer has spread.

Localised prostate cancer

If your cancer hasn't spread outside the prostate ([localised prostate cancer](#)), you might have hormone therapy alongside your main treatment. Hormone therapy can help shrink the prostate and any cancer inside it, and make the treatment more effective. You might have hormone therapy:

- for six months before, during or after [external beam radiotherapy](#)
- for up to three years after [external beam radiotherapy](#) if there is a risk of your cancer spreading outside the prostate
- for a few months before starting [permanent seed brachytherapy](#), and before and after high dose rate [brachytherapy](#)
- for two to three months before [high intensity focused ultrasound \(HIFU\)](#).

Hormone therapy is not usually given to men having [surgery \(radical prostatectomy\)](#) for [localised prostate cancer](#).

Locally advanced prostate cancer

If your cancer has spread to the area just outside the prostate (**locally advanced prostate cancer**), you will be offered hormone therapy before, during and after radiotherapy. Hormone therapy can help shrink the prostate and any cancer that has spread, and make the treatment more effective.

You may be offered hormone therapy for up to six months before radiotherapy. And you may continue to have hormone therapy during and after your radiotherapy, for up to three years.

Some men might have hormone therapy on its own if radiotherapy isn't suitable for them.

Advanced prostate cancer

Hormone therapy will be a life-long treatment for many men with prostate cancer that has spread to other parts of the body (**advanced prostate cancer**).

Hormone therapy shrinks the cancer and slows down its growth, even if it has spread to other parts of the body. It can't cure the cancer, but it can keep it under control, sometimes for several years. It can also help manage the symptoms of advanced cancer, such as bone pain.

How long it will control the cancer for varies from man to man. It may depend on how aggressive your cancer is and how far it has spread when you start treatment. It's difficult for doctors to predict exactly how long it will keep your cancer under control. Speak to your doctor about your own situation.

Prostate cancer that has come back

If your cancer has **come back** after treatment, hormone therapy will be one of the treatments available for you.

What types of hormone therapy are there?

There are three main ways to have hormone therapy for prostate cancer. These are:

- injections or implants to stop your testicles making testosterone
- tablets to block the effects of testosterone
- surgery to remove the testicles or the parts of the testicles that make testosterone. This is called an orchidectomy.

The type you have will depend on whether your cancer has spread, any other treatments you're having, and your own personal choice. You may have more than one type of hormone therapy at the same time.

Injections or implants

These work by stopping your brain from telling your body to make testosterone. Injections or implants are as good at controlling prostate cancer as surgery to remove the testicles.

Injections and implants are both given using a needle. Injections are given in a similar way to having a vaccine, where a small amount of liquid is injected under the skin or into the muscle. If you have injections, you will have them in your arm, abdomen (stomach area), thigh or bottom (buttock), depending on which type you're having. Ask your doctor or nurse whether you will have injections or implants. Implants are given using a larger needle to place a tiny tube under the skin of your arm, which slowly releases the drug.

You will have the injections or implants at your GP surgery or local hospital – once a month, once every three months, once every six months, or once a year. How often you have them will depend on the type of hormone therapy.

LHRH agonists

LHRH agonists (luteinizing hormone releasing hormone agonists) are the most common type of injection or implant. There are several different LHRH agonists, including:

- goserelin (Zoladex® or Novgos®)
- leuprorelin acetate (Prostap® or Lutrate®)
- triptorelin (Decapeptyl® or Gonapeptyl Depot®)
- buserelin acetate (Suprefact®).

LHRH agonists cause the body to produce more testosterone for a short time after the first injection. This temporary surge in testosterone could cause the cancer to grow more quickly for a short time, which might make any symptoms you have worse – this is known as a flare.

If you're having an LHRH agonist, you'll be given a short course of anti-androgen tablets to stop any problems caused by this surge of testosterone. You'll usually start taking the anti-androgen tablets before having your first injection or implant and continue taking them for a few weeks.

