

Diet and nutrition

Living with a brain tumour



There's no specific food or type of diet that can control or treat brain tumours.

Controlling your diet, however, may help to improve your quality of life and manage the side-effects of treatment.

This fact sheet is for anyone receiving treatment or who has recently completed their treatment.



CARE CAN'T WAIT

If you'd like to talk to someone about how you're feeling, or would like to find out where you can get further support (including details of support groups), you can contact The Brain Tumour Charity's Information and Support Team:

Phone: **0808 800 0004**

(free from landlines and most mobiles)

Email: support@thebraintumourcharity.org

Live chat: [thebraintumourcharity.org/live-chat](https://www.thebraintumourcharity.org/live-chat)

Website: [thebraintumourcharity.org/getsupport](https://www.thebraintumourcharity.org/getsupport)

Closed Facebook groups:

[thebraintumourcharity.org/facebook-support](https://www.thebraintumourcharity.org/facebook-support)

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Introduction

If you're diagnosed with a brain tumour, it isn't necessary to follow a special diet.

Diet is NOT associated with the development of a brain tumour and there's no specific food or type of diet that can control or treat brain tumours.

However, there's some clinical research currently taking place that's looking at the effect of diet on the treatment and recovery of patients.

This fact sheet is designed to explain how controlling your diet might help improve your quality of life and manage the side-effects of treatment.

It also looks at whether the claims made about diet and brain tumour management are supported by scientific evidence.

It's aimed at patients who are receiving treatment or have recently completed their treatment.

How does diet affect brain tumour treatment?

The food you eat will:

- determine whether you lose or gain weight
- influence your muscle strength
- affect how you feel in general
- affect how your body responds and recovers from treatment.

Eating a balanced diet, which provides enough energy and protein (as well as other nutrients), will allow you to feel as well as possible and help your body recover from treatment side-effects.

Trying to keep to a healthy, well-balanced diet after being diagnosed with a brain tumour can benefit you by:

- keeping up your strength and energy
- maintaining your weight and body's store of nutrients
- lowering your risk of infection
- aiding the healing and recovery process.

For information about what is a general healthy, well-balanced diet, see the section What is a healthy diet? on page 34 of this booklet?

Special considerations if you have a brain tumour

If you're taking steroids for a long period, it's important to look after your bone health. Make sure you have plenty of calcium containing foods and ask your doctor if you should be taking a Vitamin D supplement.

Milk, cheese, yoghurt and fromage frais are good sources of protein and some vitamins in the diet and they're also an important source of calcium, which is essential for good bone health.

Aim for 2-3 portions of dairy, or dairy alternatives, a day.

A portion is equivalent to a pot of yoghurt, small matchbox size portion of cheese or a glass of milk (approximately 200ml). If you're choosing to use dairy alternatives, remember to choose those with added calcium.

If you're trying to lose weight, go for lower fat and lower sugar products where possible, such as 1% fat milk, reduced-fat cheese or plain low-fat yoghurt.



Don't forget to mention to your healthcare team and family if you have any food allergies or intolerances. They can help make sure that you don't eat these foods, if you're staying in hospital or receiving care at home which involves providing meals.

It's essential to keep hydrated before, during and after treatment. Being well hydrated helps you stay healthy by:

- helping to process drugs, such as chemotherapy
- avoiding bladder infections
- helping to prevent constipation.

If you have diarrhoea or are vomiting as a side-effect of treatment, you'll need to replace this fluid and the minerals lost by drinking more liquid than you normally do.

Your medical team can supply you with special rehydration drinks or powders or tell you what would be appropriate for you to buy from a pharmacy.

What should I eat when recovering from treatment?

There isn't a specific diet that you should follow during or after treatment for a brain tumour.

However, your brain tumour, surgery, radiotherapy, chemotherapy and other medication can all cause symptoms that make eating and drinking challenging.

You might need to change your diet to suit your needs depending upon the symptoms you're experiencing. As a result, the usual healthy diet advice may need to be modified to meet your nutrition needs.

If you're a vegan or vegetarian, you might be wondering if you need to change your diet during chemotherapy and radiation or after surgery to aid recovery. You can successfully keep your vegan or vegetarian diet during treatment, as long as you watch your intake of protein, iron, vitamin B12 and calcium, as well as stay hydrated and work with your dietitian.

If you follow a religious faith that requires fasting or includes strict rules about what can be eaten, you may be identified as vulnerable during a time of fasting, for example, during the Islamic holy month of Ramadan.

Often there are ways of seeking an exemption. If fasting falls at any time during your scheduled treatment, please discuss this with your doctor beforehand as well as your religious adviser to get advice about the best way to do this without affecting your recovery.

