

Diet, exercise and prostate cancer

This fact sheet is for men who have been diagnosed with prostate cancer and want to improve their health and wellbeing. Partners and family members may also find this information helpful. This fact sheet describes how a healthy diet and regular exercise may help you manage the impact of prostate cancer and its treatment. It does not recommend a fixed diet or exercise programme but instead suggests sensible changes that may help with your prostate cancer as well as improve your overall health. It does not cover eating problems caused by prostate cancer or its treatment. For information on this, ask your doctor to refer you to a dietitian or call our confidential Helpline on 0800 074 8383.

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How can diet and exercise improve my health and wellbeing?

Diet
A healthy diet will benefit your overall health and reduce your risk of medical problems such as heart disease and diabetes. There is also some evidence that certain foods may slow down the growth of prostate cancer or reduce the risk of it returning after treatment.

The research at the moment is limited and we are unsure how different foods affect the growth of prostate cancer. When reading this fact sheet, please remember that we still need more research to show clearly how diet

can help men who have been diagnosed with prostate cancer.

By eating healthily you can take control over your own health and actively do something to improve it. There is more information about a healthy diet and foods that may be beneficial for men with prostate cancer on pages 5-9.

Alcohol

Alcohol can make you put on weight. It also causes other health problems such as heart disease and other cancers. We do not know what effect alcohol has on men who have been diagnosed with prostate cancer. However, you should aim to stay within the recommended limits for your general health.

The government advises that men should not regularly drink more than three to four units of alcohol a day. Units are a standard way of measuring the amount of alcohol in a drink.

How many units are in a drink?

- A pint of 4% lager contains 2.3 units
- A 175ml glass of 13% wine contains 2.3 units
- A 25ml measure of 40% single spirit with mixer contains 1 unit

If you have urinary problems after treatment for prostate cancer, try to cut down on alcohol as it can irritate the bladder and make the problems worse. Your specialist team can tell you whether alcohol will affect your prostate cancer treatment.

Food supplements

You should be able to get all the nutrients you need by eating a balanced diet rather than taking supplements. High doses of some supplements may be harmful. Supplements may also interfere with some treatments for prostate cancer, so let your specialist know if you are taking, or plan to take, any supplements.

Your doctor may recommend specific supplements in particular cases. For example they may advise you to take calcium supplements if you are on hormone therapy which can cause bone thinning. Calcium can help keep your bones strong. See pages 4 and 7 for more information.

Herbal remedies

Some men like to take herbal or complementary medicines, such as sage tea, to help them manage their prostate cancer or improve the side effects of treatment. However, there is very little evidence that herbal remedies are effective for prostate cancer.

Not all herbal remedies in the UK are licensed, and the quality varies greatly. Be particularly careful about buying herbal remedies over the internet. Many are manufactured outside the UK and may not be regulated. Many companies make claims that are not based on proper research, and there may be no real evidence that they work. Some may even contain harmful substances such as heavy metals. Remember that a product is not necessarily safe because it is called ‘natural’.

There is a risk that herbal remedies could interfere with your prostate cancer treatment.

Some herbal remedies contain small amounts of substances similar to hormones which may artificially reduce your PSA levels, making PSA tests unreliable.

It is very important that you tell your doctor if you are taking any kind of herbal remedy or complementary therapy.

The Medicines and Healthcare products Regulatory Agency (MHRA) provides advice about how to use herbal remedies safely. Their contact details are on page 11.

Reporting unusual side effects: The Yellow Card Scheme

If you think you are experiencing a side effect from a herbal remedy that is not mentioned in the information leaflet that comes with it, then you can report it using the Yellow Card Scheme. This is run by the MHRA. They will investigate and if they find a problem with a medication then the MHRA will take action to protect the public.

There are three ways you can report a side effect:

- Use the online Yellow Card form at www.yellowcard.gov.uk
- Ask your pharmacist for a Yellow Card form
- Call the Yellow Card freephone on 0800 100 3352

Exercise

Exercise is important for general health. It can help you to maintain a healthy weight by burning up extra energy which would otherwise be stored by the body as fat. It is unclear whether exercise can help to slow down the growth of prostate cancer, but it may help with some of the side effects of treatment (see page 4). It can also help you cope with any feelings of anxiety or depression.