GnRH antagonists

GnRH antagonists (gonadotrophin releasing hormone antagonists) are used less often than LHRH agonists. You may also hear these called GnRH blockers. At the moment, there is only one type of GnRH antagonist available in the UK, called degarelix (Firmagon®). This isn't available in every hospital. Degarelix can be used as a first treatment for advanced prostate cancer that has spread to the bones. It may help to prevent metastatic spinal cord compression (MSCC) which can happen if cancer cells grow in or near the spine and press on the spinal cord.

When you first start this treatment, you will have two injections on the same day – one on each side of your abdomen (stomach area). You will then have a single injection once a month, or switch to an LHRH agonist.

Unlike LHRH agonists, degarelix doesn't cause a temporary surge in testosterone with the first treatment so you won't need to take anti-androgen tablets. Instead your testosterone levels will start to drop straight away and symptoms, such as bone pain, should start to improve quickly

Tablets to block the effects of testosterone (anti-androgens)

You may be offered tablets to block testosterone from getting to the cancer cells. These tablets are called anti-androgens. They can be used:

- on their own
- before having injections or implants
- together with injections or implants
- after surgery to remove the testicles.

Ask your doctor how long you will need to take anti-androgens for, and whether you're having them with another treatment or on their own.

Anti-androgens taken on their own are less likely to cause sexual problems and bone thinning than other types of hormone therapy. But they may be more likely to cause breast pain and swelling.

If your cancer has spread to other parts of your body (advanced prostate cancer), anti-androgens will be less effective at controlling the cancer than other types of hormone therapy. So if you have advanced prostate cancer, your doctor will usually recommend an LHRH agonist instead.

There are several different anti-androgens, including:

- bicalutamide (for example Casodex®)
- flutamide (for example Drogenil®)
- cyproterone acetate (for example Cyprostat®).

Surgery (orchidectomy)

You may be offered an operation to remove the testicles, or the parts of the testicles that make testosterone. This is called an orchidectomy. It's not used as often as other types of hormone therapy.

Surgery is very effective at reducing testosterone levels, which should drop to their lowest level very quickly – usually in less than 12 hours. It also means that you won't need to have regular injections, and there's no risk that you'll miss an injection.

Surgery can't be reversed, so it's usually only offered to men who need long-term hormone therapy. If you're thinking about having surgery, your doctor may suggest trying injections or implants for a while first to see how you deal with the side effects of low testosterone.

Short-term side effects include swelling and bruising of the scrotum (the skin containing the testicles).

Some men find the thought of having an orchidectomy upsetting, and worry about how they'll feel once their testicles are removed. Speak to your doctor about any concerns you might have. If you don't want an orchidectomy, you can usually have a different type of hormone therapy instead.

What are the advantages and disadvantages of hormone therapy?

What may be an advantage for one person might not be for someone else. So speak to your doctor or nurse about your own situation.

