

GUIDELINES

on diet, physical activity and weight
for **Cancer Prevention**



FOREWORD FROM THE CHIEF CANCER OFFICER

It's not often when we think of cancer that we think of good news. However, there is good news. Through the individual choices we make, we can prevent a large number of cancers.

There is almost universal awareness that tobacco smoking and sun exposure cause cancer. Tobacco smoking causes up to 30 per cent of all cancers in Australia and remains the leading preventable risk factor for cancer in NSW. Reducing smoking prevalence in NSW is a major priority for the Cancer Institute NSW and quitting smoking, or not starting, is the most important thing anyone can do to reduce their risk of cancer.

Overexposure to the sun's ultraviolet radiation (UVR) causes skin cancer, which is the most common cancer in NSW. Melanoma is particularly dangerous, but protecting your skin from the sun can help to prevent it.

However, changes to diet, weight and physical activity, which can also prevent cancer, are less well understood. These Guidelines are a practical resource to help inform the people of NSW about changes we can all make in our day-to-day lives to improve our health. Many of these changes are simple. They are lifestyle choices we know are good for our health.

The Cancer Institute NSW was established in 2003 to control and cure cancer in NSW. We are committed to beating cancer through promoting the best cancer research, prevention, early-detection, treatment and education initiatives.

Our vision is to control and cure cancer in NSW by:

- reducing the incidence of cancer in the community
- increasing the survival rate of cancer patients
- improving quality of life for cancer patients and their carers
- operating as a source of expertise on cancer control for the government's health service providers, medical researchers and the general community.

These Guidelines for Cancer Prevention are based on the scientific findings of the World Cancer Research Fund (WCRF)/American Institute for Cancer Research's (AICR) landmark report: Food, Nutrition, Physical Activity and the Prevention of Cancer: a global perspective (2007) and were adapted with kind permission from the WCRF UK to whom we are grateful.

There are three simple guidelines for cancer prevention:

- Choose mostly plant foods, limit red meat and avoid processed meat.
- Be physically active every day in any way for 30 minutes or more.
- Aim to be a healthy weight throughout life.

I encourage you, your family and friends to take the practical ideas provided in these Guidelines and make positive changes in your life. It's never too late to invest in your health.

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Contents

Guidelines on diet, physical activity and weight for cancer prevention	2
--	---

Choices and chances	3
---------------------	---

Guideline 1	4
--------------------	----------

Choose mostly plant foods, limit red meat and avoid processed meat

- Vegetables and fruits
- Wholegrains and pulses
- Should I eat meat?
- What about processed meat?
- Other choices for a healthy diet
- What you can do

Guideline 2	8
--------------------	----------

Be physically active every day in any way for 30 minutes or more

- How does physical activity reduce cancer risk?
- What counts as physical activity?
- What's the physical activity goal?
- How many calories do different activities use?
- What you can do

Guideline 3	12
--------------------	-----------

Aim to be a healthy weight throughout life

- What does research say about managing weight?
- What is a healthy weight?
- Energy-dense foods
- Sugary drinks
- Why is physical activity so important for weight control?
- What is a healthy portion?
- What you can do



Choices and chances

This booklet is about the choices you can make and the habits you can change to reduce your chances of developing cancer.

At present, around one in two men and one in three women in NSW will develop cancer at some point during their lifetimes. But research shows that cancer isn't simply fate or bad luck. Scientists estimate that by making changes to the food we eat, the amount of exercise we do and maintaining a healthy weight, about a third of cancers could be prevented. In addition, quitting smoking, or choosing not to smoke, can play a big role in reducing our risk, as smoking is known to cause about one-third of all cancers. Protecting your skin and eyes from the sun's harmful ultraviolet radiation (UVR) when you go outside will also reduce the risk of skin cancer, the most common cancer among Australians. Together, these factors have the potential to prevent most cancer cases in Australia and around the world.

A special report – *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective* – reconfirmed what the Cancer Institute NSW has always maintained: we can make changes in our lives that will reduce our risk of developing cancer. Published by the World Cancer Research Fund and American Institute for Cancer Research in November 2007, this report is the result of an exhaustive process involving leading scientists and researchers and more than one hundred peer reviewers and observers. First, nine independent research teams collected all the relevant research on the relationship of diet, physical activity and body size to cancer risk. Together they identified 500,000 studies, which were screened down to 22,000. Eventually, 7,000 of these studies were found to be relevant. Then a panel of 21 world-renowned experts compared and evaluated these studies, and drew from them 10 evidence-based recommendations for preventing cancer.

To make it easy for you to follow these recommendations, the Cancer Institute NSW has grouped them into three simple guidelines that you can think about and eventually adopt as principles to guide your choices.

1. Choose mostly plant foods, limit red meat and avoid processed meat.
2. Be physically active every day in any way for 30 minutes or more.
3. Aim to be a healthy weight throughout life.

