Treatment options after your first hormone therapy

In this fact sheet:
- How does hormone therapy work?
- Why is my first hormone therapy not working so well?
- How will I know if my first hormone therapy is not working so well?
- What further treatments are available?
- Who will be involved in my treatment?
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This fact sheet is for men with prostate cancer that is no longer responding so well to their first type of hormone therapy. Your partner, family or friends might also find it helpful.

We describe treatments that may help. You may hear these called second-line therapy.

Health professionals describe prostate cancer that is no longer responding so well to hormone therapy in different ways. They may use the terms hormone refractory, hormone resistant, androgen independent, castration resistant, or castrate resistant prostate cancer (CRPC). If you’re not sure what stage your cancer is, speak to your doctor or nurse.

Each hospital will do things slightly differently. Use this fact sheet as a general guide and ask your doctor or nurse for more information. You can also speak to our Specialist Nurses, in confidence, on 0800 074 8383, or chat to them online.

How does hormone therapy work?
Hormone therapy can work in two ways – either by stopping your body from making the hormone testosterone, or by stopping testosterone from reaching the prostate cancer cells. Prostate cancer cells usually need testosterone to grow. So if testosterone is taken away or blocked, the cancer will usually shrink, wherever it is in the body.

Hormone therapy alone won’t cure your prostate cancer. The aim of hormone therapy is to keep the cancer under control and delay or manage any symptoms you might have.
Types of hormone therapy you may have had

There are three main ways to have hormone therapy. Your first treatment is sometimes called ‘first-line’ hormone therapy. It may have included one or more of the following.

- **Injections or implants** to stop your body making testosterone. You might hear this called androgen deprivation therapy (ADT). The most common type is called an LHRH agonist (luteinizing hormone-releasing hormone agonist). LHRH agonists include goserelin (Zoladex® or Novgos®), leuprorelin acetate (Prostap® or Lutrate®), triptorelin (Decapeptyl® or Gonapeptyl Depot®) and buserelin acetate (Suprefact®).

  There is another type of injection, called a GnRH antagonist (gonadotrophin-releasing hormone antagonist). You may hear this called degarelix (Firmagon®). You may have been offered degarelix as a first treatment if your prostate cancer had already spread to the bones when you were diagnosed.

- **Tablets** to block testosterone from getting to the cancer cells. These are called anti-androgens and the most common type is called bicalutamide (Casodex®).

- **Surgery** to remove the testicles or the parts of the testicles that make testosterone. This is called an orchidectomy.

Read more about these in our fact sheet, [Hormone therapy](#).

Although your prostate cancer is no longer responding so well to your first type of hormone therapy, it may respond well to other types of hormone therapy or a combination of treatments.

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

While you’re having hormone therapy you will have regular PSA (prostate specific antigen) tests to check how well the hormone therapy is working. The PSA test is a blood test that measures the amount of PSA in your blood. PSA is a protein produced by normal cells in your prostate, and also by prostate cancer cells.

A continuous rise in your PSA level may be the first sign that the hormone therapy is no longer working so well. If this happens, you might have more PSA tests to confirm this. Your doctor or nurse will also ask you about any symptoms you may have developed, such as urinary problems or bone pain. You may have scans, such as a magnetic resonance imaging (MRI) scan, a computerised tomography (CT) scan or a bone scan. These will give your doctor a better idea of how the cancer is growing and which treatments might help.

Your doctor will talk to you about other possible treatment options if you need them. If your PSA level is only rising very slowly and you don’t have any symptoms, you might not need to start a new treatment straight away. Your medical team will keep an eye on you with regular PSA tests and scans, as well as asking about your symptoms. They will talk to you about how often you should have these check-ups.

### What further treatments are available?

The aim of treatment is to control your cancer and delay or manage any symptoms you might have, such as pain and urinary problems. You will probably continue with your first type of hormone therapy – even though it’s not working so well. This is because it will still help to keep the amount of testosterone in your body low.

**Why is my first hormone therapy not working so well?**

The first hormone therapy you have can keep the cancer under control for several months or years. But over time, the behaviour of your cancer cells may change and your cancer could start to grow again. This can happen even though the hormone therapy is still lowering your testosterone levels.
Further treatment options may include:
- anti-androgens
- abiraterone
- enzalutamide
- chemotherapy
- steroids
- radium-223
- oestrogens
- other treatments to manage symptoms
- clinical trials and new treatments.

