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# Eating well when you have cancer

Patient Information





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# Introduction



# Introduction

**Cancer and the side effects of treatment can affect your appetite and weight.**

**This booklet gives advice on how to adapt your diet. It is based on a combination of the best evidence available and suggestions from patients.**

The foods we eat contain a range of different nutrients. It is important to eat foods with all of these nutrients each day.

The nutrients play specific roles in maintaining good health. These are described in the table opposite.

Much of the information in this booklet is aimed at people who are struggling to eat and have lost weight. You will find that we recommend a lot of high energy (calorie) and high protein foods in these circumstances to help you increase your energy intake and maintain your weight.

Some types of chemotherapy encourage people to gain weight during treatment. If this happens to you then follow the advice for a balanced diet and include the high energy foods in small amounts. The tips on eating well when you have taste changes, tiredness or nausea may be helpful if you experience any of these symptoms.

Nutrient	Function	Foods high in this nutrient
<b>Carbohydrates (Carbs)</b>	Provides energy and is usually categorised as starchy and sweet.	Starchy – rice, potatoes, pasta, bread, chapatis, roti, bulgar wheat.  Sweet – sugar, honey, agave, chocolate, biscuits, cake, boiled sweets.
<b>Protein</b>	Forms the building blocks of muscles and organs such as the liver and heart.	Beans, lentils, meat, fish, eggs, quinoa, milk, Quorn™, tofu, nuts.
<b>Energy</b>	This supports life. It is often described in terms such as our metabolism and movement/physical activity. If we do not eat enough energy the body breaks down its own tissues to supply this.	All foods high in carbohydrates, protein and fat.
<b>Fat</b>	Production of healthy brain tissue and hormones. Carrier for fat soluble vitamins. Is used for energy.	Vegetable oils, butter, margarine, ghee, nuts, seeds.
<b>Fibre</b>	Regulates bowel function and promotes bowel health.	Wholegrain foods, brown rice, wholemeal bread and flour, beans, lentils, nuts.  Fruit and vegetables contain some fibre but less than the other foods listed.
<b>Fluid</b>	Maintains hydration.	All drinks (except alcohol), foods with a high water content.
<b>Vitamins and minerals</b>	Helps the body to function, regulating metabolism, growth and repair.	All foods including fruit and vegetables.







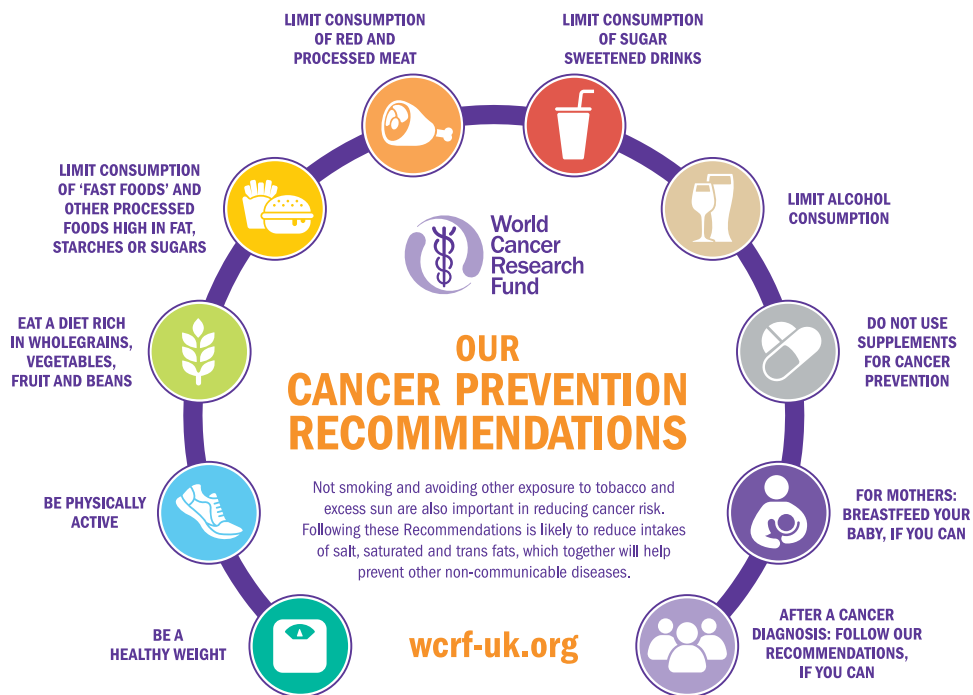
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# Diet and lifestyle

## Diet and lifestyle

When people are diagnosed with cancer they are often concerned about following the right advice to optimise their health during treatment and to help prevent the cancer from coming back afterwards.

There is emerging evidence about what is beneficial for people with cancer and at present it is in line with the recommendations for preventing cancer. These are shown below.



Some of these recommendations may not be appropriate for people with long lasting effects of the cancer itself, its treatment or the effects that emerge quite a while after treatment finishes. In these cases please seek advice from specialist health professionals such as dietitians and physiotherapists who will be able to tailor this advice to your individual circumstances. More detailed information about this can be found online at [www.wcrf-uk.org](http://www.wcrf-uk.org).