Following any one of these guidelines is likely to reduce your chances of getting cancer. But, following all three offers the greatest protection. In part that is because the three are so closely related to each other. For instance, your diet has to do with taking in energy (usually measured in calories), and physical activity has to do with expending or burning the energy you have taken in. The key to maintaining a healthy weight lies in balancing your 'energy in' with your 'energy out'.

Diet and physical activity both protect against cancer in two main ways. The evidence shows that the healthy diet described in this booklet helps protect your body against cancer. It also helps you manage your weight, which in turn lowers your cancer risk. Similarly, physical activity offers 'direct' protection from cancer by reducing levels of hormones that are linked to a higher risk of the disease. It also plays a key role in helping you to manage your weight and therefore reduce your cancer risk.

In choosing to follow these three guidelines you will be choosing a healthier way of life. Making gradual changes to what you eat and your lifestyle will lead, over time, to a leaner, healthier body, and less chance that you will develop cancer or other chronic diseases like heart disease, stroke or diabetes.

Choose mostly plant foods, limit red meat and avoid processed meat

The traditional Australian barbeque features mostly meat. It might consist of sausages, chops, steaks or barbecued chicken, white bread and butter, and perhaps some salad. The proportions of a meal like this aren't good for your health. The first step in improving your diet is to shift the proportions so that your plate features plenty of plant foods – vegetables, fruits, wholegrains and beans – with perhaps just a modest serving of meat on the side. While red meat can increase our cancer risk, many scientists have found evidence that plant foods can help to boost our bodies' defences against the disease.

Vegetables and fruits

Evidence shows that eating more vegetables and fruits probably protects against cancers of the mouth and throat, oesophagus and stomach. Fruits probably protect against lung cancer as well, and various vegetables protect against other cancers. For instance, garlic probably protects against bowel cancer, and foods containing the antioxidant lycopene – processed tomatoes, for example – probably protect against prostate cancer.

Furthermore, most vegetables and fruits are rich in fibre, which probably protects against bowel cancer. That's why the Cancer Institute NSW recommends at least five servings of vegetables and two servings of fruits a day – see the chart on page 17 for a guide to portion sizes. Currently, around half of NSW adults eat two serves of fruit a day and less than 10 per cent eat the recommended five servings of vegetables a day.

Researchers are continuing to study how vegetables and fruits protect us against cancer. Through laboratory studies, they have

discovered that plants contain substances, called phytochemicals that can prevent or interrupt cancer processes in many ways. Some phytochemicals prevent cancer-causing substances (carcinogens) from becoming active. Others help to prevent cells in the body from being damaged, or they trigger the 'suicide' of cancer cells.

Wholegrains and pulses

Wholegrains, and pulses, such as beans, also play an important part in a healthy everyday diet. To include more of these foods in your diet, choose wholegrain brown rice instead of white rice, and opt for wholemeal bread, pasta and cereals whenever possible.

When grains are refined, the bran and the germ are removed. This produces a white or light-coloured food that is often soft and spongy. Refined products like white bread were traditionally considered luxury items. But nutritionally, they are not the best choice. The refining process takes away the fibre and phytochemicals that may help lower cancer risk.

Pulses are another type of plant food that we should try to eat each day. In this category are beans like kidney, cannellini, blackeye and butter beans, baked beans, chickpeas, split peas and lentils. These foods are low in fat and contain a lot of fibre and protein, as well as beneficial phytochemicals.



Should I eat meat?

So far we have suggested that you cut back on meat to make room for larger portions of vegetables, fruits, wholegrains and pulses, all of which help protect against cancer. That does not mean that you have to stop eating meat altogether.

No evidence connects fish or lean poultry to increased cancer risk, and adding a portion to your meal will supply beneficial nutrients and extra taste. Red meat, however, is a special case. There is convincing evidence that eating too much red meat (beef, lamb and pork) increases your chances of developing bowel cancer which is the second most common cancer in NSW men and women. The expert panel concluded that we shouldn't eat more than 500g (cooked weight) of lean red meat each week – this is about 700–750g raw weight. If we consume more than this, our risk of cancer increases.

Scientists are still investigating how red meat might help to cause cancer. Haem, the iron-containing compound that gives red meat its colour, has been shown to damage the lining of the colon. Red meat can also cause the gut to produce cancer-causing substances called N-nitroso compounds. These are two ways in which red meat might increase our bowel cancer risk.

What about processed meat?

The evidence linking processed meat and bowel cancer is even stronger, so it's best to avoid eating these foods. Processed meat is meat that has been preserved by smoking, curing, salting or adding other chemical preservatives. Bacon, ham, salami, corned beef and some sausages are processed meats.

It is not yet clear exactly what in processed meats increases cancer risk, but until the answer is found, try to avoid eating processed meats. Although most processed meat is red meat, sausages and 'bacon' that are made from poultry are also best avoided until we know more.

