

Nutrition for people having cancer treatment



Good nutrition helps the body to recover during and after cancer treatment and can play an important role in optimising the quality of life for people with cancer.

If you are caring for someone who hasn't the physical strength to eat a normal diet or who seems to have lost all appetite, you are faced with the challenge of preparing and presenting food which is highly nutritious but at the same time is easy to eat and looks attractive. The aim of this resource is to provide information on how to encourage the person with cancer to get the best nutrition they can, using some simple recipes as examples. The resource also aims to provide information on some of the special considerations for people undergoing cancer treatment. Terms printed in **bold** are explained in the glossary.

This resource has been produced by **The Cancer Council Helpline 13 11 20** of The Cancer Council South Australia to provide some ideas and practical hints to people with cancer and others caring for them. Special thanks go to Claire Boehm for much of the original work involved which was carried out in a voluntary capacity and to the health professionals and dietitians who have been available for consultation and have provided constructive comment on the contents.

Diet and cancer

Diet is an important part of your treatment for cancer. A good diet before, during and after treatment can help you better cope with treatment by providing you with everything you need to keep your body working as well as possible. Recommendations about diet and eating for people with cancer can be very different from the usual recommendations for a healthy diet. For example, recommendations for a healthy diet usually have a focus on fruit and vegetables, whereas recommendations for people with cancer are more likely to focus on eating food, high in calories and protein. This is to make sure you have adequate nutrition to provide you with the strength and energy to cope with cancer treatment.

People with cancer may find they cannot eat as much as normal and they may lose weight. Treatments for cancer and the cancer itself may cause the person to feel weak and nauseous or they may have physical problems with swallowing. For a person with cancer, the important thing is to have enough calories and protein in their diet, without necessarily being able to eat more bulk. The information in this resource is designed specifically for people with cancer who are losing weight or can only manage to eat a little. It is not recommended for people who are eating well or have not lost weight.

The important messages from this resource for your diet are:

- 1 eat small, frequent meals**
- 2 eat high protein, high energy foods**
- 3 use nourishing fluids to maximise your food intake.**

People with special dietary needs such as those with diabetes should consult a dietician (see page 11). Some general guidelines for adapting recipes to suit particular diets include:

salt reduced diet—omit salt and use herbs/spices to flavour

sugar reduced diet—use sugar substitutes (some must be added after cooking)

low lactose diet—replace dairy products with water, soy milk or margarine as appropriate.

If you are using convenience foods, check the salt, sugar and dairy contents.

Helpful hints for the cook

Small, frequent meals or snacks are often better tolerated than large meals, as long periods without food may result in nausea. Try to cook a variety of foods and keep a balance of sweet and savoury flavours. A little alcohol may be useful to stimulate the appetite (check with the doctor that this is acceptable). Limit drinks that are filling but not nutritious such as black coffee or tea, diet drinks, water or clear soups or broths.

Many people will need to eat soft foods or liquid meals, either because of physical problems such as a painful mouth or swallowing difficulties, or simply lack of energy to chew food. A little extra effort in presentation can make even a puréed meal much more attractive. Use muffin tins, loaf tins, paté dishes and special moulds to vary the shape. Put small portions on the plate and garnish with lemon, tomato or parsley.

Sometimes the smell of food preparation can cause the person to lose their appetite. Greasy foods and fried foods seem to be the worst offenders. Use adequate ventilation when cooking or use prepared foods from the freezer that can be warmed through.

Useful equipment

- A vitamiser or blender is useful in preparing soft or liquid food. An inexpensive, three speed model will mix, blend or liquify most foods.
- A mouli sieve is hand-operated equipment that can also be used for puréeing soups, vegetables, fruit and cooked meats.
- A strainer can be used to strain or fine purée food. Consider obtaining one that is wide enough to stand over a basin so that it can be left to drip while you do something else.
- Food processors can be used to chop, grate and purée all sorts of food, both raw and cooked.
- An electric crock pot can make soft, simmered food such as soups and stews without the need to spend a lot of time in the kitchen.
- A microwave oven is useful for quick defrosting and reheating as well as cooking a wide variety of foods. You do not need special cookware and it can save on washing up. For instance milk can be heated in the mug in which it is to be served. A microwave oven will turn itself off after the cooking cycle, an advantage for the busy or tired cook who may be called away from the kitchen.

Cook double quantities of food to minimise the time you need to spend in the kitchen and store the excess in the freezer. Small servings can be frozen individually and reheated when needed. Ensure food that has been refrigerated is thoroughly heated to minimise the risk of potentially dangerous bacteria. Remember to label and date the food and use it before it can get spoiled. Keep a list of the foods you have put into the freezer in a handy place.

Use easy to prepare convenience foods and take advantage of prepared foods and individual serves, available from your supermarket such as flavoured yoghurts, custards, vegetable and fruit juices, tinned soups and vegetables, frozen meals and even baby foods. These can be quite nutritious and contribute to well-balanced meals.

If you are the carer

Preparing pleasant, appetising and favourite foods for an unwell person may be one of the most caring tasks you can do. Eating should remain an enjoyable experience. It is more helpful to encourage the patient to eat at times when they feel able to and try not to get upset if the person doesn't feel like eating. There may be many days like that.

It can be especially frustrating if you have spent time preparing special food that is then rejected, particularly if the patient has specifically asked for it. Understanding that this is frequently due to the illness can help you cope with these feelings.

If you are caring for someone remember to look after yourself. It does not help anybody if you become too tired to carry on. Do make sure that you take time to eat regularly yourself and have adequate rest. Accept any offers of help from your family or friends.