## Physical activity

Staying or being more physically active during treatment helps maintain or improve physical fitness and mood. It can reduce some treatment side effects such as fatigue.

At the moment, the recommended level of activity is 30 minutes, five times a week at a moderate intensity (that makes you warm and slightly out of breath). You can break this into three ten minute sessions and still benefit. It is also recommended to do strengthening activities (such as gardening, lifting weights or resistance bands) twice a week. People over 65 are also advised to do two sessions of flexibility and balance exercises per week (such as yoga and Tai Chi).

During treatment it is not always possible or appropriate to meet these guidelines, but maintaining some physical activity is important. You may also wish to gradually increase how much you do. If symptoms such as pain, fatigue, nausea, breathlessness or dizziness increase, stop and seek medical advice.

Often it is easier to stick with physical activity if you find something you enjoy; it's social and you can manage in daily life. If your cancer, the treatment or other medical conditions make activity difficult, please seek advice and support from a physiotherapist before starting. This may include conditions such as low white blood cell count, poor balance and bone problems such as osteoporosis or metastasis.



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## Food hygiene

**When you are ill or are having cancer treatments you are more likely to get food poisoning. To help protect yourself from food borne organisms, it is important to follow good hygiene and you should also avoid particular foods.**

### Preparation

- Wash your hands thoroughly with soap and warm water before cooking, after touching the bin, going to the toilet, and before and after touching raw food
- Wash all worktops and chopping boards before and after cooking
- Use different chopping boards for raw and ready-to-eat foods
- Keep raw food away from ready-to-eat foods such as bread, salad and fruit
- Store raw meat in a clean, sealed container on the bottom shelf of the fridge
- Keep the fridge temperature at 5°C or below
- Clean and inspect the fridge regularly
- Wash fruit and vegetables under cold running water before you eat them
- When cooking check that food is piping hot throughout before you eat it.

### Leftovers

- If refrigerated, eat within two days
- Freeze in individual portions
- Reheat until steaming hot throughout and once only
- Reheat and eat cooked food within 24 hours of defrosting.

### Reusable shopping bags

- Use separate bags for raw foods
- Check for spillage of meat juices and soil – if this occurs, throw the bag away
- Wash cotton and fabric bags regularly.

### Foods to avoid

We recommend that these foods are avoided because they are associated with an increased risk of listeria, campylobacter, salmonella and toxoplasmosis.

- Uncooked soft cheeses with white rinds such as Brie, chèvre (goats cheese)
- Uncooked blue cheeses such as Gorgonzola, Roquefort, and Stilton
- Pâté – meat, fish and vegetarian
- Raw and undercooked meat
- Raw shellfish
- Unpasteurised milk
- Eggs that do not have the Red Lion Mark.



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# Problems that can affect eating



## Poor appetite

**There can be many reasons why people lose their appetite when they have cancer. In some cases the cancer itself can suppress your appetite. For others it may be related to the side effects of the treatment or medication they are receiving. Some may be anxious about what might happen in the future. Whatever the reason, these suggestions may help.**

Many people find it easier to take small frequent snacks throughout the day rather than sticking to their usual three meals a day. This might also be referred to as a 'little and often' approach.

A very full plate of food may put you off eating – try using a smaller plate to help keep the portions small. You can always go back for more if you can manage it.

Try to eat the most when your appetite is at its best. For many patients this is in the morning – why not try a cooked breakfast or porridge?

Do not eat too much low energy but filling foods such as clear soups, vegetables and fruit.

Choose easy to eat foods – many people find softer foods like scrambled eggs, stews, pasta and desserts easier than drier meals like sandwiches, roast dinners, pizza and steak.

It can be more difficult to think of things you would like to eat when your appetite is poor, even if your family and friends are prepared to give you anything you wish. It may be easier for them to simply prepare meals they know you have eaten in the past. Or the ideas for meals and snacks on page 29 might help to inspire you.

There are a few medicines that may improve your appetite; however they do have side effects. Ask your doctor, nurse or dietitian if they would be suitable for you.

## Tiredness

**Many patients find that they are too tired or do not have the energy to prepare or cook foods.**

Accepting offers of help with shopping and cooking from relatives can really help to lift the burden. It may be helpful to prepare food in advance when you do feel like cooking rather than leaving it to individual mealtimes. Online shopping can be a good way of getting your usual foods without having to go out.

Frozen meal delivery services such as meals on wheels, Wiltshire Farm Foods, Oakhouse Foods and other companies that make prepared foods can be very helpful. Please ask your nurse or dietitian for further information.

### **Ideas that can help:**

- Make use of convenience food and ready made meals. Plan ahead and keep stocks of these in your cupboard or freezer
- Choose snacks that do not require much preparation (see ideas on page 29)
- Having a nourishing drink may be easier than eating a meal (see ideas on page 41 and 42).

## Nausea

**Nausea is a particularly difficult side effect to manage with diet. This may be a side effect of medication or treatment.**

There are a large range of anti-sickness (antiemetics) medicines available. Ask your doctor or nurse which would be suitable for you.

Changing the type of foods you opt for at mealtimes may help.

