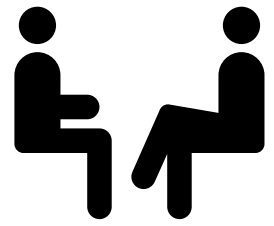


# Bisphosphonates for advanced prostate cancer



## In this fact sheet:

- What are bisphosphonates?
- Who can have bisphosphonates?
- How do bisphosphonates work?
- What are the advantages and disadvantages?
- What does treatment involve?
- What are the side effects?
- Dealing with prostate cancer
- Questions to ask your doctor or nurse
- More information
- About us

This fact sheet is for men with advanced prostate cancer who are thinking about having bisphosphonates to treat bone pain. Your partner, family or friends might also find this information helpful. Each hospital will do things slightly differently, so 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.

## Symbols

These symbols appear in this fact sheet to guide you to more information:



Speak to our Specialist Nurses



Read our publications

## What are bisphosphonates?

Bisphosphonates are drugs that can help to manage bone pain when prostate cancer has spread to the bones. Bisphosphonates can stop prostate cancer from damaging the bones and help to relieve the pain.

## Who can have bisphosphonates?

If you live in England or Wales, you may be offered bisphosphonates if your prostate cancer has spread to your bones. This is called advanced or metastatic prostate cancer. Prostate cancer that has spread to the bones is not the same as bone cancer, which starts in the bones.

If cancer spreads to your bones, it may damage and weaken them. This can cause bone pain and increase your risk of broken bones (see page 2).

Bisphosphonates are sometimes used to help relieve and prevent further bone pain in men with advanced prostate cancer. Bisphosphonates can also be used to manage bone thinning caused by hormone therapy, or to help prevent and slow down further bone damage. For more information about bone thinning from hormone therapy, read our booklet, **Living with hormone therapy: A guide for men with prostate cancer**.

Bisphosphonates can also be used to treat a condition called hypercalcaemia, which is a high level of calcium in the blood. This is rarely a problem in men with prostate cancer but you can read more about it in our booklet,



**Advanced prostate cancer: Managing symptoms and getting support.**



In Scotland and Northern Ireland, bisphosphonates are not widely available for men with prostate cancer. If you live in Scotland, speak to your doctor about whether you can be given bisphosphonates. If you live in Northern Ireland, you may have to send an Individual Funding Request to your local health board to get permission to have bisphosphonates. Talk to your doctor or nurse about what treatments you can have to manage your bone pain or any other problems you are having with your bones.

If you've had problems with your kidneys, teeth or jaws in the past, you may not be able to have bisphosphonates (see page 6). Talk to your doctor or nurse about whether bisphosphonates are suitable for you.

### What other treatments are available for bone pain?

There are other treatments that can help with bone pain. These include:

- **Pain-relieving drugs**  
These can be used alone or as well as other treatments.
- **Hormone therapy or chemotherapy**  
These treat the cancer itself, wherever it is in the body, including the bones. Treating the cancer may help with bone pain.
- **Pain-relieving radiotherapy**  
This shrinks the cancer cells and slows down the growth of the cancer. This can relieve pain and help to strengthen your bones. Radiotherapy can be given internally or externally. External beam radiotherapy is where high energy X-ray beams are directed at your body. Radium-223 and Strontium-89 are radioactive substances that are injected into your blood.
- **Surgery to strengthen the bone**  
This helps make the bone more stable, making it stronger and less painful.

- **Denosumab**

Denosumab (Xgeva®) is a new drug for treating bone problems in some cancers. It is given by injection under the skin and is not yet widely available for men with prostate cancer in the UK, especially outside of England. If you live in England, Wales or Scotland and your doctor thinks denosumab is suitable for you, they might be able to get it for you. If you live in Northern Ireland, you may have to send an Individual Funding Request to your local health board to get denosumab.

For more information about other ways of treating bone pain in prostate cancer, read our



**Tool Kit** fact sheets:

- **Managing pain in advanced prostate cancer**
- **Hormone therapy**
- **Chemotherapy**
- **Radiotherapy for advanced prostate cancer**
- **Treatment options after your first hormone therapy.**

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## How do bisphosphonates work?

