

Hormone Therapy and Prostate Cancer



This factsheet will help you to understand more about hormone therapy for prostate cancer. It describes the types of hormone therapy and why and how hormone therapy is used. It also explains about side-effects of hormone therapy and gives advice on how to manage them. For more information call the **National Cancer Helpline** on **1800 200 700** or visit **www.cancer.ie**.

What is hormone therapy?

Hormones are substances that are found naturally in your body. Testosterone is a hormone that is mainly made by your testicles, but some of it is also made in your adrenal glands, which are found just above your kidneys. Testosterone controls the growth and development of the reproductive organs and is responsible for your sex drive, or libido.

The prostate gland is part of the male reproductive system. When prostate cancer develops, testosterone helps the prostate cancer cells to grow. Without testosterone, prostate cancer cells can shrink, wherever they are in your body.

Hormone therapy stops testosterone from being released or prevents it acting on the prostate cancer cells, depending on which type is used. Hormone therapy is also called androgen deprivation therapy (ADT).

Why is hormone therapy given?

Hormone therapy might be given to you for prostate cancer, depending on the stage of your cancer. On its own hormone therapy will not cure prostate cancer but can control and shrink it. Hormone therapy works on prostate cancer cells wherever they are in the body. Some men have hormone therapy for a short time, together with another treatment, such as radiotherapy. Others might have hormone treatment on its own as a long-term treatment to control prostate cancer.

On its own hormone therapy will not cure prostate cancer but it can control and shrink it.

National Cancer Helpline **1800 200 700**

Early prostate cancer and hormone therapy

Cancer that is found within the prostate gland only is called localised or early prostate cancer. If you have localised or early prostate cancer, you might be given hormone therapy as part of planned radiotherapy treatment of the disease, using radiotherapy to cure it. This is called neo adjuvant hormone therapy. Neo adjuvant hormone therapy might be given to you before radiotherapy or brachytherapy (putting radioactive seeds directly into the prostate gland to kill cancer cells) to reduce the size of your prostate. This is so that the radiotherapy can then be aimed at a smaller area.

Some men will have hormone therapy before their treatment and for a time afterwards. You could be given hormone therapy for 6 months, a number of years or occasionally throughout your life.

Your doctor will use information about the stage of your cancer and the risk of it spreading when deciding for how long you need to take hormone treatment.

Hormone therapy may be used if you are not suitable for either surgery or radiotherapy due to your age or poor general health, and active surveillance (monitoring the growth of the cancer to see if treatment becomes necessary) is not appropriate.

You can get a free copy of our booklet Understanding Early Prostate Cancer from the National Cancer Helpline on 1800 200 700 or www.cancer.ie/publications.

Locally advanced prostate cancer and hormone therapy

Cancer that has spread beyond the edge of your prostate to nearby tissues is known as locally advanced prostate cancer. If you are diagnosed with locally advanced prostate cancer, you may be given hormone therapy to reduce the risk of the cancer spreading further. Some men have radiotherapy as well as hormone therapy. This will depend on the stage and grade of your cancer, your age and general health. Your doctor will talk to you about your treatment options.

Advanced or metastatic prostate cancer and hormone therapy

Once cancer has spread to the lymph nodes and to distant tissues, such as your bones, it is called metastatic or advanced cancer. Hormone therapy is the standard first treatment for prostate cancer that has spread outside of the prostate gland.

Hormone therapy treats prostate cancer wherever it is in your body. So if your prostate cancer has spread to your bones, hormone therapy will help to shrink the cancer there as well as in your prostate. It cannot cure the cancer, but it can keep it under control. It helps to shrink the cancer, to slow down its growth and can help to relieve symptoms that you might have.

You can get a free copy of our booklet Understanding Prostate Cancer beyond the Prostate Gland from the National Cancer Helpline on 1800 200 700 or at www.cancer.ie/publications.

How is hormone therapy used?

Hormone therapy can be given as an injection, or as tablets known as anti-androgens. You can be given injections on their own or along with tablets or, less often, tablets on their own. When injections and tablets are given together, the therapy is known as combination therapy, or complete or maximum androgen blockade. Combination therapy prevents testosterone made by the testicles and adrenal glands stimulating prostate cells.

Many men will be given a combination of tablets and injections when they first start taking hormone therapy. Your doctor might tell you to start taking the anti-androgen tablets about a week before you have your first injection and to continue taking them for a week or two afterwards. The reason you might be asked to have both tablets and injections at the start is to prevent something called 'flare'.

Flare is the body's normal response to the first injection where testosterone levels rise before they fall. This rise in testosterone could cause your cancer to grow more quickly for a short time, but taking the anti-androgen tablets prevents this from happening.

What are the types of hormone therapy?

There are various ways of either stopping the production of testosterone or blocking the effects of testosterone.

