

Diet and heart disease risk

Summary

- Diet is an important risk factor in coronary heart disease.
- Food-related risk factors include obesity, high blood pressure, uncontrolled diabetes and a diet high in saturated fats.
- A low-saturated fat, high-fibre, high plant food diet can substantially reduce the risk of developing heart disease.

Heart disease is the number one cause of death in Australia – in 2018, 11% of all deaths were as a result of heart disease. Although there is not one single cause, an unhealthy diet can be one of the contributing risk factors for heart disease. Paying attention to what you eat and consuming a variety of healthy foods from the five food groups is one of the most important preventative measures you can take.

Characteristics of heart disease

Heart disease results from the narrowing of the arteries that supply the heart with blood through a process known as atherosclerosis. Fatty deposits (or plaque) gradually build up on the inside of the artery walls, narrowing the space in which blood can flow to heart. Atherosclerosis can start when you are young, so by the time you reach middle age, it can be quite advanced.

Plaque build-up can be considered as stable or unstable. If there is too much build-up of stable plaque, it narrows the arteries, causing pain and discomfort due to not enough blood reaching the heart – this is called **angina** and it needs to be treated.

Unstable plaque is inflamed and has a thin cap which is prone to developing a crack, allowing the blood to come in contact with the fatty contents of the plaque. The blood will clot to try to seal the gap but in doing so, the blood clot blocks the artery. This prevents the flow of blood to the heart, cuts off its oxygen supply and damages or kills the heart cells. This is a **heart attack**.

Risk factors for heart disease

There are many factors that can increase your **risk of heart disease**. Although some of these cannot be changed, the good news is that there are plenty of risk factors within your control. For example, by being **physically active**, ensuring you have good **social support** and **not smoking**, your risk of heart disease is reduced.

Risk factors that can't be changed	Risk factors within your control
Age	Smoking status
Gender	Diet
Ethnicity	Cholesterol levels
Family history of heart disease	Blood pressure
	Body weight
	Diabetes management

	Physical activity levels
	Depression and social isolation

Some risk factors are connected. For example, cholesterol levels and blood pressure can be affected by diet, as can your body weight and management of diabetes.

Therefore, one of the best things you can do to reduce your risk of heart disease is to have a healthy diet and maintain a healthy weight!

Dietary fats and cholesterol levels

Cholesterol is a fat crucial to many metabolic functions and is an essential part of all the body's cell membranes. It is made by the body from the food we eat and is produced in the liver.

Blood lipids (fats) that contain cholesterol include low-density lipoprotein (LDL) and high-density lipoprotein (HDL). LDL ('bad') cholesterol can lead to plaque forming in the arteries while HDL ('good') cholesterol helps to remove cholesterol from the body and makes it harder for plaque to form in the arteries.

Saturated fats

Saturated **fats** (also known as 'bad fats') tend to increase LDL ('bad') cholesterol in the blood. Common sources of saturated fats include – animal products (butter, coconut oil, meat fat including lard and dripping, beef, lamb, chicken skin and palm oil), and processed foods like pastries and biscuits.

Full fat or reduced fat dairy?

Although full fat dairy foods (such as **milk**, cheese and yoghurt) contain saturated fat, it appears this type of fat has a neutral relationship with heart health.

The Heart Foundation recommends unflavoured milk, yoghurt and cheese can be consumed by the general population but for people who need to lower their LDL cholesterol, reduced fat versions should be consumed instead.

Eggs

It was once thought cholesterol naturally found in **eggs** was bad for heart health. However, research suggests eggs have a neutral relationship with heart health – they neither increase nor decrease the risk of heart disease for the general population.

People who need to lower their LDL cholesterol or those with **type 2 diabetes**, the Heart Foundation recommends a maximum of 7 eggs per week.

Trans fats

Like saturated fats, **trans fats** tend to increase LDL (bad) cholesterol in the blood but they also tend to reduce HDL (good) cholesterol levels. So, they are more damaging to our health and can increase our **risk of cardiovascular diseases** (such as heart disease and stroke).

Trans fatty acids form when monounsaturated or polyunsaturated vegetable oils are 'hydrogenated' and hardened to form margarines, oils for deep frying and shortening for baked products.

These harder vegetable fats and shortenings are used by the food industry in processed foods (such as cakes and biscuits and deep-fried takeaway meals).

Some trans fatty acids also occur naturally in some meats, butter and dairy products.

Most monounsaturated and polyunsaturated table margarines sold in Australia have very low levels of trans fatty acids and are a preferred substitute to butter, which contains saturated fat.

Monounsaturated and polyunsaturated fats

Reduce your risk of heart disease, by replacing **energy intake** from saturated and trans ('bad fats') in your diet with unsaturated ('good fats').

Substitute butter, coconut and palm oil, lard, dripping and copha) with oils made from seeds or plants (such as olive, avocado, sunflower, canola, safflower, peanut, **soybean** and sesame).

Other sources of **unsaturated fats** include **unsalted nuts, seeds** (including chia, tahini and linseed) and avocado.

Blood pressure and salt (sodium)

A **diet high in salt** is linked to **hypertension (high blood pressure)**, which can increase your risk of **heart disease and stroke**. Most of us consume more than ten times the amount of salt we need to meet our sodium requirements (salt contains sodium and chloride).

Most of the sodium in our diet is not from added salt at the table, but from **packaged and processed foods**. Even sweet foods and those that don't taste 'salty' can have much more sodium than you'd expect!