We talk more about all of these treatments in the following pages.

Which treatments will I have?
When your cancer stops responding to your first hormone therapy, there is no best treatment or best order to have treatments in. You might have more than one of the treatments we describe here, while some might not be suitable for you.

The treatments you have will depend on lots of things. When talking about possible treatments you and your doctor will consider:
- where your cancer has spread to
- if you have any symptoms
- how long your cancer responded to your first hormone therapy for
- your general health and any other health problems you have
- the possible side effects of each treatment
- what your doctor thinks will work best for you
- your own thoughts and feelings – for example how you feel about the possible side effects and how a treatment will fit in with your daily life.

I found it very useful to discuss the treatment options with my oncologist to understand what was most suitable for me.

A personal experience

Anti-androgens
Anti-androgens, such as bicalutamide (Casodex®), are a type of hormone therapy that stop testosterone from reaching the prostate cancer cells. They may be an option if you’ve already had hormone therapy with injections, implants or surgery (an orchidectomy), which will have lowered the amount of testosterone in your blood.

If you’re having LHRH agonist injections, you will probably start taking anti-androgens alongside them. Some health professionals call this combined androgen blockade or dual androgen blockade. It may be slightly more effective than using an LHRH agonist on its own if your PSA is rising, or if your cancer has spread to other parts of the body (advanced prostate cancer).

If you are already having injections and anti-androgen tablets and your PSA is rising, your doctor may suggest that you stop taking the anti-androgen for a little while to see if your PSA level falls. You may hear this called a ‘withdrawal response’. Some men find that their PSA level falls for a few months, or sometimes longer.

The side effects of anti-androgens can be similar to the side effects of other types of hormone therapy and can include breast swelling and breast tenderness. Read more about hormone therapy, including how to manage the possible side effects, in our booklet, Living with hormone therapy: A guide for men with prostate cancer.

Abiraterone
Abiraterone (Zytiga®) is a new type of hormone therapy for men with advanced prostate cancer that has stopped responding to other types of hormone therapy. It is taken as tablets and works by stopping the production of testosterone. It may help some men to live longer and can help control symptoms.

Abiraterone can be given either before or after chemotherapy, but it isn’t usually given to men who’ve already had enzalutamide (see page 4).
Possible side effects of abiraterone include:
- fluid retention, which can cause swelling in your ankles or hands
- high blood pressure
- liver problems
- heart problems.

Abiraterone can also lower the level of potassium in your blood. This could make you feel tired and could cause a fast, irregular heartbeat. You will have regular blood tests and blood pressure checks, but speak to your doctor if you notice anything unusual.

You will need to take a steroid called prednisolone with abiraterone to lower the risk of side effects.

Read more about abiraterone and who can have it on our website at prostatecanceruk.org/abiraterone

Enzalutamide

Like abiraterone, enzalutamide (Xtandi®) is another new type of hormone therapy for men with advanced prostate cancer that has stopped responding to other types of hormone therapy. It is taken as tablets and works by stopping testosterone from reaching the prostate cancer cells. It may help some men to live longer and can help control symptoms.

Enzalutamide can be given either before or after chemotherapy. But it isn’t usually given to men who’ve already had abiraterone.

Possible side effects of enzalutamide include:
- fatigue (extreme tiredness)
- loose and watery bowel movements (diarrhoea)
- hot flushes
- muscle and bone pain
- headaches
- difficulty concentrating
- high blood pressure
- seizures, particularly if you have epilepsy – but these are rare.

Read more about enzalutamide and who can have it on our website at prostatecanceruk.org/enzalutamide

Abiraterone or enzalutamide?

If you’ve already had enzalutamide, abiraterone probably won’t be an option. And if you’ve already had abiraterone, enzalutamide probably won’t be an option. This is because early research suggests that each drug may only have a small effect in men who have already had the other. However, if you get severe side effects from either abiraterone or enzalutamide, you may be able to try the other one, as long as you’ve used the first drug for less than three months.

Speak to your doctor about which drug, if any, is the best option for you. You can also talk things through with our Specialist Nurses.

Chemotherapy

Chemotherapy uses anti-cancer drugs to kill cancer cells, wherever they are in the body. It can help some men to live longer, and improve and delay symptoms such as pain.