If you are on your own

Many people live on their own and want to stay as independent as possible which may include cooking for themselves. However tiredness can be a major problem for people with cancer and most people don't feel like cooking or eating when they are tired. Some suggestions to help save time and energy include:

- accept the offers of friends to help you – people like to do things for others so tell them what you need
- rest first and eat later – you are more likely to feel like eating after a rest
- take advantage of occasions when you feel well to cook and eat – prepare and freeze excess food for later use
- keep snacks and prepared meals handy so that you can eat when you want to
- if you can pinpoint times when you are most likely to be tired or feel unwell, plan to cook and eat at other times
- eat your favourite foods and avoid foods that don't interest you
- have as few dishes, pots and pans to wash as possible – use disposable dishes and paper cups to cut down on your work
- talk to your doctor about medications that can be prescribed for **nausea** that you can take before meals.

Undergoing treatment: special considerations

Digestion of food can be affected by cancer treatments. Information on how specific treatments such as surgery, **chemotherapy** and **radiotherapy** can affect your ability to digest food is available in booklets dealing with these topics (see the list on page 13).

The following pages give you some tips on how to maintain your food and nutrition intake when faced with some of the common problems of cancer treatments. Remember that you may not have all or any of these problems but if you do there are many ways you can help yourself. Many of the side effects are temporary and eating will gradually return to normal after the completion of your treatment.

Occasionally you may find you need to modify some of the following suggestions to meet your particular needs. Sometimes you will find that conflicting advice is given. For example, we suggest nibbling dry toast to fill your **stomach** when you feel sick or sucking a lemon to stimulate the flow of saliva but either of these could be quite painful if you have a sore mouth. There are usually other hints given in the same sections which may be more compatible. However if you find that you have more than one problem and that these are proving difficult to resolve, the professional advice of a cancer nurse or a dietician will be helpful.

Many people have had to face these problems but we are all individuals and different. You know your own body so be guided by your own experience and use the information given in this booklet to find the way that is most appropriate for you.

A dry mouth: keeping your mouth moist

Radiotherapy to your head or neck or **chemotherapy** can affect your salivary glands and reduce the production of saliva. Good care of your mouth and teeth is essential as the flow of saliva normally helps to keep your mouth clean and fresh. Your doctor can prescribe artificial saliva but there are also many ways you can make eating easier:

- choose foods that are moist or use plenty of gravy or sauces, melt butter or margarine over vegetables
- cut up your food well so that there is no need for prolonged chewing
- drink plenty of fluids with your meals – a few sips in between bites of food can keep your mouth moist
- tangy foods such as lemons and pineapples may help to stimulate the flow of saliva in your mouth
- avoid alcohol and very hot drinks that can dry your mouth out further.

Adjusting to taste changes

Your taste can be affected by chemotherapy, radiotherapy to your mouth or any of the causes of a sore mouth.

- pander to your taste – try a variety of different foods until you find ones that are enjoyable
- if food tastes bland use extra flavours such as GravoX, lemon juice, herbs (e.g. basil, rosemary) or spices (e.g. coriander, nutmeg)
- if you find red meat tastes bitter, switch to other protein foods such as fish, chicken, eggs, beans or nuts
- cold foods may be more palatable than hot foods
- add salt to foods that taste too sweet or sugar to foods that are too acidic or salty (ask your doctor or dietician whether you should restrict your salt or sugar intake)
- make full use of colour, texture and smell to add enjoyment to your eating
- lemonade or ginger ale may stimulate the taste buds
- if tea and coffee taste bitter switch to fruit juices or milk drinks
- keep your mouth and tongue clean. Washing your mouth with bicarbonate of soda solution before your meals may help to improve your taste. Dissolve one teaspoon of bicarbonate in 500 ml of warm water to make a mouthwash. Store in the refrigerator.

Painful chewing and swallowing: soothing your mouth and throat

Sometimes **chemotherapy** can reduce your immunity and you may have a problem with infections in your mouth or throat. Your doctor can recommend drugs to relieve the discomfort as well as to treat the infection. Hints on

making eating easier are:

- soft foods may be easiest to eat as they require little or no chewing
- vitamise your meals or have nourishing drinks
- if milk leaves your mouth feeling furry, try using milk that has been boiled, soya bean milk or dietary supplements (see previous section)
- cold foods such as milk shakes, custards, chilled soups or yoghurt can have a soothing effect on your mouth as well as being nutritious
- avoid irritants such as:
 - dry foods e.g. biscuits or toast
 - spicy or highly seasoned foods
 - acidic foods e.g. citrus fruits, pineapple or tomatoes
 - very hot foods
 - neat spirits or fortified wines
 - cigarette smoke
- tilt your head back to take food at the back of your mouth or use a teaspoon or straw to avoid food contact with the sorest part of your mouth
- your doctor can prescribe an **anaesthetic** mouthwash to use before eating. This can relieve discomfort by making your mouth go numb.

Making swallowing easier

Difficulties with swallowing can be due to a sore or dry mouth, inflammation of the **oesophagus** due to infection or to physical obstruction or pressure on the **oesophagus** from the cancer growth. To assist in swallowing:

- eat food in frequent small quantities
- experiment with foods of different consistencies. Semi-solid foods such as yoghurt or soups may be easier to swallow than either liquids or solids
- food moistened with gravy or sauce is easier to swallow than dry foods, meat or many raw fruits and vegetables
- grate vegetables rather than chop them.

Helping your digestion

A sore **oesophagus** or **stomach** can lead to indigestion. Your doctor may prescribe medications to treat the indigestion or to inhibit the secretion of acid by your **stomach**. Some of the hints given below might also help to reduce the problems.