These include:

- LHRH agonist injections/implant
- GnRH antagonist injections
- Anti-androgen tablets
- Bilateral orchidectomy (an operation to remove both testicles)

Hormone therapy injections are slow release and you might need to get one once every month, every 3 months or every 6 months. The injections are usually given by your GP. If you are given an implant, you will get a new one once every year, usually by a specially trained GP.

For information on side-effects from hormone therapy treatments, see the section on side-effects.

What are LHRH agonists?

LHRH stands for luteinising-hormone releasing hormone. These drugs 'switch off' testosterone being made in your testicles by reducing the levels of another hormone.

You can receive a LHRH agonist injection every month or every 3 months, or every 6 months. The injection can be given by your GP or by a practice nurse.

One type of a LHRH agonist injection is available as a small implant that releases the drug into your body every day over a period of 12 months. The implant is a small cylinder and it is placed under the skin of your upper arm, using a local anaesthetic. After 12 months the implant is removed and a new one is put in.

The LHRH agonists commonly used to treat prostate cancer include:

Injections:

- Goserelin (Zoladex®)
- Leuprorelin (Prostap®)
- Triptorelin (Decapeptyl®)
- Leuprolide (Eligard®)

Implants:

- Histrelin (Vantas®)

What are GnRH antagonists?

GnRH stands for gonadotrophin-releasing hormone. These drugs 'switch off' testosterone being made in your testicles by blocking the action of another hormone. At the moment there is only one kind of GnRH blocker available. This is called degarelix (Firmagon®) and it is given by injection.

Degarelix does not cause 'flare' so you do not need to take anti-androgen tablets before your first injection.

What is anti-androgen therapy?

Anti-androgen tablets prevent testosterone stimulating the cancer cells. Anti-androgen tablets can be used on their own, or together with other types of hormone therapy. On their own anti-androgens are not as effective as injection treatment alone. When used in combination with injections they can help to block the small amount of testosterone produced by your adrenal glands.

Examples of anti-androgen therapy include:

- Flutamide (Drogenil®)
- Bicalutamide (Casodex®)
- Cyproterone (Androcur®)

Anti-androgen therapy is given as tablets and is less likely than some other treatments to reduce sexual desire. Some men may get breast tenderness and/or enlargement (gynaecomastia). This can be prevented by a small dose of radiotherapy to the breast tissue before starting treatment.

Surgical hormone therapy

A bilateral orchidectomy is the surgical removal of your testicles. Nearly all testosterone is made in your testicles, so removing them will block the release of testosterone straight away. Sometimes just the area of testicle that makes testosterone is removed through a small cut in your scrotum. This is called a subcapsular orchidectomy. Surgery is used much less commonly today than in the past, since the development of new, non-surgical treatments.

What are the side-effects of hormone therapy?

Hormone therapy might cause some side-effects. These side-effects happen because the hormone balance in your body will change. The effects are similar whether you have surgery, injections or tablets. Not everyone experiences all of the side-effects and not everyone experiences side-effects in the same way.

Some of the side-effects include changes in sexual function, hot flushes, changes to breast tissue, weight gain, muscle loss and changes in mood or poor concentration.

Hot flushes and sweating

Hot flushes and sweating happen because the lack of testosterone affects the part of your brain that regulates heat. Hot flushes can be a troublesome side-effect, and over half of men who receive hormone therapy experience them. These hot flushes are similar to flushes that some women experience during the menopause. Hot flushes can occur without warning, or they might be triggered by a hot drink, spicy food or a change in the temperature around you. A mild flush might only last for a few minutes, while a severe flush could make you feel very hot and sweaty and you might need to change your clothes or bedding. Some men are not very bothered by flushes, but others find them disruptive and difficult to cope with. If you are troubled by hot flushes affecting your everyday life, do speak to your doctor or nurse.

What can I do to relieve hot flushes?

There are a few things that you can do to help manage your flushes. These include making changes to your lifestyle or medication. There is no clear evidence that supplements like evening primrose oil or herbal remedies like sage and black

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Managing your hot flushes

Hints & tips

- Cut down on alcohol and drinks with caffeine, such as coffee, tea and cola.
- Some men choose cotton clothing rather than synthetic fabric as it absorbs moisture better; others may find newer fabrics such as those with wicking technology help to keep them more comfortable. These can be bought online and come in t-shirts and sleepwear.
- Wear layers of clothes or bedclothes to allow you to remove clothing as needed. Sheets which wick away moisture may help if excessive sweating at night is a problem. These can be bought online.
- Note when the hot flushes occur to see if there is a pattern or if certain things like spicy food trigger them off.
- Use moist wipes, sprays or an electric fan to help you to feel cooler.
- Avoid smoking.
- Cut down on spicy foods.
- Drink plenty of cool fluids and stay a healthy weight for your height.
- Try relaxation therapy to see if it helps to reduce the hot flush.

cohoosh will improve your hot flush symptoms. However, some men have found herbal remedies helpful and there is no evidence that they are harmful for men with prostate cancer. Your doctor might suggest that you try these before you start taking medication, as they might give you some relief. It is important to first check with your doctor before you start taking any supplements. There is no one proven treatment for hot flushes in men, but the following may help:

- Low-dose progesterone such as Provera® or Megace®
- The anti-androgen cyproterone

- Blood-pressure tablets (clonidine)
- Low-dose antidepressants (venlafaxine or sertraline)
- Gabapentin

Some small studies have found that acupuncture may help to reduce your hot flushes, but more research is needed to prove this.

