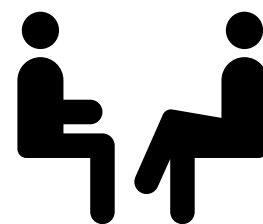


Second-line hormone therapy and further treatment options



In this fact sheet:

- How does hormone therapy work?
- Why is my hormone therapy not working so well?
- How will I know if my hormone therapy is not working so well?
- What treatments are available?
- Who will be involved in my treatment?
- How will I know how well my treatment is working?
- Where can I get support?
- Questions to ask your doctor or nurse
- More information
- About us

What do we mean by second-line hormone therapy?

If you are on hormone therapy and your PSA starts to rise, this may mean that your hormone therapy is no longer working as well as it was. You may be offered another type of hormone therapy, which is sometimes called second-line hormone therapy.

This fact sheet is for men who would like to know more about possible treatments for prostate cancer that is no longer responding so well to their hormone therapy.

We describe treatments that may help and list other sources of support. Partners and families of men with prostate cancer may also find this information useful. Each hospital 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 treatment and help that may be available to you.

How does hormone therapy work?

Hormone therapy for prostate cancer works by stopping the hormone testosterone from reaching the prostate cancer cells. Prostate cancer cells usually need testosterone in order to grow. Hormone therapy works by either stopping your brain from telling your body to make testosterone or by stopping testosterone from reaching the cancer cells. If testosterone is reduced or blocked from reaching the cancer cells, it usually shrinks the cancer, wherever it is in the body. For example, if the prostate cancer has spread to your bones, the hormone therapy will help control it.

If you have prostate cancer, the first type of hormone therapy you will usually be offered aims to reduce the amount of testosterone in your body. The treatments that do this are listed below.

- Injections or an implant of a type of drug called a luteinizing hormone-releasing hormone agonist (LHRH agonist).
- Injections of a type of drug called a gonadotrophin-releasing hormone antagonist (GnRH antagonist).
- Surgery called an orchidectomy, to remove either both testicles, or just the parts of the testicles that make testosterone.



Some men may also be offered a type of hormone therapy drug that blocks testosterone from getting to the cancer cells. This is called an anti-androgen.

Read more about these different types of hormone therapy in our Tool Kit fact sheet,

 **Hormone therapy.**

Why is my hormone therapy not working so well?

The first hormone therapy you have may keep your cancer under control for several months or years. However, over time, the behaviour of your cancer cells may change and your cancer may start to grow again. Your treatment is still reducing the amount of testosterone in your body but the cancer changes so that it is able to grow again.

Although the prostate cancer is no longer responding as well to one type of hormone therapy, it may still respond to other types of hormone therapy or a combination of other treatments.

Health professionals describe prostate cancer that is no longer responding as well to hormone therapy in different ways. You may hear the terms **hormone refractory**, **hormone resistant**, **androgen independent** or **castrate resistant** prostate cancer. If you are not sure what stage your cancer is or what treatments may be suitable for you, speak to your doctor or nurse, or speak to our Specialist Nurses by calling our confidential helpline.



How will I know if my hormone therapy is not working so well?

A continuous rise in your prostate specific antigen (PSA) level may be the first sign that your cancer is no longer responding as well to your hormone therapy.

While you are having hormone therapy you will have regular PSA tests to check how well the treatment is working. If your PSA has risen, then you may have more PSA tests to confirm that the hormone therapy has stopped controlling your cancer. Your doctor or nurse will also ask you about any symptoms you may have developed, such as problems urinating or bone pain.

If your hormone therapy is no longer controlling your cancer as well then your doctor will discuss other possible treatment options. If your PSA level is only rising very slowly and you do not have any symptoms, you may not need to start a new treatment straight away.

What treatments are available?

If the first type of hormone therapy you had is no longer controlling your cancer as well, there are still other treatment options available. The aim of treatments is to control your cancer and delay or manage any symptoms that you might have, such as pain and urinary problems.