- chew your food well and take your time while eating
- sit upright while you eat and for a short time afterwards to reduce the possibility of reflux
- try to relax at mealtimes and avoid interruptions
- a short rest after each meal may aid digestion
- do not drink a lot of fluids with your meals
- frequent small drinks of milk between meals and at bedtime can be soothing

- talk to your doctor or local pharmacist about antacids such as Mylanta™ that could be helpful for you
- avoid:
 - highly seasoned foods
 - onions or cabbage
 - fried or fatty foods
 - twice cooked foods such as leftovers
 - any food that disagrees with you.

Keep a list here of any foods that seem to cause indigestion:

Overcoming nausea

Nausea is a common problem if **radiotherapy** involves the **stomach**, liver, **intestines** or head or with many of the **chemotherapy** drugs. Anxiety or emotional stress can also be a factor. There are now some very effective drugs available (**antiemetics**) to reduce **nausea**, especially if they are used with the following dietary changes.

- eat your meals at the time of day that suits you best
 - try small, frequent meals or snacks and don't allow your stomach to become too full
- don't skip meals as an empty **stomach** can make **nausea** worse
- if you wake up feeling sick, eat a dry biscuit, toast or a small snack before you try and get up
- do not eat a large meal immediately before your treatment but make sure you do have a light snack
- eat and drink slowly and rest in an upright position after eating, chew foods well to make them more easily digested
- ensure your clothing is not tight and get plenty of fresh air, avoid strenuous activities, lifting or bending after eating
- starchy foods such as boiled potatoes are more easily digested than fatty foods such as chips
- eat food cold or warm rather than hot
- sipping a drink such as mineral water, lemonade or ginger ale may help to reduce the feelings of **nausea**, drink them flat if the bubbles give you too much wind. Champagne works as well!
- rinse your mouth before eating, use water or a bicarbonate of soda solution (see page 3)
- the smell of food may cause **nausea**, so cold foods such as sandwiches or salads may be preferable

- avoid the smell of cooking if it makes you feel sick
- consider avoiding your favourite foods when you feel sick as you might learn to dislike them
- try to eat with your family or friends rather than on your own and eat the food that you feel like having
- do not talk about your treatment at mealtimes.

Reducing the situations which promote **nausea** and using **antiemetic** drugs will decrease the likelihood of **vomiting** but sometimes it is unavoidable. After vomiting it is important to treat your empty and irritated **stomach** with a gentle plan to re-establish its normal function.

- if persistent **vomiting** occurs, do not try to force food down – sip small amounts of nourishing fluid as frequently as possible
- if you are not able to keep fluids down for longer than 24 hours consult your doctor
- if your **vomiting** is controlled but you are still **nauseated**, drink diluted milk or fruit juices, weak tea or clear broth, avoid rich, sweet or strongly flavoured fluids
- once you can manage fluids without discomfort try small amounts of solid food such as plain biscuits, cooked cereals, yoghurt or soft stewed fruits
- as soon as you are able increase your food intake to normal. Avoid foods which disagree with you in any way.

Looking after your bowels

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

- eat and drink slowly, take small mouthfuls and chew your food well to avoid swallowing air
- avoid foods such as corn, beans, cabbage, onions, pickles and fizzy drinks which can produce wind
- a low fibre diet will reduce bowel movements and irritation
- one teaspoon of peppermint water (available from your chemist) can ease wind
- two teaspoonfuls of peppermint water diluted in a small cup of hot water can give relief from abdominal cramps
- gentle exercise such as walking can encourage healthy bowel action.

Constipation is the irregular and infrequent use of the bowel with hard motions that are passed with difficulty. It can be caused by **chemotherapy** drugs (which can slow or stop bowel activity), **radiotherapy** to the abdomen, lack of physical activity or some pain medications.

The best way to relieve **constipation** is to treat the cause. Your doctor can prescribe medication but there are also some sensible dietary guidelines you can follow to help yourself.

- try to eat foods high in fibre such as unprocessed cereals, wholemeal bread, fruit and vegetables. If your current diet is low in fibre increase your intake gradually. A dietician can give you information on high fibre diets.

Note: During some treatments such as a radioactive implant in the abdomen you may be required to eat a low fibre diet to reduce movements of the bowel. This will be suggested by your specialist if necessary.

- drink at least 6–8 cups of water, fruit juice, soups or other liquids every day, drink additional fluid if bran or a fibre supplement has been recommended for you
- add a prune supplement to your breakfast cereal or dessert or drink prune juice
- try to get into a regular routine with your meals which can help to regulate the digestive processes
- **constipation** due to **radiotherapy** can be avoided or reduced if your **bowels** are completely emptied before each treatment
- gentle exercise such as walking will help to keep your bowels in working order
- regular laxatives may be prescribed especially if you are on pain medications.

Diarrhoea can be caused by damage to the lining cells of the **bowel** by your treatment, bowel infections, irritation due to the growth of a cancer or anxiety. If diarrhoea persists for more than a few days you should consult your doctor.

- eat frequent small quantities of food, use low fibre foods such as refined cereals, cooked vegetables, lean meat, fish, chicken, eggs and milk products
- eat your fruit stewed rather than fresh or dried, it may be wise to cut down on your intake of fruit at this time
- avoid alcohol and spices that can stimulate **bowel** movements
- drink plenty of fluids to replace the fluid you are losing, limit fruit juices though as these can aggravate the problem
- if you find gas-producing foods such as cabbage, broccoli, cauliflower, onions, baked beans and cucumber upset your **bowel** avoid them during your treatment
- let your food come to room temperature either by letting it cool from the oven or warm up from the fridge
- if milk products aggravate the **diarrhoea** try soya bean milk or a non-lactose product as alternatives.
- once your **bowels** return to normal it is important that you resume a balanced diet including fresh fruits, vegetables and wholegrain cereals.

