



Eating well during cancer treatment

Support your health during cancer treatment




Penny Brohn UK
Living Well with Cancer

In partnership with

MACMILLAN
CANCER SUPPORT

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Introduction

Eating well is an important way we can support our health and wellbeing. If you have cancer, it can help by reducing some of the symptoms and side-effects of treatment, and by reducing the chances of your cancer returning.

Eating well isn't always easy, especially during cancer treatments like chemotherapy and radiotherapy.

This booklet provides general advice to help you eat well during both chemotherapy and radiotherapy, as the challenges can be similar (where the information is specific to either chemotherapy or radiotherapy this will be stated). There's no one way of eating that's right for everyone so the general advice in this booklet will need to be adapted to you and your situation. It's not intended to replace any advice given to you by a member of your healthcare team.

How to use this booklet

The information and guidance in this booklet has been written by oncology dietitians, doctors, nurses, pharmacists, radiographers and nutritional therapists and reviewed by members of the public.

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It aims to help you:

- Eat as well as you can through treatment, so that you get a healthy balance of nutritious foods to support your general health and wellbeing
- Make changes to your eating in an enjoyable, sustainable and safe way, that doesn't interfere with your treatment

- Manage symptoms and side-effects of treatment which can impact eating and drinking (also see separate *When eating becomes difficult* booklet)
- Keep safe by following important food hygiene advice during chemotherapy and other treatments
- Answer some of the questions that are commonly asked by people going through cancer treatment.



More specific dietary support from a registered healthcare professional may be necessary if, for example, you're having difficulty swallowing, are having trouble with your weight, have a colostomy bag or have any other persistent digestive problems. Please discuss with your healthcare team if you feel you need further support.

How can food help during and after cancer treatment?

In addition to the many physical health benefits, taking steps towards eating well during cancer treatment can give you a sense of control, by focusing on something positive that you can do for yourself.

It may help to:

- ✔ Boost your immunity
- ✔ Improve your overall health and sense of wellbeing
- ✔ Improve energy levels and reduce fatigue
- ✔ Speed up your recovery after treatment
- ✔ Improve your sleep
- ✔ Manage some of the side-effects of treatment
- ✔ Reduce the chances of your cancer coming back.

Everyone is different and may have different nutritional needs and concerns. These can vary as a result of:

- The type of cancer
- Eating patterns and preferences prior to cancer diagnosis/treatment
- Symptoms and side-effects of treatment
- Other medical conditions
- Social, cultural and religious factors.

However, researchers agree that there are some basic facts about food which are worth knowing more about. We will try to highlight foods that help to support good health, as well as identifying those that are less useful.

What does eating well during treatment mean?

Eating well means choosing a wide variety of nutritious foods every day that provide enough energy (calories), and a good balance of protein and other nutrients, to maintain a healthy weight and help the body withstand and recover from the side-effects of treatment.

There's no one diet that suits everyone, and research shows that digestion is better when stress levels are low, so it's important that you choose foods that suit you, that you enjoy, and that are easy to prepare and eat during cancer treatment. In general, the broader the range of different foods you eat and enjoy, the better you'll be able to support your health and digestion.



Vegetables and fruit

These contain essential vitamins and minerals, fibre and hundreds of important plant (or phyto-) nutrients (different phytonutrients are found in differently coloured vegetables and fruit) that are important for our wellbeing, and for keeping our immune systems healthy.

Aim for at least five portions of colourful vegetables and fruit every day. Try to have a broad range each day e.g. berries, broccoli, leafy greens, cooked tomatoes, carrots, peppers, squash, red onions, pomegranate, apples, plums, pineapple. You could try some of these as a smoothie (blended whole vegetables and fruit) or soup for a change, which both count towards one of your five-a-day.

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Foods containing protein

These are important building blocks for cells, including immune cells, bone, muscles and all the functions of the body. They're particularly important for repairing damage after surgery or cancer treatment.

Include a range of high protein foods at each meal, such as beans, pulses, eggs, fish (at least two servings per week, one of which should be oily fish, like salmon, pilchards, sardines or mackerel), lean meat, meat alternatives such as tofu or Quorn™, nuts and seeds.