The guidelines for red meat and processed meat differ. It is wise to limit the amount of red meat you eat and, for most of us, that means cutting back. If you serve yourself small, 80g servings (cooked weight), you can include red meat in six meals a week and stay within the limit. If you usually eat the more common serving size of about 200g (cooked weight), two or three meals with red meat a week will bring you up to the limit.

Try to think of processed meats as something you save for special occasions rather than foods that make up your regular diet – if you are about to switch to a diet based mainly on plant foods, finding substitutes will be a little easier. There is strong evidence that the effort will be worth it.



Other choices for a healthy diet

If you want to choose a cancer-fighting diet, one of the most important steps to take is gradually shifting the proportions of meat to plant foods on your plate until you are eating mostly plant-based meals. Here are some other changes for you to think about.

1. There is convincing evidence that alcoholic drinks cause several types of cancer:

Alcoholic drinks increase the risk of cancers of the mouth, pharynx, larynx and oesophagus. They also increase the risk of breast cancer in women and bowel cancer in men (and probably in women too). There is no clear level of consumption below which there is no increase in risk for these cancers, which means that, based on the evidence, even small amounts of alcohol should be avoided. The evidence also shows that all alcoholic drinks have the same effect, so it doesn't matter whether it is red wine or beer; it is the amount of alcohol itself that increases the risk of cancer.



If you drink at all, limit consumption to no more than two drinks a day.

What is considered one drink?

- One 285 mL pot/middy of full strength beer (4.9 per cent Alc./Vol).
- One 375 mL stubbie of mid strength beer (3.5 per cent Alc./Vol).
- A small glass (100 mL) of wine (12 per cent Alc./Vol).
- Two-thirds of a 330 mL bottle of alcoholic soda (5.5 per cent Alc./Vol).
- A nip (30 mL) of spirit or liqueur (40 per cent Alc./Vol).

2. Consuming too much salt can cause cancer of the stomach. Experts recommend people eat less than 6g (2.4g sodium) a day.

Try to avoid salt-preserved, salted or salty foods. Over 80 per cent of the salt in our diets comes from processed foods – we are not always aware that these foods are high in salt because they may not taste 'salty'. Watch out for: breakfast cereals, bread, ready meals, pizzas, processed meats like ham, sausages and bacon, soups, crisps and sauces. Even sweet foods like biscuits can contain high levels of salt.



What you can do

A good rule of thumb is to fill two-thirds (or more) of your plate with vegetables, fruits, wholegrains and beans, and one-third (or less) with animal foods. Why not serve two vegetables on your plate accompanied by a wholegrain? Or look for recipes for casseroles, stews and stir fries that call for two-thirds vegetables, wholegrains and beans and only a small amount of meat for extra flavour.

1/3 (or less) animal foods



2/3 (or more) vegetables, wholegrains and beans

Vegetables and fruits

To ensure variety, choose different coloured vegetables and fruits – look for greens, reds, purples, oranges, whites and yellows for a range of phytochemicals. Why not try to create a colourful rainbow on your plate?

Wholegrains

To include more wholegrains, choose brown rice instead of potatoes or white rice. Or try some other wholegrains, such as wholewheat pasta, bulgur and quinoa. If you have bread or rolls with your meal, opt for those made with wholemeal flour ('wholemeal' or 'wholegrain' should appear first on the ingredients list). Porridge or wholegrain cereals without added sugar and/or salt are good choices for breakfast.

Pulses

Kidney, cannellini, haricot and butter beans are among the many types of beans from which to choose. Opt for beans canned in water without added salt or sugar – if this isn't possible, rinse away the salt or sugar before cooking. Serve beans and lentils plain or drizzled with a little lemon juice or vinegar, or find recipes for casseroles, soups and salads that combine beans and lentils with vegetables.

Poultry, fish and meat

Once you've thought about the vegetables, fruits, wholegrains and/or pulses that you intend to serve, you could plan what poultry, fish or meat to serve with them. A moderate portion of fish or lean poultry is a good choice. If you can prepare them with a vegetable or fruit sauce, so much the better. Try to limit beef, lamb and pork to a few meals per week. The total amount of red meat for the week should be no more than 500g (cooked weight) per person – about 700–750g raw weight. Save processed meats (such as bacon, ham, salami and some sausages) for special occasions.

For recipes that will help you plan meals that feature more plant foods, visit www.gofor2and5.com.au.

To include more wholegrains, choose brown rice instead of potatoes or white rice.

Be physically active every day in any way for 30 minutes or more

Regular physical activity protects against cancer, so it's important to build it into each day. In general, every little bit of physical activity you do helps, but the more you do, the better. In NSW, almost half of adults do not meet physical activity guidelines.

Since the 1990s, growing scientific evidence has shown that physical activity protects against three specific cancers: bowel cancer, breast cancer (in postmenopausal women) and cancer of the endometrium (womb). Regular physical activity has a direct effect on reducing cancer risk. It is also key to maintaining a healthy weight.