If you're having difficulties with your diet, you can discuss your concerns with your doctor, who can give you advice or refer you to a dietitian.

Dietary tips to cope with side-effects of brain tumour treatment

Below are some tips dietitians give to those struggling with some of the most difficult food-related side-effects of treatment:

Poor appetite and losing weight

Treatment side-effects can often lead to a reduced appetite and sometimes even weight loss. Discuss any symptoms that are affecting your appetite with your doctor or nurse, as there may be medication that can help.

Try some of these tips:

- Try the little and often approach. Aim to eat 6-8 small meals/snacks each day.
- If you find that you don't feel hungry, set an alarm to remind you to eat every 2-3 hours in the day.
- A very full plate can be off-putting - use smaller plates and keep the portions small. You can always go back for a second helping.
- Eat your biggest meal when your appetite is at its best.

For some that may be at breakfast. If this is your best meal, aim for a cooked breakfast or porridge.

- Enrich your food to add extra energy and protein if you're losing weight. Add oil, cream, butter, mayonnaise, nuts, nut butters, seeds, grated cheese, cream cheese, avocado, full-fat yoghurt, honey, sugar, syrup, etc. to your food.

If you're particularly struggling with your eating, or losing weight, your doctor or dietitian might prescribe you with nourishing supplement drinks, which are high in energy, protein, vitamins and minerals.

Weight loss isn't advised for anyone with an active tumour or who's undergoing active treatment for this.

This is because losing weight places stress on the body at a time when it's already stressed.

If you're a healthy weight or above, maintaining weight is advised. If you're underweight, taking steps to try and gain or at least maintain weight is advised. This can help you maintain muscle, strength and immune function and withstand and better tolerate the side-effects of treatments.

Increased appetite and gaining weight

When being treated for a brain tumour, some people may put on weight. This could be due to the following:

- Decreased physical activity, due to fatigue and other side-effects.

For help with coping with fatigue, see our webpage: thebraintumourcharity.org/coping-with-fatigue/

- Increased eating, due to boredom.
- Increased eating, due to comfort-eating as a result of stress, anxiety, low mood or depression.

For tips on exercising when living with a brain tumour, see:

thebraintumourcharity.org/benefits-of-exercise/

- Side-effects of some medicines, such as steroids.

In the short term, a slight increase in weight is not a concern.

However, the side-effect of some medicines, such as steroids, is to greatly increase your appetite, which can result in a greater weight gain.

It can be very difficult to maintain a healthy weight if you're taking steroids. Not only does your appetite for food increase, but your body also becomes more efficient in converting calories to fat stores.

Steroids also make you retain fluid.

There isn't an easy way to reduce your appetite and it can be very difficult to lose weight while you're taking steroids. Aim to stop gaining further weight if you can.

Here are some tips you might find helpful:

- Try eating more lower fat, protein-containing foods (lean meat, fish, eggs, beans and lentils).
- Choose foods which contain plenty of fibre (whole grains, fruits and vegetables).
- Include some starchy foods at each meal - they can help you feel fuller for longer (bread, rice and pasta).
- Try portioning out snacks ready for when your hunger pangs really hit.
- Be as active as possible.
- Drink plenty of water and low-calorie drinks.
- Avoid filling up on sugary and fatty snacks such as crisps, sweets and chocolate.

When you're no longer taking steroids, you'll find that your appetite will drop and often you'll lose weight.

Feeling too tired to eat (fatigue)

It's very common to experience feelings of tiredness before, during and after treatment for a brain tumour.

It's important to try to eat, so try the following tips:

- Try having 6 smaller meals per day instead of 3 larger ones.
- To save time cooking, use ready meals and add some extra vegetables for a balanced diet.
- Accept offers of help with food shopping, preparing meals and cooking.
- Avoid having lots of energy drinks (that are high sugar/caffeine drinks). They can give a short-term lift, but can make you feel worse in the longer-term.
- Remember: nutritious meals don't always have to be hot meals.
- Try to keep as active as possible.

This seems counter-intuitive, but research has shown that gentle to moderate exercise can help with fatigue. Find the level of activity that is right for you.

For more information, see our Coping with fatigue webpage:

thebraintumourcharity.org/coping-with-fatigue/

Feeling sick (nausea)

The location of your tumour, and the effect of surgery, chemotherapy or radiotherapy on the brain can cause nausea and vomiting. You may be given anti-sickness medication as a matter of course to help prevent this.

But if you haven't been given such medication, and you feel sick following treatment, ask your doctor or nurse to prescribe anti-sickness (anti-emetic) medication to prevent or manage nausea. There are lots of different types of anti-sickness medication available.