Avoid strong smells as these often make nausea worse.

Try not to sit in a stuffy room – fresh air can help.

### **Ideas that can help:**

- Cold foods or foods at room temperature usually smell less than hot foods. You may be able to eat a main meal if you allow it to cool down to room temperature, as this will reduce the smell – you could also try tinned fruit, biscuits, dry toast, yoghurt, cereal, ice cream and so on
- Sucking boiled sweets, fruit sweets and mints may be helpful
- Dry toast or ginger biscuits may help to settle your stomach
- Remember to drink plenty. Some people find sipping fizzy drinks such as ginger ale or soda water helpful. Try herbal teas that contain ginger
- Avoid greasy foods as they can make nausea worse
- Try to eat small amounts of food throughout the day, little and often, rather than having large meals
- Anxiety can make nausea worse, so try to make meals as calm and relaxed as possible.



## Sore mouth or throat

**Radiotherapy and chemotherapy can cause a sore mouth or throat. This problem can be made worse by infection, for example, thrush or by problems with your teeth or dentures.**

If you have a sore mouth or throat, contact your doctor or nurse who can prescribe medication to help.

### **Ideas that can help:**

- Try soft foods. It may help to use extra sauces and gravy with your food
- Avoid alcohol, particularly wines and spirits that will irritate sore areas
- Try to drink nourishing drinks in addition to food (see page 41 and 42)
- Avoid rough or textured foods such as mince and cereals which can get caught in sore areas; smooth foods will slip down more easily
- Avoid very hot foods; try warm, cool or frozen foods and drinks to see which temperature is most comfortable
- Avoid sharp or spicy foods which will irritate sore areas such as curry, chillies, pepper, tomato sauces, oranges and other citrus fruits, vinegar and crisps
- If you like soups, choose creamy smooth (blended) ones such as cream of chicken, Meritene or Complan soups. See page 27 for ways of increasing the energy and protein in soups. Let the soup cool before trying.

## Dry mouth

**Radiotherapy to the mouth, some chemotherapy and painkillers can lead to a dry mouth. When your mouth is dry, you are at an increased risk of getting infections such as oral (mouth) thrush, and tooth decay, which will make eating harder.**

Ask your doctor or nurse about mouthwashes and medication that may reduce the chance of you getting mouth thrush. Artificial saliva and pastilles are available and may provide useful relief of a dry mouth.

### **Ideas that can help:**

- Try to sip cool drinks frequently to help moisten your mouth. It will help if those drinks contain energy or protein such as milkshakes, milky drinks, fizzy drinks, fruit juices, and fruit squash (hot or cold). Sucking ice cubes may also help
- Try soft moist foods that have sauces, gravy, custard, cream or syrups with them
- Avoid sticky, chewy and dry foods such as bread, cold meat, and chocolate
- Try dipping foods such as bread, crackers and biscuits into liquids such as tea, coffee or milk to make them easier to swallow
- Some people find sucking sweets, sugar free chewing gum or eating citrus fruits helps to produce saliva. Take care with strong citrus flavours if your mouth is sore.

## Changes in taste

**There are many reasons why sense of taste can change, for example chemotherapy, radiotherapy, medication and sometimes the cancer itself can affect taste sensation. If you have a dry mouth, you will probably also have taste changes.**

Ask your doctor or nurse about mouthcare, especially if your mouth feels coated or your saliva seems thicker than normal.

If the food affected is one that you eat occasionally then avoid that particular food until taste returns. However if it is a food you have often, you will need to find an alternative such as having hot fruit squash or milk instead of tea and coffee. Try herbal teas but remember if you are losing weight to add sugar or honey to increase energy content. If meat starts to taste metallic then have more eggs, chicken, fish or cheese.

If you dislike the flavour of salty foods, try sweeter foods instead. If sweet foods are unpleasant, try more savoury things. However if you are avoiding a lot of foods, please ask to see a dietitian for more advice.

## Unpleasant tastes

**This can be due to medication you are taking or to treatment, but it would be sensible to see an oral hygienist to make sure it is not caused by a problem with your teeth or gums.**

### **Ideas that can help:**

- Try sucking sugar free fruit sweets or mints to mask the taste
- Concentrate on the foods that you can manage most easily.



## Bland tastes

**Sometimes food may taste ‘like cardboard’ or have no taste at all. This is often associated with extreme dryness.**

### **Ideas that can help:**

- Choose foods that are highly flavoured and try to increase the flavour and aroma of your food using spices, marinades, pickles and so on. If you have a sore or inflamed mouth, speak with your dietitian before having very spicy or acidic foods
- Add textures to your food, such as breadcrumbs or crushed crisps over savoury dishes or sprinkle chopped nuts on desserts. This may be difficult if your mouth is too dry after treatment
- Combine different temperatures together such as hot fruit pie and cold ice cream
- If eating food is very difficult then supplement drinks will be useful to ensure you get the nutrition you need. Speak to your dietitian or doctor regarding this.



