



Nutrition and Cancer

A guide for people with cancer,
their families and friends

Practical and
support
information

Cancer Council Helpline

13 11 20

www.cancercouncil.com.au

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Note to reader

Always consult your doctor before beginning any health treatment. This booklet is intended as a general introduction to the topic and should not be seen as a substitute for your doctor's or other health professional's advice. However, you may wish to discuss issues raised in this booklet with them. All care is taken to ensure that the information in this booklet is accurate at the time of publication.

Cancer Council NSW

Cancer Council is the leading cancer charity in NSW. It plays a unique and important role in the fight against cancer through undertaking high-quality research, advocating on cancer issues, providing information and services to the public and people with cancer, and raising funds for cancer programs. This booklet is funded through the generosity of the people of NSW. To make a donation to help defeat cancer, visit Cancer Council's website at www.cancercouncil.com.au or phone 1300 780 113.



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Introduction

This booklet has been prepared to help you understand more about nutrition and dietary requirements during and after your cancer treatment. Your family, friends, and others close to you may also want to read this booklet.

We hope this booklet will provide helpful information on ways to manage common eating problems that may occur due to cancer or its treatment. It also includes information about support services which may be available to you.

We cannot give advice about the best diet for you. You need to discuss this with your doctors, nurses and dietitian. However, we hope this information will answer some of your questions and help you think about other questions to ask your treatment team.

This booklet does not need to be read from cover to cover – just read the parts that are useful to you. Some medical terms that may be unfamiliar are explained in the glossary.

How this booklet was developed

This information was developed with help from a range of health professionals who specialise in cancer treatment and supporting dietary choice, and also from people affected by cancer. It is based on a number of references including the National Health and Medical Research Council's Australian Dietary Guidelines.

Cancer Council Helpline **13 11 20** can arrange telephone support in different languages for non-English speakers. You can also call the Translating and Interpreting Service (TIS) direct on **13 14 50**.



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Before treatment

People often ask what they should eat when they have cancer. There is no eating plan that is proven to cure cancer and there are no special foods to eat or avoid if you have cancer.

Treatment for cancer can place extra demands on your body, making eating well more important than ever. Good nutrition helps you get the most benefit from your treatment.

Have a dental check-up prior to treatment to ensure that your teeth are in good condition, and to identify any possible problems before you begin your treatment. This is particularly important if you are having radiation to the head or neck, as this can impact on the health of your teeth.

After treatment your mouth and gums may be too sensitive for dental work. Your dentist, nurse or doctor can advise you of the best way to care for your teeth and mouth before, during and after your treatment.

Discuss any changes to your diet and any vitamin, herbal or nutritional supplements you are taking with your doctor and dietitian before starting treatment. If you smoke or drink alcohol, inform your doctor before you start treatment.

- If you are underweight, this is a good opportunity to gain weight so you start your treatment at a healthy weight. For practical suggestions on how to increase your weight, refer to the 'Changes in your weight' and 'Loss of appetite' sections (pages 11 and 14).
- If you are losing weight without trying ask your doctor for a referral to a dietitian.
- If you are overweight or trying to lose weight, change your focus to weight maintenance prior to and during your treatment.
- If you are having no problems eating prior to treatment, follow the guidelines for healthy eating (which are the same as 'After treatment' – refer to page 60), check and aim to maintain your weight.
- Plan ahead to make your treatment period as easy as possible. Friends and family often ask what they can do to help, so ask a friend or relative to do your grocery shopping for a few weeks or make up some frozen meals that you can reheat if you don't feel like cooking.
- Book in with your dentist for a check-up before starting treatment.

Benefits of eating well

Eating well is important for everyone but especially for those who have been diagnosed with cancer.

Good nutrition can:

- help you to cope better with treatment side effects and to recover sooner.
- help wounds and damaged tissues to heal better. This is important before and after surgery, radiotherapy, chemotherapy or other medical treatment.
- improve your body's immune system – its natural defence – so you are better able to fight infection.
- help you to maintain muscle strength, stay a healthy weight, have enough energy for everyday tasks and to feel better in yourself.

Eating well is something you can control during your cancer treatment and can enhance your quality of life.

How treatment affects eating

The common ways to treat cancer include:

- **surgery** – cancer is removed during an operation
- **chemotherapy** – medications are used to cure or control cancer
- **radiotherapy** – x-rays and gamma rays are used to cure or control cancer.

Cancer treatment often damages normal healthy cells at the same time as killing cancer cells. This may produce side effects that can affect eating, such as:

- loss of appetite
- feeling sick (nausea)
- feeling tired (fatigue)
- having a sore mouth
- having a sore throat and trouble swallowing
- having a dry mouth
- changes in taste and smell
- constipation or diarrhoea.

Side effects vary from person to person. The part of the body treated, the length of treatment and the dose of treatment all determine whether side effects will occur. Most side effects are temporary and go away after treatment ends. There are ways to control and manage the side effects.

Worrying about your illness, feeling anxious or afraid can also affect your eating. Talk to someone you trust, the social worker at the hospital or your doctor, if you are experiencing these feelings.

Call Cancer Council Helpline **13 11 20** for free booklets on chemotherapy, radiotherapy and specific types of cancer.



What should I eat?

Your body converts food into energy. This food energy is measured in kilojoules or calories. It is labelled as kJ for kilojoules on food packaging. Everyone needs a certain number of kilojoules each day to fuel their body for energy, growth and repair. You need energy even if you are not very physically active.

Throughout the phases of cancer treatment and recovery, it is important to adapt what you eat to cope with your body's changing nutritional needs. Here is a summary of the key nutritional needs in each phase.

Phase 1 – Cancer treatment

- You may need more energy (kilojoules/calories). See pages 34–36 for practical suggestions on gaining weight and adding nutritional supplements to food. Eat small, frequent meals or snacks, rather than three large meals a day. For snack suggestions see page 46.
- If you start to lose weight, try eating extra nutritious snacks or drinks. See pages 46–50.
- If possible, do some light physical activity, such as walking, to improve appetite, reduce fatigue, help digestion and prevent constipation.
- Check with your doctor or dietitian if you want to take vitamin or herbal supplements.

Phase 2 – Recovering from treatment

- Continue to follow all the tips in Phase 1 for weeks or even a month or two following treatment. Nutritional needs remain high following treatment, and will differ depending on your cancer type and the treatment you've had. Your doctor or dietitian can advise you on your individual needs during this time.
- It is important to maintain a minimum weight during this time to ensure your recovery from treatment is as quick as possible.
- It is important to eat a variety of foods and to do some physical activity, as you're able, in order to rebuild muscles and recover from the side effects of treatment.

- If you are still experiencing treatment related side effects, you may need to follow some of the suggestions given in the section for during treatment until they resolve (see page 11). Your dietitian can advise you during this time.

Phase 3 – Preventing cancer recurrence and new cancers

- Once you've recovered from the side effects of treatment and you're eating well and physically active, you can switch the focus of nutrition to healthy eating.
- Healthy eating, maintaining a healthy weight and being physically active can help to lower the chance of cancer coming back.
- Eating plenty of fruit and vegetables may lower the risk of developing some cancers. Try to eat at least two serves of fruit and five serves of vegetables every day.
- See your doctor for regular checkups.
- Contact Cancer Council Helpline 13 11 20 for free information about eating well and being active after treatment.

Living with advanced cancer

- Good nutrition can help to maintain quality of life.
- You may need to adjust your food choices and eating patterns to meet changing nutritional needs.
- Medications and physical activity can boost appetite. Talk to your doctor about suitable options for your situation.
- Nutrition supplements may help if you can't eat enough. Talk to your doctor, palliative care specialist or dietitian.



Key questions

Q: Can foods cause cancer?

A: There are many different types of cancer and many different causes of cancer, only some of which are understood. Cancer starts when cells begin to grow out of control. The reason for this change is unknown but lifestyle and diet can sometimes play a part. It is unlikely that any one food or food additive is to blame. It is more likely that poor eating habits combined with other lifestyle factors, such as smoking, too little exercise, being overweight and having too much sunlight exposure may, over a long period of time, increase the risk of developing some cancers.

Q: Can certain foods cure cancer?

A: There is no evidence to prove that eating certain foods can cure cancer. Be wary of advice that eliminates many types of food or whole food groups from your diet. Following this advice can negatively impact on your ability to cope with treatment and maintain daily activities. Eating a wide variety of foods helps to ensure you get all the nutrients you need. Always discuss changes to your diet with your dietitian or doctor.

Q: Does excess food feed the cancer?

A: Cancer does not grow from eating too much food. Some people think that fasting is a good treatment for cancer but there's no evidence to support this. Lack of food can leave you feeling weak and affect your ability to cope with treatment. The important thing is to try and eat a wide variety of foods, and enough to meet your body's needs.



Eating problems during treatment

This chapter includes suggestions that may help you cope with eating problems. Don't be afraid to give them a try. Some tips may work for you but others may not.

Share your needs and concerns with your family and friends, particularly those who prepare meals for you. Let them know that you appreciate their support. If your eating problems persist, and you need more help, see your dietitian, doctor or nurse.

Changes in your weight

You may lose or gain weight for various reasons, including the effects of the cancer and cancer treatment.

Weight loss

If you are underweight or losing weight you may need to include more protein and more energy in your diet. Good sources of protein and energy (calories or kilojoules) include: meat, fish, poultry, milk, and dairy products, eggs, legumes (e.g. baked beans, chick peas, lentils) and nuts. For extra protein, aim to include at least one higher protein food at each meal. High protein foods and drinks should also be included as between-meal snacks. Nutritional supplements such as nourishing drinks may also be useful to help you gain weight. Refer to page 36–55 for information on nourishing supplements, recipes and ready to use drinks.