Dairy or calcium-fortified alternatives

As well as protein and fat, these contain calcium and other minerals, which are important for bone and muscle health.

Aim for up to three servings per day of foods such as milk, yoghurt, cheese, or non-dairy alternatives (such as soya products). Some dairy alternatives contain very little protein; therefore it's important to include other protein sources if not choosing dairy or soya products.



Wholegrains and whole food carbohydrates

These contain stores of slow-release energy as well as fibre, and other plant nutrients which help to keep the digestive system healthy.

If possible, choose carbohydrate foods that release energy over a longer period of time, such as potatoes with skin on and wholegrain foods (wholemeal bread, brown rice and wholewheat pasta, and unsweetened wholegrain breakfast cereals e.g. whole oats). Include some wholegrain foods with every meal, especially if you're losing weight. These foods should make up around one third of your plate.



Healthy fats

These are good sources of energy and are essential for brain health and for providing fat soluble vitamins including A, D and E.

Choose varieties such as olive/rapeseed oil, and use hard fats like butter, spreads and coconut oil only in small amounts. Foods such as nuts and seeds and their spreads, avocados and oily fish are also good sources of healthy fats.



Fluids

Drink at least 6-8 cups/glasses of fluid every day to keep well hydrated. This could be a mixture of hot and cold drinks including tea, coffee, water and low sugar soft drinks.

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Culinary herbs

These contain many compounds, which can be beneficial for health and are very useful for flavouring dishes so that you need less salt and sugar. They can be particularly helpful if food tastes bland or unpleasant.

Try including fresh and dried herbs and spices such as: basil, oregano, thyme, parsley, coriander, turmeric, ginger, cinnamon, cardamom, cumin, black pepper, chilli and garlic.



Herbal teas

These are a good way of staying hydrated and contain plant chemicals that may help with some of the side-effects of treatment like sickness or sleep problems.

Try shop-bought peppermint, chamomile, fennel and fruit teas to drink, which are safe to include and make a pleasant change from tea or coffee. Ginger tea can be bought in teabags or made from grated ginger root, and this may be helpful if you're experiencing nausea.

It's important to seek individual advice from your oncology pharmacist about any herbal teas or products offered by herbal practitioners or herbal suppliers. These can be much more concentrated and may risk an interaction with your treatment or other medication.



How to make changes to the way you eat

Making small changes to the food you eat everyday can make a big difference. Here are some ideas to help you choose healthier options and make sure you're eating enjoyably and safely:

Make changes in small, gradual steps, taking time to check how you feel and decide if they are right for you. Don't be discouraged if on some days, you're unable to follow some of the healthier choices. Consider asking family/friends to buy or prepare healthy foods for you if you're struggling. Always seek advice if you find changes are too challenging or give you discomfort.

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Less healthy choices



Healthier choices

White, refined: bread, rice, pasta, spaghetti, noodles.
Peeled and mashed potatoes

Wholemeal, wholegrain varieties of: bread, pitta bread, rice, couscous, quinoa, wholewheat pasta, spaghetti, oats and oatmeal, bulgar wheat. Sweet potatoes, yams, potatoes with skins on.

Refined, sugary cereals: frosted flakes and chocolate coated cereals

No added sugar cereals: porridge, fruit and nut muesli, oat based cereals, wholewheat and bran based cereals.

Sweetened biscuits and cakes, croissants, doughnuts

Plain fruit cake, (home-made often has less sugar), unsweetened malt loaf, wholemeal bread muffins, wholemeal bagels, oat and rice cakes.

Pastries, pies, sausages, ready meals e.g. pot noodles, pizzas Fatty or processed meats

Fish (fresh or canned), lean meat, chicken, eggs. Canned beans and pulses (broad beans, red kidney beans, chick peas), hummus, nuts, lentils, tofu, bean curd and mycoprotein (Quorn™).