Other ideas that can help with nausea and vomiting are:

- Try to eat smaller meals more often - up to 6-8 times per day. Try not to miss meals, as having an empty stomach can make nausea worse.
- Try eating dry foods when you wake up and every few hours during the day (crackers, toast, dry cereals or bread sticks).
- Avoid foods or rooms with strong smells. Room temperature or cold foods are often best, for example, yoghurt and fruit, breakfast cereal, ice cream.
- Avoid greasy and fatty foods, as they can take longer to digest.
- Sucking boiled sweets, fruit sweets, mints or slices of fruit can be helpful.

- Try to remain seated upright for at least an hour after eating.
- Sip clear liquids frequently between meals to prevent dehydration. Some people find sipping fizzy drinks, such as ginger ale, cola or lemonade helpful.
- Food or drink containing peppermint, lemon or ginger can sometimes help.
- Try to avoid eating your favourite foods until you feel well enough to enjoy them.
- Anxiety can make nausea worse - try to make meals as calm and relaxed as possible.

Constipation



Some people are embarrassed to discuss this issue, but it's very common and your doctors and nurses will have heard it all before, so feel free to talk to them about it.

Constipation can be very painful and can affect your appetite for food.

Constipation could be due to medicines, e.g. painkillers, anti-sickness drugs or some chemotherapy drugs (notably vincristine). Your doctor may have to prescribe laxatives.

There are simple ways to ease the pain, as well as prevent it returning:

- Eat foods which are high in fibre (wholegrain food [such as wholegrain cereal, brown bread, brown rice and brown pasta], fresh fruit and vegetables, beans and pulses and dried fruits [e.g. prunes and dried apricots], and flaxseeds).
- Increase the fibre in your diet gradually to prevent excessive bloating.
- Check you're drinking plenty of fluid - aim to drink enough so that your urine is a pale straw colour. If you're dehydrated your stools can become very hard. This will be made worse if you increase the fibre in your diet without increasing your fluids.
- Try to keep active - gentle exercise is known to help in keeping bowels moving.
- Having a hot drink can also sometimes help.

Taste changes

Brain tumour treatments, such as chemotherapy and radiotherapy, can sometimes affect your senses of taste and smell.

Some experience a loss of taste, others report unpleasant tastes, such as a bitter or metallic taste. Or you could be sensitive to certain flavours (for example, finding sweet foods intensely sweet).

Below is a list of some common ways people have made their eating experience more enjoyable:

- Keep your mouth fresh by rinsing your mouth and brushing your teeth frequently.
- Try using flavours such as lemon and vinegar or add pickles, sauces and relishes to meals.
- Experiment with flavours - add herbs and spices, such as garlic, chilli, basil, oregano, rosemary, coriander, soy sauce, fish sauce or mint to your dishes. Marinade meat and fish in sauces.
- If you dislike the flavour of salty foods, have more sweet foods instead. If sweet foods are unpleasant, try more savoury snacks, such as crisps, cheese and crackers, salted nuts.
- If food is bland, try adding textures to your food, such as breadcrumbs or crushed crisps over savoury dishes or sprinkle chopped nuts on desserts.

Dry mouth

Radiotherapy and pain medication can lead to a dry mouth. When you have a dry mouth, you're at increased risk of getting infections, such as oral (mouth) thrush and tooth decay.

Ask your doctor or nurse about suitable mouthwashes. Avoid any that contain alcohol, as they can make dryness worse. Artificial saliva sprays and tablets may help.

Other ideas that can help:

- Try having sips of cool drinks to moisten your mouth throughout the day - try sharp flavoured drinks, such as water with lemon and lime slices, fruit teas, sharp flavoured fizzy drinks, fruit juices and milk.
- Try ice lollies, ice cubes, frozen grapes or melon.
- Alternate bites of food with sips of drinks.
- Choose moist foods and add sauces, gravies, custard or cream to food.
- Avoid sticky, chewy or dry foods, such as breads, cold meat or chocolate.
- Some people find sucking sweets, sugar-free chewing gum or eating citrus fruit helps produce saliva.

Swallowing problems

Swallowing problems can be caused by the position of the tumour or following surgery. They can be long- or short-term.

Referral to a speech and language therapist can be helpful, as they can advise on suitable textures for food and drinks and prescribe exercises.

The list of food-related side-effects addressed above is not exhaustive. If you're experiencing other food-related side-effects, as a result of having treatment, discuss them with your doctor or dietitian who can assist you further.

Is there anything I should avoid eating when having treatment for my brain tumour?

Patients who are receiving treatment that can leave you with low immunity, such as chemotherapy, should avoid foods that are associated with a high risk of food poisoning.