You may also be encouraged to eat foods that are typically not considered as healthy foods as they can be high in fat and sugar. Including foods with extra protein, fat and sugar in your diet, for

most people, will be for a relatively short period of time. If you have any concerns, discuss them with your doctor or dietitian.

Weight gain

Weight gain can happen for various reasons. People with certain types of cancer, especially those with breast cancer, are more likely to gain weight during and after treatment.

Certain types of chemotherapy, hormone therapy and some medicines such as steroids can cause weight gain. These treatments can also cause your body to retain water, which can make you feel puffy and gain weight, or some treatments can increase your appetite so you feel hungry and eat more. Being tired because of the treatment may lead to decrease in activity. Being less active can also cause weight gain.

Generally, during cancer treatment is not a good time to deliberately lose weight. Try to maintain your weight throughout treatment. If you gain weight during treatment and are concerned, speak first to your doctor about it to work out how to best manage it. In situations where you have lost weight without trying, regaining at least some of this weight can help you better tolerate treatment.

Malnutrition

Malnutrition occurs when there is an imbalance of energy, protein or other nutrients. Malnutrition is common in people with cancer and can impact your health and how your body responds to cancer treatment and recovery. It is possible to be malnourished even if you are overweight.

Many factors can increase your risk of malnutrition, including:

- certain cancer types, such as head and neck, lung and gastrointestinal cancers
- increased nutritional needs from cancer and treatments such as chemotherapy, radiotherapy and surgery
- side effects from cancer treatments
- medications
- hospitalisation
- stress, anxiety and fatigue.

Many of the eating problems discussed in the next few sections can contribute to, or be signs or symptoms of, malnutrition and can lead to a reduced response to cancer treatments, increased side effects and possibly reduced survival.

Malnutrition can also lessen your strength, function and quality of life. Eating well can assist your health and progress before, during and after cancer treatments.

Regardless of where you have your treatment, at diagnosis and at frequent points throughout your treatment journey, you should be asked by hospital staff about your risk of malnutrition.

You should be asked:

- Have you lost weight recently without trying? This refers to the past six months and the amount you have lost will be measured.
- Have you been eating poorly because of decreased appetite? Are you eating less than three quarters of your usual meals for any unintentional reason?

If you answer yes to one or both of these questions, you may be at risk of malnutrition. If this is the case, it is important to be referred to a dietitian for individualised advice.

Identifying your risk of malnutrition early is key to tackling it in the best way to improve your overall health.

Malnutrition and weight loss can be prevented. It should not be considered an expected side effect from cancer or treatments. Speak to your doctor or dietitian about ways to lower your risk.

Loss of appetite

Loss of appetite is a common problem that may be caused by many things including the effects of cancer on the body, the effects of treatment or other side-effects such as feeling sick or the smell of food, or feeling down or upset. You may just not feel like eating.

There are many ways to make mealtimes more appealing if you have lost your appetite.

- Try to keep to a regular eating pattern. You may not feel hungry but your body still needs nourishment in order to maintain your weight.
- A very full plate of food may put you off eating – try having your food on a smaller plate to keep the portions small.
- Eat what you feel like, when you feel like it. For example, have cereal at dinner time and a main meal at lunch.
- Try to keep a variety of foods in your diet as this may help improve your intake.
- Choose full-fat foods whenever possible. These may be labelled as ‘thick and creamy’ rather than ‘light’ or ‘diet’ or ‘low fat’.
- Add high energy and protein foods to your fruit and vegetables. For example fruit with yoghurt, cut up vegetables with dip and roasting vegetables with olive oil.
- Have a range of ready prepared foods and snacks on hand for times when you don’t feel like preparing food. Cook larger quantities in advance and store in the freezer, or ask family and friends to prepare meals if you don’t feel like cooking. Remember to practice good food hygiene (see page 24).
- Sip fluids throughout the day, choosing ones that add kilojoules and other nutrients such as milk, milkshakes or commercial supplements.
- Gentle physical activity can stimulate appetite. For example, take a short walk around the block or even around your backyard.
- Make meals as enjoyable and social as possible – you may want to play music, turn off the TV, light candles or invite friends to join you.

Changes in taste or smell

People often report that the flavour of food changes during cancer treatment. Common comments are that ‘all food tastes the same’, ‘food is like cardboard’, ‘food has a metallic taste’, and ‘I no longer like the taste of my favourite food’.

Usually this is a temporary issue experienced during the period of treatment and for a short time afterward, but unfortunately taste changes can be long lasting in some patients. It may also take some time to be able to resume enjoyment of foods you find off putting during treatment.

Changes to the flavour of food are highly individual and can be unexpected and quite frustrating especially if food is a large part of your social life and a source of daily enjoyment.

If you have a sore mouth, sore throat or swallowing difficulties, talk to your doctor, speech pathologist, dentist or dietitian as some of the following suggestions will not be suitable. For more information on mouth problems see page 18.

The following information may be useful in preparing you for what to expect and for minimising symptoms. The tips also include suggestions for exploring new flavours during treatment.

- If food tastes bland, make use of seasonings such as fresh herbs, lemon, lime, ginger, garlic, soy sauce, honey, chilli, pepper, Worcestershire sauce or pickles or experiment with Asian style sauces.
- If you are overly sensitive to strong flavours, minimise use of chilli, spices, carbonated drinks, mints or chewing gum. Choose subtly flavoured alternatives instead.
- It is common to go off meat during treatment. If you find meat less appetising, try and rely on other good protein sources such as cheese, eggs, nuts, dairy foods or baked beans, kidney beans, lentils or chick peas.
- Beer, wine, coffee and tea may taste different or be off putting because of the smell, taste or texture. Try not to let this interfere with your social life – choose non-alcohol alternatives or try a milkshake, fresh juice or hot chocolate.
- If the smell of food is bothering you, try cold foods or reheat prepared meals in the microwave so the cooking odour doesn't put you off eating. Stay out of the kitchen, if possible, when food is being prepared. Ask family or friends to cook.
- If you experience a bitter or metallic taste in the mouth, try refreshing food or liquids to combat this taste such as nibbling on moist fruit including berries or melon or suck boiled lollies (try ginger flavoured) or sip flavoured drinks.
- Sometimes a bad taste in the mouth can be a result of an unhealthy or dry mouth. Keep your teeth and mouth clean by brushing and rinsing often.
- You may go off favourite foods but equally you may now tolerate (and even enjoy) foods you previously did not consume. It is common for preferences for sweet or savoury foods to reverse during treatment. Trial and error while you are experiencing flavour problems is key.

Mouth problems

Some cancer treatments cause mouth ulcers or change the amount and thickness of saliva in your mouth. These changes can make your mouth feel hot, dry or uncomfortable, and chewing or swallowing may become difficult and painful. Tooth and gum problems can occur and your lips can become dry.

Chewing and swallowing problems

People that have cancer in or around the mouth and throat may experience chewing and swallowing problems. Sometimes radiotherapy and chemotherapy to this area can also cause temporary problems. If teeth are extracted, chewing may be more difficult.

If you have pain when chewing or swallowing, tell your doctor who will be able to give advice on suitable medications.

If you have severe difficulty swallowing for a considerable period of time, a feeding tube may be considered to ensure you get adequate nutrition. Your dietitian, speech pathologist and doctor can guide you through this.

“Once I started chemotherapy, I went off my food. My mouth felt very dry, which made food taste unappetising. Adding extra sauce helped.”  Neil

Dry or coated mouth

When your mouth is dry you are at increased risk of getting infections such as oral thrush and tooth decay which will make eating harder.

Ensure good oral hygiene. Keep your mouth clean and prevent infections with regular mouthwashes and gargles. Make sure you use an alcohol-free mouthwash to avoid further irritation to the mouth. Speak with your dentist or health care team about mouth rinses or lubricants most suitable for you during treatment.

tips

- You may wish to avoid:
 - Rough, crunchy or dry foods (chips, nuts, dry biscuits, toast). Soften foods by dipping them into milk, soups, tea and coffee.
 - Foods that sting your mouth, e.g. salty foods, spices, fruit juice, vinegar and alcohol.
 - Foods (or drinks) that are very hot or very cold. Extreme temperatures may irritate your mouth or throat.
- Choose foods that are moist or moisten foods by adding sauces, gravies, margarine, cream, custard etc.
- Sip on fluids with all your meals and snacks.
- Try sugar-free chewing gum or sucking on mints to stimulate the flow of saliva.
- Sucking on ice or frequent sips of fluid (try different types) may be helpful.

Changing food textures

You may need to change the consistency of your foods by chopping, mincing or pureeing to make them easier to manage. Do not persist with a solid diet if it is taking you a lot longer to chew and swallow, or if you are experiencing coughing, choking or food sticking in your mouth or throat.

If you are having problems with your dentures, only wear them at meal times, or take them out and try softer foods that do not need to be chewed. If you are receiving radiation therapy to the head or neck area, you may need to discuss when to wear your dentures with your doctor or radiation therapist.

If you are experiencing problems swallowing normal foods and fluids, notify your doctor who may refer you to a speech pathologist for assessment.

A speech pathologist can continue to monitor your swallowing after treatment, and modify the texture of your food once the side effects that are affecting your ability to swallow and chew begin to diminish. Sometimes people may need to remain on a texture modified diet after their treatment; however this is different for everyone and will depend on the type of cancer, treatment or surgery received.