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Less healthy choices



Healthier choices

Savoury snacks: crisps, cheese puffs, pork scratchings

Wholegrain or rye crackers and crispbreads, plain popcorn, unsalted nuts and fruit, vegetable sticks.

Sweetened fizzy drinks, fruit juices and cordials

Tea, coffee, water, fruit/herbal teas, pure fruit juice limit to one small glass per day at a mealtime, sugar free squashes and fizzy drinks.

Confectionery: sweets and chocolate

Lower fat yogurt, variety of fresh, frozen, dried and canned fruit (in natural juice) such as bananas, oranges, pears, strawberries, satsumas.

Canned vegetables with added salt/sugar, or not including vegetables

Fresh and frozen vegetables. Aim for at least five servings of vegetables and/or fruit every day.



Less healthy choices



Healthier choices

Large quantities of: full fat (blue top) or jersey (gold top) milk, cream and ice cream, or a large quantity of high fat cheese. Sweetened milks and alternatives

Semi-skimmed, 1%, or skimmed milk, or small amounts of higher fat milk, natural (unsweetened) lower fat yogurt, cottage/soft cheese, small match box size of hard cheese. Unsweetened milk alternatives fortified with calcium.

Large quantities of butter, lard, coconut oil, blended oils or ghee

Small amounts of pure vegetable oils (especially olive/rapeseed/nuts), small quantity of butter/spreads/nut butters.

Large quantity of mayonnaise, salad cream or full fat dressings

Herbs, spices, lemon/lime juice and zest, vinegars, or smaller amounts of mayonnaise/low fat dressing.

Where to go for more information

There's a lot of conflicting and confusing information about healthy eating and cancer and we hope we have simplified and explained the most important areas in this booklet. Further sources of information, practical advice, recipes and support which are backed by scientific evidence are listed on page 55.

If you're having any difficulty with your food, it's important that you tell a member of your healthcare team who'll be able to give you some individual advice.

If you're thinking of following a more restrictive diet, it's important that you seek the support of an experienced healthcare professional who'll be able to monitor you and make sure that you're getting the essential nutrients your body needs.

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Eating well on a budget

It's perfectly possible to eat well and cheaply, but it requires some preparation and planning. Ask your clinical nurse specialist/support worker, or go to your nearest Cancer Information Centre or Citizen's Advice for more details. Budget stores and markets can also be a good place to buy low cost staple food items.



Shopping



Plan ahead (a meal planner app may help), write a shopping list and then stick to it. Be strict and avoid impulse purchases.



Try not to go shopping on an empty stomach as you may be tempted to buy more than you need.



Consider buying store own brands or superstore value brands instead of commercial brands. There's not always much difference between value and premium ranges. Give it a go and let your taste buds be the judge, not the shiny label.



Asking members of staff for fresh food reduction times or visiting the supermarket at the end of the day may allow you to buy reduced products, which can be frozen and used when needed.



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Main meal ideas



Pulses (lentils, peas and beans such as baked beans, butterbeans, cannellini and kidney beans) are a good source of protein and cheaper than meat and fish. They can be used to bulk out meals such as dhal, casseroles, stew, chili and curries. Dried varieties are often cheaper than tinned.



The cheapest way to buy chicken is to buy a whole one. From a whole chicken you'll get two: breasts, thighs, drumsticks and wings, plus a carcass for making stock.



Frozen fish can be cheaper but still as nutritious as fresh.



Canned fish, such as sardines, tuna and salmon are nutritious and less expensive than fresh alternatives.



Buying cheaper cuts of meat such as braising steak, shin or shoulder is a great way to save money. Slow cooking gradually breaks down the fibres in cheaper cuts, giving great taste at a lower cost.



Rice, noodles or pasta (ideally brown or wholegrain) are both versatile and cheap as a base for a healthy sauce, stew or stir-fry.



Rely less upon 'ready' or manufactured foods such as takeaways and processed meals, and cook from scratch whenever you can. Preparing and cooking your own meals is generally cheaper than buying a takeaway or a ready meal, and because it's easier to control what goes into your dish, it can also be a healthier option.