In the UK, docetaxel (Taxotere®) is the most common type of chemotherapy for men with advanced prostate cancer that is no longer responding so well to hormone therapy.

If you’ve already had docetaxel and your cancer has started to grow again, you might be offered a newer chemotherapy drug called cabazitaxel (Jevtana®).

You will be given steroid tablets, such as prednisolone or dexamethasone, to take with chemotherapy. This can help make the chemotherapy more effective and reduce the side effects.

Chemotherapy isn’t suitable for everyone as the side effects can be difficult to deal with. Side effects include an increased risk of infection and feeling more tired than usual. Some men get a lot of side effects, while others only have a few. Your doctor will check your general health to make sure you’re fit enough for chemotherapy.

Read more about chemotherapy in our fact sheet, Chemotherapy.
Steroids
Steroids can stop the adrenal glands producing as much testosterone, so can help to control your cancer. They can also improve your appetite, make you feel more energetic and help with symptoms such as pain. You might have steroids alone or in combination with other treatments, including chemotherapy (see page 4) and abiraterone (see page 3). Common steroids include dexamethasone, prednisolone and hydrocortisone.

Steroids can cause side effects. But because they are given in a low dose to treat prostate cancer most men don’t get many side effects. Before you start taking steroids, talk to your doctor or nurse about the possible side effects. They affect each man differently, and you might not get any of them.

Side effects can include:
- indigestion and irritation of the stomach lining – take steroids after a meal and ask your doctor about medicines that could help
- a bigger appetite – try to eat a healthy diet to keep your weight under control
- having more energy and a more active mind, which could make you feel irritable or anxious or give you trouble sleeping – take steroids before 4pm and tell your doctor or nurse if this is a problem
- water retention, which can cause swollen hands and feet
- a slightly higher risk of getting infections – tell your GP if you have a high temperature or other signs of infection
- bruising more easily
- raised blood sugar levels – tell your doctor if you need to urinate (pee) more often or get very thirsty, as these can be signs of high blood sugar
- weak bones – you might need to take medicines or calcium and vitamin D supplements.

Don’t suddenly stop taking steroids as this can make you ill.

You’ll be given a steroid treatment card that says you’re taking steroids. You should carry this with you at all times and show it to anyone treating you (such as a doctor, nurse or dentist). It’s important that they know you’re taking steroids.

Radium-223
Radium-223 (Xofigo®) is a new treatment for men with prostate cancer that has spread to the bones and has stopped responding to hormone therapy. It is a type of internal radiotherapy called a radioisotope. Radium-223 helps some men to live longer. It can also delay some symptoms, such as bone fractures, and can help to reduce bone pain. It can be given either before or after chemotherapy.

Radium-223 is injected into a vein in your arm. You will normally have an injection every four weeks, for up to six injections. Each injection only takes a few minutes and you will be able to go home straight away after each one.

Radium-223 travels around the body in the blood and is drawn towards the parts of the bones that have been damaged by the cancer. It collects in these parts of the bones and kills the cancer cells, but doesn’t damage many healthy cells. This means that any side effects tend to be mild. If you do get side effects, they could include:
- diarrhoea (loose and watery bowel movements)
- low levels of blood cells, for example platelets – which can cause bruising.

Read more about radium-223 on our website at prostatecanceruk.org/new-treatments

Oestrogens
Oestrogens are a type of hormone therapy that can be used to treat prostate cancer that’s no longer responding to other types of hormone therapy. They aren’t used very often and may not be suitable if you have other health problems. Oestrogen is a hormone that’s naturally found in both men and women, but women usually produce more.

Oestrogens can be given as a tablet called diethylstilbestrol (Stilboestrol®) or through a patch that sticks to your skin like a plaster.
The side effects can be similar to the side effects of other types of hormone therapy. Read more in our booklet, *Living with hormone therapy: A guide for men with prostate cancer*.

**Other treatments to manage symptoms**
If your prostate cancer has spread to the bones or other parts of your body, you may get symptoms such as bone pain or urinary problems. There are treatments to help manage symptoms. These are sometimes called palliative treatments.

These treatments include:
- pain-relieving drugs such as paracetamol, ibuprofen, codeine or morphine
- radiotherapy to slow down the growth of the cancer and reduce symptoms
- drugs called bisphosphonates to treat bone problems such as pain.