It is not unusual to have alternating periods of **diarrhoea** and **constipation**. If you have a low food intake due to **vomiting** or poor appetite you may also have apparent constipation because you have no faeces. See the next section for ideas on how to increase your food intake

Boosting your appetite

There are many reasons why you may not feel hungry. A sore mouth, feeling sick or being **constipated** can reduce your interest in food. Even though you may not feel like eating remember that your body still needs food!

- if hunger is not reminding you to eat keep to a planned meal pattern and eat by the clock
- eat small, frequent meals of high nutrient value throughout the day, avoid large portions if you are not able to eat them
- avoid drinking tea, coffee or other non-nutritious drinks as they will tend to fill you up
- have plenty of nutritious snacks on hand so that there is always something available to eat when you may feel like it
- eat foods that you enjoy
- choose foods with attractive colours and textures
- eat with your family and friends as often as possible so that eating can be an enjoyable, social occasion
- make sure your mouth feels fresh and clean before starting a meal
- exercise can stimulate the appetite so try a brief walk before a meal
- avoid gassy drinks or gas-producing vegetables such as beans or cabbage
- a small glass of wine or sherry half an hour before meals can improve your appetite and digestion.

Maintaining your weight

A healthy body is able to store nutrients, conserve energy and regulate its metabolism. During short periods of illness and limited food intake, nutrients can be redistributed to maintain important tissues and organs.

Cancer and its treatment can interfere with these control processes in many ways. The growth of a cancer can deprive the body of its normal reserves and some cancers produce hormones that accelerate weight loss irrespective of how much is eaten. Problems such as nausea, infection and irritation of tissues can all interfere with the amount of food being eaten, digested and/or absorbed. Even travelling to and from hospital for treatment may mean you miss meals.

- try to make up for any missed meals by having nourishing snacks or drinks whenever you can
- increase your protein intake, for example use plenty of milk, cheese and eggs – fortify milk by adding extra skim milk powder
- increase your energy intake by adding fats (e.g. butter, cream) and sugars (e.g. honey, jam) to foods. This is not a problem while you are underweight or trying to maintain your weight; it is only when these foods are more than your body needs that they are considered unhealthy.

- limit items such as black coffee or tea that fill you up and dull your appetite without being nutritious
- use food supplements that contain concentrated calories as well as vitamins, minerals and other essential food nutrients
- if weight loss persists talk to your doctor, nurse or dietician.

Safety in food preparation

Food safety is important for people who are having treatment or are recovering from treatment that weakens the immune system as they are at an increased risk of food poisoning. Ways to keep your food safe include:

- wash your hands with soap and water before preparing and cooking food
- keep boards and utensils clean
- avoid cross contamination of food by keeping boards and knives used in the preparation of raw meats (including fish and chicken) separate
- thaw frozen foods in the refrigerator or microwave
- keep hot food hot and cold food cold, don't leave them sitting on the kitchen bench
- check expiry dates and for signs of spoilage – if in doubt, throw it out!

Nutrition without bulk

There are many simple ways of adding extra nutrition to foods without adding extra volume:

- add grated cheese to white sauce, scrambled eggs, vegetables and some meat dishes
- add butter, polyunsaturated margarine or cream to hot foods such as thick soups, vegetables, mashed potatoes and cooked cereals
- add eggs to soups, casseroles and custards
- sugar, glucose powder or honey may be used as additions to sweets, drinks and cereals – energy supplement powders are available from chemists and some supermarkets
- use milk for cooking instead of water, use reduced fat milk if a high fat content cannot be tolerated
- add extra nutrition to milk for cooking and drinking by adding dried milk powder or sugar

Fortified milk

$\frac{3}{4}$ cup dried milk powder

600 ml (2½ cups) whole milk

Mix thoroughly and store in refrigerator

- for those people not able to tolerate dairy products use soy milk instead of milk, dried soy milk powder is also available and can be used to fortify soy milk or cooking liquids.

Name	Availability	Nutrition type	Comments
Polycose and PolyJoule	Chemist	Carbohydrate supplement provides a rapidly absorbed source of energy	Bland taste, can be added to foods without altering the taste. Consult a dietitian if needed as a regular part of food intake
Complan	Chemist	Milk based food supplement	Can be made up into hot or cold drinks. It is not strongly flavoured so can be added to drinks, soups, sauces, gravies, casseroles, milk puddings and deserts
Sustagen	Chemist and some products from supermarkets	Milk based, nutritionally complete, provides protein, carbohydrate, vitamins and minerals	Available in different flavours in individual serve packs. Basic vanilla flavour can be used in both savoury and sweet dishes
Ensure	Chemist	Soy based foods that can provide complete and balanced nutrition	May be used to supplement the diet to increase the intake of calories and nutrients or as a total food replacement. Available in powder or liquid form. Available in different flavours, basic vanilla flavour can be used in both savoury and sweet dishes
Prosure	Only available through specialist suppliers: McNeil Surgical, Cottman, SBA, Atlas	Milk based	Dietary supplement available in a range of flavours. Available in liquid form only

NB Most people will be able to continue eating a variety of other foods using these products only as supplements. A dietitian should be consulted if an energy supplement is to be a regular part of food intake.