Buying in bulk is often cheaper. Cook a larger quantity and then freeze in batches to eat later. (Food safety advice can be found on **page 29**).



Dried or frozen herbs and spices e.g. chilli powder, paprika and mixed Italian herbs add great flavour to simple homemade dishes.



Fruit and vegetables



Look out for seasonal fruit and vegetables like strawberries in the summer, or root vegetables (parsnips, beetroot or swede) in winter as they're widely available and less expensive when in season. Towards the end of the season different vegetables and fruits may also be reduced in price. For example, consider buying packs of tomatoes when in season to make soups or sauces to freeze and save money.



Pre-packed fruit and vegetables can cost more than selecting loose varieties, unless they're close to their 'best before' date, when they can be reduced in price.



Keep a supply of frozen fruit and vegetables in the freezer. They tend to be cheaper than fresh fruit and vegetables and still count towards your five-a-day.



Try canned fruit and vegetables. Tinned tomatoes are a cheap and useful base for many dishes and count towards your five-a-day.



Buy fruit in natural juices or water, instead of syrup as a healthier option.



Reducing food waste

- ✓ Use leftover food from your evening meal for lunch the next day, or freeze for the following week (please see advice on **page 29** regarding food safety and storage while you're having cancer treatment and at risk of infection). Leftover vegetables could be used to make soup – simply put them in a pan with a few herbs and spices, some frozen vegetables, and a can of beans, then cover with water/stock and cook on a low heat for 10 minutes. Eat it chunky with some wholemeal or granary bread, or blend in a food processor/mash it with a potato masher to make a smoother soup.
- ✓ Use frozen or canned products – these products have a longer shelf life and can therefore help to cut down on wastage.
- ✓ Reduce waste by freezing bread, preferably in portions/sliced (for convenience), when it's at its freshest (for improved taste on thawing).
- ✓ At the end of the week, make your own stock from leftover vegetables/fresh vegetables from your end of week fridge clear out, or make a soup (as directed above) with remaining vegetable/herbs/tinned beans, and freeze.



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Food safety during cancer treatment



General advice

Chemotherapy can interfere with the body's natural defence against infections and may:

- Reduce numbers of white blood cells (neutrophils) which normally protect us against food poisoning bacteria.
- Damage the gut lining which provides a barrier between bacteria and our blood stream.

If you get a food-related infection during cancer treatment, it may be more serious and take you longer to recover. This may delay or interfere with your treatment, so it's best to be careful and try to avoid infections.

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The following information is helpful for everyone having outpatient chemotherapy, and is especially important to follow when your white blood cell counts are at their lowest. It's also useful advice for general food safety and kitchen hygiene. If you are receiving very high dose treatment as an inpatient, or are on other treatments that require more specific advice, you should follow any individual instructions given to you by your healthcare team.



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The best ways to ensure food safety

1. Store food at correct temperatures to limit growth of germs.
2. Cook food thoroughly to reduce numbers of germs to a safe level.
3. Avoid contamination of cooked food, from other foods, kitchen utensils and people.



Shopping and storing



Check the 'use by date' on food labels.



Make sure you get chilled and frozen foods home as soon as possible, and store correctly.



Avoid mouldy, bruised or damaged fruits and vegetables.



Keep your fridge at or below 5°C.



Keep your freezer below -18°C.



Chill foods in the fridge, especially foods with a 'use by date', cooked dishes and ready-to-eat foods such as prepared salads, cut fruits and desserts.



Store raw and cooked foods in separate areas or shelves – cooked and ready-to-eat foods at the top of the fridge and raw meats at the bottom of the fridge in a covered container.



Cool cooked food within one hour and cover before storing in the fridge or freezer.



Throw mouldy food away and any food past its 'use by date'.



Don't refreeze raw food once defrosted unless you've cooked it first.





Food preparation and cooking – kitchen hygiene



Wash hands thoroughly before preparing food and after touching raw foods such as meat/poultry, fish, eggs and unwashed fruit and vegetables.



Ensure that all preparation surfaces are hygienically clean before you start preparing food.