Food textures

Soft diet

Soft foods can be chewed but not necessarily bitten. Foods should require minimal cutting and be easily broken up with a fork. Food should be moist or served with a sauce or gravy to increase moisture content. Food may be naturally soft or may be cooked or cut to alter its texture.

Minced and moist diet

Food should be soft and moist and easily form into a ball in the mouth. Small lumps can be broken up with the tongue rather than biting or chewing. Food should be easily mashed with a fork and may be presented as a thick puree with obvious lumps in it. Lumps are soft and rounded with no hard or sharp lumps.

Smooth pureed diet

Food is smooth, moist and lump free. It may have a grainy quality and is similar in consistency to commercial pudding. Food can be moulded, layered or piped. For more suggestions about what foods can be included in a soft, minced or pureed diet refer to the table on the next page.

Texture modified diet

If you have been told that you need to follow a texture modified diet it can be difficult to think of foods to eat. Your dietitian can help to identify certain foods and fluids that will be easy to eat and drink. The following table provides some suggestions for foods from each of the different texture modification categories.

Food type	Soft	Minced and moist	Smooth pureed
Meat	Casseroles with small pieces of tender meat, stew, mince dishes, moist fish dishes.	Minced or well cooked meat, (lasagne, Shepherd's pie) chicken or fish. Serve with extra gravy or sauce.	Pureed meat, chicken or fish blended with gravy or sauce until smooth. Serve with extra gravy or sauce.
Meat alternatives	Omelettes, quiche, scrambled or poached eggs, baked beans or other cooked legumes, soft tofu.	Poached, scrambled or boiled eggs, soft tofu, minced or mashed baked beans, cottage cheese, soufflé (small pieces).	Pureed scrambled or poached eggs, pureed baked beans or legumes. Soft silken tofu.
Drinks	Commercial nutritional supplements (see page 36). If you are having ongoing difficulties swallowing, your speech pathologist may suggest thickened fluids.		

Food type	Soft	Minced and moist	Smooth pureed
Cereals	Soft bread without crusts, use mayonnaise, butter or wet topping to moisten bread. Breakfast cereals well moistened with milk (avoid dried fruit or nuts and crunchy breakfast cereals e.g. muesli). Soft pasta or noodles. Well cooked rice. Soft pastry. Other soft cooked grains.	Porridge. Well moistened dry breakfast cereals with little texture, e.g. Cornflakes, Weetbix, Rice Bubbles. Well cooked, moist pasta dishes e.g. macaroni cheese.	Strained or pureed porridge or semolina. Serve with extra milk and sugar. Pureed pasta, noodles or rice.
Fruit (avoid acidic fruits)	Fresh fruit that is naturally soft e.g. banana, pear, mango, pawpaw, watermelon. Canned and stewed fruits. Pureed fruit.	Soft, canned or cooked fruits without seeds or skins. Mashed soft fresh fruits e.g. banana. Pureed fruit.	Pureed fruit or mashed soft fruit pushed through a sieve (no pieces) or blender.
Vegetables, legumes	Well-cooked vegetables mashed or served in small pieces. Soft canned vegetables. Well cooked legumes.	Soft well-cooked vegetables that can be mashed easily with a fork. Well cooked legumes, partially mashed or blended.	Pureed vegetables (blended until smooth with no lumps), pureed legumes, vegetable soups strained or blended to remove lumps.

Food type	Soft	Minced and moist	Smooth pureed
Soup	Meat, chicken and/or beans with vegetables homemade or canned.	Soups with easy to chew meats or vegetables. Piece size should be less than 0.5cm.	Blended homemade or canned soup. Smooth with no lumps. Add milk, cream or oil.
Dairy foods and desserts	All dairy and desserts except dry cakes or anything with nuts, seeds, dried fruits, coconut or pineapple or other hard fresh fruits such as apple.	Milk, milkshakes, custard, ice cream, creamed rice, blancmange, junket, baked egg custard, mousse, soft cheesecake (no crust), yoghurt	Milk, milkshakes, thin custard, ice cream, blancmange, mousse, yoghurt (no pieces), fromage frais.

Food handling and infections

Cancer and cancer treatments weaken the body's immune system by affecting white blood cells that protect against disease. As a result, your body cannot fight infection as well as a healthy person's body can.

Good food hygiene, such as the basic guidelines on the following page, is important for everybody. However, if you have had a bone marrow transplant or your white cell count is low, particularly during chemotherapy, extra care needs to be taken with food preparation as you will be more susceptible to foodborne illness. Most food poisoning results from improper handling and improper storage of food. Speak to your doctor or dietitian regarding any special food handling conditions which may apply to your stage of treatment.



Basic food safety guidelines

- Wash your hands thoroughly with soap and water before you prepare or eat food.
- Choose freshly cooked and freshly prepared foods. Take care when eating out, as it can be difficult to know whether food safety guidelines are being followed. When possible ask for meals to be made fresh and avoid foods that have been sitting for unknown periods of time.
- Always thaw frozen food in the fridge or defrost in the microwave, rather than on the bench and do not re-freeze thawed food.
- Keep raw meat covered, and keep it separate from cooked food or ready-to-eat food. Use separate utensils and chopping boards for raw meat and vegetables.
- Thoroughly wash knives, cutting boards and food preparation areas with hot soapy water before preparing food.
- Thoroughly wash and dry all fruit and vegetables, especially if eating them raw or juicing them.
- Make sure all meat, poultry, fish and eggs are very well cooked.
- Make sure foods are steaming hot when re-heated. Heat food for at least two to three minutes to above 70°C all the way through.
- Hot food should be kept above 70°C, and cold food below 5°C.
- Keep hot foods hot and cold foods cold, especially meat, chicken and seafood. Refrigerate leftover food immediately – don't let it cool on the benchtop, and consume within 24 hours.
- Check the use-by dates on packaged foods and dispose of any food that is out of date.

It is important to take care and potentially avoid the following high risk foods, as they may contain bacteria or viruses that can cause foodborne illnesses:

- Pre-made sandwiches or salads, sushi or food from food warmers or buffets.
- Raw and undercooked seafood, meats and poultry. Make sure these foods are cooked thoroughly and reheated until they're steaming hot.
- Cold deli meats and chicken – packaged or unpackaged – unless reheated to steaming hot.
- Foods containing raw or partially cooked eggs, e.g. homemade mayonnaise, mousse, egg nog.
- Cold smoked seafood and 'ready-to-eat' peeled prawns.
- Raw sprouts and commercial 'ready-to-eat' deli salads, including pre-cut fruit salads.
- Pate, liverwurst and meat spreads.
- Soft, semi-soft and surface ripened cheeses such as blue, brie, camembert, ricotta and feta.
- Soft-serve ice creams and drinks made with soft-serve ice cream.
- Unpasteurised dairy products such as raw goat's milk, cheeses and yoghurts made from raw milk.

Nausea and vomiting

Feeling sick (nausea), with or without vomiting, is a possible side effect of cancer or its treatment. Vomiting sometimes follows nausea and may be brought on by treatment, stress, food odours, gas in the stomach or bowel, or motion sickness. The following information may help:

Stage 1 Small sips

If you have persistent vomiting, don't try to force food down. Sip small amounts of liquid as often as possible. Try dry ginger ale, cold flat lemonade, soda water, Lucozade or chilled tomato juice. You might also find it helpful to suck a hard lolly, flavoured crushed ice cubes or an iceblock. If you can't keep fluids down, and vomiting lasts for more than 24 hours, see your doctor because you may become dehydrated.

Stage 2 Introduce drinks slowly

If your vomiting has stopped, but you still feel nauseated and full, it is important to eat small, frequent meals. Hunger, or an empty stomach, can aggravate or prolong nausea. Start by drinking cold or iced drinks. Make up drinks that are half milk (or skim milk) and half water (or soda water). These mixtures are surprisingly settling and soothing. If you like sweet drinks, try a spoonful of ice cream in a glass of lemonade. You can also try diluted fruit drinks, Bonox, clear broth and weak tea. Jellies can be satisfying too.

Stage 3 Introduce solid foods

When you feel you can drink without discomfort, eat small amounts of solid foods, such as plain dry biscuits, toast or bread with honey, jam, Vegemite or Marmite. Try jelly and cooked cereals (such as lemon sago or boiled rice), and then try soft stewed fruits, such as apples, pears or peaches. Start drinking milk gradually and in small amounts, or try yoghurt, which is more easily digested. Have food in small amounts and have something to eat or drink at regular intervals.

Stage 4 Return to normal diet

As soon as you can, increase your food intake until your eating returns to a good level. Your doctor or dietitian may advise you to take additional nourishment (perhaps supplements) on your good days to make up for the days when you can't eat properly.

You may find the following foods difficult to tolerate when nauseous, so you may need to limit them (however it's sometimes trial and error):

- fatty or fried foods such as meats, fish, eggs or spicy stews and casseroles
- full-cream milk, cream, strong cheese, dripping, lard, oils, dressings or mayonnaise
- rich soup with cream or fat
- potatoes cooked in fat, roast potatoes or potato chips
- scones, pastry, rich cakes or cream cakes
- chocolate biscuits, chocolate-coated nuts or peanut butter
- filling foods, such as pasta, especially with spicy or oily sauces.

Heartburn (indigestion)

Cancer and some treatments can cause heartburn, which is a burning sensation in your oesophagus and throat due to reflux. The discomfort may cause you to reduce your food intake and lead to weight loss.

