

# Hormone Therapy for Prostate Cancer

Hormone therapy is a form of treatment used to control prostate cancer. It stops cancer cells from getting the male hormone (testosterone) that they need to grow.

A prostate cancer diagnosis can cause fear or panic. You may want to start treatment right away. However, most prostate cancer grows very slowly, so there's usually no need to rush. Give yourself time to learn about your treatment options. The treatment you choose will depend on your doctor's opinion and your feelings about possible side effects. Talk to your doctor if you have questions about hormone therapy.

## How hormone therapy works

Testosterone is the primary male hormone. It helps develop and maintain typical male characteristics such as muscle mass, erectile function and sexual desire.

A normal testosterone level is necessary and does not cause problems. However, when cancer cells are in the prostate, testosterone can make them grow faster. In other words, testosterone feeds prostate cancer. If testosterone is stopped, the cancer cells will shrink, no matter where they are in the body.

Hormone therapy does not cure cancer. It helps stop the body from producing testosterone or stop it from getting into the cancer cells. It must be used with other treatments like surgery or radiation. However, hormone therapy can temporarily slow the growth of prostate cancer and shrink existing tumours, reducing symptoms and prolonging life.

## Questions to ask your doctor

- Why is hormone therapy right for me?
- What type of hormone therapy is right for me?
- What are the side effects?
- If I have surgery, how long will I need to stay in the hospital?

- When will treatment start?
- How do I know if the hormone therapy is working?
- How long will this take?
- If the cancer starts to grow again, what other treatments are available?

## When is hormone therapy an option to treat prostate cancer?

Generally, treatment options depend on the stage of the cancer.

**Localized prostate cancer** has not spread outside of the prostate gland and may be treated with surgery or radiation. In certain situations, your doctor may recommend hormone therapy.

- Three months before radiation treatment, hormone therapy may be used to shrink the tumour and make it easier to treat.
- Hormone therapy can be used at the same time as radiation treatment. If there is a chance the cancer may spread, hormone therapy can continue for a few months.
- If another treatment is not working, hormone therapy can be used alone.



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**Locally advanced prostate cancer** has spread beyond the gland but not to other parts of the body. Hormone therapy is the standard treatment for this stage of cancer because it treats cancer cells throughout the body. Locally advanced prostate cancer cannot be treated with radical prostatectomy because the cancer is not contained within the prostate gland.

**Advanced prostate cancer** has spread to other parts of the body. Hormone therapy cannot cure the cancer but may be used to keep it under control for some time.

Ask your doctor if you need more information about the stage of your prostate cancer.

## Types of hormone therapy

**Orchiectomy** is the surgical removal of the testicles. The testicles produce 95% of the body's testosterone. Surgery can remove the source of 90% of the body's testosterone production. As a result, it stops the testosterone from feeding cancer cells and may prevent further growth of the tumour. Orchiectomy is fairly simple and effective. It is done under a local or general anaesthetic, and you should be sent home the same day.

**Luteinizing hormone-releasing hormone (LHRH)** is a drug that stops the brain from directing the testicles to produce testosterone. LHRH is administered by injection.

Before the first injection you may be given anti-androgen tablets. They prevent the body's normal response to the first injection of LHRH, which is to produce more testosterone. This rise in testosterone, known as a 'flare', can cause the cancer to grow more quickly. The tablets are taken a week or so before the LHRH injections, continuing for a week or two afterwards. It is important to take the tablets as prescribed.

**Anti-androgens** block the ability of prostate cancer cells to use testosterone. This drug is given in pill form and may be used alone or with orchiectomy or LHRH.

**Estrogen** is a female sex hormone that can be used in a man-made form to control the release of testosterone in men with prostate cancer. It works in two ways:

- It stops the brain from telling the testicles to release testosterone.
- It acts directly on cancer cells, slowing their growth and killing some cancer cells.