There is more information about how to include exercise in your everyday routine on page 9.

A healthy weight

Being overweight (obese) may be linked to an increased risk of aggressive or advanced prostate cancer. However, we do not yet

How can diet and exercise help with side effects?

Diet and exercise may help to reduce the side effects of some prostate cancer treatments. For more information on these side effects, please read our other **Tool Kit** fact sheets.

Weight gain

If you are on hormone therapy, you may find that you put on weight, particularly around the waist. You may also be at increased risk of heart disease and diabetes. A healthy diet and regular exercise can help you stay a healthy weight and reduce your risk of these complications. If you find it difficult to lose weight ask to be referred to a dietitian for advice.

Bone thinning

Long term treatment with LHRH agonists such as Zoladex and Prostav, which are a type of hormone therapy, can increase your risk of bone thinning (osteoporosis). Regular exercise may help to keep you strong and prevent falls which could lead to bone fractures. Gentle resistance exercise, which includes fast walking, swimming and exercising with small weights, can be particularly helpful. You may also need to take calcium and vitamin D supplements.

You should speak to your specialist before you start any exercise or take supplements to reduce the risk of bone thinning. They may be able to refer you to a physiotherapist who will be able to give advice and suggest a specific exercise programme for your needs.

Strength and muscle loss

Hormone therapy can reduce the amount of muscle tissue in the body, resulting in a decrease in physical strength. Gentle resistance exercise such as walking and swimming can help to reduce this muscle loss and keep you stronger.

Hot flushes

Some men have found that the herbal remedies sage tea and black cohosh help them to cope with hot flushes caused by hormone therapy. However, there is no scientific evidence that these are effective. There is also evidence to suggest that black cohosh may cause liver damage. This is rare but you should not take it if you have ever

had liver or kidney disease. Tell your doctor if you are taking any herbal remedies for hot flushes or other side effects.

Tiredness

Tiredness and fatigue can be a side effect of some treatments including hormone therapy, radiotherapy and chemotherapy. Gentle exercise such as walking or swimming can help to reduce tiredness. Choose an exercise that is appropriate to your level of fitness, pace yourself and take regular rests.

Anxiety and depression

Many men with prostate cancer will feel anxious and worried at some point following diagnosis, during and after treatment. For some, these feelings may develop into depression. Some treatments for prostate cancer, including hormone therapy and chemotherapy, can also cause depression and mood swings. Regular exercise can help you cope with any feelings of anxiety and depression.

Some men may find the side effects of treatment such as weight gain and loss of physical strength changes how they feel about their body. Eating a healthy diet and taking regular exercise can help you feel more in control and improve the way you feel about your body.

Bowel problems

If you are having radiotherapy, you may have problems with loose and watery stools (diarrhoea) during and after treatment. You may find that eating a low fibre diet for a short time helps with this. Low fibre foods include white rice, pasta and bread, potatoes (without the skins), cornmeal and meat.

Urinary problems

Some treatments for prostate cancer can cause problems with passing urine. You can help to manage these problems by maintaining a healthy weight and level of fitness and avoiding constipation by eating plenty of fibre. Try to drink plenty of fluids (two litres or three to four pints a day), but cut down on fizzy drinks, alcohol and drinks high in caffeine (tea, coffee and cola), as these may irritate the bladder.

Fruit and vegetables

Some of the nutrients found in fruit and vegetables may help to slow down the growth of prostate cancer. However the evidence at the moment is limited and we need more research into the effect of fruit and vegetables. We do know that they are an important part of a healthy diet and are a source of vitamins and minerals as well as fibre. Eating lots of fruit and vegetables may help to reduce your risk of heart disease and other medical problems, including some cancers.

You should try to eat at least five portions of fruit and vegetables every day. They can be fresh, frozen, tinned, dried or juiced. One portion is roughly the size of the palm of your hand or 80 grams in weight. Some food packaging will tell you how many portions the food contains. Five portions a day may sound like a lot, but if you try to have one or two portions with each meal, and fruit as snacks, you should find that you are eating enough fruit and vegetables. You can get more information on how to eat five portions a day from NHS Choices. See page 11 for details.

Different fruit and vegetables contain different vitamins and minerals. Eating a wide range of different coloured fruit and vegetables is a good way of increasing your intake of these vitamins and minerals. Try to include all of the different colours in your weekly diet.