Current advice is to avoid the following:

- Unpasteurised milk or yoghurt made from unpasteurised milk.
(Pasteurised milk is safe.)
- Certain soft cheeses, slow ripened cheeses, blue-veined cheeses or cheese made from unpasteurised milk, e.g. brie, camembert, Danish blue, stilton, gorgonzola.
(Cheeses made from pasteurised milk, such as cheddar, red Leicester, cottage cheese, cheese triangles and cream cheese are safe to eat.)
- Raw or runny eggs.
(Well-cooked eggs, with the white and the yolks cooked until solid, and marked with a 'Lion mark' are safe.)
- Pâté - fresh and chilled pâté, including fish and vegetable pâté.

- Rare or undercooked meat and poultry.
(Always make sure meat and poultry is well-cooked with no traces of blood or pink. Never wash chicken, as this can spread any bacteria present.)
- Raw shellfish.
(Cooked shellfish are safe, as are frozen pre-cooked prawns.)
- Beansprouts - raw or lightly cooked.

If you're not sure about any foods, speak to your healthcare team or dietitian for advice.

Can diet help treat my brain tumour?

A lot of information about diet and tumours can be found on the internet and in newspapers. Many articles and websites claim to be able to cure or control tumours through diet or various supplements.

It can be difficult to get an unbiased, evidence-based view on these reports. A dietitian can help you look at the evidence before you decide to make any dietary changes.

Changing a diet can potentially lead to a lack of certain essential nutrients. The dietitian can make sure that your diet is balanced and providing the essential nutrients that you need. This is especially important for children.



Anyone with a pre-existing medical condition, such as diabetes, high cholesterol or kidney stones, should always consult their doctor before making significant dietary changes.

Always speak to your doctor, dietitian or pharmacist if you're thinking of taking nutritional supplements or herbal products as they may damage your health or interact with your medication.

Nutrition and diet suggestions from the internet

Below we look at some of the nutrition and diet suggestions from the internet and some of the nutrition questions we get asked at The Charity.

Should I cut sugar from my diet?

There's no need to cut sugar from your diet, unless you're trying to lose weight.

Glucose (a type of sugar) is the main fuel for all the cells in our bodies. In other words, the cells use glucose for energy.

The cells get glucose, via our blood, from all the carbohydrates we eat (sugar, starchy food like bread and pasta, milk and even from fruit and vegetables). Glucose can also be released from some protein foods.

We also store glucose in our livers, and this is released when our body needs it to help prevent blood sugar levels from dropping too low.

If we don't have enough glucose in our blood, our bodies will also 'make' glucose from other nutrients by breaking down muscle and fat stores.

Our bodies don't choose which cells get which fuel, so the glucose we eat goes to any cells that need it, including tumour cells.

Research has shown that tumour cells use more glucose than normal cells, as they're less efficient at turning the glucose into energy.

This has made some people think that by reducing their sugar intake, they will prevent sugar from getting to the tumour cells and so starve them of their energy, causing them to die.

However, cell metabolism is very complicated and it carefully regulates blood sugar levels.

So our bodies will NOT usually allow these levels to get low enough to starve the tumour cells.

In fact, some tumour cells and tumours will adapt to having less glucose and will continue to grow.

In summary, this means that just cutting sugar (or carbohydrates) from your diet won't deprive the tumour cells of glucose, and so they won't be starved and die.

In addition, cutting out carbohydrates from the diet, if done to the most restrictive level, involves cutting out most fruits and starchy vegetables, as well as all types of sugar. This type of diet can be difficult to follow and often leads to weight loss, nutrient deficits, nausea and constipation.

Should I follow a ketogenic diet as a way of curing or controlling a brain tumour?

There's no clinical evidence that a ketogenic diet can cure or control any type of tumour.

Here's a little more information about ketogenic diets to help you understand what's involved and what research has been conducted into its use.

Ketogenic diets are very low carbohydrate diets, usually with restricted protein, but with very high levels of fat.

The diet has been used for people (usually children) with epilepsy that's difficult to control.

It's a very complicated diet to follow and can cause unpleasant side-effects, such as sickness, tiredness and constipation.

People following a ketogenic need to be carefully monitored by a dietitian at a specialist centre to make sure that the diet is safe, palatable (pleasant to eat) and provides all the nutrients you need.

People don't usually follow the diet for more than 1-2 years.

In recent years, there's been much interest in the role of the ketogenic diet in managing brain tumours.

This interest in ketogenic diets mainly stems from the work of American cell biologists and German medical physicists, who recommend the diet (as well as fasting) as a way of curing or controlling tumours.

Their argument is that brain tumour cells need glucose and can't use glucose substitutes, such as ketone bodies for their energy. (Ketone bodies are the energy-containing chemicals released when following a ketogenic diet.)

There could be a theoretical benefit to this type of diet. However, most of the research in this area is laboratory-based, and looks at cells in a dish or animal models (mainly specially bred mice).