How does physical activity reduce cancer risk?

One way physical activity may prevent cancer is by lowering levels of hormones in the body that raise the risk of breast and endometrial cancers. What's more, regular exercise also keeps the digestive system working well; speeding up how long it takes food to move through the digestive system may be associated with a lower incidence of bowel cancer.

It is only in recent history that we have led lives without much regular physical activity. In the past, working in factories, cooking and cleaning all demanded more physical activity than they do today. Now, at the beginning of the 21st century, many of us have sedentary jobs, and sitting in front of a television or a computer screen have become common leisure activities. Rates of cancer and other chronic diseases have increased as the population has become less active.



What counts as 'physical activity'?

Physical activity is any form of movement that uses muscles. The amount you do depends on four factors:

1. duration or the 'bout' of physical activity
2. frequency or how often you do a 'bout'
3. intensity or level of activity
4. the total amount over your lifetime.

Three terms are used to describe the intensity of physical activity: light, moderate and vigorous. The chart (next page) gives examples of activities at each level.

Your body works harder to breathe at more intense levels of activity, so one way to judge the intensity is by how easy it is to talk. If you are doing moderate activity, you should be able to talk, but not sing. With vigorous activities, talking should be possible, but only in short phrases, not conversations with long sentences.



Activities at different levels of intensity

Light	Slow walking, weeding the garden, light housework (such as dusting).
Moderate	Brisk walking, leisurely cycling, dancing, slow swimming, using exercise equipment (including exercise bike, rowing machine, stair-climbing machine) at a moderate pace, golf (if wheeling and carrying clubs), yoga, tai chi and Pilates.
Vigorous	Running, fast walking, tennis (singles), aerobic exercises, fast cycling, climbing hills or stairs, squash, dancing (ballet, fast ballroom, tap), gymnastics, skipping, using exercise equipment (exercise bike, rowing machine, stair-climbing machine) at a more energetic pace.

What's the physical activity goal?

A review of the entire body of evidence about physical activity and cancer resulted in a three-step goal:

1. Be moderately physically active for at least 30 minutes every day.
2. As fitness improves, aim for at least 60 minutes of moderate activity or 30 minutes of vigorous activity every day.
3. Limit sedentary habits such as watching television.

The scientific evidence shows that 30 minutes a day of moderate activity lowers the risk of bowel cancer – but remember that doing any activity is beneficial. Once you're used to that level, you'll reap additional benefits by being active for longer periods and incorporating some more vigorous activities into your routine.

Sedentary behaviour – sitting or lying around without being active – increases our chances of becoming overweight or obese, which in turn raises our cancer risk. See page 15 to find out more.



How many calories do different activities use?

To avoid weight gain, we need to balance the energy (calories) we take in each day with the amount of energy we use up. The best way to do this is by being active.

All types of physical activity burn calories – the total amount of energy you use is a combination of the duration and the intensity of an activity. A person may use the same total amount of energy in 20 minutes of vigorous activity as he or she does in an hour of light activity. If you are keeping an eye on your weight, it can be useful to know approximately how many calories are used in a given activity.

What you can do

Try these tips to add more walking to your day:

- Join a friend for after-lunch walks.
- Go for a 30-minute walk every day, or two 15-minute walks each morning and evening.
- If travelling by car, park further away from your destination and walk the extra distance.
- If you take public transport, get off the train or bus a stop early and walk the rest of the way.
- Take the stairs instead of the lift or escalator.

These changes may mean you have to leave the house 15 or 20 minutes earlier each day, but the goal is lifelong health, so why not reset your alarm? On weekends, try to do more activity with family and friends, and walk to destinations like the park or simply to the local shops.

We need to balance the energy (calories) we take in each day with the amount of energy we use up.

Why not think of household chores as an opportunity for physical activity, too? Do these activities energetically to chalk up some time towards that 30-minute goal:

- weed the garden
- scrub the bath and shower walls
- wash the car yourself
- vacuum the bedroom
- mop the floor
- rake the leaves
- mow the lawn.

Your best choices for vigorous activity are exercises you enjoy. For example, if you like dancing, look for dance classes. Water aerobics or swimming offer a great option for a good workout. They put minimal stress on joints and are great for flexibility.

If you like team sports, look for a community football, soccer, netball, bowls or cricket team. Play these sports with your kids. Many areas run local walking clubs – they are a great way to be active and meet new people at the same time. Your local council sports centre may also offer inexpensive classes.

Make the active choice!



Reaching your physical activity goals

Aim to be physically active for 30 minutes or more every day – remember that anything is better than nothing. The more you do each day, the more you are helping to reduce your cancer risk! If you're finding it hard to get started, try adding 10 minutes more physical activity to your day. As you improve, challenge yourself by adding another 10 minutes and so on.