Ensure that cooked food doesn't come into contact with raw meat, unwashed vegetables or salads, or with utensils, cloths or surfaces contaminated by contact with raw food.



Use separate chopping boards for raw food and ready-to-eat food.



Wash salads, fruit and vegetables thoroughly before eating.



Thaw frozen foods in the fridge and cook immediately once thawed.

- ✓ Ensure food is cooked thoroughly and is piping hot throughout.
- ✓ When cooking with a microwave oven, turn and stir foods halfway through cooking time to prevent uneven heating.
- ✓ Serve hot food as soon as possible after cooking.



Eating out

- ✓ Always ask for your food to be freshly prepared.
- ✓ Ensure hot foods are served piping hot and cooked all the way through.
- ✓ Check the food hygiene rating of restaurants.
- ✓ Avoid buying food from salad bars, delis, buffets, street vendors and ice cream vans.



Avoiding food poisoning – advice on specific foods

Some foods have a higher risk of carrying germs. It's important to be careful when preparing, cooking and storing these foods to limit the risk of food poisoning.



Eggs

- ✔ Store eggs in the fridge
- ✔ Cook well before eating
- ⊗ Avoid food products containing raw eggs such as home-made mayonnaise and hollandaise sauce.

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Poultry, red meat and products

- ✔ Cook thoroughly and do not serve pink or rare
- ⊗ Avoid washing meat, poultry and fish.



Rice

- ✔ Serve as soon as rice is cooked
- ⊗ Do not reheat rice.



Fish and other seafood

- ✔ Ensure all fish including smoked salmon is stored in the fridge and eaten before its 'use by date'
- ✘ Do not eat raw fish or shellfish.



Milk, cheese and yoghurts

Cheeses which are safe to eat include:

- ✔ Hard cheeses such as Cheddar, Cheshire, Derby, double Gloucester, Edam, Emmental, Gouda, Gruyere, Parmesan and red Leicester
- ✔ Soft cheeses made from pasteurised milk such as cottage cheese, mozzarella, feta, cream cheese, paneer, ricotta, halloumi, goats' cheese, Quark and processed cheeses including cheese segments
- ✔ Pasteurised milk and cheese products are safe to eat but avoid unpasteurised products
- ✘ Avoid mould-ripened and blue veined cheeses such as Brie, Camembert, Gorgonzola and Roquefort
- ✘ Check with your oncology team before taking any supplements, foods or drinks containing probiotics. Examples include bio-yoghurts, Actimel™, Yakult™, and probiotic capsules. These products contain concentrated live bacteria and although generally considered safe, they need to be used with caution during chemotherapy when your immune function may be weakened (see **page 45** for more information on probiotics). It's generally safe to have regular live natural yoghurt during cancer treatment.

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Common questions

Following a cancer diagnosis and during treatment, you may come across conflicting and unreliable information about diet and cancer. The information here may help to answer some common questions.



Is there anything I should avoid eating on cancer medication?

There may be foods that interact with your cancer medication that you'll need to avoid eating during treatment.

Some nutrients from food can change how medicine works, or there may be serious side-effects. One common food that interacts with some medicines is grapefruit. Check with your healthcare team if there are any foods, such as grapefruit, you should avoid.



What about alcohol?

Alcohol is linked to an increased risk of many cancers, even in small amounts. If you do drink alcohol, to reduce the associated health risks, the UK government guidelines for men and women are to have no more than 14 units per week spread over three or more days. One alcoholic beverage usually contains more than one unit of alcohol.

Alcoholic drinks don't count as a drink to hydrate you, and are often high in energy (calories), and low in other nutrients. Alcohol can also interact with some medications, so check with your pharmacist or doctor if you are unsure.



Should I follow a vegetarian diet?

A healthy diet contains protein, which can be from animal or plant sources. If you've been diagnosed with cancer and eat meat or animal-based foods, there's no need to cut them out of your diet. For a balanced diet it's important to include plenty of plant-based foods such as fruit, vegetables and wholegrains.

