Treatment options after your first hormone therapy

In this fact sheet:
- How does hormone therapy work?
- How will I know if my first hormone therapy isn’t working so well?
- Why is my first hormone therapy not working so well?
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- Who will be involved in my treatment?
- How will I know how well my new treatment is working?
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This fact sheet is for anyone with prostate cancer that is no longer responding so well to their first type of hormone therapy. We describe other treatments that may help. You may hear these called second-line therapy. Your partner, family or friends might also find this information helpful.

Health professionals describe prostate cancer that is no longer responding so well to hormone therapy in different ways. They may use terms such as hormone refractory, hormone resistant, 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.

Symbols
These symbols appear in this fact sheet to guide you to more information:
- Speak to our Specialist Nurses
- Read our publications

How does hormone therapy work?
Hormone therapy can work in two ways – either by stopping your body from making testosterone, or by stopping testosterone from reaching the 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 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.
Types of hormone therapy you may have already had

There are three main ways to have hormone therapy. Your first treatment is sometimes called first-line hormone therapy.

You may have had one or more of the following treatments.

- **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®), 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 the effects of testosterone. 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 types of hormone therapy in our fact sheet, Hormone therapy.

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How will I know if my first hormone therapy isn’t working so well?

While you’re having hormone therapy you will have regular PSA (prostate specific antigen) tests to check how well it 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 also have scans, which will give your doctor a better idea of how the cancer is growing and which other 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 and if you need to book the appointments yourself.

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Why is my first hormone therapy not working so well?

The first hormone therapy you have can keep your 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.

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 different treatments.
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 your testosterone level low.

Further treatment options may include:
- anti-androgens
- abiraterone
- enzalutamide
- darolutamide
- apalutamide
- chemotherapy
- steroids
- radium-223
- oestrogens
- olaparib
- clinical trials and new treatments
- other treatments to manage symptoms.

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, including:
- where your cancer has spread to
- if you have any symptoms
- how long your cancer responded to your first hormone therapy
- 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 about the possible side effects and how a treatment would fit in with your daily life.

Anti-androgens

Anti-androgen tablets, such as bicalutamide (Casodex®), are a type of hormone therapy that stop testosterone from reaching the 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-androgen tablets as well. You may hear this called combined androgen blockade, dual androgen blockade or maximal 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. 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 acetate (Zytiga®) is a type of hormone therapy for men with advanced prostate cancer. It’s usually offered to men whose cancer has stopped responding to other types of hormone therapy. It is taken as tablets and works by stopping the body from making testosterone. It helps some men to live longer and can help to treat or delay symptoms.

You may be able to have abiraterone either before or after chemotherapy, but it isn’t usually given to men who’ve already had enzalutamide (see below).

Possible side effects of abiraterone include:
- a build-up of fluid in your body (fluid retention), which can cause swelling in your legs or feet
- a drop in the level of potassium in your blood, which can cause weakness or twitches in your muscles, or a fast, pounding heartbeat – speak to your doctor straight away if you notice these symptoms
- liver problems
- high blood pressure
- urinary tract infection
- diarrhoea.

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

Read more on our website at [prostatecanceruk.org/abiraterone](http://prostatecanceruk.org/abiraterone)

**Enzalutamide**

Enzalutamide (Xtandi®) is another type of hormone therapy for men with advanced prostate cancer. It’s usually offered to men whose cancer has stopped responding to other types of hormone therapy. It is taken as capsules and works by blocking the effect of testosterone on prostate cancer cells. It helps some men to live longer and can help to treat or delay symptoms.

You can have enzalutamide before or after chemotherapy. But it isn’t usually given to men who’ve already had abiraterone (see below).

Possible side effects of enzalutamide include:
- extreme tiredness (fatigue)
- headaches
- hot flushes
- high blood pressure
- feeling nervous
- problems with memory and concentration
- dry or itchy skin
- breast swelling (gynaecomastia)
- an urge to move a part of your body, usually your legs (restless leg syndrome)
- blockage of arteries in the heart (coronary heart disease).

Read more on our website at [prostatecanceruk.org/enzalutamide](http://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 research suggests that each drug may only have a small effect in men who have already had the other. However, if you use abiraterone or enzalutamide and have severe side effects, you may be able to try the other drug.