## Feeling full very quickly

**Many people find that they feel full long before completing their meal. This often happens when you have not been eating well after surgery or during treatment. It can also be a result of constipation; if you feel that this is the case for you, please refer to page 24.**

### **Ideas that can help:**

- Small frequent snacks throughout the day are often easier than a full meal. Some people find it helpful to leave a gap between their main course and pudding or eat meals in two sittings
- Choose high energy foods or enrich your food with high energy products (see page 26 and 27)
- Avoid drinking lots of fluid before you eat, as this can make you feel full much more quickly
- Sit up straight at meal times if you can
- Avoid lying down straight after eating. You may find a short walk after eating makes you feel more comfortable.



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# Alteration in bowel habits

## Diarrhoea

Diarrhoea may be due to your illness, treatment or medication. Talk to your doctor or nurse who will try to work out the cause and give any necessary medication.

### **Ideas that can help:**

- Drink plenty of fluids to avoid becoming dehydrated. Aim for 10–12 glasses or cups each day. Remember fluids include milk and milkshakes, fruit juices, soup, custard and jelly as well as tea, coffee and water
- Look out for the symptoms of dehydration. These are passing urine less often and passing small amounts of dark coloured urine
- If these symptoms persist despite your best efforts to drink more, then contact your doctor. This is especially important if you are also vomiting
- Eat small amounts frequently (see page 29 and 30 for ideas)
- Ask your dietitian, doctor or nurse if you need to change your diet.

## Constipation

Constipation may be due to the cancer, treatment, poor fluid intake or medication (especially painkillers). In these cases, increasing dietary fibre will not be effective. If you are very constipated you may feel full and suffer from nausea or sickness.

Talk to your doctor or nurse about suitable laxatives.

### **Ideas that can help:**

- Drink plenty of fluids, at least 10–12 glasses or cups each day
- Try to take gentle exercise.



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# Weight loss

## Weight loss

**Weight loss can be a challenging problem. It may be one of the symptoms you had at the time of your diagnosis or it may have developed during or after treatment. Weight loss can change the way you see yourself and this can be distressing.**

Weight loss can have a negative impact on your treatment as well as your mobility and general strength and stamina. It is not always possible to gain the weight you have lost but you may be able to prevent further weight loss.

If you have a poor appetite then trying to gain weight by eating more food will be very difficult. You may be able to adjust the foods you eat instead, choosing those naturally higher in energy or by enriching foods.

### **Ideas that can help:**

- Use ordinary meat/mince rather than a lean choice
- Use fortified milk on food, in drinks and when cooking (a recipe is provided on page 41)
- Use a full fat, full sugar variety where it is available such as yoghurts, custard, squash and avoid what may be labelled as 'lighter' choices for foods like bread, biscuits and crisps
- Add extra vegetable oil, butter or margarine to potatoes, bread, sweet potatoes, pasta, rice, chapatis, rotis, noodles and cooked vegetables
- Add a generous spread of nut butter, such as peanut butter, cashew nut butter, honey, chocolate spread, lemon curd, jam or marmalade to bread, toast, crackers or biscuits
- Enrich suitable sandwich and jacket potato fillings with mayonnaise, crème fraiche or soured cream. Savoury dips can also add extra energy
- Have salad with mayonnaise or oil based dressings
- Use mayonnaise or aioli with foods such as chips or jacket potato

- Add extra cheese to pizza, white sauces, soups, pasta and vegetables and extra paneer to curries
- Add ground nuts, nut butters such as peanut butter, cashew nut butter or full fat coconut milk to curries
- Avoid replacing a meal with soup, as it does not have as much nourishment as a meal or snack. If you really fancy soup then always enrich it with some of the ideas mentioned below
- Add cream, sour cream, plain yoghurt, coconut yoghurt, mascarpone cheese or crème fraiche to sauces, soup and meat dishes
- Use evaporated milk, condensed milk or cream (pouring or whipped) to top desserts, cakes or hot drinks
- Add nuts, seeds, golden syrup, jam or cream to porridge and milky puddings
- Use extra honey, sugar or syrup with cereal, drinks, fruit and desserts
- Have cream, ice cream or soya, coconut or hazelnut ice cream (frozen non-dairy dessert) with desserts.

## Nourishing drinks

A high energy drink can be a good choice if you have a poor appetite. They can be milky or fruity, home made or bought from the supermarket. There are also drinks which can be prescribed by your GP or medical team. Please ask to discuss this with a dietitian if you think these are required.

## Prescribed supplement drinks

These drinks are specially formulated to be higher in energy and protein than drinks you can buy in the shops. In addition many also contain the same range of vitamins and minerals found in a varied diet. They are available in different styles (milkshake, juice and yoghurt), volumes and flavours. They should only be taken if recommended by a dietitian, nurse or doctor and your use of these should be closely monitored.

You may be given an initial sample pack or hospital prescription but if you require a regular supply this must be provided by your GP on prescription.



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## Specialist supplements

A dietitian or other health care professional may recommend that you take a supplement rich in one particular nutrient such as carbohydrate, fat or protein in addition to other drinks or dietary advice. They often come as low volume liquids or powders and may be flavoured or unflavoured/neutral. These should be used under supervision and only to the dose recommended. You may be provided with a small supply via the hospital or a sample service initially, but a regular supply will be provided by your GP.