If you have heartburn, avoid or minimise foods that make it worse. Try not to eat large amounts of chocolate, highly seasoned spicy foods, high-fat foods (such as fried food, pastries, cream, butter and oils), tomato and tomato products, citrus fruits, coffee (including decaf), strong tea, soft drinks and alcohol.

tips

- Avoid large meals, it is best to consume three small meals and three small snacks throughout the day.
- Eat slowly and take the time to enjoy your meal. Avoid wearing tight clothing while eating, especially belts.
- You may be able to eat more if you sip fluids in between meals, rather than drinking large amounts at meal time.
- Be aware of foods or activities that may make your heartburn worse (see above).
- Staying upright during and after eating and drinking can help. Sit upright for at least 30 minutes, and avoid lying down or activities that involve bending over (e.g. gardening) directly after eating.
- Tell your doctor if indigestion or pain persists.

Constipation

Constipation is when your bowel motions are difficult to pass and infrequent. It may be caused by some medications, particularly strong pain medication, a diet low in fibre, lack of exercise, or by not having enough fluids to drink (dehydrated).

Important

When increasing the amount of fibre in your diet it is essential that you also increase fluids, to prevent the fibre making your constipation worse. Medication to help maintain comfortable bowel function is generally given to people taking codeine and morphine preparations. In these cases, eating extra

dietary fibre may not help, and may make you feel overfull and uncomfortable. It is important that you discuss constipation with your doctor who can prescribe medication if needed to help you maintain regular bowel function (e.g. suitable fibre supplements or laxatives).

Things to consider when you have constipation:

- Drink plenty of fluids, at least eight to twelve glasses per day (2–3 litres), e.g. water, fruit juice, herbal tea, milk-based drinks or soup. This will help to keep stools soft.
- Consume a variety of fibre-rich foods, such as wholegrain breads, cereals, pasta, fruit, vegetables (especially raw and unpeeled), nuts and seeds, legumes and pulses such as baked beans, lentils and chick peas.
- Fresh orange, apple, pear or prune juice as possible alternatives to a fibre rich diet, especially for those people on fluid diets.

- Try to get into a regular routine with your meals, which can help to regulate the digestive processes.
- Avoid or reduce constipation due to radiotherapy by completely emptying your bowels before each treatment.
- Try some gentle exercise, such as walking each day. Talk to your doctor, physiotherapist or exercise physiologist about the amount and type of exercise that is right for you.

Call Cancer Council Helpline **13 11 20** for a free booklet on exercise for people living with cancer.

Diarrhoea

Diarrhoea means your bowel motions are watery, urgent, and frequent. You may also get abdominal cramping. Diarrhoea may be caused by a number of different factors including treatment, medications, infections, food sensitivity or anxiety.

Diarrhoea induced by radiotherapy (usually to the pelvic area) does not necessarily require a change in diet. Dietary changes to help ease radiation induced diarrhoea have not been well established; however it is important to maintain an adequate diet and replace lost fluids to prevent dehydration.

Things to consider when you have diarrhoea:

- Take anti-diarrhoea medications as prescribed by your doctor.
- Drink plenty of fluids to prevent dehydration. Water and diluted cordials are better hydrating fluids rather than high sugar drinks, alcohol, strong caffeine or very hot/cold fluids which may worsen diarrhoea.

- Avoid highly spiced and fatty/oily foods.
- Oral rehydration drinks may be needed to replace lost electrolytes. See your pharmacist for information on these products.
- Talk to your dietitian about whether there are any individual dietary strategies that may help you if you have diarrhoea. Sometimes temporary intolerance to lactose (sugar found in milk) or fructose (sugar found in fruit) can cause diarrhoea. In such cases it may help to change to soy milk or low lactose milk until the diarrhoea resolves.
- Consult your doctor before making any changes to your diet, and if you have ongoing diarrhoea. Your doctor can determine the cause, prescribe medication or refer you to a dietitian to provide suitable alternatives.



You may find it helpful to contact the National Continence Helpline on **1800 330 066**. This is a free service which provides information and referrals to local services for people who are experiencing problems with continence.

Other types of bowel irritation

During chemotherapy or radiotherapy to your abdomen or pelvis, your intestines can become irritated leading to other problems such as abdominal discomfort or more flatus (wind) than usual. You may also need additional time to recover from surgery to the bowel area.

tips

- Eat and drink slowly, take small mouthfuls and chew your food well to avoid swallowing air.
- A low fibre diet may reduce bowel movement and irritation in the short term.
- Reduce foods such as corn, beans, cabbage, onions, pickles and fizzy drinks which can produce wind.
- Try some gentle exercise, such as walking, to encourage healthy bowel action.

Irritation of the large bowel (colitis) and rectum (proctitis) – may be experienced after radiotherapy to the pelvis. Some people feel the need to empty their bowels more often, perhaps without much result. Straining can cause discomfort, and there may be some blood or mucus in motions. These changes are usually temporary and will correct themselves.

In the short term, symptoms may be relieved by reducing your fibre intake and avoiding fatty or fried foods, rich gravies and sauces, sausages and spicy foods. Eat soft or cooked fruit, fine wholemeal bread (without coarse pieces of grain or seeds) and bran to provide soft bulk. Drink plenty of fluids.

Irritation of the small bowel (enteritis) – may occur because of chemotherapy or radiotherapy to the abdomen or pelvis. You may experience some abdominal discomfort (like cramps or wind pain), episodes of fluid and pale bowel motions and more flatulence (wind) than usual. These changes usually correct themselves within a week or so after treatment. Speak to your doctor if you experience symptoms for more than a week.



Getting the most from food

There are many treatment side effects that can affect your food intake and your appetite. A lot of time can be spent travelling to the hospital, waiting around for appointments and staying in temporary accommodation with limited cooking facilities. Having a range of quick and easy snacks that are suitable to eat when you are away from home, or when you don't feel like preparing a meal is important to prevent weight loss and malnutrition.

If you are not able to eat your usual amount of food, or you need to gain or maintain your weight, it is helpful to take in more energy (kilojoules) without having to eat more. Try adding extras to your basic foods at mealtimes, such as protein, fats and sugar.

How to gain and maintain weight

Increasing the amount of energy or kilojoules (e.g. protein, fat and sugar) in your diet is usually a temporary measure to keep you eating well during and after treatment. It is important to understand that eating extra fat and sugar while you are underweight, or struggling to maintain your weight because of treatment side effects will not hurt you and is often only needed for a small period of time.

Speak with your doctor and dietitian about relaxing low-cholesterol or diabetes dietary restrictions that may prevent you from eating extra fat and sugar.

- Treat food like medicine: something you have to have. Set times for meals and snacks.
- Make sure your meal or drink is nourishing, for example drink milk rather than water and choose cheese and biscuits over lollies.
- Aim to have a small snack and/or nourishing drink, such as a milkshake or smoothie, if you can't manage larger quantities.
- Use full cream milk and dairy products, or enrich milk with milk powder. Refer to recipe on page 52.
- Add milk, cream, butter, margarine or yoghurt to porridge, sauces, desserts, mashed vegetables, egg dishes and soups.
- Add cheese to sauces, soup, vegetables, casseroles, salads and sandwiches.
- Fry or roast meat, chicken, seafood and vegetables in oil, butter or margarine.
- Spread bread, toast, scones, muffins, biscuits or fruit buns with butter or margarine and add honey or jam for extra energy. You can also use avocado, hummus or lite cream cheese if you prefer a low fat option.
- Use egg or mayonnaise, cheese, cold meats, canned salmon or tuna, peanut butter, banana, baked beans, avocado on bread, toast, crumpets or muffins.
- Carry snacks such as hard boiled eggs, chocolate bars, muesli bars, sweet biscuits, cakes and slices. Look for those with fruits and nuts for added energy.
- Ready-to-use drinks are handy for travel and are useful if preparation is difficult. Examples include Sustagen, Ensure and Resource Fruit Beverage.

Food-type nutritional supplements

If you cannot manage to eat a balanced and varied diet, or are experiencing unintentional weight loss, then it is recommended that you use nourishing fluids and/or nutritional supplements.

Nutritional supplements such as Sustagen Hospital Formula, Ensure and Resource contain energy, protein and other nutrients in a concentrated source. Glucose powder supplements can also provide energy, but they don't provide protein, vitamins or minerals, so they have a particular function and shouldn't be used as a meal replacement. You can sprinkle glucose powder on food or stir it through to give meals and snacks extra energy. Nutritional supplements and/or nourishing fluids should be taken in addition to eating your usual meals, for example try them as between meal snacks.

A dietitian can suggest the most appropriate supplement for you, and where it can be purchased. Your choice of supplement should be based on your nutritional needs, on availability and on the cost of the supplement.

If you have been assessed by a speech pathologist as having swallowing difficulties and need thickened fluids the nutritional supplements need to be thickened to the advised consistency. Discuss this with your speech pathologist.

The following tables provide some suggestions of nutritional supplements which you may be able to try (however it should not be considered a complete list of those available).

Powders

Product name	Flavour	Description
Boost Powder™ (500g or 1.5kg can)	Vanilla, chocolate, banana, strawberry, coffee	Gluten free, low GI, low fat, low salt, contains fibre
Enprocal Powder™ (540g can or 2.1kg can)	Neutral	Gluten free, low GI, contains fibre
Ensure Powder™ (900g can)	Vanilla, chocolate	Low lactose, gluten free, low GI, contains fibre
Fortisip Powder™ (900g can)	Vanilla	Low lactose, gluten free, low GI
Proform Powder™ (1kg can)	Neutral, vanilla, white chocolate	Gluten free, low GI
Sustagen Hospital Formula™ (900g can)	Neutral, vanilla, chocolate	Gluten free, low GI
Sustagen Hospital Formula™ (3kg bag)	Neutral	Gluten free, low GI
Sustagen Plus Fibre™ (900g can)	Vanilla, chocolate	Gluten free, low GI, contains fibre

NB: When using powders, prepare as per directions on the can.