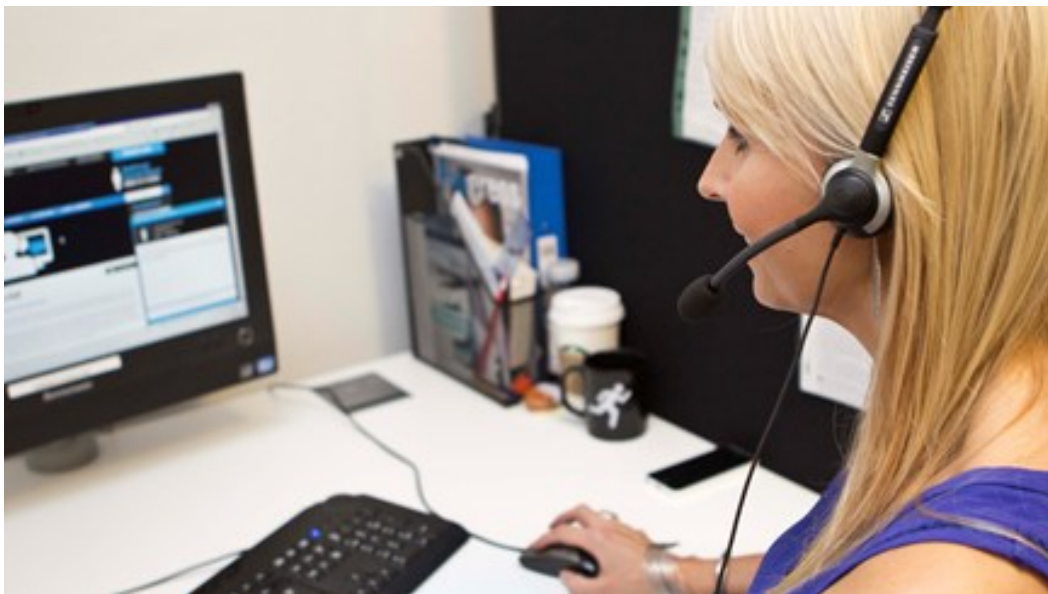
Advantages

- It can control your cancer, even if it has spread to other parts of your body.

- It can be used alongside other treatments to make them more effective.
- It can help to reduce some of the symptoms of advanced prostate cancer, such as urinary symptoms and bone pain.

Disadvantages

- It can cause side effects that might have a big impact on your daily life.
- Used by itself, hormone therapy can't cure your cancer, but it can keep it under control, sometimes for several years.



Our Specialist Nurses

Ask all the questions you need answers to, or just talk. Our nurses have time for you.

[Find out more](#)

What are the side effects?

Like all treatments, hormone therapy can cause side effects. These are usually caused by low testosterone levels. You may not get all of the

possible side effects. Hormone therapy affects men in different ways. Some men only get a few side effects or don't get any at all. This doesn't mean that the treatment isn't working.

Discuss the possible side effects with your doctor or nurse before you start or change your hormone therapy, or call our Specialist Nurses. If you know what side effects you might get, it can be easier to manage them.

If you have any concerns about your side effects or if you get any new symptoms, such as bone pain, speak to your doctor or nurse, or call our Specialist Nurses.

Side effects include:

- hot flushes
- changes to your sex life including loss of libido and erection problems
- Extreme tiredness (fatigue)
- weight gain
- strength and muscle loss
- breast swelling and tenderness
- loss of body hair
- bone thinning
- risk of diabetes, heart disease and stroke
- changes to your mood
- skin problems.

There are treatments and support to help manage side effects. Some men find that they get better or become easier to deal with over time.

[Read more about how hormone therapy can affect you.](#)

How long will side effects last?

Some men find their side effects improve or get easier to manage the longer they're on hormone therapy. But if side effects don't improve, there are usually ways to manage them.

Side effects will usually last for as long as you're on hormone therapy. If you stop using it, the side effects should improve as your testosterone levels start to rise again. This may take several months or years – your side effects won't stop as soon as you finish your treatment. For some men, the side effects may never go away completely.

The risk of getting each side effect depends on your type of hormone therapy and how long you take it for. If you have hormone therapy alongside another treatment, you may get side effects from that treatment as well.

Surgery to remove the testicles (orchidectomy) can't be reversed, so the side effects will be long-lasting. But there are treatments to help manage them.



Living with hormone therapy: A guide for men with prostate cancer

This booklet is for men who are having hormone therapy for prostate cancer, their partners and families. It describes the different types of hormone therapy, how they work and what the treatment involves. It includes information on the possible side effects men may experience and suggests ways to help manage these.

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Fatigue

Fatigue is a feeling of extreme tiredness that doesn't go away, even after you rest. It's very common in men with prostate cancer. Read about the things you can do to help manage your fatigue and give you more energy.

[Find out more](#)

How will I know if my treatment is working?

