

Diet and nutrition

A balanced diet is an important part of a healthy lifestyle. Eating well can help to prepare your body for treatment, and to recover well.

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The importance of a healthy diet

Eating a healthy diet is important for both physical and **mental wellbeing**. It helps your body to grow, repair, and work well.

Staying in good general health can help:

- make the full range of **treatment** options available to you
 - prepare your body for treatment (**prehabilitation**)
 - tolerate higher doses of **chemotherapy**
 - protect you from **infection**
 - in your **recovery from treatment**
 - keep your strength and energy levels up
 - lower the risk of developing other cancers and illnesses.
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What is a healthy diet?

Your diet should include:

- **fruit and vegetables**
- **carbohydrates**
- **protein** (including **dairy or dairy alternatives** as a source of protein)
- **fibre**
- **fat**
- **fluids.**

Although I thought I was eating a healthy diet, once it was pointed out to me (by a dietician) that I was not eating enough protein, it really helped me to re-balance what I ate.

Teresa, in remission from non-Hodgkin lymphoma.

We give brief information about these below. You can find out more about **food types on the NHS website**.

Eatwell guide

The UK government sets out recommendations on eating a healthy and balanced diet. This is known as the **Eatwell guide**. The NHS also give guidance on **what to feed young children**.

The Eatwell Guide below is available to **download on the UK Government website**. This version is for people whose diet does not restrict any food groups.

The Vegetarian Society produce an **Eatwell guide for people who follow a vegetarian diet** that does not contain fish or meat.

The Vegan Society produce an **Eatwell guide for people who follow a vegan (plant-based) diet**.



Figure: Eatwell guide.

Fruit and vegetables

Fruits and vegetables are good sources of **fibre**, vitamins and minerals. The recommended intake of fruit and vegetables is at least 5 different portions (of around 80g each) per day. Eating a 30g portion (1 tablespoon) of dried fruit also counts as a portion.

As a rough guide, the following count as one portion:

- an apple, banana, slice of melon or a handful or two of berries
- 3 heaped tablespoons of cooked vegetables or cooked, canned pulses or beans
- 7 cherry tomatoes or a cereal bowl of salad leaves.

The NHS website gives more information about **what counts as one of your five a day**. The World Cancer Research Fund also produce a **set of resources** that you can download free of charge, including a **poster on what a 5-a-day portion is, making sense of food and drink labelling** and **how to eat well during cancer**.

Carbohydrates (starchy foods)

Carbohydrates should make up around a third of your daily food intake. They are the main way your body gets energy. Carbohydrates also provide vitamins and minerals.

Carbohydrates are a source of **fibre**, (which is the part of fruit, vegetables and cereal foods that are not broken down in the digestive tract). Fibre adds bulk to make you feel full. It is also important for keeping your bowel movements regular.

Foods that are high in carbohydrates

Foods high in carbohydrates include rice, potatoes, bread and pasta. Brown, wholegrain or wholemeal varieties provide more fibre than other options. Grains, such as quinoa and cous cous, are also a source of carbohydrate.

Protein

Your body needs protein to grow and repair cells and tissues. Protein is also important for the health of your muscles and **immune system**.

You might need more protein than usual to help your body heal during and after your **treatment for lymphoma**. If you are losing weight, seek advice from a member of your medical team about how to make sure you are getting all the nutrients you need. If it is appropriate for you to gain weight, **they can help you to do so safely**.

Foods that are high in protein

Foods that are high in protein include **meat**, fish, eggs and **dairy products**. Plant-based products that are high in protein include beans, lentils, nuts, seeds, nut butters, hummus, tofu and meat substitutes made from a plant-based protein called mycoprotein.

Meat

Meat is a good source of protein. Lean (meats with little fat), grilled cuts of fresh (unprocessed) white meats, such as chicken and turkey without the skin on, can be a healthy choice.

As well as providing protein, red meat (such as beef, lamb and pork) is also a good source of minerals, such as iron and zinc. However, the UK government recommends that you limit the amount of red and processed meats (foods that are smoked, cured or have had salt or chemical preservatives added to them) to 70g per day.

You can find information about red meat and processed meat on the **World Cancer Research Fund's website**. This includes about **possible links between eating a lot of red and processed meat and the development of cancer**, and **tips for how to limit your intake of these foods**.