Aerobics (low impact)



Calories burnt
in an hour 255

Badminton



Calories burnt
in an hour 220

Cycling (12–14 mph – moderate)



Calories burnt
in an hour 445

Dancing (disco, ballroom)



Calories burnt
in an hour 220

Gardening (general)



Calories burnt
in an hour 190

Hiking (cross-country)



Calories burnt
in an hour 320

Jogging (5 mph)



Calories burnt
in an hour 445

Rollerblading



Calories burnt
in an hour 730

Rowing machine (moderate)



Calories burnt
in an hour 380

Running (7 mph)



Calories burnt
in an hour 670

Martial arts



Calories burnt
in an hour 570

Squash



Calories burnt
in an hour 700

Swimming (leisurely)



Calories burnt
in an hour 320

Tennis



Calories burnt
in an hour 380

Walking (3.5 mph)



Calories burnt
in an hour 180

Yoga (Hatha)



Calories burnt
in an hour 95

Aim to be a healthy weight throughout life

There is convincing evidence that excess body fat increases your chances of developing cancer. In NSW, more than half of adults are overweight or obese, and excess body fat is considered one of the major risk factors for cancer.

Scientists have found convincing evidence that greater body fat is a cause of cancer of the bowel, breast (in postmenopausal women), oesophagus, pancreas, endometrium (womb) and kidney. It is probably also a cause of gallbladder cancer.

There is convincing evidence that carrying too much weight around your waist increases the risk of bowel cancer and is probably a cause of cancer of the breast (in postmenopausal women), pancreas, and endometrium (womb).

Scientists believe there are several reasons for the link between overweight, obesity and cancer. One example is the relationship between excess fat and the hormonal balance in the body. Research has shown that fat cells release hormones such as oestrogen, which increases the risk of cancers such as breast cancer. Studies have also shown that fat, particularly if it is stored around the waist, encourages the body to produce substances known as 'growth hormones'. Having high levels of these hormones is linked to a greater risk of cancer.

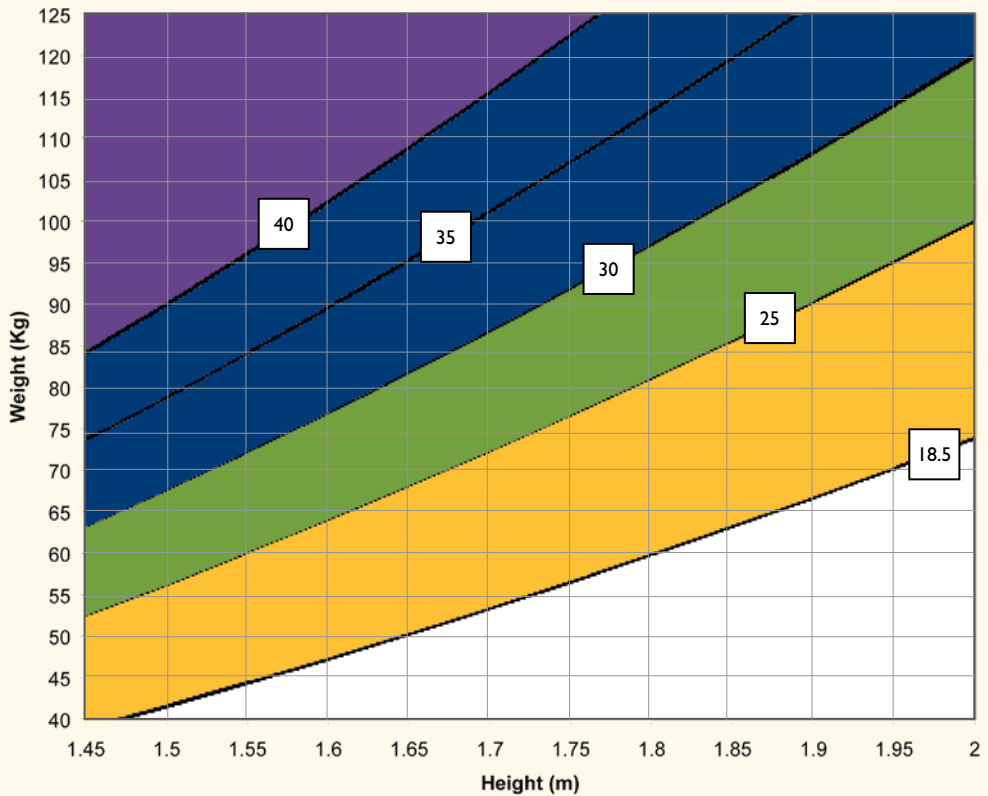


What does research say about managing weight?

Maintaining a healthy weight throughout life is one of the most important ways to protect against cancer as well as other chronic diseases. Examination of the existing research strongly suggests that the best way to do that is by:

1. Avoiding sugary drinks and limiting consumption of energy-dense foods (see page 14).
2. Increasing the level of physical activity.





- Underweight
- Ideal weight
- Overweight
- Obese
- Extremely obese

What is a healthy weight?