Research in humans, which looks at whether the ketogenic diet can cure or control tumour growth, is even more limited. It's focussed on small studies of poor research quality, with very limited numbers of patients.

Studies use different types of ketogenic diets and sometimes the level of carbohydrate restriction is not even measured.

Research studies in humans tend to look at whether patients can follow the diet and not whether the diet makes a difference to their disease.

Controlling and killing tumour cells is complex as they can easily adapt to different conditions.

As a result, most cancer specialists and cancer scientists don't believe that tumour cells can be destroyed, nor tumour growth halted, by following a ketogenic diet.

At present there's not enough research or evidence to recommend following a ketogenic diet.

The NICE guidelines¹ state the patients should be advised that the evidence doesn't support the use of alternative therapies, such as ketogenic diets, as a treatment.

(¹Brain tumours and brain metastases, National Institute for Health and Care Excellence, 2018)

Despite the lack of evidence on the efficacy of the KD treatment for malignant brain tumours, some people affected by brain tumours are still choosing to follow the diet.

If you wish to follow a KD, you should only do so under the supervision and guidance of your doctor and a trained dietitian.

Can an alkaline diet help?

There's no research to support the idea, or use, of an alkaline (or acid) diet in tumour treatment.

There's a lot written on the internet about alkaline diets curing tumours. This is based on the idea that tumour cells create a slightly acidic environment around them. Some people think that by changing your diet, you can alter the acidity around the cell, making it alkaline and so killing the cell.

It's not possible to do this through diet, as the body's acid/alkaline level (known as its pH balance) is very tightly regulated and kept within a very narrow range.

This is because even a small change above or below the safe range can make you very unwell. It can even be life-threatening.

It's our kidneys and lungs that make sure this safe, narrow range is maintained. It isn't affected by what you eat.

As such, there's no benefit from trying to create an alkaline diet, nor testing the pH of urine (wee) to assess for acid/alkaline balance. Interestingly the pH level of your urine isn't related to the levels in your blood.

What is a Mediterranean diet/rainbow diet?

Mediterranean and rainbow diets are both based on having many different types of vegetables and fruit in the diet.

The rainbow refers to having a diet containing different coloured fruits and vegetables, as this gives a good mixture of phytochemicals and antioxidants.

Phytochemicals are chemical compounds that occur naturally in plants. They're packed with substances called antioxidants. Vitamins C and E are examples of antioxidants.

There's growing evidence that phytochemicals and antioxidants help to protect us from a variety of diseases, such as cancer and heart disease.

The Mediterranean diet has plenty of phytochemicals and antioxidants as it too has lots of fruit and vegetables.

It also has plenty of fish, beans and pulses, small amounts of lean meat and some dairy foods. This diet also includes healthy fats, such as olive oil, instead of saturated fats, such as butter.

This is the type of diet we should all be aiming to have. The Mediterranean type of diet is recommended for everyone.



We should all aim to eat a minimum of 5 portions of vegetables/fruits per day and try to increase this even further.

The fruit and vegetables can be fresh, frozen, dried or tinned.

Is there any benefit to eating an organic diet?

Some studies have shown that organic fruit and vegetables may have increased levels of some vitamins and minerals and less contaminants.

However, there's no evidence that organic foods are better for brain tumour or cancer patients.

All fruit and vegetables, organic or not, should be washed well before eating.

Should I be vegan?

The government and World Cancer Research Fund (WCRF) all recommend that we reduce the amount of meat (red meat and smoked or cured meat) we eat and move towards a more plant-based diet.

This advice is based on reducing the risk of developing bowel cancer and improving heart health, by reducing the amount of saturated fat in your diet.

Vegan diets tend to be lower in saturated fats and higher in fibre, but to be well balanced they need to be carefully planned.



You might need to take a vitamin and mineral supplement.

To gain some of the benefits of a vegan diet and to increase your fruit, vegetable and fibre intake, try planning a few meat-free days per week.

What are superfoods?

They're often referred to in the media, but there isn't an agreed definition of a superfood. Many of the foods described as superfoods are fruit or vegetables and are, therefore, a useful addition to everyone's diet.

However, there isn't any evidence that a single food will keep us healthy and stop illness. These so-called superfoods should be included as part of a balanced healthy diet.

Are pomegranates good for you?

Limited research has looked at the benefits of pomegranate. Where research has been conducted, it's focused only on possible benefits for men with prostate cancer or the possibility of lowering blood pressure.

There are some safety concerns around taking pomegranate juice if you're taking medication, such as:

- warfarin (and other blood thinning medication)
- metformin (for diabetes), as it interferes with their absorption and how well they work.