Dietary supplements can be added to other foods to increase the intake of energy and nutrients, e.g. soups, quiches, pasta sauces and milk drinks. They can also be frozen in ice cube containers to provide a refreshing and nutritious snack.

Diet supplements may be useful to boost the nutritional or energy intake. However these can be expensive to purchase and it is rare that these need to be the only source of food. Following is a list of some dietary supplements currently available.

Hints for meals and snacks

Breakfasts

A tasty breakfast using fruit, fruit juice and cereal can make a satisfying start to the day and help to prevent problems such as constipation. Fruit juice can be served plain or you can add sugar or a dietary supplement for extra energy.

Cereals can be served with hot or cold milk or fortified milk. Yoghurt and/or fruit purée can also be added. Cereals may be refined by the use of a food processor after cooking to make them easier to eat.

Porridge can be made with fortified milk (page 6). It is a better source of protein than some cereals and can be served with honey or brown sugar. It is easily made in a microwave oven.

Eggs

Eggs are one of the cheapest sources of protein and are very easy to eat. You can add grated cheese, cream or fortified milk (page 6) to scrambled eggs to make them more nutritious. Make sweet or savoury omelettes with steamed or puréed vegetables or fruit. Add bacon or ham to increase the protein and energy content further.

There is a risk of food safety problems with raw egg use, particularly for those with a weakened immune status. Use well-cooked eggs (i.e. cooked at 70 °C or higher for 3 minutes or longer) if you are unsure discuss with your doctor or dietitian. However cooked egg is a safe, well-digested and highly nutritious food that can be a valuable addition to your diet.

Savoury custards can make a change, rather like quiche without the pastry. Egg yolk can be added to white sauce to be served with vegetables or fish or mashed directly into potatoes or pumpkin.

Traditional puddings such as sago or sweet custards can be made easily, an extra egg added and served with fruit purée – either warm or cold.

Soups

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

Soup can be vitamised 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 (page 6) or arrowroot. If a puréed soup is too thick add a little more milk.

Main meals

The protein component (i.e. meat, chicken, eggs, fish or legumes) are the most valuable component of the main meal. These foods provide valuable sources of protein and energy and should be eaten first. Vegetables provide low energy and protein content and should be eaten second especially if you have a poor appetite.

Meat

Meat dishes should be well cooked to be easily digested. The slow cooking required needs little supervision and many vitamins and minerals are retained in the sauce. A small serving of the casserole gravy dished up with mashed potato or other soft vegetables can make an easy to eat meal.

Chicken can be steamed and served in a white sauce or minced and made into patties. Minced chicken and minced turkey are now both available from supermarkets.

Fish

Fish is easy to eat (but be careful of bones), easy to digest and can be quick to prepare. Fresh fish can be grilled, lightly pan-fried or steamed. It is easily prepared in a microwave oven. Tinned fish can be used to make patties, mousses or mornays which make a change for someone able to eat light meals. There is a wide variety of fish dishes available in the freezer section of the supermarket. These can be kept in the freezer and provide the basis for a quick meal.

Vegetables

Vegetables are an excellent source of vitamins, minerals and fibre as well as carbohydrate but as said previously, they are low in energy and protein. The energy content can be increased if sauces, margarine, butter or gravies are added to them. They can be used raw, cooked, mashed, puréed or juiced and can help to make a satisfying meal e.g. a sliced or mashed ripe avocado makes a nourishing snack and for a person with a sore mouth or mouth ulcers it is very easy to swallow.

Vegetables can be used in soups, added to stews or casseroles or used to make cold mousses or savoury jellies. Vegetable sauces can be served with pasta or used as a gravy to moisten meat or steamed vegetables. Some vegetables (especially green leafy types) may increase wind or give you a bloated feeling. Trial and error will determine which vegetables you can tolerate.

Desserts

Desserts are usually very easy to eat; even the frailest person may be able to swallow some custard and fruit syrup. Desserts can make good use of fruit, eggs and milk products as well as breads and cereals. Serve with cream, custard, yoghurt or ice cream to add extra calories. Some simple desserts include bread and butter pudding, custard, sago pudding with fruit puree, fruit yoghurts and fluffy puddings with jelly crystals and evaporated milk. Custard can be bought in packets and used with sponge cake, also available at the supermarket, to make a tasty trifle.

There are many convenience foods available at the supermarket that can make tasty and nutritious desserts. Instant pudding mixes can be kept on hand for emergencies and made up with fortified milk (page 6). There are also a wide variety of canned fruits available including easy to open snack packs. Desserts are very useful, stored in the refrigerator and available whenever the patient feels like eating.

Drinks

Drinks can sometimes be the best way of giving food to someone with little energy to eat. Sipping with a straw or even taking small amounts from a teaspoon can be easier than drinking from a cup.

Milk and milk-based drinks are the most nourishing fluids to consume. They provide valuable protein and full-cream varieties provide excellent energy. They can be served either hot or cold and in a variety of flavours. Milk shakes can be made using various combinations of milk, fortified milk (page 6) and ice cream. Flavour milk with Milo, Ovaltine, Horlicks, Malted Milk powder or Aktavite.

For those people who cannot tolerate milk or who would like a change, soy milk is available from supermarkets. Soy drink is a non-dairy product that is free of lactose, cholesterol, artificial flavours, colours and preservatives. It is a good source of protein and can be used in the same way as milk. It is now available in ready prepared drinks in a number of flavours in both large and small packs. Dried soy milk powder is also available.