**Clinical trials and new treatments**
A clinical trial is a type of medical research that aims to find new and improved ways of preventing, diagnosing, treating and managing illnesses. There are clinical trials looking at new treatments for prostate cancer and there are also clinical trials looking at new ways of using existing treatments, and the best order to have treatments in. If you decide to take part in a clinical trial, you may be able to have a newer treatment that isn’t yet widely available.

To find out about taking part in a clinical trial, ask your doctor or nurse, or speak to our Specialist Nurses. You can also read more in our fact sheet, *A guide to prostate cancer clinical trials*.

**Names of medicines**
Medicines often have two different names – a scientific or generic name and a brand name. For example, we talk about a hormone therapy tablet called bicalutamide (Casodex®). Bicalutamide is the scientific or generic name of the drug. Casodex® is the brand name given to the drug by the company that makes it. Ask your doctor or nurse if you have any questions about your medicines, or speak to our Specialist Nurses.

**Who will be involved in my treatment?**
You may see different health professionals depending on the treatment you have. For example, if you have chemotherapy, you might see an oncologist (a doctor who specialises in treating cancer with treatments other than surgery), a specialist chemotherapy nurse, or a pharmacist, who will check you’re having the right medicines at the right doses.

You may be offered a referral to community services, such as district nurses and palliative care nurses who can help control symptoms. You might also have appointments more often than before to help manage symptoms or to give you your treatment.

Read more about the different health and social care professionals you might see in our booklet, *Advanced prostate cancer: Managing symptoms and getting support*.

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

**Ask your doctor or nurse anything, including things that may seem small. This can save confusion later.**
*A personal experience*
How will I know how well my treatment is working?
During and after your treatment your doctor or nurse will check how well your treatment is working.

You may have regular PSA tests, and other tests such as MRI or CT scans. Your PSA levels alone aren't always enough to know if your treatment is working. So your doctor will use your PSA level and any other test results, along with information about how you’re feeling, to check how well the treatment is working.

If you are feeling better this could be a sign that the treatment is working. If the treatment isn’t controlling the cancer, then you and your doctor can discuss which treatment to try next.

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

There are things you can do to help yourself and people who can help. Families can also find this a difficult time and they may need support too. This section might also be helpful for them.

How can I help myself?
Everyone has their own way of dealing with prostate cancer, but you may find some of the following suggestions helpful.

Look into your treatment options
Find out about the different treatments that are available to you. Bring a list of questions to your doctor or nurse. And ask about any side effects so you know what to expect and how to manage them. This will help you decide what’s right for you.

Talk to someone
Share what you’re thinking – find someone you can talk to. It could be someone close or someone trained to listen, like a counsellor or your doctor or nurse. Your GP, nurse or other people involved in your care should be able to answer any questions or concerns you might have.

Set yourself some goals
Set yourself goals and plan things to look forward to – even if they’re just for the next few weeks or months.

Look after yourself
Take time out to look after yourself. When you feel up to it, learn some techniques to manage stress and to relax – like breathing exercises or listening to music.

Eat a healthy, balanced diet
Eating well is good for your general health. There is some evidence that certain foods may help slow down the growth of prostate cancer. A healthy diet can also help with some side effects of treatment. For more information, read our fact sheet, Diet and physical activity for men with prostate cancer.

I’m certainly a lot weaker than I was, although I can still play and enjoy a round of golf.
A personal experience

Dealing with prostate cancer
Dealing with prostate cancer can change the way you think and feel about life. If your first type of hormone therapy is no longer working so well, you might feel scared, worried, stressed, helpless or even angry. There’s no ‘right’ way to feel and everyone reacts in their own way.
Be as active as you can
Keeping active can improve your physical strength and fitness, and can lift your mood. Some research suggests that physical activity may help slow down the growth of prostate cancer. It can also help you stay a healthy weight, which may help to lower your risk of advanced prostate cancer. Physical activity can also help with some side effects of treatment. Even a small amount of physical activity can help. Take things at your own pace. For more information, read our fact sheet, Diet and physical activity for men with prostate cancer.

Our one-to-one support service
Our one-to-one support service is a chance to speak to someone who’s been there and understands what you’re going through. They can share their experiences and listen to yours. You can discuss whatever’s important to you. Our Specialist Nurses will try to match you with someone with similar experiences.