Dairy or dairy alternatives

Include **dairy products or dairy alternatives** in your diet. This provides calcium (which is important for bone health), zinc (a mineral with various functions, including helping wounds to heal) and protein. Milk, yoghurt and cheese are a good source of dairy. If you are **lactose intolerant** or follow a **vegan diet**, you can meet your calcium requirements with calcium-fortified non-dairy alternatives, such as coconut milk, dairy-free yoghurts and soya products. The NHS website has more information about **dairy alternatives**. You might also be interested in the **British Dietetic Association's calcium food fact sheet**.

Some dairy products are generally healthier than others. For example, vegetable-oil spreads are lower in **saturated fat** than butter.

Fibre

Fibre helps with heart and digestive health. Foods that come from plants are usually high in fibre, for example fruits, vegetables, cereals and potatoes. Aim to eat 30g of fibre each day. The NHS website gives **tips to help get more fibre in your diet**.

Fat

Fat is an important source of energy, vitamins and essential fatty acids (such as **omega-3** and **omega-6 fats**). There are different types of fat. However, a lot of the time when people talk about 'fat', they mean '**saturated fat**'.

If you are trying to gain weight, your medical team might advise that you eat some higher-fat **dairy or dairy alternative products**.

Unsaturated fats

Some types of fat (unsaturated fats) help to keep your heart healthy and lower your **cholesterol**.

These are found generally in plant foods such as seeds, nuts, olives, and avocados. They can be one of the following types of fat:

- polyunsaturated, such as sunflower, soya, corn, and sesame oils or spreads
- monounsaturated, such as olive and rapeseed oils or spreads.

Essential Fatty Acids

Essential fatty acids are a type of polyunsaturated fat, also known as **omega-3 fats** and **omega-6 fats**. You need to eat a small amount of these in your diet as it's not possible for your body to produce them.

Sources of omega-3 fats include:

- oily fish, such as sardines, salmon or mackerel
- walnuts, flaxseeds and linseeds
- green, leafy vegetables.

Some food (such as eggs or fish products) might also be fortified with omega-3.

Sources of omega-6 fats include:

- nuts
- seeds
- vegetable oils or spreads, such as rapeseed, corn, or sunflower.

Saturated fats

Limit your intake of saturated ('sat') fats. This type of fat is found in foods such as butter, fatty cuts of meat, cakes, and many processed foods, such as sausages and crisps. Too much saturated fat increases health risks including **heart disease** and **stroke**.

- Women should eat no more than 20g of saturated fat a day.
- Men should eat no more than 30g of saturated fat a day.

If you are trying to gain weight, your medical team might advise that you choose some foods that have a higher in fat content. For example, dairy foods that are high in energy, such as full cream milk or full fat yogurts.

Check the **nutritional information on the labels or packaging of products** to see how much of each type of fat it has in it. There are also apps available to help you to check nutritional content, for example, the **government's food scanner app**.

Fluids

The general recommendation is to drink around 1.5 to 2 litres (roughly 6 to 8 glasses) per day. All fluids count, with the exception of alcohol. Tea and coffee contain **caffeine**. We offer some tips below **if your taste is affected by treatment**.

It's particularly important to drink plenty if you are losing extra water from your body. For example, if you have **symptoms of lymphoma** such as sweating, or **side effects of treatment**, such as sickness (vomiting). Drinking plenty of fluids can also help to ease **constipation**, and to improve urinary or bladder problems.

How lymphoma might affect your eating

Some people ask whether they should follow a **certain diet** when they have been diagnosed with cancer. However, the general guidance for people affected by lymphoma is the same as it is for people who are not affected by lymphoma – to **eat a healthy, balanced diet** as far as you are able to, and to drink enough **fluids**.

Difficulties with eating

You might, however, experience difficulties with eating as a result of **treatment for lymphoma**. For example:

- **loss of appetite and feeling full quickly**
- **increased appetite**
- **sickness and nausea**
- **changes in taste**
- **diarrhoea**
- **constipation.**

We offer some tips below, and you'll find more in our **living with and beyond lymphoma** book. You might also be interested in the **top tips for healthy eating** our Facebook group and online support group members shared.

If you struggle to eat or drink, speak to a member of your **medical team**. They might offer you a referral to a **dietitian**, who can give you specific guidance about how to improve your nutritional intake. Do not take any supplements without seeking medical advice as some could interact with lymphoma treatments and other medications in unwanted ways.