Red	Tomatoes, raspberries, watermelon, kidney beans, strawberries, red onions, radishes, red peppers, guava
Purple	Aubergines, red grapes, aduki beans, blueberries, red cabbage, plums, beetroot, pomegranate
Orange	Carrots, oranges, mangoes, apricots, sweet potatoes, pumpkin, orange peppers, butternut squash, papaya
Yellow	Pineapples, sweetcorn, peaches, chicory, bananas, yellow peppers, plantain
Green	Spinach, broccoli, cabbage, avocados, peas, pears, kiwi fruit, green peppers, courgettes, marrows, okra, fresh herbs, lettuce, watercress, callaloo, dasheen leaves

Tomatoes

Tomatoes contain a chemical called lycopene, which may slow down the growth of prostate cancer. Lycopene is also found in watermelons, pink grapefruits, guava and papaya. You may need to avoid grapefruit if you are taking statins to lower your cholesterol, drugs to treat erection problems or warfarin. Ask your doctor or chemist for advice.

Some research shows that lycopene may also help to improve symptoms of prostate cancer, including pain and urinary problems, although these are very small studies.

Processed and cooked tomatoes, for example tomato sauces, soups and pastes, appear to be a better source of lycopene than fresh tomatoes. Be aware that some tomato products such as ketchup often contain large amounts of salt and sugar. Some studies have also suggested that lycopene supplements do not give the same protection against prostate cancer as tomatoes. This may be because the other nutrients in the food work together with the lycopene to protect the body.

Pomegranate juice

There is some evidence that pomegranate juice may benefit men with prostate cancer. One small study found that drinking a glass of pomegranate juice every day slowed down the growth of cancer in men whose cancer had come back after their first treatment. More research is needed into the exact links between pomegranate juice and prostate cancer.

Cruciferous vegetables

These vegetables belong to the cabbage family. They include broccoli, cauliflower, cabbage, Brussels sprouts, bok choy and kale. Cruciferous vegetables are an important part of a healthy diet, and a source of vitamin C, iron and folic acid.

Some studies suggest that cruciferous vegetables may slow down the growth of prostate cancer or reduce the risk of aggressive prostate cancer. However, other studies have found no link between them and more research is needed.

Soy and pulses

Pulses such as soy beans, kidney beans, chickpeas and lentils contain molecules that may be anti-cancerous. Soy has particularly

If you are on hormone therapy, it is important that you get enough calcium and vitamin D to help reduce your risk of bone thinning (osteoporosis). You can get vitamin D from exposure to sunlight although many people in the UK do not get enough vitamin D in this way. You can also get it from eating oily fish and foods fortified with vitamin D. You should aim for 1000-1500mg of calcium each day and 400-800IU (10-20 micrograms) of vitamin D to help keep your bones strong. If you are concerned about this, speak to your doctor about suitable doses of supplements.

Meat

Some studies have found that eating too much red meat such as beef, pork or lamb may increase the risk of advanced prostate cancer. Other studies have suggested that a plant-based diet helps to slow the growth of prostate cancer. However, the evidence about red meat is uncertain, and other studies have found no link with prostate cancer.

Processed meat, such as ham, bacon, sausages and burgers, may increase the risk of prostate cancer growing. Some research also suggests that meat cooked at very high temperatures or very well done can increase your risk of advanced prostate cancer. When meat is burnt it may produce chemicals which can damage normal cells and cause cancer.

Try to eat no more than 300g cooked red meat (400-450g raw) a week, and try not eat red meat every day. You could choose lean white meat such as chicken or fish instead. If you do eat poultry such as chicken or turkey, remove the skin as some studies have suggested that eating the skin can increase the risk of prostate cancer growing.

Fat

You need some fat for your body to function properly. However, too much fat in your diet can lead to being overweight or obese, which may increase your risk of advanced prostate cancer (see page 2). Obesity may also increase your risk of other health problems such as heart disease and diabetes. Reducing the fat in your diet can help to reduce your risk of obesity.

There are different types of fat. Unsaturated fats (known as monounsaturated and polyunsaturated fats) are healthier, and are found in nuts, oily fish, vegetable oil and olive oil. Saturated fats are less healthy and are found in meat and meat products, dairy products such as butter and cheese, and processed foods such as cakes, biscuits and pastries.