Fruit juices, soft drinks and cordials can also provide good sources of energy to the diet and are the second best fluid to consume. Fruit juices can be served with added glucodin for extra calories. Lemon barley water is particularly useful to provide extra fluid in hot weather. Flat ginger ale or lemonade slowly sipped is often helpful to people suffering from nausea.

Bonox, Bovril or Vegemite can make a delicious savoury drink with hot water. Water, tea, coffee, vegetable juices and diet drinks should not make up the majority of fluids in your diet. While they can provide excellent fluid sources, they simply fill you up without essential energy and protein.

Recipes

The following pages give some ideas for nutritious meals and recipes using easily available ingredients.

Use your own imagination to vary the foods so that they fit in with food being prepared for the whole family and to suit the taste of the person with cancer.

abbreviations: tblsp = tablespoon
 tsp = teaspoon
 dsp = dessertspoon

approximate weight/volume conversions:
 1 cup = 8 ounces = 250 mls
 4 cups = 1 litre
 1 ounce = 30 grams
 1 ounce = 1 tblsp (flour, sugar, etc.)

oven temperatures:

	°C	°F
low	160	320
moderate	170–200	350–400
hot	200–240	400–450

Breakfasts

Breakfast Special

1-2 tblsps malted milk powder 2 tsp honey or Glucodin
1 ripe banana, peeled & chopped 1½ cups chilled milk

- Blend all ingredients together until smooth.
- Pour into a chilled glass and sprinkle with grated nutmeg.

Tiger's Eye

1 egg (separated) salt and pepper to taste
1 tblsp grated cheese 1 tsp fresh chopped chives

- Beat the egg white with a pinch of salt until stiff.
- Fold in grated cheese and put into greased ramekin.
- Slightly hollow out the centre and drop yolk in.
- Bake for 10 minutes in a moderate oven.
- Sprinkle with chives and serve immediately.

Soups

Foundation broth

250 g meat (any cut) 1 stalk celery
salt and pepper 1 onion
1 tsp chopped parsley 1 carrot
30 g 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.

Pumpkin soup

500 g pumpkin 250 mls fortified milk or soy milk
 1 onion 1–2 medium sized potatoes
 500 mls stock or water garlic, if desired
 salt and pepper to taste

- Chop onion. Peel pumpkin and potato and cut into chunks.
- Place vegetables, stock and seasonings in saucepan. Bring to boil, then simmer for 45 minutes or until vegetables are tender.
- Purée soup.
- Add fortified milk, adjust seasoning and reheat without boiling.
- Serve garnished with cream and chopped parsley or grated cheese.

The flavour can be varied by stirring 1–2 tbsps of peanut butter into the soup for a delightful nutty flavour.

Lentil soup

1 cup dry lentils ½ cup shredded spinach
 1 small onion chopped 1 clove garlic crushed
 ½ cup diced carrot ½ tsp oregano leaves
 ½ cup chopped celery 3 cups water or stock

- Combine all ingredients in a large saucepan and simmer for 45 minutes or until lentils are soft.
- Blend to make a smooth soup.
- Serve warm or hot. Stir in a spoonful of plain yoghurt for a richer flavour.

This recipe makes a fairly thick soup. Use additional water in cooking to make a thinner soup.

Cock-a-leekie

1 large chicken 2 tbsps rice
 2 litres cold water chopped parsley
 3 leeks salt and pepper

- Place the chicken in a large saucepan. Add cold water to cover, salt lightly, cover and simmer for 1½ hour.
- Trim leeks, wash well and slice.
- Skim fat off chicken broth, add leeks and rice and simmer for another hour.
- Remove chicken and set aside to cool. Shred meat.
- Adjust seasoning of broth, add parsley and shredded chicken meat and serve hot.

Main meals

Lamb with Parsley Sauce

1.5 kg lamb neck chops 1-2 tps lemon juice
 2 chopped onions 1 tsp salt
 2 cups water salt and freshly ground pepper
 1½ tbsps flour 2 tps capers
 ¾ cup chopped parsley

- Place chops in a saucepan with salt, water and onion.
- Bring to the boil, cover and simmer gently for 1 hour or until tender.
- Lift chops out of broth, season with salt and pepper and keep hot. The meat will fall off the bone and can be shredded.
- Blend flour with a little cold water and stir into cooking liquid.
- Bring to the boil, stirring constantly and simmer for a few minutes.
- Add parsley, capers and lemon juice to taste and spoon over the chops or shredded meat.

Swedish meatballs

500 gm minced topside steak salt and pepper to taste
 ½ cup plain breadcrumbs 1 tblsp margarine
 1 egg beaten 2 tblsp 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 1/1½ hours until tender.

Add herbs or spices to the meat mixture to taste. May be frozen raw or cooked.

Basic white sauce

30 g butter or margarine salt and pepper to taste
 2 tbsps flour (vary according to desired thickness)
 300 ml liquid (fortified milk, soy milk, water)

- Melt butter in saucepan and remove from heat.
- Add flour and stir with a wooden spoon until mixture is smooth.
- Cook slowly for 1 minute, stirring continuously. Remove from heat.
- Add all the liquid and stir until smooth.
- Return to heat and stir until boiling. Reduce heat and stir for 1 minute.
- Flavour with the salt and pepper.

White sauce can be used in many ways to add flavour to and moisten fish, chicken or vegetables. It can form the basis of mornays or hot soufflé mixtures.

Variations:

- Add 3 tbsps finely grated tasty cheese.
- Add 1 tbsp finely chopped parsley.
- Add 2 tbsps lemon juice and 1 tsp grated lemon rind.
- Omit salt and pepper, add sugar, vanilla or fruit flavouring for a sweet custard.