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.
Darolutamide (Nubeqa®)
Darolutamide is a type of hormone therapy for men whose prostate cancer has stopped responding to other types of hormone therapy, but has not yet spread to other parts of the body.

Darolutamide won’t cure your prostate cancer, but it can help keep it under control. It has also been shown to give some men longer before their cancer spreads to other parts of the body (advanced prostate cancer). This means it can help to delay the symptoms of advanced prostate cancer, and the need for further treatments such as chemotherapy.

The main side effect of darolutamide is fatigue (extreme tiredness). Other less common side effects of darolutamide are similar to the side effects of standard hormone therapy. You can read more about the side effects of hormone therapy in our factsheet, Hormone therapy.

Read more on our website at prostatecanceruk.org/darolutamide

Apalutamide (Erleada®)
Apalutamide tablets may be offered to some men with localised prostate cancer or locally advanced prostate cancer that has stopped responding to other types of hormone therapy, but has not yet spread to other parts of the body (advanced prostate cancer). It has been shown, in some men, to delay the spread of prostate cancer to other parts of the body.

Possible side effects of apalutamide include:
- extreme tiredness (fatigue)
- skin rash
- high blood pressure (hypertension)
- hot flushes
- bone pain
- diarrhoea
- falls and fractures
- loss of appetite and weight loss.

Read more on our website at prostatecanceruk.org/apalutamide

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 is the most common type of chemotherapy for men with advanced prostate cancer.

If you’ve already had docetaxel and your cancer has started to grow again, you might be offered a different type of chemotherapy called cabazitaxel.

If you’re having chemotherapy, you may also be given steroid tablets, such as prednisolone or dexamethasone. 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 in our fact sheet, Chemotherapy.

Steroids
Steroids are sometimes used to treat prostate cancer that is no longer responding to other types of hormone therapy. Steroids can stop the body producing as much testosterone, which 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 above) or abiraterone (see page 4). 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 from steroids, and some men don’t get any.
Before you start taking steroids, talk to your doctor or nurse about the possible side effects. They can include:

- indigestion and irritation of the stomach lining – take steroids after a meal and ask your doctor about other medicines that could help
- a bigger appetite – try to eat a healthy, balanced 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 an infection
- bruising more easily
- raised blood sugar levels – tell your doctor if you need to urinate (wee) more often or get very thirsty, as these can be signs of high blood sugar
- weak bones – you might need to take medicines, or supplements such as calcium and vitamin D.

Don’t suddenly stop taking steroids as this could 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 they know you’re taking steroids.

Radium-223

Radium-223 (Xofigo®) is a treatment for men whose prostate cancer has stopped responding to hormone therapy and is causing bone pain. It helps some men to live longer. It can also help to reduce bone pain and delay some symptoms.

Radium-223 is a type of internal radiotherapy called a radioisotope. A very small amount of radioactive liquid is injected into a vein in your arm. You will normally have an injection every four weeks, for up to six injections.

Radium-223 travels around the body in the blood and is drawn towards bones that have been damaged by the cancer. It collects in these parts of the bones and kills cancer cells there. It doesn’t damage many healthy cells, so it doesn’t usually cause many side effects. Possible side effects include:

- feeling or being sick (nausea or vomiting)
- diarrhoea (loose and watery bowel movements)
- low levels of blood cells, which can cause bruising or bleeding.

In England, Wales and Northern Ireland, you can only have radium-223 if you’ve already had chemotherapy, or if chemotherapy isn’t suitable for you. In Scotland, you can have radium-223 before or after chemotherapy. Read more about radium-223 in our fact sheet, Radiotherapy for advanced prostate cancer.

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 are 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.

Olaparib (Lynparza®)

Olaparib is a type of drug used to treat men who are known to have a BRCA1 or BRCA2 gene change (mutation), and whose prostate cancer has stopped responding to hormone therapy. It’s only suitable for some men with advanced prostate cancer.

Olaparib works by blocking the effect of proteins that repair damaged DNA in prostate cancer cells. Olaparib won’t cure your prostate cancer.
But it has been shown to help some men live longer. Read more about olaparib on our website visit prostatecanceruk.org/olaparib

Clinical trials and new treatments
A clinical trial is a type of medical research. It helps researchers and medical teams find new and improved ways of preventing, diagnosing, treating and managing health problems such as prostate cancer. Clinical trials often test new medicines, medical procedures or medical equipment. There are clinical trials looking at new treatments for prostate cancer and different ways of using existing treatments. If you decide to take part in a clinical trial, you may be able to have a treatment that isn’t 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 on our website at prostatecanceruk.org/clinical-trials

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

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 pain. Or if the cancer inside your prostate is pressing on your urethra (the tube you urinate through), you might get 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 strengthen the bones and help with bone pain
• medicines or surgery to make it easier to urinate.