## Some ideas on how to use them

Most of the supplements, whether bought or prescribed, can be adapted to change their taste. This may make them more appealing especially if you have been taking them for a while. Most companies produce recipes which are usually found online and these will give you some extra ideas.

- Chill sweet flavoured drinks or heat them gently (do not boil)
- Add ice cream (dairy/non-dairy), syrups or fresh fruit and blend to make a smoothie. Adding soaked oats or nuts before blending can add an interesting texture
- Add fruit juice, fizzy water or soft drinks such as lemonade to juice style drinks
- Freeze them into ice cream or ice-lollies. Take ice cream out of the freezer 10-15 minutes before eating it
- Make a high energy jelly by replacing some of the water in the recipe with a juice style supplement
- Unflavoured supplements can be used to enrich liquid foods such as soup, custard and yoghurt or stirred into puree consistencies such as mashed potato, carrots and swede.

Fortified milk can be used to make tea, coffee and hot chocolate. Higher energy drinks can be bought from local supermarkets and pharmacies such as Nurishment, Weetabix on the go, Complan and Meritene. Some are ready to drink and simply need to be chilled or heated depending on your preference. Others are powders which need to be mixed with milk or water and can be sweet or savoury. To maximise the energy from these they are best mixed with full fat milk.

Nourishing smoothies can be made by mixing fresh, frozen or tinned fruit with a combination of fruit juice, milk, ice cream or yoghurt with oats and seeds. (See page 41 and 42 for some ideas).

## Meal and snack ideas

Some people find that when they have a poor appetite it can be difficult to think of foods they want to eat. When ideas are presented, it can be easier to make a choice about what to eat. The foods marked with a \* are suitable for people following a soft diet.

### **Below is a selection of meals and snacks that are high energy and protein.**

- French toast (bread dipped in beaten egg and fried)
- Croissants and other breakfast pastries
- Pancakes with fruit and syrup
- \*Full fat or high protein yoghurt or coconut yoghurt with muesli, cereal, fresh fruit. Add extra honey or syrups for sweetness if required
- \*Fruit smoothies (including dairy or non-dairy, milk and yoghurt)
- \*Shepherds or cottage pie – this can be meat or vegetarian
- \*Cauliflower or macaroni cheese
- Snacks on toast – \*baked beans or \*tinned spaghetti with an \*egg or \*cheese grated on top
- \*Scrambled or poached egg, \*omelettes – cheese, tomato or Spanish
- \*Dhal with chapatis or rice



- Thai green or red curry with basmati rice
- Chicken or potato and channa curry with roti
- Cheese and crackers
- Samosa, patties, spring rolls
- Crisps, nuts, seeds, Bombay mix
- Biscuits and flapjacks
- \*Ice cream, \*custard, \*rice pudding
- \*Crème caramel, \*panna cotta
- Cake, fruit pies, cheesecake
- Muffins or crumpets (sweet or savoury), toasted teacakes or scones, energy bars, energy balls
- Fried dumplings/bakes with ackee and saltfish or fried plantain, doubles, coconut drops, tamarind balls
- Satay (chicken, meat or vegetarian)
- \*Pasta with sauces – pesto, cheese, carbonara, bolognese, creamy tomato sauce
- \*Jacket potatoes with beans, cheese, tuna, chilli, sausage stew
- Stir fried meat, fish, Quorn™, nuts or tofu with vegetables. Serve with rice or noodles.

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# Recipes

## Recipes

**When going through treatment, cooking can become difficult. Tiredness and lack of appetite can make cooking unappealing. Cooking in advance or using the freezer to store food can help. It can also be cost effective and mean a varied diet is more easily achieved.**

These are easy recipes that family or friends can make for you.

The following recipes have been included to give you some ideas. They have been kindly donated by Waitrose, World Cancer Research Fund and The Royal Marsden Cancer Cookbook published by Kyle books. As with all recipes, these can be adapted depending on personal preference.

### One pot roast fish with fennel

Ingredients:

**500g new or salad potatoes halved**  
**1 large bulb of fennel cut into 8 wedges**  
**150ml white wine or water**  
**Small bunch of parsley finely chopped**  
**Zest of 1 unwaxed lemon**

**25g unsalted butter**  
**4 thick fish fillets – salmon works well**  
**1 tbsp olive oil**  
**Salt and black pepper**

Serves 4

Energy: 364kcal, 22g protein, 19.3g fat (5.7g saturated), 1.7g fibre

1. Preheat oven to 200°C/ gas mark 6. Bring a large saucepan of water to the boil and add the potatoes, fennel and a pinch of salt. Return to the boil and simmer for about 5-6 minutes until starting to soften. Drain thoroughly.
2. Put the potatoes and fennel in a roasting dish and spread out evenly. Pour over the white wine, half the parsley and the lemon zest and give a quick stir to combine everything. Dot over the butter and season with salt and pepper. Put in the oven and bake for about 30 minutes, checking regularly to make sure nothing is catching. When the vegetables have taken on a light golden-brown colour, test with a

sharp knife – they should at this point be tender. Add a splash of water if everything seems too dry.