When discussing possible treatments you and your doctor will consider:

- what stage your cancer is
- if you have any symptoms
- for how long your cancer responded to your first hormone therapy
- your health and any other illnesses you have, as these may affect the treatments you can have, and
- how well you are generally and how well you are coping in your daily life.

Your own preferences will also be very important. For example, thinking about how the treatment will fit in with your daily life and considering the possible side effects of treatment.

You will normally continue the first type of hormone therapy, but your doctor may also discuss new treatment options with you, including:

- other types of hormone therapy (sometimes called 'second-line' hormone therapy)
- chemotherapy
- clinical trials, or
- treatments to manage any symptoms.

More hormone therapy

If you are having treatment with LHRH agonists or GnRH antagonists, you will normally keep having these even if your PSA has started to rise. These drugs may still help, as it could still be important to keep the amount of testosterone in your body low.

You may start taking another type of hormone therapy, called an anti-androgen, alongside your injections, to see whether your cancer responds to this different type of hormone treatment. Some health professionals call this combined or maximum androgen blockade.

If you are already having both injections and anti-androgen tablets and your PSA is rising, your doctor may suggest that you stop the anti-androgen treatment for a little while to see if your PSA level falls. You may hear this called a 'withdrawal response.' The effect of this varies and about 20 to 30 out of 100 men (20 to 30 per cent) may find that this lowers their PSA level for a few months. Some men may find that their PSA level stays lower for longer.

You can read more about having hormone therapy, including the side effects and how to manage them in our booklet **Living with hormone therapy: A guide for men with prostate cancer**.



Steroids

Steroids can help to stop other parts of the body producing as much testosterone. A small amount of testosterone is produced by the adrenal glands. These are two glands which sit above your kidneys. Some cancer cells may also start to produce their own testosterone.

Steroids you may take include:

- dexamethasone
- prednisolone or prednisone
- hydrocortisone.

Steroids may also help improve your appetite and energy levels, and can treat pain. You might also have steroids in combination with other treatments, including chemotherapy and abiraterone (see page 4).

Like all medicines, steroids can cause some side effects. These will depend on the dose you are taking and the length of time you are on them. Steroids are given in a low dose to treat prostate cancer, so most men do not get many side effects. Some of the possible side effects are listed below.

- Steroids can cause indigestion and irritation of the stomach lining. You should take them after a meal, and you may be prescribed medication to reduce the irritation.
- Some men have an increased appetite. Speak to your doctor or nurse if you would like help maintaining a healthy weight.
- You may have more energy and a more active mind. This can make you feel irritable, anxious or have trouble sleeping. Speak to your doctor or nurse if this is a problem. Taking the tablets early in the day can help with problems sleeping.
- You may get water retention, which may cause swollen hands and feet. This is usually only a problem if you are taking steroids for a long time.
- The risk of getting infections may be slightly higher. Tell your GP if you have any signs of infection, such as a high temperature.
- Your skin may bruise more easily. This should not cause any problems, but you could mention it to your doctor or nurse.
- Steroids can cause raised blood sugar levels. You may have your blood and urine sugar level checked, and should tell your doctor if you pass urine more often or get very thirsty.

You will be given a steroid treatment card, which explains that you are taking steroids. You should carry this with you at all times. You should show it to anyone treating you (such as a doctor, nurse or dentist) as it is important that they know you are taking steroids.

Oestrogens

Diethylstilbestrol (Stilboestrol[®]) is a tablet that is similar to the hormone oestrogen. Oestrogen is a hormone found in both men and women, but women usually produce more.

Diethylstilbestrol can be used to treat prostate cancer that is no longer responding to other types of hormone therapy.

Diethylstilbestrol can cause similar side effects to other types of hormone therapy, such as breast swelling and tenderness. A low dose of radiotherapy to the breast area can prevent this.



You can read more about this and other side effects in our booklet, **Living with hormone therapy: A guide for men with prostate cancer.**

Diethylstilbestrol can also increase your risk of circulation problems, such as blood clots. You will usually take drugs such as aspirin or warfarin to reduce the risk of blood clots. You may not be able to take diethylstilbestrol if you have a history of high blood pressure, heart disease or strokes. Your doctor or nurse will discuss this with you and can explain the risks and benefits.