Sources of protein include meat, fish, beans, eggs, nuts, dairy, soya, or meat alternatives e.g. Quorn™. Meat is also a source of B vitamins and iron, so if you choose to follow a vegetarian diet it's important to include other sources of these essential nutrients e.g. beans, nuts, eggs, dried apricots and fortified breakfast cereals. Eating foods containing iron along with vitamin C rich foods, such as fruit and vegetables improves the absorption of iron.

The World Cancer Research Fund recommends that if you eat red meat (beef, veal, pork, lamb, mutton, horse and goat), limit consumption to no more than three portions per week. Three portions is the equivalent to about 350-500 grams (about 12 to 18 ounces) cooked weight of red meat. Consume very little, if any, processed meat (salami, bacon) as these can be high in salt and fat and carcinogenic chemicals like nitrosamines. Processed meats often contain preservatives that have been linked to an increased risk of bowel cancer. If you eat a lot of these foods consider swapping them for other sources of protein.



Is it better to eat organic food when you have cancer?

There's no strong evidence that consuming organic food reduces the risk of cancer.

The decision to buy organic foods depends on lots of different factors, such as culture, religion, the environment, cost and personal preference. Foods produced organically may contain fewer pesticides but there are legal limits which should control the amount of chemicals in food. It's better for you to eat vegetables and fruit (unless you've been advised otherwise by your healthcare team) than avoid them because you can't afford to buy organic. Whether organic or not, eating vegetables and fruit's an excellent way to boost your intake of fibre, vitamins, minerals and other nutrients.

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What about antioxidants?

A healthy balanced diet with plenty of fresh vegetables and fruit will provide the body with the antioxidants it needs. There's no need to take antioxidant supplements, and high doses of antioxidants in supplements can interfere with cancer treatment and be harmful.

Antioxidants such as vitamin C, lycopene and selenium are found naturally in food, mainly fruit and vegetables, and they protect the body from damage caused by harmful free radicals, which can cause disease. Free radicals occur in the body naturally, and also come from the environment, for example in pollutants.



Should I take any supplements?

There's strong evidence that a healthy, varied diet is the best way to get enough vitamins, minerals and other nutrients. Taking too much of any vitamin or mineral can be harmful and supplements may adversely interact with your cancer treatment (see antioxidants on **page 42** and green tea on **page 44**). Be sure to let your healthcare team know if you're taking any supplements.

If you have a restricted diet and are concerned about your vitamin and mineral intake, speak to your healthcare team who may be able to advise you about appropriate supplements.





Should I drink more coffee and tea?

Coffee and tea contain antioxidants and other nutrients that may have some beneficial effects on health. However, there's not enough evidence to make clear recommendations on amounts to take, and what benefits there may be. There's no evidence to suggest that people who have cancer should avoid caffeine.

Some people find, however, that the taste changes they experience during treatment mean they do not like the taste of coffee and tea. Others are sensitive to the effects of caffeine found in drinks such as tea, coffee, cola and energy drinks. Caffeine is a stimulant and can disturb sleep patterns, and can increase the need to open your bowels or pass urine, which can have a dehydrating effect. Because of this it's important to include some non-caffeinated drinks to stay well hydrated.

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What about green tea?

Green tea contains polyphenols which may have anti-cancer effects in animal and laboratory studies. However, there's no evidence that it can prevent or treat cancer in humans.

If you choose to drink green tea in place of ordinary tea or coffee, be aware that it's high in caffeine which can alter sleep patterns and irritate the stomach. Green tea interacts with some cancer medications e.g. Velcade, if you're unsure please check with your healthcare team.



What about turmeric?

Researchers are interested in whether curcuminoids found in turmeric enhance the action of chemotherapy and radiotherapy. Studies have shown that curcuminoids reduce inflammation during cancer treatment and slow cancer cell growth in some test tube experiments, but it's not clear how important or how useful this action may be.

Including a range of herbs and spices, such as turmeric, as part of a healthy diet can enhance the flavour of foods and dishes, and add variety to your meals. Curcuminoids are powerful antioxidants and, if taken as a high-dose supplement may make radiotherapy and some types of chemotherapy less effective (see **page 42** on antioxidants). Check with your oncology team if you're unsure.