3. Rub the skin side of the fish fillets with the olive oil and season. Place, skin-side up on top of the potatoes and fennel. Bake for 10-15 minutes depending on the thickness of your fish fillets.
4. Serve immediately with any buttery juices over and the rest of the herbs sprinkled on top.



## Autumnal butternut squash lasagne

Ingredients:

<b>1 butternut squash about 1.3kg peeled, deseeded and cut into 2cm cubes</b>	<b>100g plain flour</b>
<b>2 tbsp olive oil</b>	<b>1.1litres full-fat milk</b>
<b>350ml veg or chicken stock</b>	<b>Freshly grated nutmeg</b>
<b>100g unsalted butter</b>	<b>250g no-precook lasagne sheets</b>
<b>8 fresh sage leaves plus extra to garnish</b>	<b>170g firm mozzarella cheese grated</b>
	<b>50g parmesan cheese finely grated</b>
	<b>Salt and black pepper</b>

Serves 8

Energy per portion: 506kcal, 17g protein, 30g fat (17g saturated), 3.8g fibre

1. Preheat the oven to 200°C/ gas mark 6. Line the baking tray with foil. Put the squash on the tray and drizzle with the oil. Toss well and season. Roast for around 30 minutes until soft. Transfer to the food processor with the stock and blend until smooth.
2. Grease 23x 33cm baking dish with butter, reduce the oven to 190°C/ gas mark 5.
3. Melt 70g butter in a large saucepan over a medium heat. Twist and bruise the sage leaves to release their flavour and drop into the butter, stirring, flipping and bruising the leaves with a wooden spoon until they are crisp but the butter has not yet browned. Using a slotted spoon transfer the sage leaves to a plate and set aside.
4. Sprinkle the flour over the butter and stir over a medium heat for about 2 minutes until they are well combined and the flour has cooked a little. Slowly pour in the milk whisking constantly. Return the sage to the sauce, bring to the boil whisking constantly then reduce to a simmer and cook for 15 minutes. Stir every few minute to make sure the sauce doesn't catch on the bottom of the pan. Check for seasoning and add a little grated nutmeg.
5. Ladle a thin layer of the sage cream sauce on the base of the buttered dish. Lay four lasagne sheets in the dish, layering slightly. Add another ladleful of sauce to cover the pasta, top with a quarter of the

squash puree, then sprinkle with a quarter each of the mozzarella and parmesan. Repeat the layering twice more, then ladle on the remaining white sauce and dollop the lasagne with the squash puree. Sprinkle with the remaining mozzarella and parmesan and garnish with a few sage leaves. Dot the remaining 30g of butter on top. Cover the lasagne tightly with foil and bake for 40 minutes. Remove the foil and bake for a further 20 minutes until golden and bubbling.





## Salmon with nut and seed crust

### Ingredients:

**2 Salmon fillets**  
**2 medium potatoes, suitable for mashing, peeled and cubed**  
**2 tbsp whole milk**  
**1 tbsp rapeseed oil**  
**160g frozen peas, cooked as instructed**

### Nut and seed crust:

**30g chopped hazelnuts**  
**30g oats**  
**10g pumpkins seeds**  
**4 tsp rapeseed oil**  
**Small handful fresh coriander**  
**½ lime, zest only**  
**Freshly ground black pepper, to taste**

Serves 2

Energy: 841kcal, 41g protein, 46g fat (10.6g saturated), 9g fibre

1. Preheat oven to 180°C/ gas mark 4.
2. Add all ingredients for the crust to a blender, and pulse for about a minute.
3. Place the salmon skin side down, on a foil-lined baking tray. Spoon half the crust on top of each fillet and gently pat it down.
4. Place the salmon in the oven and bake for 20 minutes.
5. While the salmon cooks, put the potatoes in a large saucepan and cover with cold water. Place over a high heat and bring to boil. Reduce the heat, cover and allow to simmer for about 15 minutes until cooked.
6. Remove the potatoes from the heat and drain carefully. Add the milk and oil, then mash until smooth.
7. Transfer the cooked salmon, mashed potato and cooked peas onto two serving plates and serve.



# Sweet options

## Banana and peanut butter flapjacks

### Ingredients:

3 ripe bananas	2 tbsp smooth peanut butter (ideally a brand that contains no added salt and sugar)
200g oats	2 tbsp sunflower spread
50g dried fruit, chopped into small pieces if necessary	1 tbsp honey
60g seeds	1 tsp cinnamon

Serves 12

Energy: 469kcal, 4g protein, 9g fat (1g saturated fat), 9g fibre

1. Preheat oven to 180°C/gas mark 4. Line a baking tray with baking parchment.
2. In a large bowl, mash the bananas into a smooth paste. Add the oats, dried fruit and seeds; and mix thoroughly.
3. Warm the peanut butter, spread, honey and cinnamon in a saucepan over a low heat for about 2 minutes or until the spread has melted, stirring continuously.
4. Pour the melted spread mixture over the banana and oats and mix thoroughly.
5. Transfer the mixture into the lined baking tray and spread to an even thickness.
6. Bake in the oven for 35-40 minutes until cooked through and golden brown.
7. Carefully turn onto a cooling rack and allow to cool before cutting into 12 equal squares.
8. Serve or store in a sealed container – eat within 5 days. Alternatively, freeze and use within 3 months.