Check with your doctor or pharmacist before taking large amounts of pomegranate, particularly pomegranate juice or powdered extracts.

Is turmeric good for you?

There's a lot of interest in the use of turmeric in tumour prevention. However, there isn't any research supporting the view that turmeric prevents or treats brain tumours.

In fact, high doses of turmeric (for example, in turmeric capsules) have been shown to affect blood clotting times and therefore shouldn't be taken if you're on blood thinners, such as warfarin.

Turmeric can also interfere with the action of some chemotherapy drugs and the metabolism of other drugs. (Drug metabolism means the way drugs are broken down by the body, usually the liver, so they can be removed from the body.)

Taking too much turmeric can also cause side-effects, such as stomach pains and skin problems.

There have also been warnings about some turmeric supplements that can be bought on the internet. These can have severe side-effects, including serious liver damage.

It's important to note that the amount of turmeric used in cooking and food and drinks is safe, as it's in relatively low amounts.



If you're planning on taking turmeric capsules, please discuss this with your doctor or pharmacist first.

Should I drink green tea?

It's often claimed that drinking green tea can prevent tumour formation. There's evidence that it may help lower cholesterol and there are a limited number of studies from China indicating that high doses can protect against stomach and colon cancer.

However, there's no evidence that it can help protect against or cure a brain tumour.

Most studies have been laboratory-based, so there needs to be more human studies to determine whether the green tea, either as a drink or in a concentrated form, is helpful for people living with or beyond a brain tumour diagnosis.

Unfortunately, large amounts of green tea or green tea extracts have shown interactions with some chemotherapy drugs and many other medications, e.g. blood thinners, and the painkillers codeine and paracetamol.



Before taking high doses of green tea or green tea supplements, please discuss this with your doctor and pharmacist.

Is eating apricot kernels a good idea? (sometimes called laetrile, amygdalin or 'vitamin B17')

There are lots of references on the internet to apricot kernels (and other fruit stones) being used to treat tumours. However, it hasn't been shown to be effective in treating or preventing tumours and there's no evidence to support their use.

It's important to be aware that the apricot kernels are broken down in the stomach where they release cyanide (a poison).

There are several cases of cyanide poisoning from taking these products.

Apricot kernels are NOT recommended for patient use.

Vitamin B17 is NOT a recognised vitamin.

Should I take a vitamin and mineral supplement?

If you're following a mixed, balanced healthy diet, then you shouldn't need to take a vitamin or mineral supplement. Ask to speak to a dietitian if you're concerned about the balance of your diet.

If you're having chemotherapy or radiotherapy, you should avoid taking antioxidant supplements (for example, supplements containing vitamin A, C and E and selenium) as they may interfere with the effectiveness of the treatment.

It's also important to note that some nutrients can be toxic or harmful to health at a high level. A high dose of one nutrient may also affect how the body absorbs other nutrients.



DON'T take any vitamin or mineral supplements without first checking with your doctor, dietitian or pharmacist
- many vitamins and mineral supplements can interact with various medication.

For more information about vitamins and supplements, see our webpage: thebraintumourcharity.org/vitamins-and-supplements/

Who should I see about my diet?

You might have already come across the terms dietitian, nutritionist and nutritional therapist. Sometimes it's difficult to distinguish between these titles when seeking help for matters concerning your diet.

Dietitian

If you're affected by a brain tumour and are experiencing problems with your diet or weight, a registered dietitian is the professional who's best qualified to help you.

Dietitians are the only professionals in the field of nutrition whose practice and ethical standards are governed by law. This makes sure that their work is carried out at to the highest possible standard and protects patient safety.

Dietitians work within the NHS or privately and specialise in helping with dietary issues faced by those affected by various diseases. If you feel you need to see a dietitian, ask your doctor to refer you to one working within the NHS.

Nutritionist/nutritional therapist

Nutritionists work in a variety of settings from the NHS to food industries. Nutritional therapists often have private practices where they give advice to people about what they should eat to lose or gain weight, or manage symptoms of different ailments.

Nutritionists and nutritional therapists within the UK are NOT regulated to the same degree as dietitians. There's no guarantee they'll give you advice or supplements based on scientific evidence instead of their own personal opinion.

What is a healthy diet?

Eatwell

Check the label on packaged foods

Each serving (150g) contains

Energy	Fat	Saturated	Sugars	Salt
1948kJ 458kcal	3.0g	1.3g	34g	0.9g
13%	LOW	LOW	HIGH	MED
	4%	7%	38%	15%

of an adult's reference intake

Typical values (as sold) per 100g: 697kJ/ 167kcal

Choose foods lower in fat, salt and sugars

Use the Eatwell Guide to help you get a balanced diet. It shows how much of what you eat overall should be.