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) and a chemotherapy nurse. You may see 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. Read more about the different health and social care professionals you might see on our website at prostatecanceruk.org/your-medical-team

How will I know how well my new 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 magnetic resonance imaging (MRI) or computerised tomography (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. Your doctor will talk you through the advantages and disadvantages of each treatment, and whether or not they are suitable for you.

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.
Dealing with prostate cancer

Some men say being diagnosed with prostate cancer changes the way they 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. At times, lots of men with prostate cancer get these thoughts and feelings. But there's no 'right' way to feel and everyone reacts in their own way.

This section suggests some 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 and information too. They may want to read our booklet, When you're close to someone with prostate cancer: A guide for partners and family.

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 you could have. 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. People involved in your care should be able to help with any questions or concerns you might have.

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. If you’re having difficulty sleeping, talk to your doctor or nurse.

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.

Eat a healthy, balanced diet
We don’t know for sure whether any specific foods have an effect on prostate cancer. But eating well can help you stay a healthy weight, which may be important for men with prostate cancer. It’s also good for your general health and can help you feel more in control. Certain changes to your diet may also help with some side effects of treatment. For more information, read our fact sheet, Diet and physical activity for men with prostate cancer.

Be as active as you can
Keeping active can improve your physical strength and fitness, and can lift your mood. We don’t know for sure if physical activity can help slow the growth of prostate cancer. But it can help you stay a healthy weight, which may be important for men with prostate cancer. Physical activity can also help with some side effects of treatment. Even a small amount can help. Take things at your own pace. Read more in our fact sheet, Diet and physical activity for men with prostate cancer.

Get more tips on how to look after yourself from Macmillan Cancer Support, Maggie’s, Penny Brohn UK, or your nearest cancer support centre. You can also find more ideas in our booklet, Living with and after prostate cancer: A guide to physical, emotional and practical issues.

Who else can help?
Your medical team
It may be useful to speak to your nurse, doctor, GP or someone else in your medical team. They can explain your diagnosis, treatment and side effects, listen to your concerns, and put you in touch with other people who can help.

Our Specialist Nurses
Our Specialist Nurses can help with any questions and explain your diagnosis and treatment options. They have time to listen, in confidence, to any concerns you or those close to you have.
Trained counsellors
Counsellors are trained to listen and can help you find your own ways to deal with things. Many hospitals have counsellors or psychologists who specialise in helping people with cancer – ask your doctor or nurse if this is available. You can also refer yourself for counselling on the NHS, or you could see a private counsellor. To find out more, visit www.nhs.uk/counselling or contact the British Association for Counselling & Psychotherapy.

Our one-to-one support service
This 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. We’ll try to match you with someone with similar experiences.

Our online community
Our 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.

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

Our fatigue support
Fatigue is a common symptom of prostate cancer, and a side effect of some treatments. Our Specialist Nurses can talk to you in depth about your experience of fatigue, and the impact it’s having on your day-to-day life. They can also discuss ways to help you better manage your fatigue, such as behaviour and lifestyle changes.

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. They provide a range of services, including pain management, 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.

Spiritual support
You might begin to think more about spiritual beliefs as a result of having prostate cancer. You could get spiritual support from your friends, family, religious leader or faith group.

I think treatment and side effects affect men psychologically more than I had realised.
A personal experience

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

You can order and download publications from our website at prostatecanceruk.org/publications
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, such as 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.bacp.co.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
Information about prostate cancer and clinical trials.

Healthtalk.org
www.healthtalk.org
Watch, listen to or 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
www.maggies.org
Telephone: 0300 123 1801
Drop-in centres for cancer information and support, and online support groups.

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.

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 to produce this fact sheet are available at prostatecanceruk.org

This publication has been reviewed for accuracy and updated by
• Our Health Information team
• Our Specialist Nurses.

Tell us what you think
If you have any comments about our publications, you can email: yourfeedback@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, over 52,000 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