Ketoconazole

Ketoconazole is a type of anti-fungal treatment that may also help treat prostate cancer by reducing testosterone production from the adrenal glands and cancer cells. It is not used very often, but you may have it if you are not fit enough for treatments such as chemotherapy.

If you are taking ketoconazole you may have it at the same time as other treatments such as steroids. Ketoconazole may help lower PSA levels in about three out of ten men (30 per cent), but this varies.

Your doctor or nurse will need to monitor how well your liver is working because ketoconazole can cause liver problems. If there are any problems then you can stop taking the drug and your liver will return to normal. Ketoconazole can also cause a dry mouth and make some people feel very tired.

Chemotherapy

Chemotherapy uses anti-cancer (cytotoxic) drugs to kill cancer cells wherever they are in the body.

In the UK, docetaxel (Taxotere[®]) is the standard chemotherapy treatment for men with advanced prostate cancer that is no longer responding to hormone therapy.

If you have already had treatment with docetaxel and your cancer has started to grow again, you may be able to take a newer chemotherapy drug called cabazitaxel (Jevtana[®]). Cabazitaxel is licensed in the UK but is not widely available on the NHS. If your doctor thinks it is suitable for you, they may still be able to get it for you. You can read more about this on our website **prostatecanceruk.org**

Docetaxel and cabazitaxel may help some men to live longer. They can also help to improve symptoms such as pain.

You may take a steroid such as prednisolone with chemotherapy. This can help make the chemotherapy more effective and lower the risk of side effects.

Chemotherapy may not be suitable for everyone as the side effects are sometimes difficult to cope with. Your doctor will first check your general health to make sure you are fit enough for chemotherapy. People react in different ways to chemotherapy. Some men may get a lot of side effects while others will only have a few.

You can read more about chemotherapy, including how it is given and the side effects, in our Tool Kit fact sheet, **Chemotherapy.**



Abiraterone

Abiraterone (Zytiga[®]) is a new type of hormone therapy for men with advanced prostate cancer that has stopped responding to other hormone therapy. It is suitable for men who have already had docetaxel chemotherapy and whose cancer has started to grow again. Abiraterone may help some men to live longer. It can also help control symptoms.

Abiraterone is taken as a tablet and works by stopping the production of testosterone. You will also take a steroid called prednisone to reduce the risk of side effects. Side effects of abiraterone include fluid retention, high blood pressure, liver problems and a lower than normal level of potassium in the blood. This could make you feel tired and you may be at a risk of a fast irregular heartbeat. You should contact your doctor if you experience this. You will have your blood pressure checked regularly, and have blood tests to check how well your liver is working.

Abiraterone is also effective in men who have stopped responding to other types of hormone therapy but have not yet had chemotherapy. However it is not widely available in the UK for these men. If your doctor thinks it is suitable for you, they may be able to apply for you to get it.

Clinical trials and new treatments

Clinical trials are a type of medical research study that aims to find new improved ways of preventing, diagnosing and treating illnesses. There are a number of clinical trials currently looking into new treatments for prostate cancer that is no longer responding as well to hormone therapy. There are also trials to find out whether existing treatments work better in new combinations or doses. Clinical trials can be a way of having newer treatments that are not yet available on the NHS.

If you would like to find out about taking part in a prostate cancer clinical trial ask your doctor or specialist nurse. You can read more in our Tool Kit fact sheet, **A guide to prostate cancer clinical trials**. You can also find out about different types of clinical trials on the CancerHelp UK clinical trials database (see page 11 for contact details).



Clinical trials gave us hope and my dad felt that he was doing some good too.

A personal experience

Enzalutamide

Enzalutamide is a new type of hormone therapy for men whose prostate cancer has stopped responding to other hormone therapy and chemotherapy treatments.

Enzalutamide is taken as a tablet and works by stopping the hormone testosterone from reaching the prostate cancer cells. In a recent clinical trial, men who received enzalutamide lived for about four months longer than those who were given a placebo. A placebo is a dummy treatment, for example, a sugar pill.