For cancer prevention, we should aim to be as lean as possible without becoming underweight. Scientists have developed two ways to determine whether your weight puts you at risk for cancer and other chronic diseases.

The first, **Body Mass Index (BMI)**, gives an indication of body fat based on height and weight of adults. The BMI chart (above) shows five ranges: underweight, ideal weight, overweight, obese and extremely (morbidly) obese. The BMI chart can be used for both men and women. However, it may not be accurate for athletes, elderly people, pregnant women, children or adults less than five feet

tall. It may also not be accurate for some ethnic groups. To use the BMI chart, find your weight on the side and your height at the top or bottom of the chart. Follow these values across and up until they meet – this is your BMI range.

Waist measurements are another way to assess risk due to excess body fat. Fat around the waist is more risky than other body fat. Waist measurements of 31.5"/80cm or more for women, and 37"/94cm or more for men, indicate high risk. Waist measurements of 88cm or more for women and 102cm or more for men indicate greatly increased risk.

Energy-dense foods

Energy density is a helpful term when thinking about healthy eating. Foods that are energy dense have more calories gram-for-gram than foods that have low energy density. For example, milk chocolate has 10 times more calories gram-for-gram than sliced apples.

100g of milk chocolate = 520 calories

100g of apple = 52 calories

In general, people tend to eat the same amount of food every day – the portions we are used to eating tend to satisfy our appetites whether they have more or less calories in them. So by choosing similar sized portions of lower energy-dense foods, we can feel full, but consume fewer calories. This is a very useful tip if you are keeping an eye on your weight.

So how do you tell if a food is high or low in energy density? Energy-dense foods are high in sugar, or low in fibre, or high in fat. Most processed foods are energy-dense, because they tend to contain a lot of fat and sugar. Energy-dense foods contain more than about 225–275 kcal/100g. Most nutrition labels show how many calories a food contains per 100g, so this information can be a useful guide.

Fatty meats, cheese and butter; and pastry, cakes and biscuits made with refined flour all tend to be higher in energy density. Perhaps the best examples of energy-dense foods are traditional fast food items – cheeseburgers, fried chicken, chips and fatty milkshakes. It's worth noting that some energy-dense foods, such as nuts, seeds and some vegetable oils are important sources of nutrients, and have not been linked with weight gain as part of a typical diet.

The most easily recognised low energy-dense foods are vegetables, fruits and beans. These types of foods are high in water and fibre and help us feel fuller for longer. They are a healthy choice for weight maintenance.

Energy-dense foods are high in sugar, or low in fibre, or high in fat. Sometimes, all of the above.

The best way to limit energy-dense foods is to increase the proportion of plant foods on your plate. If you are already filling your plate two-thirds full with vegetables, fruits, wholegrains, and pulses such as beans to reduce your chances of developing cancer; you are half way towards managing your weight.

Sugary drinks

Drinks with added sugar – fizzy drinks and sweetened fruit drinks for instance – contain a lot of calories and should be avoided. With the exception of milk, they don't fill you up so that your stomach signals you to stop drinking, which makes it easy to take in a lot of extra calories without realising. Unsweetened fruit juices are high in natural sugar and therefore high in calories. Try to limit yourself to one glass a day, which will count as one of your two serves of fruit and five serves of vegetables.

Drinks made with artificial sweeteners are not linked to weight gain, but there are healthier choices. Water is the best option and unsweetened tea and coffee are also preferred (aim to limit coffee to no more than four cups a day). The evidence that 'sugary drinks', as well as traditional fast food, are linked to weight gain is convincing.



Why is physical activity so important for weight control?

Strong and consistent evidence suggests that the second step towards managing your weight is increasing your level of physical activity. Your weight stays at its current level as long as the energy (measured in calories) that you take in by eating, balances with the energy you expend by being active. To lose weight you have to use up more energy than you take in.

You can do this by:

- Choosing foods with lower energy density.
- Opting for smaller portion sizes.
- Cutting down on unhealthy snacks.
- Being more active. For weight control, you should work gradually towards doing 60 minutes of moderate physical activity or 30 minutes of vigorous activity every day.

One way to become more active is simply to become less sedentary. Why not try some of the following ideas to reduce the number of hours you spend sitting down each day:

- Stand instead of sitting while talking on the phone.
- Do activities that get you moving (such as cleaning the house, cooking a meal, walking to the local shops or going for a stroll with a friend).
- Avoid watching television or using a computer for several hours each evening. Try substituting one half hour show with a walk.

The second way is to set aside some time each day for exercise. It's important to choose an activity that you enjoy – see page 11 for some suggestions.

What is a healthy portion?