Whiting florentine

2 fillets of whiting (or other white fish)
½ cup puréed spinach 2 tbsps mashed potato
1 tsp breadcrumbs ½ cup cheese sauce (page 9)

- Steam or poach the fish fillets until cooked.
- Place the fish on a bed of drained and puréed spinach.
- Cover with cheese sauce and edge with mashed potato.
- Cover with fine breadcrumbs and heat through in a warm oven.
- Serve immediately.

Tuna and broccoli mornay

1 small tin tuna 2 cups white sauce (page 9)
250 g broccoli 2 tbsps melted margarine

- Cut broccoli into flowerets, wash and steam until tender.
- Place in shallow casserole with the tuna. Cover with white sauce.
- Mix breadcrumbs with melted margarine and sprinkle over the mixture. Bake in moderate oven for 20 minutes.

The white sauce can be flavoured by frying a little onion in the butter before adding the flour and liquid.

The varieties of mornay are endless. Try using one or more of:

grated cheese	ham	sweetcorn	bacon
mushrooms	beans	tuna	almonds
salmon	asparagus	chicken	peas
carrots	celery.		

Vegetables

Summer loaf

½ cup rolled oats 1 chopped onion
300 gms silverbeet 1 tsp herbs
600 gms cottage cheese ¼ cup milk
2 eggs salt and pepper to taste

- Soak rolled oats in water for 2–3 hours until soft. Drain.
- Chop silverbeet and boil for 5 minutes. Drain
- Blend cottage cheese, eggs, herbs, onion, milk, oats and seasoning. Puree until smooth.
- Add cooked silverbeet and combine well.
- Pour into greased loaf tin and bake at 180 °C for 60 minutes.
- May be sliced and served hot or cold.

Zucchini luncheon slice

About 1½ cups (180 g) grated zucchini
½ cup grated cheese ½ cup self-raising flour
2 eggs (separated) 1 tbsp softened margarine
2 tbsps milk 2 chicken stock cubes (crumbled)
Salt and pepper to taste

- Combine all ingredients except egg whites in a bowl.
- Beat egg whites until stiff and fold into the mixture.
- Bake in a well greased pie plate until set, about 25 minutes at 180 °C.
- This dish can be served hot or cold.

Avocado sauce

1 ripe avocado 200 g ricotta cheese
1 cup cooked and puréed spinach 1 cup milk
1 tbsp tahini paste black pepper to taste

- Blend all ingredients together until smooth.
- Serve with pasta, fish, chicken or other vegetables.

Eggplant bake

2 medium eggplants
2 large ripe tomatoes peeled and chopped
1 tbsp olive oil 3 cups fresh breadcrumbs
2 tbsps chopped parsley 1 tbsp grated parmesan cheese
1 tbsp chopped onion

- Slice eggplant in half lengthways. Scoop out flesh and chop into cubes.
- Fry flesh in olive oil until soft. Allow to cool.
- Mix eggplant flesh with all other ingredients. Mash to a soft pulp if required.
- Fill eggplant halves with the mixture. Bake at 200 °C for 40 minutes until tender.

Broccoli moulds

1 cup thick white sauce (page 9)
500 g broccoli cooked and pureed 2 eggs
1 cup grated cheese salt and pepper

- Mix cheese and seasoning into white sauce while still hot.
- Add broccoli purée to white sauce mixture.
- Beat eggs well and combine with broccoli mixture. Mix well.
- Pour into greased ramekin moulds. Place in tray containing water and bake for 35–40 minutes in a moderate oven.

These moulds can be frozen and reheated quite successfully. Use any cooked and puréed vegetable in this way.

Creole sauce

½ small onion sliced 2 tbsps sugar
1 capsicum sliced ½ tsp salt
1 medium can tomatoes 1 tsp vinegar
2 tbsps olive oil 1 tblsp cornflour

- Fry onion and pepper in oil lightly.
- Add tomatoes, salt, sugar and vinegar. Bring to boil and simmer for 20 minutes.
- Thicken with the cornflour mixed with a little water before serving. Can be puréed.
- Serve with eggs or meat.

Desserts

Smooth fruity rice pudding

1 tin prepared creamy rice pudding
1 cup fruit - raw (raspberries, strawberries, banana) or stewed (apple, plums)

- Place all ingredients in food processor and purée until smooth.
- Serve in individual dishes

Brandy plum custard

1 tin plums (stones removed) 1 tsp mixed spice
300 g sour cream 2 eggs
1 tsp brandy essence

- Purée plums until smooth. Place in shallow dish and stir in brandy essence and mixed spice.
- Beat cream and eggs together with fork, pour over plums.
- Place dish in water bath and bake in moderate oven for 40–50 minutes.
- Serve hot or cold.

Drinks

Apricot smoothie

1½ cups milk (preferably full cream), soy milk or yogurt
1 cup apricot nectar
1 cup chopped apricots (fresh or tinned)

- Blend ingredients together until smooth.
- Serve in chilled glass.

Cold milk punch

2 cups milk (preferably full cream) ice cubes
2-3 strips of pared orange or lemon rind
2-3 tbsps whisky or brandy 1 dsp caster sugar

- Soak the rind in the spirit for 1–2 hours.
- Pour into a shaker with the milk and sugar.
- Add ice cubes and shake well.
- Strain off into tall glasses.
- Soy milk could be used instead of milk.

Chocolate milk shake

1 cup milk (preferably full cream) or fortified milk
2 tbsps chocolate flavouring
1 tblsp malted milk powder
1 scoop ice cream (vanilla, chocolate or coffee)

- Whip together until fluffy.