Milk-based drinks

Product name	Flavour	Description
Enrich Plus™ (200ml tetrapak)	Chocolate, raspberry, vanilla	Ready-to-drink, Low lactose, gluten free, low GI, contains fibre
Ensure Ready-to-drink™ (237ml can)	Vanilla, chocolate, banana, fruits of the forest	Ready-to-drink, Low lactose, gluten free, low GI
Ensure Plus™ (200ml tetrapak)	Vanilla	Low lactose, gluten free, low GI
Ensure Plus™ (250ml can)	Vanilla, chocolate	Ready-to-drink, lactose free, gluten free, low GI
Fortisip™ (200ml bottle)	Neutral, vanilla, white chocolate	Gluten free, low GI
Fortisip Multifibre™ (200ml bottle)	Vanilla, banana, chocolate, strawberry, orange	Ready-to-drink, low lactose, gluten free, low GI, contains fibre
Resource Plus™ (237ml tetrapak)	Vanilla, chocolate, strawberry	Ready-to-drink, low lactose, gluten free, low GI
Resource Protein™ (200ml bottle)	Vanilla, coffee, forest fruits, chocolate, apricot	Gluten free, high protein
Resource 2.0™ (237mL tetrapak)	Vanilla	Ready-to-drink, lactose free, gluten free
Sustagen Ready-to-drink™ (250ml tetrapak)	Chocolate, vanilla, mocha chocolate	Ready-to-drink, gluten free, low GI, available from supermarkets

Specialised drinks

(with added fish oil – use as recommended by your dietitian)

Product name	Flavour	Description
Forticare™ (125ml tetrapak)	Peach-ginger	Ready-to-drink, lactose free, gluten free, high protein, contains fibre, enriched with fish oil (EPA)
Impact Advanced Recovery™ (237ml tetrapak)	Vanilla, chocolate	Low lactose, gluten free, contains fibre, enriched with fish oil (EPA/DHA)
Prosure™ (240ml tetrapak)	Vanilla	Ready-to-drink, low lactose, gluten free, low fat, high protein, high energy, contains fibre, enriched with fish oil (EPA)
Prosure™ (380g can – powder)	Vanilla	Low lactose, gluten free, contains fibre, low fat, high protein, high energy, enriched with fish oil (EPA)

There is also a range of capsules and liquids containing fish oil available from pharmacies that may be used on the recommendation of a dietitian or doctor.

Fruit-based drinks

Product name	Flavour	Description
Enlive Plus™ (220ml tetrapak)	Apple, strawberry, orange	Ready-to-drink, lactose free, gluten free
Fortijuice™ (200ml tetrapak)	Forest fruits, apple, tropical	Ready-to-drink, lactose free, gluten free, fat free
Resource Fruit Beverage™ (237ml tetrapak)	Orange, peach, wild berry	Ready-to-drink, lactose free, gluten free, low GI, fat free

Soups

Product name	Flavour	Description
Dr MacLeod's Boost Soup Powder™ (400g or 1kg can)	Beef & mushroom, chicken, pumpkin	Low GI, contains fibre
Flavour Creations Not Just Soup™ (185ml cup)	Beef & vegetable, chicken & vegetable, tomato, pumpkin	Gluten free, high fibre

Desserts and snacks

Product name	Flavour	Description
Boost Dessert Powder™ (500g or 1.5kg can)	Vanilla, mango	Gluten free, low GI, low fat, contains fibre
Boost Jelly Powder™ (560g can)	Lime, pineapple, raspberry	Lactose free, low GI, low fat, low sodium, contains fibre
Ensure Pudding™ (113g tub)	Vanilla, chocolate	Ready-to-eat, gluten free, low GI, contains fibre
Flavour Creations Just Desserts Custard™ (110ml cup)	Vanilla, banana, chocolate	Ready-to-eat, gluten free, low fat
Forticreme Pudding™ (125g tub)	Chocolate, vanilla, forest fruits, banana	Ready-to-eat, gluten free, low GI
Resource Dessert Fruit™ (125g snackpack)	Apple-prune, apple-strawberry	Gluten free, contains fibre
Sustagen Instant Pudding Powder™ (450g can)	Vanilla	Gluten free, low GI

Vitamin and mineral supplements

Vitamins and minerals are an essential part of a healthy diet and play an important role in the body's immune system. If you are managing to eat a balanced diet through eating a variety of foods then the use of vitamin and mineral supplements is not usually necessary.

Some people believe that taking high-dose vitamin supplements will strengthen the body's immune system, but there is little evidence to support this. In fact, many vitamins and herb compounds can be toxic at high levels, and may interfere with chemotherapy, radiotherapy and other medications. Therefore high doses of vitamin or mineral supplements are usually not recommended for use during treatment.

Dietary supplements cannot replace whole foods, which are still the best source of vitamins and minerals.

Many dietary supplements contain levels of antioxidants (such as vitamins C and E) that are much higher than the recommended Dietary Reference Intakes for optimal health. Whether antioxidants or other vitamin supplements are helpful or harmful during chemotherapy or radiation treatment is a major question without a clear science-based answer right now. Until more evidence is available, it's best for people having these treatments to avoid dietary supplements, except to treat a known deficiency of a certain nutrient, and to avoid supplements that exceed the recommended daily intake.

Talking to your doctor, dietitian or cancer pharmacist before taking vitamin and mineral supplements or before starting treatment is encouraged.

For more information, call Cancer Council Helpline 13 11 20.

Unproven dietary treatments

Complementary therapies are treatments that may help you cope better with side effects such as pain. They may also increase your sense of control over what is happening to you, decrease your stress and anxiety, and improve your mood. There are many types of complementary therapies, such as herbal medicine, acupuncture, massage, relaxation and meditation.

By contrast, alternative therapies, which include unproven diets, are often defined as those used instead of conventional medical treatments. These therapies may be harmful if people with cancer delay or stop using medical treatment in favour of them.

There are no special foods, diets or vitamin and mineral supplements that have been scientifically proven to cure cancer or to stop it from recurring. Unproven diets are often expensive, restrictive and repetitive. It is important to enjoy a wide variety of foods to keep you well nourished.

Many unproven dietary treatments, particularly those that cut out food groups such as meat or dairy products are likely to be low in energy (kilojoules), protein, fat, iron, calcium and zinc as well

as vitamins. This can cause unwanted weight loss, tiredness and decrease your immune function. Your recovery and quality of life can improve if your diet includes adequate amounts from each food group.

Some alternative therapies can be harmful even when used in combination with conventional therapy. It is important that your doctor, dietitian, nurses and pharmacist are aware of all the treatments you are taking.

For more information, or a copy of Cancer Council's booklet *Understanding Complementary Therapies*, call Cancer Council Helpline 13 11 20.

Juice Therapies

Juice therapies involve using fresh fruit and vegetable juices as the main source of food. Supporters of juice therapy believe it strengthens the immune system, reduces blood pressure and helps to clean out (detoxify) the body. However, while the health benefits of fruit and vegetables are well documented, the

benefits of juice therapy are not. Juice only contains a fraction of the fibre of whole fruit or vegetables. The protective effect of fruit and vegetables may be related to many factors in the whole fruit and vegetables, not just the juice. Use fresh fruit and vegetable juices as part of a varied eating plan.

The checklist below will help you assess any diet therapy you are thinking of undertaking. Is the diet likely to:

- Exclude one or more of the basic food groups?
- Include large amounts of specific fruits, vegetables or their juices?
- Exclude cooked foods or limit the cooking methods allowed?
- Exclude or limit protein foods like meat, fish and chicken?
- Completely change the way you choose, prepare and cook your foods?
- Result in weight loss during your cancer therapy?
- Prevent you enjoying social occasions with family and friends?
- Include large amounts of special supplements?
- Cost you a lot of money and time?

If you answer yes to any of these questions, the diet could affect your recovery and compromise your health. Some eating patterns and nutrition supplements or pills can be harmful and may interfere with the success of your medical treatment. Before radically changing the foods you eat, or taking vitamin/mineral pills or herbal remedies talk to your doctor or dietitian.



Recipes and snacks

It is often difficult to eat well when you don't feel like shopping for food or cooking because you are tired or unwell. You may miss meals while having treatment or waiting for appointments.

The following meal and snack ideas may not all seem like healthy choices, but if you have a poor appetite it's important to boost your intake of food and focus on high protein and energy foods and fluids.

Meal and snack ideas

- baked beans on toast with grated cheese
- fried fish (bought prepared) or fish fingers with chips and salad
- canned creamy soup made with milk, served with buttered toast
- grilled lamb cutlets, mashed potato with margarine or butter, and peas and carrots
- crumpets or muffins toasted with cheese, and some fruit
- a sandwich and a glass of high-protein milk with Aktavite, Milo or Horlicks
- pasta with cheese or a ready-made sauce
- salmon, tuna or egg with salad and mayonnaise, served with a buttered bread roll
- occasionally takeaway food such as barbecue chicken, a hamburger, pizza or doner kebab (ensure the food is fresh and hasn't been kept at a warm temperature for a long time)
- scrambled or poached egg on toast and a glass of orange juice

- tuna or sardines on buttered toast with fresh tomato
- a ham and cheese omelette with salad and buttered bread
- toast with cheese or peanut butter, followed by sliced banana and yoghurt
- frozen prepared casseroles, desserts and soups that can be defrosted in portions and eaten on days you don't feel like cooking
- cheese and crackers
- celery and cream cheese or peanut butter
- cheese or peanut butter on toast or bread
- hard-boiled eggs
- dried fruit and nuts
- jaffles and sandwiches – good fillings are peanut butter, cheese, avocado, egg and mayonnaise, cold meats, salmon and tuna
- milk puddings, such as creamed rice, custard, mousse and instant puddings
- leftover foods from the previous day – make sure foods are properly reheated
- fruit cake, muesli and health food bars, sweet biscuits, cakes and slices
- fresh or tinned fruit with custard, yoghurt, jelly, ice cream or cream
- creamy soup
- hot chips
- instant noodles
- potato crisps or corn chips with dips
- buttered pikelets, scones, muffins, fruit buns, finger buns and raisin toast
- yoghurt or ice cream
- milkshakes (see page 50)
- food-type nutritional supplements (see hints on page 36).