**Tip:** Peanut butter can be swapped for other types of nut butter such as almond butter, if preferred.

Recipe courtesy of World Cancer Research Fund.





## Raspberry ripple lollies

Ingredients:

**150g fresh or frozen raspberries**

**Juice of ½ lemon**

**25g caster sugar**

**1 x 500g pot creamy Madagascan  
vanilla custard**

**200g condensed milk**

Serves 6

Energy: 306kcal, 5.8g protein, 14.8g fat (8.7g saturated), 0.6g fibre

1. Place the raspberries, lemon juice and sugar in a small saucepan and simmer for 15 minutes.
2. Pass the raspberry mixture through a sieve and set aside – there should be around 75ml puree.
3. Mix the custard with the condensed milk until combined.
4. Pour a tablespoon of the custard into the bottom of your lolly moulds, then add a teaspoon of the raspberry puree and drag a knife or skewer through the mixture. Alternate the custard and puree dragging each time as before, to get a ripple effect. Place a wooden stick into each mould and freeze overnight before serving.

## Drinks recipes

### Fortified milk

Ingredients:

**200ml whole milk**

**2 tbsp dried milk powder**

Serves 12

Energy: 168kcal, 11.7g protein, 10g fat

For extra nourishment, other foods could be added to the milk to change the taste and improve energy content including:

- 1 pot creamy yoghurt
- 1 banana
- Milkshake syrup
- Ice cream
- 3 tsp malted drink powder
- 1 tsp coffee powder
- 2 tbsp cream
- 1 tbsp nut butter
- 3 tsp of hot chocolate powder

### Banana, oat and honey smoothie

Ingredients:

**1 ripe banana**

**3 heaped tablespoons oats**

**1 teaspoon honey**

**Pinch cinnamon optional**

**100g blueberries optional**

**150ml milk**

Serves 1

Energy: 454kcal, 12.5g protein, 10g fat (3.9g saturated) 7.9g fibre

Put all the ingredients into a blender and blitz until smooth!

## Blueberry and avocado smoothie

Ingredients:

½ avocado peeled

½ banana

150g blueberries

200ml fruit juice – cherry, blueberry  
or pomegranate are all good

Handful of ice

Serves 1

Energy: 300kcal, 2.8g protein, 10g fat (2.1g saturated), 6.3g fibre

Put all the ingredients into a blender and blitz until smooth!





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# Frequently asked questions



## Should I be following a ‘special’ diet?

**If you are not eating well then try and follow some of the tips in this booklet.**

In recent years there has been a lot of interest in diet and cancer and in particular ‘complementary’ and ‘alternative’ diets. Some people have claimed to cure or control cancer using a diet and people are often confused as to whether or not they should follow one of these. There have been few clinical trials or research to see if these diets do what they claim. To date there is no specific evidence to support claims made by complementary or alternative diets. It is unlikely once you have cancer that any change in diet will have a similar benefit to the medical treatment.

If you are considering following one of these diets, discuss it with your doctor or a dietitian. The dietitian may help you to make a choice by discussing the advantages and disadvantages of different diets. They will ensure that your diet is well balanced and meets your needs, particularly if you are having treatment that may affect your digestion or ability to eat. Often such diets may be difficult to follow and be low in energy. They may encourage weight loss particularly if you have a poor appetite.

## Should I avoid sugar?

No. More frequently people are asking questions regarding sugar intake and its effect on their cancer. Some people have suggested that reducing sugar intake or following a low carbohydrate (ketogenic) diet can minimise cancer cell growth.

Cancer cells, like every other cell in the body, use glucose for energy. Restricting the amount of sugar has not been proved to slow down or control the growth of cancer cells and therefore does not need to be avoided. Sugar can be included as part of a balanced diet.

Ketogenic (or ‘keto’) diets are sometimes mentioned in the media in relation to cancer. The diets are very low carbohydrate, contain protein and are very high in fat. They are not nutritionally complete and no studies have demonstrated that they are able to influence the growth of cancer in humans. The current recommendation is not to follow a ketogenic diet.

## Should I avoid dairy?

No. There is insufficient evidence to support avoiding dairy foods. In fact there are very good reasons why dairy foods are an important part of a healthy diet. The idea that they may be linked with the development of cancer has not been supported by robust evidence, in fact there is evidence that it can protect against colorectal cancer. Concerns about dairy foods have often surrounded the high fat content of dairy products and the presence of growth factors in milk. In previous years, growth factors were used in helping boost the production of milk. These are no longer used in the milk industry so nowadays milk does not contain high levels of growth factors. Any growth factors naturally present in the milk are broken down in the digestive process and are not absorbed well into the body. Non-dairy alternatives tend to be low in energy and some of these do not contain as much of valuable nutrients such as calcium. If non-dairy products are preferred, then it is important to look for the options high in calories and protein such as tofu, coconut yogurt and nuts.

## I have been following a low fat healthy eating diet, should I continue with this?


If you are eating well and do not have a loss of appetite or weight then continue to eat your usual foods. Use the guidance on page 10 to check that the balance of your diet is right.