If you are **neutropenic**, your medical team might give you separate guidance about food safety. You might have heard of a 'neutropenic diet' (sometimes called a 'clean', 'low-bacterial' or 'low microbial' diet). There is limited scientific research supporting neutropenic diets. Your medical team are best placed to advise you on any foods or drinks to avoid.

Loss of appetite or feeling full quickly

Some medicines and treatments for lymphoma can lower your appetite or make you feel full soon after you start to eat. This could be a side effect of **chemotherapy**. It might also happen if you have lymphoma in your gut (gastrointestinal tract) or if you have **radiotherapy** to your gut.

If you feel less hungry than usual or you become full quickly, you could try the following tips:

- **Eat little and often** – with snacks between meals.
- **Choose foods that are high in protein and energy** – such as omelettes, cheese, yoghurts, nut butter, milk-based puddings, bananas and oats. Full-fat products, for example whole milk, full-fat yoghurt, nut butters and avocado provide more energy (calories) than low or reduced fat ones. You can also add energy and nutrients to your food with products such as olive oil and milk powder.
- **Limit your fluid intake soon before you eat** – you might find it helps not to drink for around 30 minutes before your food.
- **Order a smaller portion if you are eating out** – for example, you might prefer to eat a starter or a child's portion if a full main meal feels too much.

We often hear that, for many reasons, it can be difficult to eat. Some people have found it helpful to eat little and often, or to have snacks in between meals. Sometimes it can feel a pressure to eat, particularly if friends and family have noticed your change in appetite and encourage you to eat when your appetite is low. It might be helpful to let them know that you are finding it difficult to eat as you would normally, and perhaps suggest ways in which they could help you, such as preparing small snacks for you to have throughout the day.

Nicola, Lymphoma Action Helpline Services team member

If you continue to lose weight, you could ask a member of your medical team if they're able to refer you to a **dietitian**.

Macmillan Cancer Support have information about **the building up diet**, giving tips to help you gain weight if you are affected by cancer.

Increased appetite

Some **steroid treatments** can make you feel more hungry than usual. Your appetite should return to normal once you finish treatment.

Steroids are often used as part of lymphoma treatment. They can increase your appetite. They can also affect how quickly your body uses energy (your metabolism). If this happens, you might gain weight even if your appetite doesn't increase.

Your weight should return to normal soon after you finish treatment. In general, it's best to avoid dieting during treatment as it can make it harder for your immune system to recover. Your height and weight are also important in calculating treatment doses. Instead of dieting, focus on eating a healthy diet, **taking physical activity**, and giving your body energy to help with your recovery.

Nausea and sickness

Nausea and vomiting (feeling and being sick) can be a side effect of treatment for lymphoma. It can also be a symptom of **stress** and anxiety.

To help with nausea:

- Try not to skip meals, as hunger can worsen nausea.
- Eat dry plain foods such as crackers, toast or rice.
- Include ginger in your diet, for example in the form of ginger beer, ginger tea, ginger biscuits, or root ginger.
- Eat foods you like, but avoid your favourites, in case you start to associate them with sickness.
- Eat food cold or cook it in a microwave. This minimises the smell of food, which could worsen nausea.

Changes in taste

A side effect of some medications, including **chemotherapy** and some **targeted therapies**, is that food tastes different. During your treatment, you might also be more at risk of developing **infections**, such as **mouth (oral) thrush**. This can make food taste unpleasant.

Many people say food tastes bland to them during treatment for lymphoma. Other people describe a metallic taste in their mouth, with some foods (particularly beef) tasting metallic. It's also quite common for food to taste salty, bitter or sweeter than usual, or you might find that it doesn't taste of much.

If food tastes metallic, you could try using plastic cutlery and canned foods. If food tastes bland, try different textures, like crackers and hummus, and temperatures such as warm fruit crumble and icecream. You can also try marinating meats, and eating foods with a 'sharp' taste – for example, try adding forest fruits to cereals and puddings.

Lorraine Gillespie, Head of Nutrition and Dietetics

The effects of treatment on your taste can change over time. For example, foods that you didn't enjoy earlier in your treatment might start to taste good again, although this can take some time. Once you finish treatment, taste changes should start to fade away.

Understandably, a change in taste can limit the foods you eat, which can lead to weight loss. If you're losing weight, ask your medical team for advice to help you to get enough energy and nutrients through your diet, and to prevent further weight loss.