Bisphosphonates treat bones that have been damaged by prostate cancer. Your bones are made of living tissue and are constantly changing. In healthy bones, cells are always breaking down and rebuilding bone tissue – this is called the bone cycle (see opposite). There are two different types of bone cells that do this job:

- cells that break down old bone (osteoclasts)
- cells that build new bone (osteoblasts).

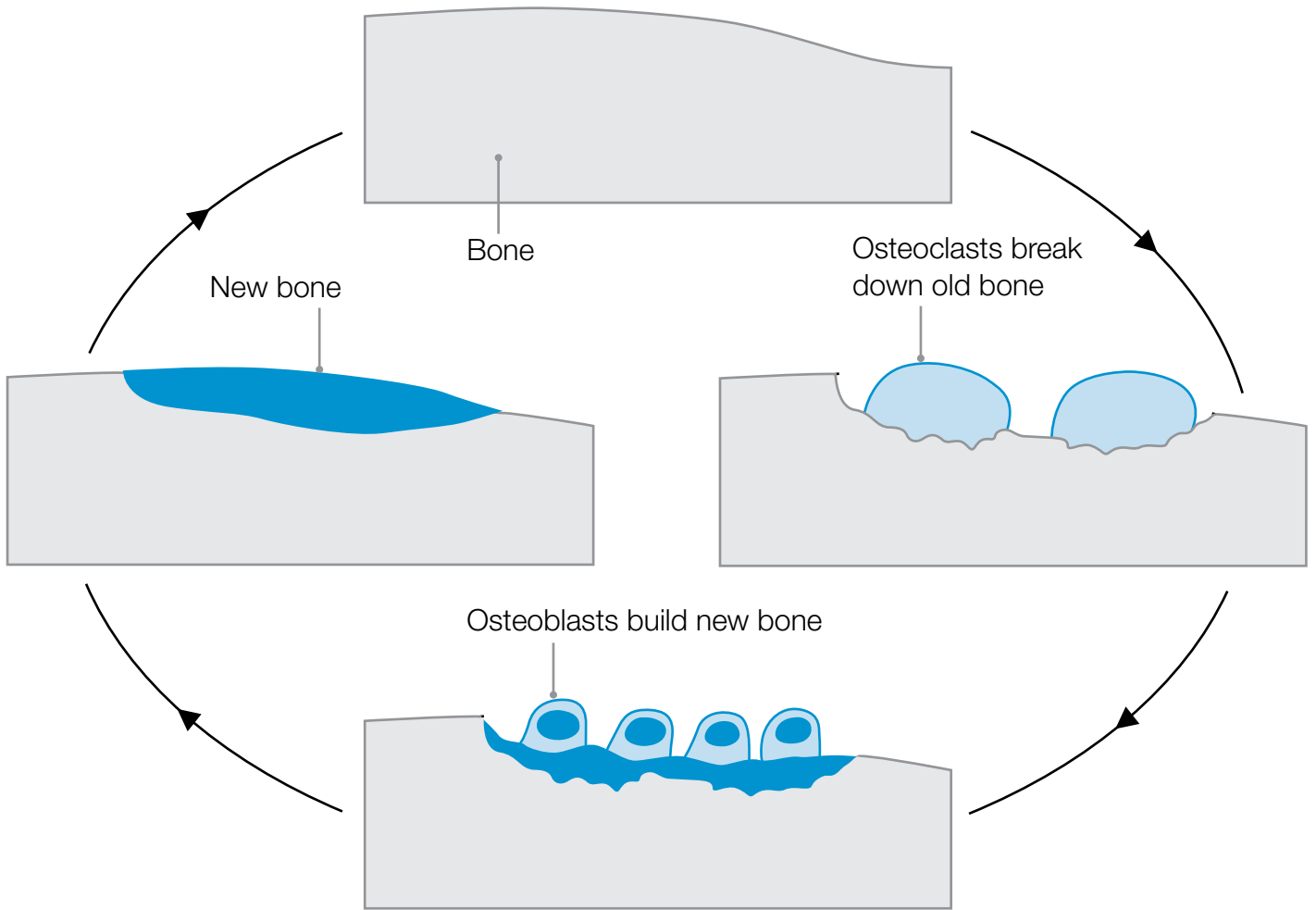
In strong and healthy bones, old bone is broken down at the same rate as new bone is formed.