Source: Public Health England in association with the Welsh government, Food Standards Scotland and the Food Standards Agency in Northern Ireland

Guide

...ance of healthier and more sustainable food.
...ould come from each food group.

Choose wholegrain or higher fibre versions with less added fat, salt and sugar
Potatoes, bread, rice, pasta and other starchy carbohydrates



Water, lower fat milk, sugar-free drinks including tea and coffee all count.

Limit fruit juice and/or smoothies to a total of 150ml a day.



Choose unsaturated oils and use in small amounts

...er proteins
...f sustainably
...y. Eat less

Dairy and alternatives
Choose lower fat and lower sugar options

Per day 2000kcal 2500kcal = ALL FOOD + ALL DRINKS

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Healthy eating is about the overall balance of your diet over weeks, months and years. It's about having a diet of foods you enjoy, with as much variety as possible and not too much of anything.

A healthy diet consists of a balance of protein, carbohydrates and fats and well as other nutrients, such as fibre, vitamins and minerals.

A well-balanced diet also helps protect against health problems, such as heart disease, diabetes and some types of cancer.

The NHS has excellent general advice about achieving a healthy diet on their Eatwell webpages.

[nhs.uk/live-well/eat-well/the-eatwell-guide/](https://www.nhs.uk/live-well/eat-well/the-eatwell-guide/)

The World Cancer Research Fund (WCRF) also has advice on eating a healthy diet during treatment. Even if your tumour isn't cancerous, i.e. it's low grade, much of the information and advice is still relevant, as you may have the same side-effects from treatment.

[wcrf-uk.org/uk/here-help/eat-well-during-cancer](https://www.wcrf-uk.org/uk/here-help/eat-well-during-cancer)

What is a portion?

The Association of UK Dietitians (BDA) has a list of what counts as a portion for all food groups:

[bda.uk.com/foodfacts/portion_sizes](https://www.bda.uk.com/foodfacts/portion_sizes)

Protein

Protein is used by the body for:

- building and repairing cells
- maintaining the immune system
- providing a key component of muscles and organs.

Your body will need more protein after periods of stress, such as surgery.

You should aim to eat 2-3 portions of protein-rich food each day.

Good sources of protein include:

- fish
- poultry
- eggs
- dairy products
- nuts and nut butters
- beans and pulses, such as lentils
- Quorn® or tofu.

(The plant and fungus-based protein foods can be good sources of fibre too.)

Choose lean cuts of meat and mince and aim to eat less red and processed meats, such as bacon and ham.

Aim to have at least 2 portions of fish a week (with one portion being an oily fish, such as salmon or mackerel).

A lack of protein in your diet can result in slower recovery and an increased risk of infection. Very high protein diets are also not usually needed and can place extra stress on the kidneys or the excess protein can be converted into body fat.

Carbohydrates

Carbohydrates are sugars and starchy foods.

Sugar and sugary foods

Sugar and sugary foods provide energy, but are often low in other beneficial nutrients, such as protein, minerals and vitamins.

If you're trying to lose weight, cut down on sugar and sugary foods. Switching to no-sugar or low sugar cereals, diet drinks, and having fresh fruit and vegetables as a snack, will help cut down your sugar intake.

Starchy foods (fibre)

Starchy foods also provide energy, but contain other nutrients, such as calcium, iron and B vitamins, as well as being a major source of fibre.

Fibre

Fibre is the name given to a range of compounds found in the cell walls of vegetables, fruits, pulses and cereal grains. It can't be broken down and helps digested food and waste products (poo) move through the gut and prevent constipation.

Starchy foods include cereals, bread, rice, pasta and potatoes. They should make up just over a third of the food we eat.

To increase your fibre, choose wholegrain foods, such as wholemeal bread, whole wheat pasta and brown rice, and leave skins on potatoes, etc.

Some people think starchy foods are fattening, but gram for gram they have less than half the calories of fat. The extra fibre in starchy carbohydrates can also help fill you up, which makes them a good option if you're trying to lose weight.

Fat

Fats are the richest energy source available. This means that every gram of fat has more calories than a gram of protein or carbohydrate.

For this reason, if you're trying to put on weight, eating fat-rich food can help.

If you're overweight, it's often a good idea to cut down on the amount of fat-rich food that you eat.



Please note – there are exceptions to this. For example, if you're having side-effects from tumour treatment and high calorie foods are the only foods that appeal to you, or are all you can tolerate, then they're OK to eat (in moderation).

Fat also helps the body absorb some vitamins and provides essential fatty acids.

There are some types of fat which are considered better than others, due to the different effects they may have on cholesterol.

Cholesterol is a substance in our body which supports vital functions, such as digestion and the production of hormones.