Stewed fruit with custard or cream

- 3–4 pcs seasonal fruit (e.g. pears, apples, plums), peeled, cored, chopped
- 1 cup orange juice
- 1 cup full cream custard or ice cream (or 2 tbsp cream)

Place fruit and orange juice in a medium saucepan over low heat. Cook for about 20–30 minutes, stirring occasionally until fruits soften (the length of time will depend on how hard the fruits are). Serve with some full cream custard, ice cream or cream.

Cheesy vegetable bake

- 200g sweet potato, peeled and thinly sliced
- 200g pumpkin, peeled, deseeded and thinly sliced
- 1 parsnip, peeled and thinly sliced
- 1 carrot, peeled and thinly sliced
- 4 potatoes, peeled and thinly sliced
- ½ cup thickened cream
- ½ cup grated cheddar cheese

Preheat the oven to 180°C. Brush a medium ovenproof dish with oil. Layer the sweet potato, pumpkin, parsnip, carrot and potatoes in the prepared dish. Drizzle each layer with a small amount of cream. Top with the remaining cream and sprinkle on the grated cheese. Bake in the oven for around 1 hour or until the top is golden brown and the vegetables are tender.

Scrambled eggs

- 2 large eggs
- 30ml cream
- 1 tsp chives or other herbs (fresh)
- Butter
- Two slices of bread, toasted

Crack eggs into a bowl and add cream and chives. Whisk with a fork until combined. Heat a pan over medium heat and add a small amount of butter. Cook the eggs for 1 minute, stirring as you do so that they cook through. Butter the two slices of bread and serve the eggs on top.

Swedish meatballs

- 500g minced topside steak
- salt and pepper to taste
- ½ cup plain breadcrumbs
- 1 tbsp margarine
- 1 egg beaten
- 2 tbsp flour
- 1½ cup water

Mix mince, breadcrumbs, egg and seasoning with a fork until well blended and then form into balls (golf ball size). Brown in the margarine. Remove meatballs from pan. Make a thick gravy with the drippings, flour and water. Return the meatballs to the gravy and simmer for 1 to 1½ hours until tender. Add herbs or spices to the meat mixture to taste. May be frozen raw or cooked.

Nourishing drinks

Fluids are an essential part of any diet. They allow you to stay hydrated and help your kidneys function. As a general guide, you should aim for at least eight to twelve glasses (2–3 litres) of fluid per day. The quantity of fluid you need may vary depending on your type of treatment. Your doctor or dietitian will give you guidelines about how much fluid you should drink per day.

As well as drinking water you can get fluid from soups, milkshakes or smoothies, fruit juices, fruit or ice cubes. For more information speak to your dietitian.

Nourishing drinks are drinks high in protein, energy, vitamins and minerals. These fluids include ready-to-drink commercial supplements, as well as nourishing drinks you can make at home.

Use these drinks when:

- You are underweight or losing weight – to assist with weight gain or weight maintenance
- Your overall food intake is decreased due to poor appetite or nausea
- You are relying mainly on a fluid diet.

These drinks can be used to replace fluids such as water, tea, coffee, bonox, soft drinks and cordials, which are generally a poor source of nutrients. Milk is a common base for nourishing drinks, as it is a high protein and energy fluid itself. Full cream milk has more energy than low fat milk and so is preferable to use at this time.

If you are lactose intolerant, then milk may give you diarrhoea. Lactose intolerance may also occur as a result of some types of cancer treatment. In this situation ordinary milk can be substituted with low lactose milks. Speak to your dietitian who can advise you about what lactose-free supplements are available, and for advice about making alternative recipes.

Classic milkshake

- 1 cup milk or soy milk
- 1 heaped tbsp milk powder, or recommended quantity of ‘Sustagen Hospital’ or ‘Ensure Powder’ or ‘Fortisip Powder’ or ‘Enprocal Powder’ or ‘Proform’ (refer instructions on packaging)
- 1 scoop ice cream

Flavouring as desired, e.g. chocolate, strawberry, coffee, vanilla

Place all ingredients in a blender or milkshake maker and blend until smooth. Serve chilled.

Smoothie

- 1 cup milk or soy milk
- 1 heaped tbsp milk powder or recommended quantity of ‘Sustagen hospital formula’ or ‘Ensure Hospital’ or ‘Ensure Essential’ (refer instructions on packaging)
- 1 ripe banana or cup tinned or frozen fruit
- 1 scoop ice cream
- 1 tsp honey (optional)

Place all ingredients in a blender and blend until smooth.

Enriched milk

- 1 litre full cream milk
- 4 or more tbsp of milk powder (increases nutrients)

Thoroughly mix ingredients until powder is blended. Enriched milk can be used on its own or in milkshakes, smoothies, soups, cereal and desserts.

Apricot lemon crush

- 425 g can of apricot halves in natural fruit juice
- 1 cup natural yoghurt
- juice of 1 lemon
- 1 tbsp honey
- 2 tbsp wheatgerm
- crushed ice

Blend ingredients together.

Soups

Soups can be easy to eat, easy to digest and nourishing. Clear soups may stimulate the appetite and can provide extra fluid but be careful not to include clear soups in the diet on a regular basis as these will provide extra fluid but little nourishment (i.e. protein or energy). Be sure to add meat, legumes, cereals (rice, pasta, noodles) and cream, butter, margarine and oil to boost energy and/or protein content. Try adding nutmeg, ground cumin or curry powder to vary the taste of soups.

Soup can be pureed or blended for people not able to swallow pieces of food, or strained and only the broth served. Thicker soups can be

made with added puréed vegetables, cream, egg yolk, fortified milk or arrowroot. If a puréed soup is too thick add a little more milk.

Foundation broth

- 250g meat (any cut)
- 1 stalk celery
- salt and pepper
- 1 onion
- 1 tsp chopped parsley
- 1 carrot
- 30g cereal (sago, rice or pearl barley)
- 600 mls water

Debone if necessary, remove fat and cut meat into small pieces. Soak meat and bones in cold water for ½ hour. Then bring slowly to the boil. Wash cereal and add as soon as soup is boiling. Simmer for 1 hour. Prepare and dice vegetables into small pieces. Add and simmer for ½ hour before serving. Remove bones and season to taste.

Creamy potato and leek soup

- 1–2 tsp olive or vegetable oil
- 2 leeks, sliced
- 1kg potatoes, peeled and chopped
- 1 tsp cumin seeds
- 5 cups vegetable or chicken stock
- ½ cup cream

Cook leek in a large saucepan with oil until soft. Add cumin seeds and cook for a further two minutes. Add potato and stock to the pan and bring to the boil. Simmer for 25–30 minutes until potatoes are tender. Puree in a blender or food processor until smooth. Stir in the cream and serve.

Vegetable soup

- 1 tbsp margarine
- 3 cups diced vegetables
- 2 tbsp flour
- 2 chicken stock cubes
- 3 cups water
- 300g can butter beans
- ½ cup milk
- ½ cup cream
- 3 tbsp tomato paste
- ½ cup rice

Melt margarine and sauté vegetables for 5 minutes. Add flour and stir. Add crumbled stock cubes, water, tomato paste and butter beans. Simmer until vegetables are tender. Blend the mixture in a blender or food processor until smooth. Stir in milk and cream. Add in rice and heat for 15–20 minutes until rice is cooked.

Marinades

Marinating helps to tenderise, add flavour or change the taste of meat or tofu. The following marinades are enough for four serves of beef, pork, chicken, lamb or tofu. For best results, marinate the meat or tofu in the fridge for at least 2 hours or overnight. Drain the marinades before cooking to prevent stewing and splattering. When using a marinade that contains honey or sugar, cook the meat on a lower heat than usual to stop the marinade charring.

Asian marinade

- 2 tbsp soy sauce
- 1 tbsp sesame oil
- 1 tbsp sherry
- 1 tbsp honey

Honey mint marinade

- ½ tsp sesame oil
- 1 tbsp lemon juice
- ½–1 tsp minced chilli
- 1 tbsp chopped mint leaves
- 2 tsp honey

Red wine marinade

- ¼ cup red wine
- 2 tbsp soy sauce
- 2 tbsp Worcestershire sauce



Help for carers

Preparing food for someone with cancer can be difficult and sometimes frustrating. There are many reasons why the person may not be able to eat what you have prepared. Some people just don't feel like eating.