## If I am overweight does it matter if I lose weight?

Yes. It is not good to lose weight during treatment as it may make you more susceptible to infections and poor wound healing. Follow the advice in this booklet if you are losing weight, whatever your usual weight.

## I am gaining weight with my treatment – what should I do?

This booklet is aimed at people who are losing weight, however some cancer treatments such as hormones and steroids may encourage people to gain weight. If you are trying to avoid excess weight gain



then information about healthy eating and recipe ideas can be found on the World Cancer Research Fund website [www.wcrf-uk.org](http://www.wcrf-uk.org). Further information can be gained from reading their booklet called *Eat well*.

## The role of the dietitian

A dietitian is a degree-qualified health professional who helps to promote nutritional well-being, treat disease and prevent nutrition-related problems.

Only dietitians registered with the Health Care Professions Council (HCPC) can use the legally protected title 'dietitian'. Dietitians are the only nutritional health professional regulated by law and governed by an ethical code, to ensure that we always deliver the highest standard.

## Assessing information from the internet and other media

When you are diagnosed with cancer, it is easy to look to the internet for first line nutritional advice. Unfortunately not all of the information is relevant or evidence based and there are many nutritionists that run web based blogs based on personal opinion. It is important that if you are in need of dietary advice, that this is done in the context of your diagnosis so that it becomes part of your treatment plan. Diet and cancer is a very popular topic but stories in the media are not always based on good scientific evidence. In order to get clarity on certain news stories, ask to speak to a registered health professional.

## What if I have diabetes or I am on a cholesterol lowering diet?

Generally, these diets recommend a high intake of fruit and vegetables and lower fat foods. If your appetite is poor or you are losing weight, this may not be appropriate at this time. Please ask your doctor or dietitian for advice.

## Should I be having a vitamin or mineral supplement?

If you are able to eat a variety of foods, you probably don't need to take a vitamin or mineral supplement. However, if your appetite is poor, then you may need a supplement to meet your daily requirements. Take care not to buy different vitamin and mineral preparations that provide the same nutrients as this may lead to you taking excess quantities of some vitamins and minerals.

It is important to remember that some of the vitamins and minerals can be harmful when taken in high doses and can react with some medications and cancer treatments. Ask your dietitian, doctor or pharmacist for advice before starting to take these supplements.

## Should I be eating organically produced foods such as fruit and vegetables?

The term organic refers to food that is produced under strict guidance. In Europe the standards are set in EU law and restrict the use of pesticides and prevent the use of herbicides in the production of food. Some people choose to eat organic foods because they are worried about residues of these pesticides in food or they may be concerned about the impact that farming has on the environment. Cost may be a factor as organic foods can be more expensive than non-organic foods.

Research has shown that organically grown fruit, vegetables and cereals are nutritionally different. On average, they contain higher levels of compounds with antioxidant activity and lower levels of some contaminants such as the heavy metal cadmium. They also contain around four times fewer pesticides.

However, so far no research has been done to look at whether these differences result in additional health benefits. It is therefore not yet possible to state overall what the long term health benefits are of eating an organic diet or choosing to include some organic foods in the diet. More research is needed to answer these questions.



## Can I drink alcohol?

Alcohol is known to increase the risk of some cancers and in terms of cancer prevention, it is best not to drink alcohol. How much alcohol influences the risk of cancer returning is not fully understood, but for some cancers, such as breast cancer, it can increase the risk of it returning.

If you do choose to drink alcohol, drink in moderation and do not drink more than 14 units of alcohol per week on a regular basis. Aim to spread it evenly over three or more days. Drink slowly and take it with food, alternating alcoholic drinks with water.

## Contact details

Dietitian .....

Telephone number .....

## Notes and questions



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This booklet is evidence based wherever the appropriate evidence is available, and represents an accumulation of expert opinion and professional interpretation.

Details of the references used in writing this booklet are available on request from:

The Royal Marsden Help Centre

Freephone: 0800 783 7176

Email: [patientcentre@rmh.nhs.uk](mailto:patientcentre@rmh.nhs.uk)

No conflicts of interest were declared in the production of this booklet.

Should you require information in an alternative format, please contact The Royal Marsden Help Centre.

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The Royal Marsden publishes a number of booklets and leaflets about cancer care. Here is a list of information available to you.



## Diagnosis

- A beginner's guide to the BRCA1 and BRCA2 genes
- CT scan
- MRI scan
- Ultrasound scan
- Lynch Syndrome



## Treatment

- Central venous access devices
- Chemotherapy
- Clinical trials
- Radiotherapy
- Radionuclide therapy
- Your operation and anaesthetic



## Supportive care

- Eating well when you have cancer
- Lymphoedema
- Reducing the risk of healthcare associated infection
- Support at home
- Your guide to support, practical help and complimentary therapies



## Your hospital experience

- Help Centre for PALS and patient information
- How to raise a concern or make a complaint
- Making your stay with us safe
- Your health information, your confidentiality



Please visit [www.royalmarsden.nhs.uk/patientinformation](http://www.royalmarsden.nhs.uk/patientinformation) where several patient information booklets are available to download.

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