Enzalutamide is not widely available on the NHS. However, if your doctor thinks it is suitable for you, they may be able to apply for you to get it. For more information speak to your doctor or nurse, or call our Specialist Nurses on our confidential helpline.



Other treatments

If you have prostate cancer that has spread to the bones or other parts of the body you may develop symptoms such as bone pain or urinary problems. There are treatments to help manage any symptoms. Sometimes these are called palliative treatments because they aim to reduce symptoms.

These types of treatments include:

- pain-relieving drugs such as paracetamol or ibuprofen, or stronger drugs such as codeine or morphine
- radiotherapy to shrink the cancer and reduce symptoms
- drugs called bisphosphonates to treat bone problems such as pain.

There is also a new drug to treat bone problems called denosumab (Xgeva®), which is similar to bisphosphonates. However, this is not widely available in the UK. If your doctor thinks it is suitable for you, they may be able to apply for it for you. Speak to your doctor or nurse for more information.



For more information about treatments to treat the symptoms of advanced (metastatic) prostate cancer read our Tool Kit fact sheets:

- **Pain and advanced prostate cancer**
- **Radiotherapy for advanced prostate cancer**
- **Bisphosphonates**

Who will be involved in my treatment?

If your prostate cancer is no longer responding to your first hormone treatment, you may see different health professionals and this will depend on the treatment you are having. For example, an oncologist may look after you rather than a urologist. Oncologists specialise in treating cancer with treatments other than surgery, such as radiotherapy and chemotherapy. Urologists are surgeons who treat diseases of the urinary system.

If you have chemotherapy you may start seeing a specialist chemotherapy nurse. You may also be offered a referral to community services. These include a district nurse and palliative care nurses who are able to give advice about ways to control symptoms and help at home.

You might also have appointments and check-ups more often than before. This depends on what treatments you are having and if you have any symptoms.

How will I know how well my treatment is working?

During and after your treatment your doctor or nurse will monitor your progress.

One aim of your treatment will be to help manage any symptoms from your cancer and ensure that your daily life is as good as possible. Treatment to control your cancer may help to control these symptoms. However, treatments can also cause side effects. Let your doctor or nurse know how you are feeling and about any symptoms. If you have symptoms in between your check-ups tell your doctor or nurse as soon as possible.

You may have regular PSA tests, and other tests such as scans if your doctor thinks this is necessary. Your PSA levels alone are not always enough to know if your treatment is working. Your doctor can use these results along with information about how you are feeling to monitor how well the treatment is working.

If you are feeling better this could be a sign that the treatment is working. So let your doctor or nurse know about this at your check-up as well.

If the treatment is not controlling the cancer then you and your doctor can discuss what treatment to try next.

Where can I get support?

All men are different but if your hormone therapy is no longer controlling your cancer so well you may feel disappointed, angry or worried about the future.

There are different ways to tackle this. Talking to someone or getting support can be useful. Your partner and family may also need support in emotional and practical ways. This information may also be helpful for them.

Friends and family

Some men get all the back-up they need from their family and friends. Get things off your chest by talking to a partner, friend or family. Explaining how you feel can help those close to you understand and give you support if you want it.



Throughout my journey my partner has been my biggest supporter and long may this continue.

A personal experience

Your doctor or nurse

Talk to your specialist nurse, doctor or other health professionals involved in your care. They should be able to answer any questions or concerns you might have, as well as providing support.



You and those close to you can also speak to one of our Specialist Nurses by calling our helpline. This can give you a better understanding of your treatment options and the emotional effects of cancer.



Ask your doctor or specialist nurse anything, including anything that may seem small. This can save confusion and concerns later.

A personal experience

Counselling

Some people find it easier to talk to someone they do not know. Counsellors are trained to listen and can help you to find your own answers. Your GP may be able to refer you to a counsellor or you can see a private counsellor. There are different types of counselling available. To find out more contact the British Association for Counselling and Psychotherapy (see page 11).

Talking to someone affected by prostate cancer

Talking to someone with similar experiences often helps. Our support volunteers are all men and women personally affected by prostate cancer, either as a man with prostate cancer or a family member. They are trained to listen and offer support over the telephone. Call our Specialist Nurses to arrange to speak to a volunteer.