Omega-3 fatty acids are unsaturated fats found in oily fish, some nuts such as walnuts, Brazil nuts, hazelnuts and pecans, and vegetable oils. Some studies suggest that omega-3 fatty acids may protect against advanced prostate cancer. Eating oily fish, such as salmon, mackerel and sardines may slow down the growth of prostate cancer and reduce the risk of recurrence after treatment. The fish can be fresh, frozen or tinned, apart from tuna. Fresh tuna contains omega-3, but tinned tuna does not, as the processing removes the omega-3. You should eat no more than four portions of oily fish a week, as these fish contain low levels of toxins. These do not have an immediate effect on your health, but if you eat more than the recommended amount of oily fish, the toxins can build up in the body over time.

We cannot say for certain whether reducing the amount of fat you eat will affect your prostate cancer. Some studies have shown a link between saturated fats found in red meat and dairy products and an increased risk of advanced prostate cancer. However, other studies have found that eating large amounts of fat does not affect prostate cancer.

Think about the type of fats that you eat and try to replace saturated fats with foods that are rich in monounsaturated and polyunsaturated fats.

Some ways to help cut down on fat:

- Choose tomato-based sauces instead of creamy ones.
- Replace fatty snacks like crisps and biscuits with fruit.
- Avoid processed meat such as corned beef and salami.
- Eat less red meat and remove any visible fat. Try eating chicken or fish instead.

What foods may help my prostate cancer?

The table below summarises the information in this fact sheet. It suggests some foods that you may wish to eat more of or add to your diet.

What should I eat more of?	How do they help?	How do I include them in my diet?
Fruit and vegetables	Some of the nutrients found in fruit and vegetables may help to slow down the growth of prostate cancer. Reduces your risk of other health problems.	Eat at least five portions each day. Try to include all the different colours in your weekly diet.
Lycopene	It may help to slow down the growth of prostate cancer.	Lycopene is found in tomatoes (particularly cooked and processed tomatoes), and in lower levels in watermelon, pink grapefruit, guava and papaya.
Pomegranate juice	It may help to slow down the growth of prostate cancer.	Try drinking a glass of pomegranate juice a day.
Cruciferous vegetables	They may help to slow down the growth of prostate cancer and reduce the risk of aggressive cancer.	Eat more vegetables from the cabbage family, such as broccoli, cauliflower, cabbage, Brussels sprouts, bok choy and kale.
Soy and pulses	They may contain anti-cancerous molecules. Soy contains particularly high levels of these molecules.	Include more soy, beans, peas and lentils in your diet. Choose traditional forms of soy such as tofu, miso and tempeh.
Green tea	It may protect against the development and growth of prostate cancer.	Try drinking green tea instead of other hot drinks you have throughout the day
Oily fish	Omega-3 fatty acids in oily fish may help to slow down the growth of prostate cancer and reduce the risk of recurrence after treatment.	Eat fresh, canned or frozen oily fish up to four times each week. Examples of oily fish include sardines, pilchards, mackerel and salmon. Only fresh or frozen tuna contain omega-3 fatty acids.

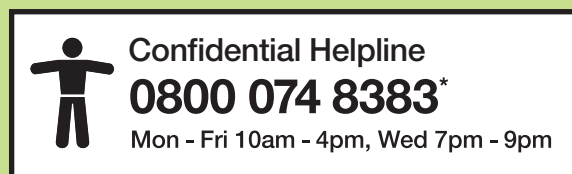
The Prostate Cancer Charity makes every effort to make sure that its services provide up-to-date, unbiased and accurate facts about prostate cancer. We hope that these will add to the medical advice you have had and will help you to make any decisions you may face. Please do continue to talk to your doctor if you are worried about any medical issues.

The Prostate Cancer Charity funds research into the causes of and treatments for, prostate cancer. We also provide support and information to anyone concerned about prostate cancer. We rely on charitable donations to continue this work. If you would like to make a donation, please call us on 020 8222 7666.

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Tell us what you think

We hope you have found this information useful. If you have any comments or suggestions about any of our publications, you can email literature@prostate-cancer.org.uk or write to The Information Team at The Prostate Cancer Charity, 100 Cambridge Grove, London W6 0LE

References to sources of information used in the production of this fact sheet are available on our website.

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