In recent years, portion sizes in restaurants, take-away shops, at home and for snack foods have increased. That is why, for many Australians, there is a third step involved in weight management: reducing the size of the portions we are currently used to eating. Try this simple test. Pour out your usual portion of a favourite food on a plate. Then use the chart (right) to measure out a standard serving of the same food on the same-size plate. Compare these, and if your usual portion is two or three times as large as the standard serving, it may be time to gradually cut back. Reduce your usual portion by one quarter, and get used to eating that amount over several days before you make any further reductions.

If you're eating out in a restaurant, order smaller portions if possible, or share a larger portion with a friend – and don't feel you have to finish all the food on your plate. Once you get used to eating smaller portions, you'll find managing your weight will be much easier.

Once you get used to eating smaller portions, you'll find managing your weight will be much easier.



What does a healthy portion look like?

Basing our diets on plant foods (like vegetables, fruits, wholegrains, and pulses such as beans), which contain fibre and other nutrients, can reduce our risk of cancer and help prevent weight gain.

These are approximate portion sizes for an adult.



Pulses

These form part of your 5 A DAY, but count only once a day, however much you eat. This is because, although they contain fibre, they don't give the same mixture of vitamins, minerals and other nutrients as vegetables and fruits.

Beans



3 heaped tablespoons
e.g., cooked mixed beans

Peas



3 heaped tablespoons
e.g., cooked chickpeas

Lentils



3 tablespoons
e.g., cooked red lentils

Starchy Foods

The less processed the better, so try to choose wholegrain varieties where possible.

Rice



2-3 heaped tablespoons
e.g., cooked brown rice

Pasta



3 heaped tablespoons
e.g., cooked wholemeal pasta

Cous cous



2-3 heaped tablespoons
e.g., cooked cous cous

Potatoes



2 boiled potatoes

Bread



40g of bread
e.g., 1 medium wholemeal slice

Breakfast Cereal



40g of cereal
e.g., 4 tablespoons of muesli

Dried Fruits, Nuts and Seeds

These can make a nutritious snack – but don't eat them in excess as they are high in calories.

Small Dried Fruits



1 heaped tablespoon
e.g., sultanas

Medium-sized Dried Fruits



2-3 whole dried fruits
e.g., apricots

Nuts and Seeds



2 tablespoons
e.g., mixed nuts and seeds

What you can do

To reduce cancer risk, The Cancer Institute NSW recommends maintaining a healthy weight throughout life. The approach to following this guideline may vary according to your current situation or time of life – for example, see the following three categories.

The first category is people who are still lean, probably because they enjoy a healthy diet and are physically active, and perhaps because they are young and find keeping to a healthy weight easier to achieve. They face the challenge of maintaining their current weight through the phases of life that commonly contribute to weight gain: going to university or living away from the family home, settling into married life, building a (sedentary) career; becoming middle aged and developing a slower metabolism, experiencing muscle loss or reaching menopause. **If you are currently a healthy weight – that's good news – your challenge now is to maintain this for the rest of your life.** To do this, ensure your meals are based around low energy-dense foods and commit yourself to greater physical activity. In addition, keep an eye on your weight on a regular basis – don't let any extra kilograms creep up on you. If they do, take positive steps to lose them. Losing two to three kilograms as soon as they appear is relatively easy to do. Taking off more than 10 can be a greater challenge.

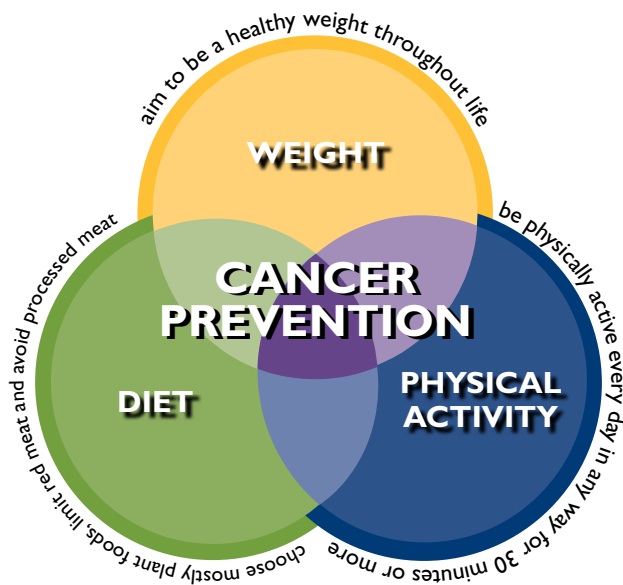
The second category is people who realise they are currently overweight. It could be that you've gained several kilograms over a number of years without really noticing. Just because this condition is common does not mean it should be accepted as normal. If you find yourself in this situation, avoid the temptation to go on a fad diet – these often involve a dramatic reduction in calories and remove whole categories of foods. They may bring about short term weight loss, but they are difficult to maintain and can even lead to further weight gain in the long run. **Instead, begin to reshape your meals to include a higher amount of lower energy-dense**



foods and increase your physical activity to 60 minutes a day. Visit your GP or dietitian for help with these changes. Or call the Get Healthy Information and Coaching Service on 1 300 806 258 or visit www.gethealthynsw.com.au. Making these changes a regular way of life will help you to lose weight, which has many benefits – including a reduced risk of Type 2 diabetes and heart disease, as well as increased life expectancy.