When prostate cancer spreads to the bone, it upsets the careful balance between the breakdown of old bone and the building of new bone. Two things can happen.

- Bone gets broken down by osteoclasts faster than it gets built, so too much bone tissue is destroyed. This can make the bones thinner and weaker (see opposite).

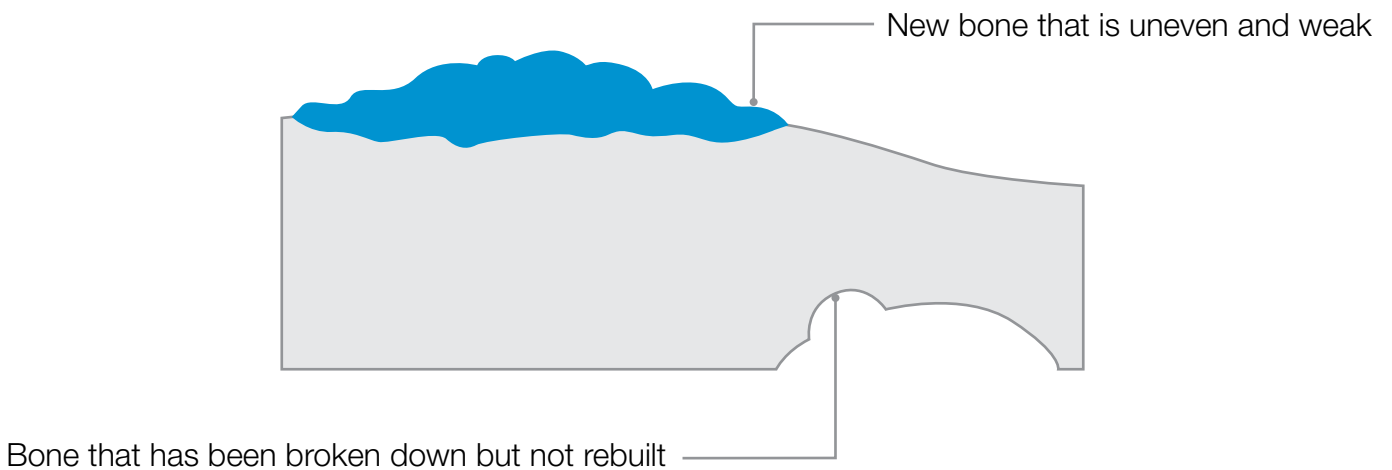
### The bone cycle

This is what happens in a normal healthy bone.



### Bone damaged by cancer

This is what happens when cancer spreads to the bone.



- Bone gets built by osteoblasts faster than it gets broken down, so too much bone tissue is formed (see page 3). This is common in men with advanced prostate cancer. If this happens, the bone becomes thicker, but it isn't as strong as bone that is formed normally. This is because the new bone tissue can be uneven and disorganised.

This damage to the bones makes them weaker and can cause bone pain and increase the risk of broken bones.

Bisphosphonates prevent the breakdown of bone by osteoclasts. They also encourage bone building by osteoblasts in places where too much bone has been broken down. This can help to relieve pain.

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## What are the advantages and disadvantages?

As with all drugs, there are pros and cons of using bisphosphonates. Talk to your doctor or nurse about your own situation.

### Advantages

- Bisphosphonates help to relieve bone pain and stop it getting worse.
- You may find it easier to move around if you have less bone pain.
- Bisphosphonates may help to reduce your risk of broken bones and other bone problems.
- Bisphosphonates can lower the amount of calcium in your blood if it is high (hypercalcaemia), and treat the symptoms of this.

### Disadvantages

- Like all treatments, bisphosphonates can cause side effects (see page 5).

- If you're having a bisphosphonate called zoledronic acid you may have to travel to hospital every three or four weeks for treatment.
- Bisphosphonates for bone pain are given through a drip into a vein (also called an infusion), which can be uncomfortable but not painful.
- Bisphosphonates can take up to three months to start helping with bone pain.
- You may need regular dental check-ups (see page 6).