There are two types of cholesterol:

- 'good' cholesterol
(also known as HDL or high density lipoprotein).
It lowers the risk of coronary heart disease (blocking of blood vessels and arteries).
- 'bad' cholesterol
(also known as LDL or low density lipoprotein).
It raises the risk of coronary heart disease and stroke.

Healthier fats

Healthier fats are known as monounsaturated or polyunsaturated fats. They tend to keep the levels of 'bad' cholesterol down.

Monounsaturated or polyunsaturated fats are found in:

- most vegetable oils (such as rapeseed oil, sunflower, corn and olive oil)
- some nuts (almonds, brazils and peanuts)
- seeds (such as pumpkin, sesame and sunflower)

- avocados
- olives
- fish (such as salmon, trout, sardines and mackerel).

These are all foods that can be helpful to add to your diet if you need to gain weight.

Less healthy fats

Less healthy fats are called saturated fat (saturates) or trans-fatty acids. They tend to raise levels of the 'bad' cholesterol.

Saturated fat is contained mainly in:

- fatty meat
- high fat dairy products (such as butter, ghee, cream, cheese, palm oil and coconut oil)
- chocolate
- cakes and biscuits.

Trans-fatty acids are a type of saturated fat. As well as raising the level of 'bad' cholesterol, they can also reduce the level of 'good' cholesterol. They're found in:

- partially hydrogenated vegetable oil, as found in some margarines (this will be stated on the food label)
- some deep fried foods, such as from takeaways - particularly if the cooking oil hasn't been changed frequently.

Most people in the UK don't eat many trans-fatty acids, as they've been removed by food manufacturers.

You can find the amount of different types of fats (and sugars and salt) contained in your food by referring to the food label on the packaging.

See the top left hand corner of the Eatwell Guide on page 36, for an example of these labels.

Fruits and vegetables

Fruits and vegetables are a good source of vitamins, minerals and fibre and are an essential part of our diet. They should form at least a third of your daily diet.

Aim to eat at least 5 portions of a wide variety of fruits and vegetables each day.

They may be fresh, frozen, tinned, dried or juiced (but remember to limit juices and smoothies to no more than 150mls a day).

Fluids

It's generally advised that you drink about 6-8 glasses of liquid each day (approximately 1.5-2 litres). All types of liquid count towards your fluid target.

If you're trying to lose weight, choose sugar-free or low sugar drinks and low-fat milk as part of your fluid intake. Avoid having lots of high caffeine drinks as they can cause unpleasant side-effects and they're mildly dehydrating.

Good hydration is vital to our survival and well-being.

Further information

For more information on what constitutes a healthy diet:

- British Dietetic Association fact sheets:

[bda.uk.com/food facts/home](http://bda.uk.com/food-facts/home)

- NHS choices website:

nhs.uk/livewell/goodfood/pages/eatwell-plate.aspx

Other useful sources of advice for nutrition and cancer (high grade tumours) include CRUK, Macmillan and the NHS website (the Behind the headlines articles).

If you do your own research on the internet about diet and nutrition, make sure you choose sources which are credible and trustworthy. Ask organisations' websites how they research, write and publish health information and makes sure that it's scientifically accurate and credible.

Notes

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About this information resource

All of our information is produced using robust processes, which follow best practice and quality guidelines of health information production, to ensure accuracy and reliability.

Written and edited by our experienced Information and Support Team, the accuracy of medical or other specialist information in this resource has been verified by leading professionals specialising in relevant areas of expertise.

Our information resources have been produced with up-to-date, reliable sources of evidence, as well as the assistance of members of our community, to make sure it makes sense to everyone and includes the information they want to see.

We hope that this information will complement the medical or social care advice you've already been given. Please do continue to talk to your healthcare team if you're worried about any medical issues.

If you'd like a list of references for any of our information resources, or would like more information about how we produce them, please contact us.

We welcome your comments on this information resource, so we can improve. Please give us your feedback via our Information and Support Team on 0808 800 0004 or support@thebraintumourcharity.org

Version 4.0 December 2019
Review date: December 2022



About The Brain Tumour Charity

Going further for a cure

As the UK's leading brain tumour charity, we're here to accelerate a positive change in how people affected by brain tumours are diagnosed, supported and cured.

At The Brain Tumour Charity, we believe that no-one should have to live with a brain tumour or lose a loved one to a brain tumour. Advances in both treatments and quality of life care need to be made - and they need to be made quickly.

We know that if we put our heads together, we're more than up to the challenge. So we're building a movement of people from every walk of life - all coming together to accelerate a cure.

Find out more and get involved:
thebraintumourcharity.org



**WE'RE
HERE FOR YOU
AT EVERY STEP**

thebraintumourcharity.org

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