Adding flavour to food

If your food seems to lack flavours, you could try:

- flavouring savoury food with herbs, spices, sauces, dressings, pickles, yeast extract and chutneys
- drizzling fruit sauces onto desserts or adding berries.

Finding drinks you enjoy

In general, milk-based drinks can be nourishing, providing **protein**, vitamins and minerals as well as energy. However, if changes in taste affect your enjoyment of drinks:

- You might find 'sharp' tasting fizzy drinks (such as lemonade or ginger beer) more enjoyable than milder flavours.
- Try herbal teas if you stop enjoying tea and coffee during treatment for lymphoma. We have information about **green tea** in our frequently asked questions section.

Diarrhoea

Diarrhoea can be a side effect of some treatments for lymphoma. Eating little and often can be a helpful approach. Drink plenty of fluids to prevent dehydration while you have diarrhoea. Soup, jelly, sorbets and ice lollies are sources of fluids, too.

Be aware of **symptoms of dehydration**, which include weeing less often or passing only small amounts of dark coloured urine.

If you have diarrhoea, speak to your doctor or nurse. They might give you medication to help and can advise on whether to make changes to your diet. You could also speak to them about the possibility of getting a referral to a **dietitian**.

Constipation

Constipation is a side effect of some chemotherapy drugs, anti-sickness medications (**antiemetics**) and pain relief medication, especially morphine-based ones, such as codeine.

Talk to your doctor or nurse about whether it is suitable for you to take laxatives and, if so, which ones – do not take any (including herbal remedies) without seeking medical advice first. You might also find that you can ease constipation by increasing the amount of **fibre** in your diet. Talk to a member of your medical team for advice about this. **Drinking plenty of fluids** and taking gentle **exercise** might also help.

FAQs about diet and lymphoma

We answer some common questions people have about diet and lymphoma. Speak to your medical team for advice specific to your situation.

Are there certain foods that could help cure lymphoma?

There is no evidence that any foods can prevent or treat cancer – be wary of claims that it can.

Cancer Research UK have information about **alternative cancer diets**, including Gerson therapy (coffee enemas) and macrobiotic diets (which aims to avoid foods containing toxins). They advise against following an alternative cancer diet. This is because, in addition to the lack of scientific evidence to say that any are effective, some could make you very unwell and lead to a lack of nutrients.

You might also be interested in **Cancer Research UK's information about cancer myths**.

Should I take supplements?

If you are able to eat a **healthy balanced diet**, the general guidance is that you do not need to take additional vitamin or mineral supplements. If you have **difficulties eating**, your doctor might advise you to take an additional general multivitamin and mineral supplement. It's important to check with them before taking any supplements. Some are harmful if taken in high doses and can react with treatment for lymphoma and any other medications.

How could a dietitian help me?

A dietitian can check your current nutritional levels and help you to find ways of meeting your nutritional requirements, taking in to account a range of factors, including your treatment. They can offer advice if you are having difficulties with eating, or you are losing weight. This might include through foods with a higher energy content, how often you eat, and recommending nutritional supplements.

This might include through supplements (for example, if your body is unable to absorb nutrients properly), as well as through your intake of food and drink.

The British Dietetic Association have more information about **how a dietitian can help you**.

Are there foods I should avoid if my immune system is lowered?

If your **immune system** is lowered, doctors might describe you as being 'immunosuppressed'. This makes you more vulnerable to infection. If you have a low number of white blood cells (**neutropenia**), you are immunosuppressed. Speak to your medical team for advice about any foods you should avoid to help lower your **risk of infection**.

Will sugar make my lymphoma worse?

There is no evidence that eating sugar makes lymphoma, or any type of cancer, grow. There are also no research findings to say that if you do not eat sugar, your lymphoma will go away.

However, eating a lot of sugar brings other health risks, including **obesity**, which is linked to the development of other cancer types. A **healthy diet** means eating sugar in moderation. In general, sugary foods (such as cakes, biscuits and honey) provide little nutritional goodness and can lead to weight gain. If you are losing weight unintentionally, however, you may need to temporarily increase your intake of foods that are high in sugar and fat – your doctor can give you advice about this.

Cancer Research UK has more information about **sugar and cancer**. You can also read about **cancer diet myths** on the Association of UK Dieticians website.

Is it OK to eat a vegetarian or vegan diet?