To understand your feelings a little better, remember we often express our love or feelings for someone by giving food. If this food is not accepted, for whatever reason, it is natural to feel upset. If you try to make food less of an issue, it can reduce stress for everyone.

tips

- Become involved and understand the nutrition needs of your loved one or friend. Go to appointments with the dietitian if appropriate.
- Encourage and support, but try not to focus on lack of eating and drinking.
- Be prepared for your loved one or friend to experience taste changes from day to day, particularly during treatment periods.
- Make sure there is food at home that is ready-to-eat for when they feel like eating. For example, tinned fruit in the cupboard or yoghurts in the fridge, and a frozen meal in the freezer.
- Be flexible and willing to try new ideas or recipes.
- Eat together as often as possible as people often eat better with company.
- Accept that a well balanced diet may not be achievable, and your loved one or friend may only want a small range of foods. Try not to worry as it is often for a short period of time. A dietitian will be able to advise you of useful supplements.

If your child has cancer

The nutritional needs of children with cancer are different to adults, as children continue to grow and develop during treatment. Maintaining a healthy weight is also important as becoming overweight can affect children's tolerance of treatment and long-term health. Your doctor and dietitian will monitor your child's weight and growth closely during treatment.

It is hard as a parent to watch your child struggle to eat and drink, but try not to make an issue of your child's reluctance to eat. Instead, maximise their nutrition by encouraging nutritious, high energy foods when they are feeling well.

A child may use food to express anger, despair or frustration at being sick or being different from others. It may help to:

- continue normal daily routines as much as possible, as these will help your child and the rest of the family feel more stable
- consider sitting down at the table for a family meal at least once daily
- regular mealtimes are important times for families to share, and it will help your child feel part of the family
- make mealtimes as relaxed as possible – your child can sit with the family even if he or she doesn't eat or chooses to eat something different.

Call Cancer Council Helpline **13 11 20** for a free copy of Talking to Kids About Cancer.

tips

- Let your child have food any time, not just at meal times, so that nourishing snacks supplement small meals.
- Be flexible in meal patterns and food choices – allow your child to have breakfast cereal for dinner if that's what they prefer.
- Allow your child to occasionally have fatty or sugary foods like chips and chocolate. These foods may be useful high energy snacks if they are all your child wants to eat. Any nourishment is better than none, but don't let these foods become a habit.
- Use the time between treatments, while there are no side effects, to make up for any nourishment your child may have missed during treatment.
- Have takeaway food occasionally, to tempt fussy eaters.
- Avoid eating in front of the television as it can be distracting.
- Encourage your child to make mealtimes special by letting her or him plan the table setting, using decorated paper cups, coloured drinks, centrepieces or other features.
- Introduce novelties such as fancy drinking straws, patterned plates, coloured eggs or vegetables cut into interesting shapes. For a younger child who is kept home from school, try a picnic or brown paper lunch bag.
- Try to avoid food becoming a bargaining tool or a source of anxiety for either you or your child.
- Explain the reasons for good nutrition to older children. This may encourage them to eat when they feel up to it.

Looking after yourself

Caring for someone who is unwell can be exhausting and stressful, and even more so if you are not used to cooking and doing household chores. Try to look after yourself – give yourself some time out and share your worries and concerns with somebody neutral such as a counsellor or your doctor. If you can, try to arrange some time off for rest. Accept offers of help from family, friends and neighbours.

Many cancer support groups and cancer education programs are open to carers, as well as people with cancer. Support groups and some types of programs can offer valuable opportunities to share experiences and ways of coping.

There are support services available to help, such as community transport, shopping services, Home Help, and Meals on Wheels or visiting nurses. Carers Australia, the national body representing carers in Australia, can provide you with information and support. Carers Australia works with Carers Associations in all states and territories. Phone 1800 242 636 or visit www.carersaustralia.com.au for more information and resources.

Many of these services can be used on a short- or long-term basis and arranged by a social worker, doctor or nurse.

Call Cancer Council Helpline **13 11 20** to find out more about different services and to request free information for carers and families looking after someone with cancer.





After treatment

Most side effects go away after treatment ends, but some can take time to resolve. It is important to continue eating well (as per advice during treatment) until your side-effects are resolved and no longer impacting on your ability to eat. Some people who have had cancer change their diet dramatically in an attempt to stop the cancer coming back. Unfortunately, no specific foods have been proven to prevent cancer recurring.

However, healthy habits, like eating well and doing regular physical activity, may help to reduce the chance of some cancers returning. For more information about leading a healthy lifestyle, call Cancer Council Helpline 13 11 20 or talk to a dietitian.

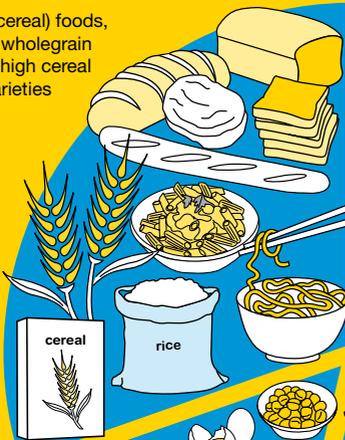
“As our minds and thoughts are bombarded with a new world – operations, pills and restrictions – it’s yes let’s get on with it and hope for a better time ahead. Post op and after the drugs have somewhat been taken away you crave a meat pie and a beer. Very kind hospital staff talk to you about drugs you need in the future and, most importantly, nutrition. Yeah! Nutrition! What’s that?” – Ian

After treatment finishes and your eating has returned to usual patterns, it is safe to change to a ‘healthy-eating’ focus (your dietitian can advise you on this) and the following information may help.

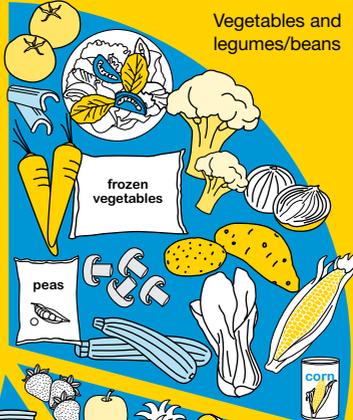
You may like to cut out the diagram on the next page and attach it to your fridge as a guideline.

Healthy eating after treatment

Grain (cereal) foods,
mostly wholegrain
and/or high cereal
fibre varieties



Vegetables and
legumes/beans



Lean meats and
poultry, fish, eggs,
tofu, nuts and seeds
and legumes/beans



Fruit



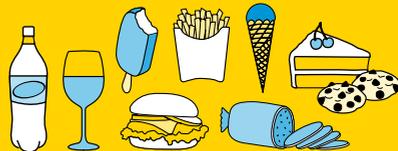
Milk, yoghurt, cheese and/or
alternatives, mostly reduced fat



Drink plenty
of water



Use small amounts



Only sometimes and in small amounts

Based on the National Health and Medical Research Council's *Australian Guide to Healthy Eating* diagram.

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The Australian Dietary Guidelines have been developed by the National Health and Medical Research Council to help people choose a healthy diet using a variety of foods. The guidelines provide general information about the amounts and kinds of food you need each day to get enough of the nutrients that are essential for overall good health and wellbeing.

To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to meet your energy needs. Children and adolescents should eat sufficient nutritious foods to grow and develop normally. They should be physically active every day and their growth should be checked regularly. Older people should eat nutritious foods and keep physically active to help maintain muscle strength and a healthy weight.

Enjoy a wide variety of nutritious foods from these five groups every day:

- plenty of vegetables, of different types and colours
- fruit
- grain (cereal) foods, mostly wholegrain and/or high cereal fibre varieties, such as breads, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa and barley
- lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans
- milk, yoghurt, cheese and/or their alternatives, mostly reduced fat (reduced fat milks are not suitable for children under two years)
- plenty of water.

tips

- Limit intake of foods containing saturated fat, added salt, added sugars and alcohol.
- Limit intake of foods high in saturated fat such as many biscuits, cakes, pastries, pies, processed meats, commercial burgers, pizza, fried foods, potato chips, crisps and other savoury snacks.
- Replace high fat foods which contain predominantly saturated fats such as butter, cream, cooking margarine, coconut and palm oil with foods which contain predominantly polyunsaturated and monounsaturated fats such as oils, spreads, nut butters/pastes and avocado. (Low fat diets are not suitable for children under the age of 2 years.)
- Limit intake of foods and drinks containing added salt. Read labels to choose lower sodium options among similar foods. Avoid adding salt to foods in cooking or at the table.
- Limit intake of foods and drinks containing added sugars such as confectionary, sugar-sweetened soft drinks and cordials, fruit drinks, vitamin waters, energy and sports drinks.
- If you choose to drink alcohol, limit intake. For women who are pregnant, planning a pregnancy or breastfeeding, not drinking alcohol is the safest option.
- Encourage, support and promote breastfeeding.
- Care for your food: prepare and store it safely.



Practical help and information

If you need more information about any of the content included in this booklet contact your doctor, nurse or dietitian.

Dietitians are available to help you in all public hospitals and most private hospitals. Ask your doctor or nurse to arrange an appointment. The Dietitians Association of Australia (DAA) can direct you to an Accredited Practising Dietitian in your area, or to one who specialises in cancer or has experience with particular clinical conditions. Visit the website at www.daa.asn.au or call them on 1800 812 942. Dietitians in private practice may also be listed in the Yellow Pages. If your doctor refers you to a dietitian as part of your Enhanced Primary Care (EPC) plan, you may be eligible for a Medicare rebate for up to five visits per calendar year. Most private health insurers provide a rebate depending on your type and level of cover.

Answer the following questions to help you determine if you need to see a dietitian:

- Have you lost weight recently (in the past 6 months) without trying?
- Have you been eating poorly because of decreased appetite?

If you answer yes to one or both of these questions it is important to be referred to a dietitian for individualised advice.