If you have access to the internet, you and your family can join our online community on our website. You can share your experiences with other men and their families. There are also prostate cancer support groups across the country, where you and your family can meet other people affected by prostate cancer. You can find details on our website or ask your nurse.

If you have advanced prostate cancer you might feel tired and find it harder to keep active. Adapt your normal hobbies and activities or find new ways of enjoying yourself. Don't push yourself, and rest if you feel you need to.



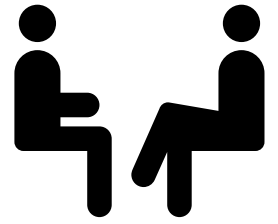
Our booklet, **Living with and after prostate cancer: A guide to physical, emotional and practical issues**, has more information about these issues.



"I'm certainly a lot weaker than I was, although I can still play and enjoy a round of golf."

A personal experience

Questions to ask your doctor or nurse



You may find it helpful to keep a note of any questions you have to take to your next appointment.

If my hormone therapy is not working as well as before, what other treatments are available to me?

Will I continue to have my original hormone therapy even if it has stopped working as well?

What are the possible side effects of my new treatments?

Will I see any new health professionals?

Are there any clinical trials I could take part in?

What treatments are there to manage symptoms (for example pain or tiredness)?

More information

British Association for Counselling and Psychotherapy (BACP)

www.itsgoodtotalk.org.uk

Telephone: 01455 883 300

Provides information about counselling and details of therapists in your area.

CancerHelp UK

<http://cancerhelp.cancerresearchuk.org>

Freephone: 0808 800 4040

(9am-5pm, Mon-Fri)

Part of Cancer Research UK, Cancer Help provides information about all types of cancer and a database of cancer clinical trials.

Macmillan Cancer Support

www.macmillan.org.uk

Free helpline: 0808 808 0000

(9am-8pm, Mon-Fri)

Provides practical, financial and emotional support for people with cancer, their family and friends.

Maggie's Cancer Caring Centres

www.maggiescentres.org

Telephone: 0300 123 1801

Cancer information and support centres throughout the UK where people affected by cancer can drop in to access information and support services.

NHS Choices

www.nhs.uk

Provides information and advice about medical conditions, and information on NHS health services in your area.

UK Prostate Link

www.prostate-link.org.uk

Guide to reliable sources of prostate cancer information.

About us

Prostate Cancer UK fights to help more men survive prostate cancer and enjoy a better life.

This fact sheet is part of the Tool Kit. You can order more Tool Kit fact sheets, including an



A-Z of medical words, which explains some of the words and phrases used in this fact sheet.

All of our publications are available to download and order from the website. You can also order printed copies by calling **0800 074 8383** or emailing literature@prostatecanceruk.org

At Prostate Cancer UK, we take great care to provide up-to-date, unbiased and accurate facts about prostate cancer. We hope these will add to the medical advice you have had and help you to make decisions. Our services are not intended to replace advice from your doctor.

References to sources of information used in the production of this fact sheet are available at prostatecanceruk.org

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- Prostate Cancer UK's Specialist Nurses



**Speak to our
Specialist Nurses**

0800 074 8383*

prostatecanceruk.org

Donate today – help others like you

Did you find this information useful? Would you like to help others in your situation access the facts they need? Every year, 40,000 men face a prostate cancer diagnosis. To help us continue providing free information, you could make a donation of any amount. Please call us on **020 8222 7666**, visit **prostatecanceruk.org/donations** or text **PROSTATE** to **70004****

There are many other ways to support us. For more details please visit:
prostatecanceruk.org/get-involved

**You can donate up to £10 via SMS and we will receive 100% of your donation. Texts are charged at your standard rate. For full terms and conditions and more information, please visit prostatecanceruk.org/terms



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The helpline is open Mon - Fri 10am - 4pm, Wed 7pm - 9pm

*Calls are recorded for training purposes only.

Confidentiality is maintained between callers and Prostate Cancer UK.

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