Mulled apple juice

½ litre apple juice 4 cloves
½ small cinnamon stick 1 dsp brown sugar

- Mix all ingredients together and simmer gently for 5 minutes.
- Leave to cool for an hour or so, strain and gently reheat to serve.
- Can also be served cold.

After treatment

The information in this pamphlet is intended for people diagnosed with cancer and their carers. After cancer treatment a diet high in energy and protein may no longer be needed. For more information on returning to a balanced diet, please see The Cancer Council pamphlet *Healthy eating and physical activity for adults: How to reduce your risk of cancer*.

Help is available

Your family doctor or specialist is an important provider of medical care and support. Do mention any symptoms or eating problems to your doctor. A dietitian is trained in the area of nutrition and the nutritional care of people who are ill. If you are having eating problems a dietitian will help you work out a special diet taking these into account.

Dietitians are available for consultation in:

- public hospitals
- most private hospitals
- community health centres (no referral required)
- private practice (no referral required).

Discuss your dietary problems with your doctor and ask for a referral if you think it will help. Your doctor may refer you to a speech pathologist if you have swallowing problems especially those associated with head or neck cancer.

Meals on Wheels provide one main hot meal per day, Monday–Friday to people unable to cook for themselves. Vitamised food and special diets can be prepared if needed. A doctor's or nurse's referral is required and there is a small charge for this service.

Many chemists stock diet supplements or will order them on request. Some of the larger chemists will supply these at cost price to people with a serious illness and can also provide information on their use.

The Royal District Nursing Society (RDNS) provides comprehensive nursing care to people in their own homes throughout Adelaide and in some country regions. The nurses can assist with dietary problems and give advice on food supplements and how to use them.

Hospice and palliative care services focus on the quality of life. The multidisciplinary teams will work with the family doctor to help coordinate care at home to people with an incurable illness. Regional teams in Adelaide are based at the major public hospitals and there are services in most large country towns. These teams have access to dietary supplements.

For more information

The Cancer Council is involved in various aspects of the fight against cancer and can provide the support to all who may be affected directly or indirectly by cancer. Contact **The Cancer Council Helpline 13 11 20** if you want to talk with a professional counsellor; for general information about cancer and its treatment, for information about services and resources available in your local community or if you want to borrow books or videos.

Contact **The Cancer Council Helpline 13 11 20**.

The Cancer Council South Australia
202 Greenhill Road, Eastwood 5063
PO Box 929, Unley 5061
f 08 8291 4122
chl@cancersa.org.au
www.cancersa.org.au

Services are available at no charge to all patients, relatives or friends. Monday–Friday, 8.30 am to 8.00 pm.

Glossary of terms

anaesthetic

A drug administered to stop a person feeling pain.

antiemetic

A drug or medicine that helps to control nausea and vomiting including that caused by cancer or its treatment.

bowel

Also called the intestine or gut: the part of the gastrointestinal tract between the stomach and the anus. The bowel is a tube about 8 metres long that lies curled up in the abdomen. It completes the digestion and absorption of food and gets rid of the remaining wastes.

calorie

A unit which measures the amount of energy in foods.

cancer

An uncontrolled growth of cells invading the surrounding areas of the body, which have the ability to spread to distant sites through the blood stream or lymphatic system.

chemotherapy

The use of particular drugs to kill cancer cells or slow down their growth (control cancer).

colon

The colon is the part of the bowel between the end of the small intestine and the rectum.

constipation

Infrequent or difficult emptying of bowel content.

diarrhoea

Abnormally frequent or liquid emptying of bowel content.

gastrointestinal tract

The gut. It starts at the stomach and includes the large intestine and small intestine.

gland

An organ or group of cells that makes certain fluids (hormones, saliva, sweat) that are used in the body or excreted.

hormone

A substance which has a specific effect on the way the body works. Made in very small amounts by a gland various hormones help to regulate and coordinate growth, metabolism and reproduction. They are distributed in the bloodstream.

intestine

see bowel.

nausea/nauseous

An unpleasant sensation felt in the area of the abdomen which often culminates in vomiting.

oesophagus

The gullet; the tube that connects the throat with the stomach, down which food passes.

radiation

Any form of energy that spreads or radiates from its source including heat, light (visible, ultraviolet and infrared), gamma rays and X-rays

radiotherapy

The use of particular forms of radiation, usually X-rays or gamma rays, to kill diseased cells. Sometimes called radiation therapy.

rectum

The last 12–15 cm of the large bowel which opens to the outside at the anus.

small intestine

The part of the gastrointestinal tract between the stomach and the colon.

stomach

Part of the digestive tract; a sac-like structure just below the diaphragm. When food is swallowed it passes first to the stomach where the gastric juices start to digest it.

vomit/vomiting

The ejection of the stomach contents through the mouth.

X-ray

Rays or radiation. X-rays can penetrate matter that light cannot so X-ray cameras can be used to see structures inside the body that are not normally visible.

This booklet is one of a series produced by The Cancer Council to help you understand more about your illness and to help yourself. Other titles available are:

About cancer
About chemotherapy
About surgery
Cancer information on the internet
Caring for the person with advanced cancer
Clinical trials
Emotions and cancer
Guide to cancer services in Adelaide
Hair loss
How can I relax?
I want to help
Oral health during cancer treatment
Meeting the challenge of advanced cancer
Questions you might like to ask your doctor
Sexuality for men with cancer
Sexuality for women with cancer
Skin care during cancer treatment
Understanding and controlling cancer pain
Understanding radiation therapy
What About Me?
What do I eat now?
When you're diagnosed with cancer

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