Our online community
Our free online community is a place to talk about whatever’s on your mind – your questions, your ups and your downs. Anyone can ask a question or share an experience.

Local support groups
At local support groups, men get together to share their experiences of living with prostate cancer. You can ask questions, share worries and know that someone understands what you’re going through. Some groups have been set up by local health professionals, others by men themselves. Many also welcome partners, friends and relatives.

Our fatigue support service
Our fatigue support service is a 10-week telephone service delivered by our Specialist Nurses. It can help if you have problems with extreme tiredness (fatigue), which is a common symptom of prostate cancer. Fatigue can also be a side effect of some treatments for prostate cancer. The fatigue support service can help you make positive changes to your behaviour and lifestyle, which can improve your fatigue over time.

To find out more about any of the above, visit prostatecanceruk.org/get-support or call our Specialist Nurses on 0800 074 8383.

Hospices
You may be able to get support from your local hospice or community palliative care team. Hospices don’t just provide care for people at the end of their life – you may be able to use their services while still living at home, and some hospices provide day therapy. They provide a range of services, including treatment to manage...
pain. They can also offer emotional and spiritual support, practical and financial advice, and support for families. Your GP, doctor or nurse can refer you to a hospice service, and will work closely with these teams to support you.

“I think treatment and side effects affect men psychologically more than we realise. We don’t like to talk about it but everyone’s thinking about it.”

A personal experience

Our publications
If you have advanced prostate cancer, read more about possible symptoms and how to manage them in our publications:

• Advanced prostate cancer: Managing symptoms and getting support
• Fatigue and prostate cancer
• Managing pain in advanced prostate cancer
• Radiotherapy for advanced prostate cancer
• Bisphosphonates for advanced prostate cancer.
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 first hormone therapy has stopped working so well, what other treatments could I have?

Will I continue to have my original hormone therapy alongside my new treatment?

What are the advantages and disadvantages of the different treatments available?

What are the possible side effects of my new treatments? Is there anything that can help?

Are there any clinical trials I could take part in?

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

If I need help or advice in the evenings or on weekends, who should I contact?
More information

British Association for Counselling & Psychotherapy
www.itsgoodtotalk.org.uk
Telephone: 01455 883 300
Information about counselling and details of therapists in your area.

Cancer Research UK
www.cancerresearchuk.org
Telephone: 0808 800 4040
Patient information from Cancer Research UK, including a database of some clinical trials and advice on finding a trial.

healthtalk.org
www.healthtalk.org
Watch, listen to and read personal experiences of men with prostate cancer and other health problems.

Hospice UK
www.hospiceuk.org
Telephone: 020 7520 8200
Information about hospice care, including a database of hospice and palliative care providers.

Macmillan Cancer Support
www.macmillan.org.uk
Telephone: 0808 808 0000
Practical, financial and emotional support for people with cancer, their family and friends.

Maggie’s Centres
www.maggiescentres.org
Telephone: 0300 123 1801
Drop-in centres for cancer information and support, and an online support group.

Marie Curie
www.mariecurie.org.uk
Telephone: 0800 090 2309
Runs hospices throughout the UK and a free nursing service for people in their own home.

About us

Prostate Cancer UK has a simple ambition: to stop men dying from prostate cancer – by driving improvements in prevention, diagnosis, treatment and support.

This fact sheet is part of the Tool Kit. You can order more Tool Kit fact sheets, including an A to Z of medical words, which explains some of the words and phrases used in this fact sheet.

Download and order our fact sheets and booklets from our website at prostatecanceruk.org/publications or call us on 0800 074 8383.

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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• Our Volunteers.

Tell us what you think
If you have any comments about our publications, you can email: literature@prostatecanceruk.org
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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. Thanks to our generous supporters, we offer information free to all who need it. If you would like to help us continue this service, please consider making a donation. Your gift could fund the following services:

- £10 could buy a Tool Kit – a set of fact sheets, tailored to the needs of each man with vital information on diagnosis, treatment and lifestyle.
- £25 could give a man diagnosed with a prostate problem unlimited time to talk over treatment options with one of our Specialist Nurses.

To make a donation of any amount, please call us on 0800 082 1616, visit prostatecanceruk.org/donate 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