You will have regular prostate specific antigen (PSA) blood tests to check how well your treatment is working. If your PSA level falls, this usually suggests your treatment is working. How quickly your PSA level falls, and how low, will vary from man to man. [Find out more about follow-up after prostate cancer treatment.](#)

A continuous rise in your PSA level may be the first sign that your cancer is no longer responding so well to your hormone therapy. If this happens, your doctor will talk to you about other possible treatment options. You may be offered other types of hormone therapy, a combination of different hormone therapy drugs, or a different type of treatment. [Read more about treatment options after your first hormone therapy.](#)



Get support

We provide a range of information and support so you can choose the services that work for you.

[Find out more](#)

What happens next?

If you have hormone therapy alongside another treatment, speak to your doctor or nurse about how long you will have it for. You will have regular appointments after your finish treatment to check how well it's working.

[Read more about follow-up after your treatment finishes.](#)

If you have advanced prostate cancer, hormone therapy is likely to be a life-long treatment.

Intermittent hormone therapy

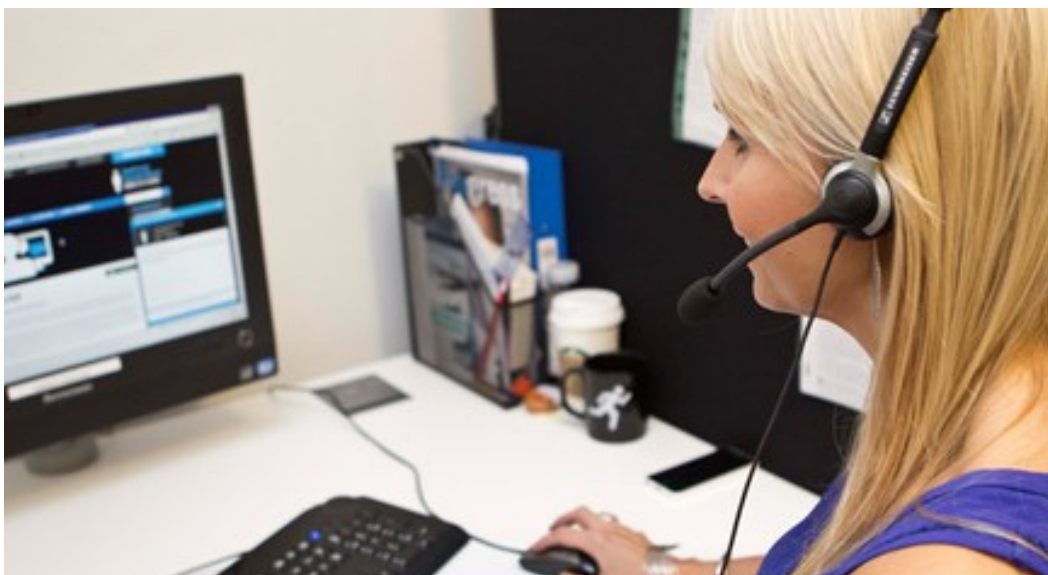
If you are on life-long hormone therapy and having problems with side effects, you might be able to have intermittent hormone therapy. This involves stopping treatment when your PSA level is low and stable, and

starting treatment again if your symptoms get worse or your PSA rises to around 10 or higher.

Some of the side effects, such as hot flashes and sexual problems, may improve while you're not having treatment. But it can take several months for the side effects to wear off and some men never notice any improvement. [Read more about hormone therapy side effects and what can help.](#)

Questions to ask your doctor or nurse

- What is the aim of treatment?
- What type of hormone therapy are you recommending for me and why?
- How will my treatment be monitored?
- How long will it be before we know if the hormone therapy is working?
- What are the possible side effects?
- How long might the side effects last?
- What will happen if I decide to stop my treatment?
- Are there any clinical trials that I could take part in?





Our Specialist Nurses

Ask all the questions you need answers to, or just talk. Our nurses have time for you.

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References

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