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## What does treatment involve?

### Before treatment

Before your first treatment, you will have some tests to check your kidneys are working properly. This is because bisphosphonate drugs may affect how well they work. The kidneys get rid of waste products in your blood, so it's important to make sure they are working properly before you begin treatment.

You will also have a blood test before each treatment to check your kidneys. Make sure you drink plenty of water before each treatment – this can help lower your risk of getting kidney problems. Advice varies, but your doctor or nurse may suggest drinking 500 ml of water (about two glasses).

You might need to visit a dentist before you start treatment. This is because bisphosphonates can occasionally cause a condition called osteonecrosis of the jaw (see page 6). If you need dental treatment, you may not be able to have bisphosphonates until your dental treatment has finished.

You'll have regular blood tests to check you have the right amount of calcium, magnesium and phosphate in your blood. These are minerals that the body uses to build new bone. If the tests show your levels are low, you may need to take supplements, such as calcium and vitamin D. Your doctor or nurse can tell you more about this.

Speak to your doctor or nurse about any health or dental problems you've had in the past. Let them know about any medicines you are taking.

### During treatment

Bisphosphonates are liquid medicines that are given through a drip into a vein in the arm. Each treatment takes about 15 minutes. Each hospital and doctor will do things slightly differently, so you may have treatment every three or four weeks.

The most common bisphosphonate drug given to men with advanced prostate cancer is called zoledronic acid (Zometa®). Most men don't have problems with zoledronic acid, but if you do, you might be offered a different bisphosphonate instead.

The drip in your arm may feel uncomfortable during the treatment, but it shouldn't hurt. You might feel dizzy or experience flu like illness for around 24 hours after your treatment. Ask your doctor or nurse about ways to manage this side effect – they may suggest taking a mild pain-relieving drug, such as paracetamol. It may also be a good idea to take a friend or family member with you in case you need help getting home afterwards.

### How long will my treatment last?

How long you use bisphosphonates for will depend on your own situation. Whether you are taking them for bone pain, bone thinning or hypercalcaemia will also affect how long your treatment lasts. But you will usually have the bisphosphonates for as long as they are working for you.

If you're having bisphosphonates to treat bone thinning, you will have them once a year, usually for as long as they are working.

If you're having them to treat hypercalcaemia, you will usually stop treatment once your calcium levels are back to normal.

## What are the side effects?

Like all medicines, bisphosphonates can cause side effects. Ask your doctor or nurse for more information before you begin your treatment.

Side effects vary from person to person. The side effects of zoledronic acid are usually mild and don't last more than a few days. Some of the possible side effects are listed below.

### Common side effects

If you get any of the following side effects, tell your doctor or nurse. They can usually suggest treatments or ways to manage them.

#### Flu-like symptoms

You may get a high temperature, headache, chills, and muscle and joint pain. This usually only lasts around 24 hours and should go away after the first or second treatment.

#### Feeling sick (nausea) and being sick (vomiting)

You may feel or be sick after having bisphosphonates. This shouldn't last for more than a few days.

#### Loss of appetite

You may feel less hungry after having treatment. This should improve in a few days. It's important to drink plenty and eat healthily while you're having bisphosphonates. Eating healthily and drinking plenty of fluids can lower your risk of health problems, including kidney problems. Tell your doctor or nurse if your appetite doesn't improve. They can suggest ways of dealing with this.

#### Increased pain

Some men may get slightly more joint, muscle or bone pain when using bisphosphonates. This can begin days or months after starting treatment. Pain-relieving drugs can help until the pain improves. Speak to your doctor or nurse if the pain doesn't improve after a few days.

### Low blood calcium and phosphate levels

Bisphosphonates can cause the levels of minerals in your blood, such as calcium and phosphate, to become too low (hypocalcaemia and hypophosphataemia). Your doctor or nurse will check this regularly and give you supplements if you need them.

### Kidney problems

Bisphosphonates can change how well your kidneys work. You will have regular tests to check this. In most cases, these changes are not serious, and your kidneys will return to normal if you stop using bisphosphonates.