If you follow a vegetarian or vegan diet, you can still meet your nutritional requirements. Include a variety of carbohydrate foods, protein, fruit and vegetables in your diet. Make sure that you get enough iron, too. You can do this by eating pulses and dark green, leafy vegetables. If you eat a vegan diet, you should also consider taking a **Vitamin B12** supplement to avoid developing a deficiency.

The Vegetarian Society and **The Vegan Society** give further guidance relevant to these diets.

Should I eat organic foods?

Organic food is produced with restricted use of man-made fertilisers and pesticides. In the UK, this is set by the **Department for Environment Food and Rural Affairs** (DEFRA).

Some people choose to eat an organic diet because they are concerned about traces of **chemicals** such as pesticides and herbicides left in food. These levels are closely monitored and reviewed with the aim of keeping them well below the level considered to be safe.

Some research shows that organically grown crops contain higher levels of antioxidants (for example certain vitamins and minerals). Antioxidants can help to lower damage to cells. However, there is not yet research to say whether eating more antioxidants in food reduces the risk of cancer. It's also important to note that taking antioxidant supplements could have harmful effects.

In summary, there is no good quality evidence to support that eating organic foods can prevent cancer or stop cancer recurring. For example:

- A **UK study** of over 600,000 middle-aged women found little or no decrease in cases of cancer associated with eating organic food. An exception was in relation to a small, possible effect in the case of **non-Hodgkin lymphoma** (NHL). However, further investigation is needed.
- A **study carried out in France** looked at 69,000 people. It found a lower risk of cancer in those who ate the most organic foods compared to those who ate the least. The largest effect was seen with lymphoma, particularly non-Hodgkin lymphoma. As the number of cases was very low, however, scientists are unable to draw conclusions.

Is it safe to eat grapefruit?

Some foods affect how well drugs work. Drugs need to be broken down and absorbed into your blood stream before they can take effect. Proteins called 'enzymes', particularly one known as 'CYP3A', are important in this process. Foods that block the action of these enzymes lower the amount of the drug that is absorbed into your body, making it less effective.

Grapefruit can block CYP3A. You might, therefore, be advised to avoid eating grapefruit or drinking grapefruit juice while you are having treatment for lymphoma. Other fruits that may block CYP3A include Seville oranges, blackberries, pomegranates and some varieties of grape.

Your consultant can advise you on whether to avoid particular foods and drinks based on your specific treatment.

Is green tea helpful for people with lymphoma?

Some laboratory studies suggest that green tea could have the potential to prevent some cancers from developing and to stop cancer cells from growing. However, the evidence is mixed and much more research is needed with human participants before we can draw firm conclusions.

- A study in Japan looked at over 40,000 adults. The researchers found a 42% lower rate of blood cancers, including **non-Hodgkin lymphoma** (NHL), in people who drank 5 or more cups of green tea each day compared to zero or 1 cup a day. Some scientists think that the high level of **antioxidants** in green tea might account for this. However, there are limitations to this study, and there are other cultural and lifestyle differences between different countries that might influence cancer rates.

- A review carried out in 2016 looked at 51 studies with a total of over 1.6 million people. There was no conclusive evidence to make a link between drinking green tea and preventing cancer.

Is it safe to drink green tea?

Check with your doctors whether green tea could affect your treatment or any medications – for example, researchers have reported that green tea could stop the drug **bortezomib** working as well as it would do otherwise. Findings so far have come only from animal studies and more research is needed to tell whether this also applies to humans.

Can Echinacea (purple cornflower) help me?

Echinacea is sometimes thought to boost immunity, fight cancer and improve side effects of chemotherapy and radiotherapy. At the moment, there is no evidence to support these ideas. If you would like to take Echinacea, speak to a member of your medical team about doing so first to check that it is safe for you. If you do decide to take it, make sure that you buy it from a reputable seller. Cancer Research UK have more [information about Echinacea](#).

Is it safe to diet while I am having treatment for lymphoma?

Generally, you should not try to lose weight during treatment. This is because your body needs nutrients and energy, so restricting your intake or cutting out food groups can make it harder for your immune system to recover from treatment. If you are thinking of dieting, speak to your doctor for advice on whether it is safe to do so.

Can I eat out?

If you have a low number of neutrophils (**neutropenia**), take extra care to follow **food safety** advice when eating out. You can check the food hygiene rating of pubs, clubs, take-aways and restaurants at the [scores on the doors](#) website.

References

The full list of references for this page is available on our website. Alternatively, email publications@lymphoma-action.org.uk or call 01296 619409 if you would like a copy.

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