
Weight loss and carbohydrates

Summary

- Carbohydrates are essential for a healthy body and should not be removed from the diet.
 - A very low-carbohydrate diet combined with very high protein intake is not recommended.
 - Very low-carbohydrate diets tend not to lead to long-term weight loss.
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Carbohydrates are essential for a well-balanced diet and healthy body. They provide the only fuel source for many vital organs, including the brain, central nervous system and kidneys. The digestive system breaks down carbohydrates into glucose and the pancreas secretes a hormone called insulin to help the glucose move from the blood into the cells.

Weight gain, kilojoules and low-carb diets

Low-carbohydrate (low-carb) diets are popular for weight loss. The basic reason for the recommendation to eat fewer carbohydrates is the belief that carbohydrates cause weight gain.

The most common source of carbohydrates is grain foods such as bread, rice, pasta, crackers, barley, semolina, polenta and bulgur. Low-carb diets generally recommend limiting the amounts of these foods eaten.

However, this is misleading, because weight gain comes from an excess in overall kilojoules (or energy), which can come from any food source, including foods that are lower in carbohydrates and higher in fat or protein.

In fact, the Australian Dietary Guidelines states there is probably an association between eating three to five serves of grain (cereal) foods per day (mainly wholegrain) and reduced risk of weight gain.

The best way to maintain a healthy weight is to combine a balanced diet that includes fruits and vegetables, whole grains, lean meats and alternatives, legumes and low-fat dairy products like milk, yoghurt and cheese with daily exercise.

Low-carb diets restrict healthy food choices

Very low-carbohydrate diets are unlikely to meet your daily nutritional needs. Advocates of these diets advise people to consume kilojoules mainly from protein and fat sources, and often recommend eating less than 100 g of carbohydrate per day.

Many health professionals do not support these diets as they can have a high fat content (particularly saturated fat) and tend to restrict important food sources of nutrients.

Very low-carb diets tend to contain few fruits and vegetables and may be:

- high in saturated fat
- nutritionally inadequate because they are low in thiamine, folate, vitamins A, E and B6, calcium, magnesium, iron and potassium
- low in fibre
- missing important antioxidants and phytochemicals.

Typical foods eaten on a low-carbohydrate diet include beef, chicken, bacon, fish, eggs and non-starchy vegetables, as well as fats such as oils, butter and mayonnaise. Foods that are restricted include many types of fruit, bread, cereals and other grains, starchy vegetables and dairy products other than cheese, cream or butter.

Foods that meet nutritional needs

To be healthy, your daily diet should include:

- six serves of grain (cereal) foods for most adults. One serve equals one slice of bread, half a cup of cooked porridge or half a cup of cooked grains such as pasta, rice, quinoa, polenta
- two serves of fruit. One serve equals one apple, orange or banana, one cup of canned fruit (no added sugar) or four dried apricot halves (dried fruit should only be consumed sometimes because it is a concentrated source of sugar and can stick to the teeth, increasing the risk of tooth decay)
- five serves (women) or six serves (most men) of vegetables. One serve equals one cup of salad vegetables, half a cup of cooked dried beans or legumes, half a potato or half a cup of other cooked vegetables (broccoli, spinach, carrots)
- two and a half serves of milk, yoghurt, cheese and alternatives for most adults. One serve equals one cup of milk, two slices (40 g) of cheese or one small tub (200 g) of yoghurt
- two to three serves of meat or meat alternatives. One serve equals 65 g cooked lean beef, lamb veal or pork, 80 g cooked chicken, 100 g cooked fish or one small can of fish, two large eggs, one cup of canned beans, 170 g tofu or 30 g nuts or seeds.

For more information about the amount of foods required from each food group each day, visit the Better Health Channels [**Food variety and a healthy diet page**](#).

Short-terms effects of low-carb diets

In the short term, low-carbohydrate diets **may** cause you to lose weight because they restrict kilojoules or energy. The body begins to use body stores of glucose and glycogen (from the liver and muscles) to replace the carbohydrates it is not getting from food. Around 3 g of water is needed to release 1 g of glycogen, so the rapid initial weight loss on a low-carbohydrate diet is mostly water, not body fat.

As carbohydrate stores are used up, the body begins to rely on other sources of fuel such as fat. This can lead to the development of ketones in the body, which can make the body acidic. This can lead to metabolic changes, which may be dangerous for some people, such as those with diabetes.

Some people may also experience problems with a low-carbohydrate diet, including:

- nausea
- dizziness
- constipation
- lethargy
- dehydration
- bad breath
- loss of appetite.

Long-term effects of low-carb diets

The long-term safety of a diet very low in carbohydrates but high in saturated fat is still uncertain, and the potential effects on a person's health are not known. Follow-up studies are needed over years to determine the safety of very low-carb diets.

Possible long-term effects of very low carb diets may include:

- Weight gain – when a normal diet is resumed, some muscle tissue is rebuilt, water is restored and weight quickly returns.
- Bowel problems – restricted intake of antioxidants and fibre from fruits and vegetables can increase a person's risk of constipation.
- Dieting problems – such as the 'yo-yo' effect where people lose and regain weight many times over a long

period of time, rather than sustaining weight loss. Currently, there is not enough evidence to support the adoption of very low carb diets for long term weight loss.

- High cholesterol, abdominal obesity and obesity-related disorders – diets that are high in protein and fats are associated with a number of conditions, including heart disease, diabetes and cancer. This can occur if the diet is very high in fat, particularly from high-fat meats such as salami, sausages and bacon.
- Kidney problems – can occur in people with impaired kidney function or diabetes.
- Osteoporosis and related conditions – are due to loss of calcium from the bones.

Weight loss needs a healthy approach

A healthy diet high in fruits and vegetables, wholegrains, legumes and low-fat dairy products, and moderate in fat and kilojoules that is balanced with daily physical activity, is the best way to lose weight and keep it off.

Vegetarians and people who consume predominantly plant-based diets are generally slimmer and have much lower rates of obesity, heart disease and cancer, compared to people who eat meat-based diets. This supports current thinking that diets high in unrefined carbohydrates help to prevent overweight and obesity.

Ultimately, to avoid weight gain, energy intake should not be more than energy output over a period of time. Avoiding large portion sizes and limiting intake of saturated fats and added sugars will help keep energy intake in check. Regular exercise is also critical for long-term weight loss success.

Select carbohydrates, proteins and fats carefully

If you do choose to follow a low-carbohydrate diet, do not avoid carbohydrates completely – you need some in your diet for fuel and to metabolise fat. Choose carbohydrate-rich foods that are unrefined or unprocessed, including wholegrains and fruit, rather than the more refined and energy-dense forms such as cakes, sweets and soft drinks. Have a variety of vegetables daily.

Select a variety of protein-rich foods that are also low in saturated fat, for example:

- lean cuts of red meat
- fish (including fatty fish)
- lean chicken and pork.

You could also select protein-rich foods that are plant based, for example:

- nuts
- legumes such as beans and pulses
- soy products, including tofu.

Choose fats from plant sources (such as olives, olive oil, canola oil, peanuts, peanut oil, soy or soy oil) rather than from animal sources (butter or meat fat).

Where to get help

- Your doctor
- Dietitians Association of Australia Tel. 1800 812 942
- Nutrition Australia

Things to remember

- Carbohydrates are essential for a healthy body and should not be removed from the diet.
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- Very low-carbohydrate diets tend not to lead to long-term weight loss.

This page has been produced in consultation with and approved by:

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