### Red or sore eyes (conjunctivitis)

Your eyes may feel itchy, sore or dry. Your doctor or nurse can give you eye drops to help with this.

### Less common side effects

If you get any of these side effects, tell your doctor or nurse. They can usually suggest treatments or ways to manage them.

### Rash or itching

You may notice a rash on your skin or feel quite itchy. This can be uncomfortable but shouldn't last more than a few days.

### Stomach or bowel problems

You may feel stomach pain or notice changes in your bowel habits. For example, you may have loose and watery bowel movements (diarrhoea). Or you may find it hard to empty your bowels (constipation). This shouldn't last more than a few days.

### Risk of heart problems and stroke

Bisphosphonates may slightly increase your risk of heart problems (including a fast and irregular heartbeat) and stroke. Talk to your doctor about this if you're worried, or if you've had heart problems before.

### Jaw problems (osteonecrosis of the jaw)

Although osteonecrosis of the jaw has been linked to bisphosphonates, it is very rare and you're unlikely to get it. It happens when the healthy bone in the jaw becomes damaged and dies. Gum disease, problems with dentures and some dental treatments can increase your risk of getting osteonecrosis of the jaw. Smoking may also increase your risk. For information about stopping smoking, talk to your doctor or nurse or visit the NHS Choices website.

Keeping your teeth and mouth clean may help to lower your risk of getting osteonecrosis of the jaw. Ask your dentist if you have any questions about this.

Talk to your doctor or nurse about any dental problems you have before starting treatment, such as loose teeth, gum problems (pain, swelling or infections) and numbness or heaviness in the jaw. It's also important to tell your doctor if you get any of these problems or need any dental treatment while you're having bisphosphonates.

Visit your dentist before starting bisphosphonates and let them know you'll be having this treatment. It's a good idea to visit the dentist regularly while you're having bisphosphonates.

Treatment for osteonecrosis of the jaw includes pain-relieving drugs and antibiotics. If you're diagnosed with osteonecrosis of the jaw, you may be referred to a specialist for further treatment and support.

### Reporting unusual side effects

If you get any unusual side effects from your treatment, speak to your doctor or nurse, or visit the Medicines and Healthcare products Regulatory Agency (MHRA) website (see page 10).

## Dealing with prostate cancer

Being diagnosed with prostate cancer can change how you feel about life. If you or your loved one is dealing with prostate cancer you may feel scared, stressed or even angry. There is no 'right' way to feel and everyone reacts differently. There are things you can do to help yourself and people who can help.

### How can I help myself?

#### Look into your treatment options

Find out about the different types of treatment 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

Unload what's going on in your head – find someone you can talk to. It could be someone close, or someone trained to listen, like a counsellor or your medical team. Your GP, nurse or other health professionals involved in your care should be able to answer any questions or concerns you might have.

#### Set yourself some goals


Set yourself goals and 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 listening to music or breathing exercises.

#### Eat a healthy, balanced diet

Eating well is good for your general health and lowers your risk of other health problems. There is also evidence that certain foods may slow down the growth of prostate cancer or lower the risk of it coming back after treatment. Read more in our Tool Kit 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. Some research shows that physical activity can help to slow down the growth of prostate cancer. It can also help you stay a healthy weight, which may be important for lowering your risk of advanced prostate cancer. Even if you don't feel able to do a lot of physical activity, a small amount will still help – take things at your own pace and don't overdo it. Read more in our Tool Kit fact sheet – **Diet and physical activity for men with prostate cancer.**



You can find more ideas in our booklet, **Living with and after prostate cancer: a guide to physical, emotional and practical issues.**

### Who can help?

#### Your medical team

It could be useful to speak to your nurse, doctor, GP or anyone in your medical team. They can explain your diagnosis, treatment and side effects, listen to your concerns, and put you in touch with others who can help.



#### Our Specialist Nurses

Our Specialist Nurses can answer your questions and explain your diagnosis and treatment options. They've got time to listen to any concerns that you or those close to you have in confidence.

#### Trained counsellors

Many hospitals have counsellors or psychologists who specialise in helping people with cancer – ask your doctor or nurse at the hospital if this is available. Your GP may also be able to refer you to a counsellor, or you can see a private counsellor. To find out more, contact the British Association for Counselling and Psychotherapy.