The third category is people who have been overweight or obese for a long period of time. Often they have tried fad diets and even medicines and supplements for which claims about weight loss have been made. It could be that genetics or complicated medical conditions are involved, though this is rare. If you've tried to lose weight, but are struggling to achieve this, it's best to consult your GP who can refer you to a dietitian or offer further advice. **The positive news is that by following the Cancer Institute NSW's Guidelines, you will be taking steps to reduce your cancer risk.** Increase the proportion of plant foods on your plate, limit red meat and avoid processed meat. Try to be more active than you were the day before and build on this over time. Focus on the cancer prevention benefits and you might be surprised to find that this healthier way of life helps prevent further weight gain – you could even find that you lose weight without this being your main goal.

Guidelines on diet, physical activity and weight for cancer prevention



The choices you make about food, physical activity and weight management can reduce your chances of developing cancer.

- Choose mostly plant foods, limit red meat and avoid processed meat.
- Be physically active every day in any way for 30 minutes or more.
 - Aim to be a healthy weight throughout life.

And, always remember:

- do not smoke
- protect your skin from the sun's harmful ultraviolet radiation.

The Cancer Institute NSW Recommendations for Cancer Prevention

1. Be as lean as possible without becoming underweight.
2. Be physically active for at least 30 minutes every day.
3. Avoid sugary drinks. Limit consumption of energy-dense foods (particularly processed foods high in added sugar, or low in fibre, or high in fat).
4. Eat more of a variety of vegetables, fruits, wholegrains, and pulses such as beans.
5. Limit consumption of red meats (such as beef, pork and lamb) and avoid processed meats.
6. If consumed at all, limit alcoholic drinks to no more than two a day.
7. Limit consumption of salty foods and foods processed with salt (sodium).
8. Don't use supplements to protect against cancer.

Special Population Recommendations

9. It is best for mothers to breastfeed exclusively for up to 6 months and then add other liquids and foods.
10. After treatment, cancer survivors should follow the recommendations for cancer prevention.

And, always remember – do not smoke
– protect your skin from the sun's harmful ultraviolet radiation.

For more information visit:

www.cancerinstitute.org.au

www.13quit.org.au

www.darksideoftanning.com.au

www.getthehealthynsw.com.au

In November 2007, the World Cancer Research Fund global network published a special Report – Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective. These guidelines are based on that report.

ABOUT THE WORLD CANCER RESEARCH FUND GLOBAL NETWORK

Our Vision

The World Cancer Research Fund global network helps people make choices that reduce their chances of developing cancer:

Our Heritage

We were the first cancer charity:

- To create awareness of the relationship between diet and cancer risk.
- To focus funding on research into diet and cancer prevention.
- To consolidate and interpret global research to create a practical message on cancer prevention.

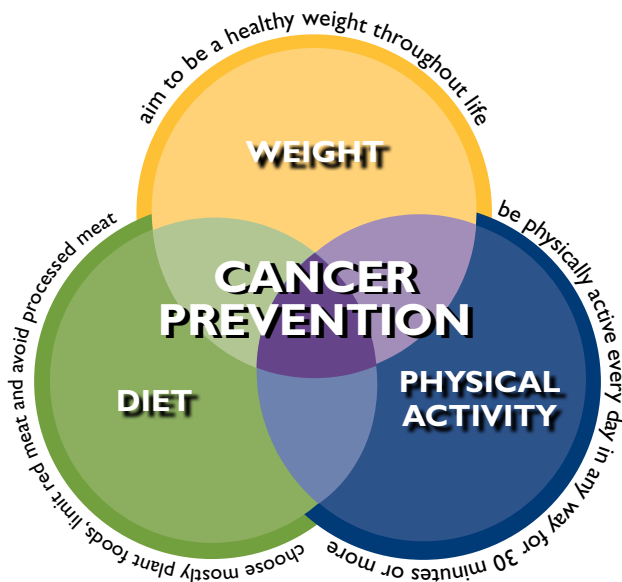
Our Mission

Today the World Cancer Research Fund global network continues:

- Funding research on the relationship of nutrition, physical activity and weight management to cancer risk.
- Interpreting the accumulated scientific literature in the field.
- Educating people about choices they can make to reduce their chances of developing cancer.

The World Cancer Research Fund global network consists of the following charitable organisations: The American Institute for Cancer Research (AICR); World Cancer Research Fund UK (WCRF UK); World Cancer Research Fund Netherlands (WCRF NL); World Cancer Research Fund Hong Kong (WCRF HK); World Cancer Research Fund France (WCRF FR) and the umbrella association, World Cancer Research Fund International (WCRF International).

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