Your specialist, family doctor and nurses can also answer questions about your illness and treatment. You may want to talk to a social worker or counsellor. Cancer support groups offer mutual support and information to people with cancer and their families. Support groups also offer many practical suggestions and ways to cope. Joining a consumer advocacy group can also be a rewarding experience for some people.



Useful websites

The internet has many useful resources, although not all websites are reliable. The websites below are good sources of information.

Australian

- Cancer Council Australia..... www.cancer.org.au
- Cancer Connections..... www.cancerconnections.com.au
- Carers Australia www.carersaustralia.com.au
- Department of Health and Ageing..... www.health.gov.au
- Dietitians Association of Australia www.daa.asn.au
- Health InSite www.healthinsite.gov.au
- Lighten Up Program www.health.qld.gov.au/lightenup
- Nutrition Australia..... www.nutritionaustralia.org
- Australian Dietary Guidelines www.eatforhealth.gov.au/guidelines
- A Healthy and Active Australia www.healthyactive.gov.au

International

- American Cancer Society..... www.cancer.org
- Macmillan Cancer Support..... www.macmillan.org.uk
- National Cancer Institute..... www.cancer.gov
- World Cancer Research Fund
- Diet & Cancer Report www.dietandcancerreport.org



Call Cancer Council Helpline **13 11 20** for information on cancer support and advocacy groups. Carers Australia and its state/territory associations also offer support and information for carers. Call **1800 242 636**.



Question checklist

You may find this checklist helpful when thinking about the questions you want to ask your doctor about your disease and treatment.

If your doctor gives you answers that you don't understand, ask for clarification

- Should I be on a special diet?
- Should I avoid any particular food during treatment?
- Why am I not eating normally?
- What other changes to my diet can I expect?
- Why am I losing/gaining weight?
- Why am I feeling sick?
- Why am I so tired?
- How long will mouth ulcers take to heal?
- How can I reduce nausea?
- Will medication help?
- Should I take vitamin supplements?
- What else can I do to help?
- Will these symptoms go and, if so, when?
- What types of foods will I be able to eat once my treatment is finished?



Glossary

You may come across new terms when reading this booklet or talking to health professionals. You can check the meaning of other health-related words at www.cancercouncil.com.au/words.

carbohydrate

Carbohydrates are important components of food which provide energy. Carbohydrates are one of the major staples of most people's diets and main sources are grains such as rice, wheat, corn, barley, rye, oats, starchy vegetables (potato and sweet potato), lentils and peas. Products made from these grains such as breads, cereals and pasta are also major sources of carbohydrates.

cells

The basic organisational unit of all living things. A human is made of millions of cells, which are adapted for different functions.

chemotherapy

The use of cytotoxic drugs to treat cancer by killing cancer cells or slowing their growth.

constipation

Difficulty passing a bowel motion regularly or often.

diarrhoea

Opening the bowels very frequently. Motions may be watery.

dietary fibre

Dietary fibre, sometimes called roughage or simply 'fibre', is the indigestible portion of edible plants, found in plant cell walls. Foods containing fibre include; wholegrain cereals and breads, fruits and vegetables, beans, dried peas, legumes, nuts and seeds. The majority of fibre is contained in the outer layer of grains and therefore can be removed by refining and processing.

dietitian

A health professional who specialises in diet and disease, and supports and educates patients about nutrition and diet.

digestion

The breaking down of food so it can be used by the body. Food is

digested as it moves through the mouth, stomach and bowel.

energy

Energy is counted in kilojoules or calories and comes from foods and drinks. Energy is important for your body to function and also to allow you to do day-to-day activities. Different amounts of energy are found in different foods. Some may be high in energy while some may be low in energy.

essential fatty acids

Types of fat in food necessary for good health.

glucose supplement

A type of sugar. A good source of energy (kilojoules or calories) that often tastes less sweet than sugar.

heartburn (indigestion)

When acidic juices from the stomach flow back up into the oesophagus, causing a burning pain in the chest a few hours after eating. Also called reflux.

intolerance

Inability to digest properly.

lactose

Lactose is the main type of sugar found in milk. Lactose is digested by an enzyme found in the digestive system called lactase. Lactose intolerance occurs when people have trouble breaking down lactose. Many people with lactose intolerance find that they can still digest foods that are low in lactose such as hard cheeses.

lipids

Lipids (or fats and oils as they are more commonly known) are an important source of energy and some essential nutrients. Fats and oils are mainly classified into two different categories – saturated and unsaturated. Saturated fats are mainly found in animal foods, such as meat, eggs and dairy. Major sources of unsaturated fats are avocado, olive and vegetable oils, nuts, seeds and fatty fish such as tuna and salmon.

malnutrition

Malnutrition is an imbalance of energy, protein or other nutrients in the body which can impact your health and how your body responds to cancer treatment and recovery.

minerals

Minerals are important parts of foods that do not provide energy but perform other essential roles in our bodies. Examples of minerals include, iron, calcium, magnesium, zinc and selenium. Different minerals have different purposes in the body and are found in different types of foods.

nausea

Feeling sick or wanting to be sick.

nutritious/nourishing

Food that is a good source of energy (kilojoules/calories) and/or protein as well as vitamins and minerals.

oesophagus

The tube that carries food from the throat into the stomach.

protein

Protein is another source of energy and is important for the growth and repair of cells in your body.

Protein is found in eggs, red meat, chicken, fish, dairy products, legumes and nuts.

radiotherapy

The use of radiation, usually x-rays or gamma rays, to kill cancer cells or injure them so they cannot grow and multiply.

sign

A sign is an objective indicator of ill health that is observed by another person, such as a doctor, often through a clinical examination or test, e.g. a swollen liver. Some indicators can be both signs and symptoms, such as a rash. Others can only be a sign (e.g. high blood pressure) or a symptom (e.g. pain).

speech pathologist

A health professional who helps with speech or swallowing difficulties.

surgery

Treatment that involves an operation. This may involve removal of tissue, change in the organisation of the anatomy or placement of prostheses.

symptom

Symptoms are subjective. They are seen or felt by the person experiencing the symptom, e.g. itchiness or dizziness. See sign.

vitamins

Vitamins, like minerals, do not provide energy but are still essential for your body. Vitamins have a wide range of different roles and purposes and can be water soluble or fat soluble. Fat soluble Vitamins include Vitamin A, D, E and K. Vitamin C and the B vitamins group are water soluble.

white blood cells

One of three types of cells found in the blood. They help fight infection. Types of white blood cells include neutrophils, lymphocytes and monocytes.

References

- Australian Dietary Guidelines
More detailed information can be found at <http://www.eatforhealth.gov.au/guidelines> or call 13 000 NHMRC (13 000 64672).
- “Malnutrition” Adapted from “Malnutrition in Cancer” factsheet, Peter MacCallum Cancer Centre, VIC. Questions in Malnutrition section adapted from Ferguson M, Capra S, Bauer J, Banks M. “Development of a valid and reliable malnutrition screening tool for adult acute hospital patients.” *Nutrition* 1999;15(6):458e64.
- Vitamin and mineral supplements
Information obtained from American Cancer Society (www.cancer.org)
- “What should I eat?” Adapted from the American Cancer Society report “Nutrition during and after cancer treatment: A guide for informed choices by cancer survivors.” To read a full copy of the report, see www.cancer.org.



How you can help

At Cancer Council we're dedicated to improving cancer control. As well as funding millions of dollars in cancer research every year, we advocate for the highest quality care for cancer patients and their families. We create cancer-smart communities by educating people about cancer, its prevention and early detection. We offer many free practical and support services for people and families affected by cancer. All these programs would not be possible without community support, great and small.

Join a Cancer Council event: Join one of our community fundraising events such as Daffodil Day, Australia's Biggest Morning Tea, Relay For Life, Girls Night In and Pink Ribbon Day, or hold your own fundraiser or become a volunteer.

Make a donation: Any gift, large or small, makes a meaningful contribution to our work in supporting people with cancer and their families now and in the future.

Buy Cancer Council sun protection products: Every purchase helps you prevent cancer and contribute financially to our goals.

Help us speak out for a cancer-smart community: We are a leading advocate for cancer prevention and improved patient services. You can help us speak out on important cancer issues and help us improve cancer awareness by living and promoting a cancer-smart lifestyle.

Join a research study: Cancer Council funds and carries out research investigating the causes, management, outcomes and impacts of different cancers. You may be able to join a study.

To find out more about how you, your family and friends can help, please call your local Cancer Council.



Cancer Council Helpline 13 11 20

Cancer Council Helpline is a telephone information service provided by Cancer Council NSW for people affected by cancer.

For the cost of a local call (except from mobiles), you can talk about any concerns confidentially with oncology health professionals. Helpline consultants can send you information and put you in touch with services in your area. If you need information in a language other than English, an interpreting service is available.

You can call the Helpline, Monday to Friday, 9am to 5pm.

If you have difficulty communicating over the phone, contact the National Relay Service (www.relayservice.com.au) to help you communicate with a Cancer Council Helpline consultant.

For more information, go to www.cancercouncil.com.au.

Regional offices

Central and Southern Sydney

Woolloomooloo
02 9334 1900

Hunter and Central Coast

Charlestown
02 4923 0700

North Sydney

Crows Nest
02 9334 1600

Northern

Byron Bay
02 6639 1300

Southern

North Wollongong
02 4223 0200

Western

Wagga Wagga
02 6937 2600

Western Sydney

Parramatta
02 9354 2000



Cancer Council
Helpline

13 11 20

For support and information on cancer and cancer-related issues, call Cancer Council Helpline. This is a confidential service.

For further information and details please visit our website: www.cancercouncil.com.au