#### 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 a trained volunteer with similar experiences.

### **Our online community**

Our free online community is a place to talk about whatever's on your mind. Anyone can ask a question or share an experience. It's a place to deal with prostate cancer together.

### **Local support groups**

At local support groups, men get together to share their experiences of living with prostate cancer – you can ask questions, offload 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.

### **Hospices**

You may be able to get support from your local hospice or community palliative care team. They provide a range of services including treatment to manage symptoms such as pain, and 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.

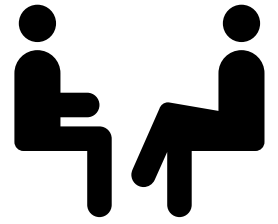
### **Spiritual support**

You might begin to think more about spiritual beliefs as a result of having prostate cancer. It's important that you get spiritual support if you need it. This could be from your friends or family, or from your religious leader or faith community.

To find out about any of our support services visit [prostatecanceruk.org/get-support](https://prostatecanceruk.org/get-support)



# 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.

Are bisphosphonates suitable for me?

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How long will I be given the drug?

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What are the main benefits of bisphosphonates?

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What are the main side effects of bisphosphonates?

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Who do I contact if I have side effects?

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Am I likely to get osteonecrosis of the jaw?

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What other drugs are available to treat bone pain?

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## More information

### British Association for Counselling and Psychotherapy

[www.itsgoodtotalk.org.uk](http://www.itsgoodtotalk.org.uk)

Telephone: 01455 883 300

Information about counselling and details of therapists in your area.

### Oral Health Foundation

[www.dentalhealth.org](http://www.dentalhealth.org)

Telephone: 0845 063 1188

Information about the mouth and teeth, and a helpline for questions about dental health.

### Cancer Research UK

[www.cancerresearchuk.org](http://www.cancerresearchuk.org)

Telephone: 0808 800 4040

Patient information from Cancer Research UK.

### Carers UK

[www.carersuk.org](http://www.carersuk.org)

Telephone: 0808 808 7777

Information and advice for carers, and details of local support groups.

### Healthtalk.org

[www.healthtalk.org](http://www.healthtalk.org)

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

### Macmillan Cancer Support

[www.macmillan.org.uk](http://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](http://www.maggiescentres.org)

Telephone: 0300 123 1801

A network of drop-in centres for cancer information and support. Includes an online support group.

### Medicines and Healthcare products Regulatory Agency (MHRA)

[www.mhra.gov.uk](http://www.mhra.gov.uk)

Telephone: 020 3080 6000

Provides advice about how to use herbal remedies safely. Also runs the Yellow Card Scheme, a system for reporting unusual side effects from any treatment.

### National Osteoporosis Society

[www.nos.org.uk](http://www.nos.org.uk)

Telephone: 0808 800 0035

Information and support for people with weak bones.

### Pain Concern

[www.painconcern.org.uk](http://www.painconcern.org.uk)

Telephone: 0300 123 0789

Information and support for people with pain and those who care for them.

### QUIT

[www.quit.org.uk](http://www.quit.org.uk)

Telephone: 0800 00 22 00

A UK charity that helps people stop smoking. Includes a helpline and community programmes in eight languages.

## 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**

**This publication was written and edited by:**  
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- Joe Kearney, Uro-oncology Clinical Nurse Specialist, Stoke Mandeville Hospital, Aylesbury
- Our Specialist Nurses
- Our Volunteers.

### Tell us what you think

If you have any comments about our publications, you can email:

**literature@prostatecanceruk.org**



**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. 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**<sup>†</sup>.

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

<sup>†</sup>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](http://prostatecanceruk.org/terms)



**f** Like us on Facebook: **Prostate Cancer UK**

**t** Follow us on Twitter: **@ProstateUK**

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To be reviewed June 2018

**Call our Specialist Nurses from Monday to Friday 9am - 6pm, Wednesday 10am - 8pm**

\* Calls are recorded for training purposes only.  
Confidentiality is maintained between callers and Prostate Cancer UK.

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