# Hormone Therapy for Prostate Cancer

## Pros and cons of hormone therapy

Hormone Therapy	Pros	Cons
<b>Orchiectomy</b>	<ul style="list-style-type: none"> <li>Controls prostate cancer as effectively as LHRH</li> <li>Less likely to cause breast swelling than anti-androgens/estrogens</li> <li>Provides permanent solution (not reversible), for those who desire it</li> </ul>	<ul style="list-style-type: none"> <li>Not reversible, so side effects are permanent</li> <li>Side effects include erectile dysfunction and hot flashes</li> <li>Requires surgery and local or general anaesthetic</li> </ul>
<b>LHRH agonists</b>	<ul style="list-style-type: none"> <li>Controls prostate cancer as effectively as orchiectomy</li> <li>Less likely to cause breast swelling than anti-androgens/estrogens</li> <li>Side effects may be lessened by switching to a different drug, or reversed by stopping treatment</li> </ul>	<ul style="list-style-type: none"> <li>When treatment starts, may cause a testosterone 'flare'</li> <li>Side effects include erectile dysfunction and hot flashes</li> <li>Visits to GP or hospital needed every 1 to 3 months</li> </ul>
<b>Anti-androgens</b>	<ul style="list-style-type: none"> <li>Side effects may be improved by switching to a different drug, or reversed by stopping treatment</li> <li>Since testosterone is still being produced, it may be possible to maintain erections</li> <li>Less likely to cause osteoporosis than LHRH</li> </ul>	<ul style="list-style-type: none"> <li>Must be taken daily</li> <li>Can cause breast swelling and erectile dysfunction</li> <li>Less effective than LHRH in treating cancer that has spread elsewhere in body</li> </ul>
<b>Estrogens</b>	<ul style="list-style-type: none"> <li>If other hormone drugs are no longer effective, it is suitable for treating advanced prostate cancer</li> <li>Side effects may be improved by stopping treatment</li> <li>Less likely to cause osteoporosis and hot flashes than LHRH</li> </ul>	<ul style="list-style-type: none"> <li>Must be taken daily</li> <li>Not suitable for men with heart/circulation problems, due to increased risk of blood clots in lungs and legs</li> <li>Causes erectile dysfunction and breast swelling or tenderness</li> </ul>



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## Side effects

All prostate cancer treatment, including hormone therapy, carries a risk of side effects. Hormone therapy can result in erectile dysfunction, hot flashes, breast swelling, bone thinning and loss of sex drive. You may reverse the side effects of hormone therapy if you stop treatment.

Testosterone levels will rise again and cause the side effects to subside over a few months. An orchiectomy is not reversible but there are drugs available that can help reduce its side effects.

There is no way to know which side effects you will experience or how significant they will be. Ask your doctor if you have questions about the most common side effects associated with hormone therapy.

## Loss of sex drive and erectile dysfunction

Hormone therapy is likely to cause a decrease in sex drive.

LHRH, estrogens and orchiectomy can cause erectile dysfunction. If you stop LHRH or estrogen treatment, your ability to maintain an erection may return in a few months. However, this depends on the length and type of your hormone treatment. Anti-androgens are less likely to cause erectile dysfunction. However, there are other side effects associated with this treatment, such as breast swelling.

Hormone therapy may affect your sexual relationships. It may be difficult to cope with the physical changes it causes. Ask your doctor if you have concerns about sexuality and hormone therapy.

## Hot flashes

Most men taking hormone therapy experience hot flashes, or feelings of sudden warmth in the upper body. Hot flashes can last from a few seconds to an hour of heavy sweating. They may happen suddenly, without warning, or be caused by stress, a hot drink, or a change in air temperature.

You can reduce the effects of hot flashes by cutting back on smoking, alcohol and caffeine.

## Bone thinning

LHRH and orchiectomy can cause thinning of the bones, or osteoporosis. Testosterone helps keep bones strong, and when hormone therapy reduces the amount of testosterone in the body, bones gradually lose their bulk.

You can reduce the risk of osteoporosis by getting enough vitamin D and calcium in your diet. Increase your intake of calcium by eating more spinach, beans, greens and fish with soft bones (canned salmon or sardines). Get extra vitamin D from fatty fish and exposure to sunlight. Ask your doctor how to supplement your diet.

## Tiredness

Hormone therapy can cause tiredness and memory problems. Regular exercise may give you more energy and help you cope with treatment.

## Breast swelling and tenderness

Anti-androgens and estrogens can cause swelling and tenderness in the breast area. This can range from mild sensitivity to ongoing pain in one or both breasts. Ask your doctor how to reduce these symptoms.

## Weight gain and muscle loss

You may gain weight during treatment. Try to maintain a healthy weight with exercise and a healthy diet, and ask your doctor about seeing a dietician.

## Mood Changes

It is normal to feel stress while coping with a cancer diagnosis, treatment and side effects. You may experience mood changes, and feel depressed. If you are having difficulty, get help. Ask your doctor about support groups or other sources of information that may help you through this difficult period.