Should I take probiotics?

Probiotic foods and supplements contain healthy bacteria that can help with gut health. There's conflicting advice regarding probiotics during cancer treatment. Some studies suggest probiotics could help prevent and reduce diarrhoea and other side-effects caused by chemotherapy and radiotherapy. However, you may be advised to avoid concentrated probiotics, for example in capsules or in bio-yoghurts such as Yakult or Actimel™ if your immunity is low during your treatment, as their safety in this situation hasn't been checked. Check with your healthcare team if you're concerned about probiotics in your diet, or if you're taking any supplements.



Should I follow an alkaline diet?

There's no evidence that a so-called alkaline diet can slow down cancer growth.

The terms acid and alkali are used to describe the chemical properties of substances, and alkaline chemicals can neutralise acid, making it less acidic. Cancer cells tend to produce acid, and grow well in acidic conditions. An alkaline diet is based on the theory that eating alkaline foods helps make the area around tumours less acidic, and therefore makes it difficult for cancer to grow.

However:

- The body has systems to tightly regulate how acidic it is, regardless of what you eat
- Cancer cells can adapt to changes in their environment and continue to multiply
- Alkaline foods can be neutralised by stomach acid
- There's conflicting information about which foods are alkaline.

Following a strict alkaline diet, which can be complicated, restrictive and lead to nutrient deficiencies, isn't recommended. However, eating a broad variety of vegetables (which is usually a feature of so-called alkaline diets), as part of a varied, balanced diet, is a healthy choice unless you've received other advice from your healthcare team.



Should I avoid dairy products?

The evidence on dairy products and diets high in calcium is mixed. There is evidence that dairy products decrease the risk of colorectal cancer. There is also limited evidence that consumption of dairy products might increase the risk of prostate cancer.

Dairy products are an important source of protein and calcium for many people. If you choose not to include them in your diet, it's important to eat other dietary sources of these nutrients such as calcium-fortified dairy alternatives and tinned fish with bones.

Calcium is particularly important for maintaining bone health and medications such as steroids and hormonal therapies can increase the risk of bone thinning. Some people may be prescribed calcium supplements to help with this. If you're concerned your diet is low in calcium, further advice from your healthcare team may be helpful.



What about soya?

Soya foods can provide a useful source of protein, particularly for those who follow a vegetarian or vegan diet. Current research suggests that soya products such as tofu and soya milk can be included safely within a healthy balanced diet.

Some people think that they need to avoid soya based products following a diagnosis with a hormone responsive cancer. Present guidance from the World Cancer Research Fund is that soya can be included as part of a healthy diet if liked, as research so far hasn't shown soya to either increase or decrease risk of these cancers. Soya supplements, however, should be avoided due to their concentrated nature, and limited research into their safety.





What about vitamin D?

Vitamin D is needed alongside calcium for healthy bones, and general health.

Vitamin D is made in the skin from sunshine during summer months. Very little is found in food other than small amounts in egg yolks, butter and oily fish. In the UK many people are deficient in vitamin D. During the autumn and winter months, Public Health England recommends that people should consider taking a daily supplement containing 10 micrograms (or 400 International Units or IU) of vitamin D. If your vitamin D levels are tested and found to be low, you may require higher doses. If you're concerned, ask your healthcare team about checking your vitamin D levels with a blood test, and to advise you if you need a vitamin D supplement.





Does sugar ‘feed’ cancer?

There’s no strong evidence to suggest sugar directly increases cancer risk or cancer progression.

Foods high in sugar and sugary foods are often high in calories and in quick-release energy. This can result in increased weight gain and body fat, which are known risk factors for many cancers.

Sugary foods like cakes, confectionary and fizzy drinks are often high in calories but low in other nutrients. As part of a healthy diet, it is a good idea to limit these foods as this can help regulate your weight and blood sugar levels. Instead of ‘white’ refined carbohydrates, like white bread/rice/pasta and choose foods rich in ‘complex’ slow-release carbohydrates such as wholegrain rice/bread/pasta and other grains, and vegetables such as sweet potato and yam. These provide fibre and other nutrients, as well as energy for the body.