For more information on complementary therapies see our booklet, *Understanding Cancer and Complementary Therapies*, at www.cancer.ie/publications or call the National Cancer Helpline.

Fatigue

Hormone therapy can cause fatigue or extreme tiredness for some men. As with other side-effects, some men may not feel tiredness at all, while others might feel very tired every day. Such tiredness can affect your energy levels, mood, concentration and motivation. If you are troubled by tiredness, talk to your doctor so that he or she can rule out any other causes of fatigue. Many men find that taking regular exercise helps to manage tiredness, improves energy levels and helps them to cope better. For more information, a free booklet called *Coping with Fatigue* is available from the National Cancer Helpline on 1800 200 700 or www.cancer.ie/publications.

Osteoporosis or bone-thinning

Oestrogen and testosterone are needed for healthy bones. Hormone therapy affects how bones are normally formed and can lead to osteoporosis or weakened bones. This means that bones can be less dense and become brittle, and may be more prone to fractures.

- Weight-bearing exercise like walking will help keep your bones strong. Aim to take 30 minutes to an hour of exercise two or three times every week.
- Make sure you have enough vitamin D and calcium in your diet. You can get vitamin D from oily fish, fortified milk and exposure to sunlight. Calcium-rich foods include sardines, salmon, broccoli, fortified breakfast cereals and tofu. It is always better to try to get your vitamins and minerals from the food that you eat. If you are taking calcium supplements, you

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will also need to take vitamin D to help you absorb calcium.

- Avoid smoking and drinking too much alcohol. Smoking and excessive alcohol can increase your risk of developing osteoporosis, which might make the problem worse.

If you are worried about osteoporosis, talk to your doctor or nurse about how to reduce your risk of further bone loss and about having a bone-density scan. This is particularly important if you have a history of fractures (broken bones), or osteoporosis, or a family history of osteoporosis, as these increase your risk of having bone damage.

Weight gain and muscle loss

Hormone therapy may affect your weight, particularly around your waist. You might also lose some of your muscle tone and strength when you have hormone therapy. Taking regular exercise will help you to stay a healthy weight for your height and it is also good for your heart.

Resistance exercise will improve your muscle tone and will help to prevent loss of muscle. It involves working or training with weights: free weights (dumbbells), weights on a gym machine, or your own body weight. Swimming might also help to reduce muscle loss.

A healthy diet can help you to stay a healthy weight. To eat a healthy diet you may need to:

- Eat fewer fatty foods
- Limit your intake of red meat
- Eat more fruit and vegetables
- Eat fewer sugary foods, such as biscuits and cakes
- Limit your intake of alcohol

If you are concerned about weight gain, talk to your GP or cancer care team, who can refer you to a dietician for advice about your diet.

Sexual function

Hormone therapy has a big impact on sexual function. It can affect your desire or interest in sex, known as your libido, and your ability to get an erection. Some men find that having less testosterone makes them feel less manly, less confident or less strong than they were before.

- **Loss of sexual desire (libido)**

The loss of sexual desire may affect your relationship with your partner. It is a very common side-effect of hormone therapy. It is best to discuss your concerns and worries with your partner and to get advice from your doctor, nurse or a professional psychosexual counsellor. If you are taking hormone therapy for a fixed time only, your libido will return some months after you stop the therapy. Some people who need lifelong hormone therapy are able to take 'breaks' from the treatment. This is known as intermittent hormone therapy. If the loss of sexual desire is a problem for you, do talk to your doctor to see if intermittent therapy is suitable for you or not.

- **Difficulties with erections**

Erectile dysfunction (ED) is when you are unable to get an erection firm enough for sexual intercourse to take place. It is a very common side-effect of treatment with hormone therapy. Medications, injections and vacuum devices that may help are available. Your doctor will advise you about which treatment is best for you. If you are concerned about ED please contact the National Cancer Helpline on 1800 200 700 for a free copy of our factsheet called Sex, Erectile Dysfunction and Prostate Cancer, or visit www.cancer.ie.

- **Reduction in size of testicles and penis**

Men who take hormone therapy long term often notice that their testicles become smaller over time. Some men report that their penis length shortens if they take long-term hormone therapy. For some men the increase in body fat around the tummy area can make the penis appear shorter.