What about 'clean eating'?

A healthy diet involves eating a variety of different foods from different food groups. Any diet that involves cutting out entire food groups, without medical reason, can result in nutritional deficiencies. There's no evidence that a 'clean eating' diet can cure cancer or reduce cancer risk.

'Clean eating' is a phrase sometimes used to describe a diet high in unprocessed foods and plant based foods. It may involve eating raw food, and exclude dairy, sources of gluten, fats or animal-based products. 'Clean eating' isn't the same as diets advised to reduce the risk of food-borne infections. Avoiding unprocessed foods, eating plenty of fruit and vegetables and choosing wholegrains are the general principles for a healthy diet, unless advised otherwise by your healthcare team. However the restrictive nature of many 'clean eating' diets means they can be restrictive and unhealthy.

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If eating becomes difficult

The previous guidance is designed for people who are able to eat more-or-less normally and are able to cope with eating a healthy diet, as described earlier, for most of the time during their cancer treatment.

Almost everyone will have at least a few days where they have reduced appetite, or when the types of food they can eat are affected by feeling sick, having constipation, diarrhoea, swallowing difficulties, taste changes or fatigue. There are many things that can help you get through these difficult days. Please see the separate booklet – *Eating well when eating becomes difficult: Support your health during cancer treatment*, for more advice and information. If you're still having persistent difficulties with your eating, and especially if you're losing weight unintentionally, it's important to inform a member of your healthcare team and ask for some individual support.



Conclusion

We hope you'll now feel inspired that eating well can be a practical and powerful way of supporting your health during cancer treatment.

Make any changes gradually and check with a member of your healthcare team if you have any concerns. We hope that by trying some of the small, simple steps outlined above, you'll notice a positive difference in the way you feel and cope with treatment.

Keeping physically active, getting emotional support, and learning how to manage your stress levels can also improve your wellbeing and help you feel as well as possible during treatment and beyond. Please ask your healthcare team, contact your nearest Cancer Information Centre, Macmillan Wellbeing Centre or the Penny Brohn UK or Macmillan Helplines for more information on other ways you can support yourself through treatment.

Useful resources

Recipe books and booklets

**World Cancer Research Fund:
Eat Well During Cancer**
www.wcrf-uk.org/uk/recipes

The Royal Marsden: Cancer Cookbook
Includes practical information and recipes for during and after treatment. Available from all major bookstores, and online.

**Penny Brohn UK: Nourish Cookbook,
and 7-day recipe plan**
www.shopatpennybrohn.com

Also available from: Penny Brohn UK,
Chapel Pill Lane, BS20 0HH

**Macmillan: Recipes for People Affected
by Cancer**
[www.macmillan.org.uk/information-and-support/
coping/maintaining-a-healthy-lifestyle/recipes](http://www.macmillan.org.uk/information-and-support/coping/maintaining-a-healthy-lifestyle/recipes)

Organisations and websites

Penny Brohn UK

Bristol based national charity providing holistic support for people with cancer including nutritional and integrative medical advice, lifestyle and emotional support and complementary therapies.

www.pennybrohn.org.uk

0303 3000 118

Macmillan Cancer Support

We're here to help everyone with cancer live life as fully as they can, providing physical, financial and emotional support. So whatever cancer throws your way, we're right there with you.

www.macmillan.org.uk

Call free on 0808 808 00 00

World Cancer Research Fund

Leading research body looking at cancer prevention and survival through diet, weight and physical activity.

www.wcrf-uk.org

Cancer Research UK

Leading UK charity with a research focus, providing practical evidence-based information on all cancers.

www.cancerresearchuk.org

NHS Choices

The UK's biggest health website and is the official website of the National Health Service in England.

www.nhs.uk

Specific Cancer Organisations recommended by your healthcare team

Bowel Cancer UK/Beating Bowel Cancer, Prostate Cancer UK, or Pancreatic Cancer Action, may have advice on eating well for your type of cancer and cancer treatment.

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