Hormone therapy and changes to cardiovascular health

You might gain weight and have increased body fat when taking hormone therapy. Due to tiredness and fatigue, you may have less energy as well.

There is some evidence that taking long-term hormone therapy can increase your risk of other conditions, such as cardiovascular disease and diabetes.

If you have diabetes or cardiovascular disease, talk to your doctor about how these conditions can be managed once you start hormone therapy. If you do not have these conditions, it is best to discuss with your doctor if your risk is high or not. Your doctor should keep a check on your blood pressure and cholesterol levels.

Eating a healthy diet and taking exercise will also help to lower your risk of these conditions.

Please talk to your doctor for advice on this or call the National Cancer Helpline on 1800 200 700 for advice on a healthy lifestyle.

Changes to breast tissue

Tenderness or swelling in the breast (also known as gynaecomastia) can occur if you are given hormone therapy. It occurs more commonly with anti-androgen therapy. It can vary from mild tenderness, with or without mild swelling, to a more noticeable amount of tissue growth around the breast area.

What can be done about breast swelling?

- Medications like tamoxifen, which is an anti-oestrogen drug, can help to prevent and to treat breast swelling for some men, although it is linked to an increased risk of hot flushes.
- Your doctor might suggest that you take one or two doses of low-dose radiotherapy to improve the breast discomfort. This must be given before or within one month of starting treatment as it cannot reduce breast swelling once it has occurred.
- Surgery may be done to remove some of the breast tissue and help to give you a better appearance.

It often helps to talk to someone who has taken hormone therapy, such as the volunteers in Men Against Cancer (MAC).

Changes in mood or poor concentration

Testosterone affects how your mind works. When there is less testosterone in your body you might get mood changes, poor concentration or memory problems, anxiety and sometimes depression.

- It often helps to talk to someone who has taken hormone therapy, such as the volunteers in Men Against Cancer (MAC) who have gone through a similar experience. You can get in touch with MAC by calling the National Cancer Helpline on 1800 200 700.
- Some therapies, like relaxation therapy, meditation or yoga, might help you to cope with these frustrating symptoms. These are often made available through cancer support centres. Contact the National Cancer Helpline on 1800 200 700 for more information about your nearest cancer support centre.
- Discuss your concerns with your doctor or nurse who might refer you to a professional counsellor.

Intermittent hormone therapy

Intermittent hormone therapy involves stopping your hormone therapy for a period of time when your PSA (prostate specific antigen) is low and starting treatment again when your PSA starts to rise. This continues on a cycle of stopping and starting for as long as your PSA continues to respond. Your doctor will advise you when to stop and start treatment. The advantage of intermittent hormone therapy is that you may be able to avoid side-effects whilst you are not taking the treatment. The disadvantage is that it can take some months for the side-effects to wear off. More research is needed to find out if intermittent hormone therapy works as well as continuous hormone therapy. Not all men will be suitable for this treatment. You can discuss intermittent hormone therapy with your doctor to find out if it is suitable for you.

Follow-up

Your GP or specialist will watch your PSA levels and also keep an eye on any symptoms or side-effects you have. It is important to let them know of any changes.

Everyone's response to treatment is different and hormone therapy can control prostate cancer in some men for a number of years. Sometimes prostate cancer no longer responds to the hormone therapy described in this leaflet. At this stage, your doctor might give you a second type of hormone therapy or consider other treatment options such as chemotherapy. He or she might seek more advice or send you to see an oncologist (a cancer specialist) for their opinion. For more information on treatment for prostate cancer after first line hormone therapy see our free booklet Understanding Prostate Cancer Beyond the Prostate Gland.

For more information on prostate cancer and hormone therapy, or for factsheets and booklets on treatment and side effects call the National Cancer Helpline on 1800 200 700 or visit www.cancer.ie.

Need to know more?

Useful organisations and websites

Irish Cancer Society

www.cancer.ie/cancer-information/prostate-cancer

Men Against Cancer (MAC)

A support group for men diagnosed with prostate cancer. For information call:

National Cancer Helpline: 1800 200 700

Email: helpline@irishcancer.ie

Website: www.cancer.ie

Movember Foundation

www.movember.com

Prostate Cancer Foundation

www.pcf.org

The Prostate Cancer Charity

www.prostate-cancer.org.uk

American Cancer Society

www.cancer.org

Irish Nutrition & Dietetic Institute

www.indi.ie

Irish Osteoporosis Society

www.irishosteoporosis.ie



For more information on hormone therapy and prostate cancer, or for confidential advice from our cancer nurse specialists, call the **National Cancer Helpline** on **Freefone**

1800 200 700

(Monday–Thursday, 9am–7pm,
Friday 9am–5pm) or email
helpline@irishcancer.ie.



MEMBER

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