A simple way to cut down on the amount of sodium in your diet is to reduce the amount of processed foods, limit fast food and use herbs and spices for flavour.

Reduce your heart disease risk with healthy eating

Eating a variety of foods is beneficial to our health and can help reduce our risk of disease (including heart disease). **Try to eat a wide variety of foods from each of the five food groups**, in the amounts recommended. Not only does this help you maintain a healthy and interesting diet, but it provides essential nutrients to the body.

The Heart Foundation recommends:

- Plenty of **vegetables, fruits** and **wholegrains**.
- A variety of **healthy protein sources** (especially fish and seafood), legumes (such as beans and lentils), nuts and seeds. Smaller amounts of eggs and lean poultry can also be included in a heart healthy diet. If choosing red meat, make sure it is lean and limit to 1-3 times a week.
- Unflavoured milk, yoghurt and cheese. Those with high blood cholesterol should choose reduced fat varieties.
- Healthy fat choices – nuts, seeds, avocados, olives and their oils for cooking
- Herbs and spices to flavour foods, instead of adding salt.

Also, be mindful on how much you are eating and whether you are filling up on unhealthy foods. Portion sizes have increased over time and many of us are eating more than we need which can lead to **obesity** and increase our risk of cardiovascular disease.

Ideally, **a healthy plate** would include servings of – $\frac{1}{4}$ protein, $\frac{1}{4}$ carbohydrates and $\frac{1}{2}$ vegetables.



Remember, serving sizes can vary depending on your age, gender and specific nutrition needs.

Foods important for heart health

Although there is no one 'magic' food to lower our risk of developing heart disease, there is some evidence that some foods are important for heart health. These include:

- **Oily fish** – such as mackerel, sardines, tuna and salmon which contain omega-3 fatty acids. This type of fat has been shown to decrease **triglycerides** (a type of fat) and increase HDL-cholesterol levels, improve blood vessel elasticity and thin the blood, making it less likely to clot and block blood flow.
- **Some vegetable oils** – such as corn, soy and safflower (which contain omega-6 fatty acids), and those containing omega-3 fatty acids (such as canola and olive oil). All of these can help to lower LDL cholesterol when used instead of saturated fats such as butter.
- **Fruit and vegetables** – fibre, potassium and other micronutrients (such as **antioxidants**) in fruit and vegetables offer protection against heart disease. Are also an important source of folate – which helps lower the blood levels of the amino acid homocysteine, which appears to be linked to an increased risk of heart disease.
- **Wholegrains** – a diet high in fibre from wholegrain cereals is linked to reduced LDL cholesterol and lowered heart disease risk. Foods with high levels of soluble **fibre** (for example, oats, legumes and barley) are great for lowering total cholesterol levels.
- **Unrefined carbohydrate sources with a low glycaemic load** – such as wholegrain breads and cereals, legumes, certain types of rice and pasta, and most fruits and vegetables also help to lower blood triglycerides and glucose (sugar) levels, help manage diabetes and reduce heart disease risk.
- **Legumes, nuts and seeds** – are good sources of plant proteins, fibre, healthy fats and micronutrients to help lower your cardiovascular risk.
- **Tea** – some research suggests antioxidants in tea can help prevent the build-up of fatty deposits in the arteries. They may also act as an anti-blood clotting agent and improve blood vessel dilation to allow increased blood flow.
- **Foods containing vitamin E** – some studies indicate that vitamin E acts as an antioxidant, helping to protect against LDL cholesterol.
- **Sources of vitamin E** include – avocados, dark green vegetables, vegetable oils and wholegrain products. Eat foods containing vitamin E rather than **supplements**, which have not been shown to have the same protective effects.
- **Garlic** – a compound in fresh garlic (called allicin) has been found to lower total and LDL cholesterol in the blood, thereby reducing the risk of heart disease.
- **Foods enriched with plant sterols** – a daily intake of 2–3g of phytosterols/stanols lowers LDL cholesterol levels by approximately 10% in healthy people, those with high cholesterol or diabetes. This equates to 2-3 serves of phytosterol-enriched foods like margarine spreads, yoghurts, milk and breakfast cereals.

How to reduce your risk of heart disease with healthy eating

Try these steps to reduce your risk of developing heart disease:

- Limit fried fast food and processed foods.
- Replace energy from saturated fats (such as butter, coconut oil and cream) with healthy unsaturated fats from seeds and plants (such as extra virgin olive oil, avocado, sunflower, canola, safflower, peanut, soybean and sesame) and foods such as nuts, seeds, avocado, olives and soy.
- Increase the amount and variety of plant foods – eat more vegetables, fruits and wholegrain cereals.
- Reduce intake of refined sources of **carbohydrates with higher glycaemic indices** (including foods with added sugars).
- Limit unprocessed red meats (such as beef, veal, mutton, lamb, pork, kangaroo, rabbit, and other game meats) to a maximum of 350g (cooked weight) per week and avoid processed meat (such as sausages, ham, salami and prosciutto).

- Trim all visible fat from meat and remove skin from poultry.
- Eat legumes regularly – like baked beans (reduced salt), soybeans, lentils and tofu.
- Snack on a handful of raw, unsalted nuts on most days of the week (especially walnuts and almonds).
- Eat oily fish at least once per week.
- Reduce your salt intake – avoid packaged and processed foods, limit fast foods and salty foods. Replace salt at the table and in cooking, with herbs and spices for flavour.
- Check the sodium content of foods and choose the lowest sodium products.
- If you have elevated cholesterol levels, switch to low-fat or non-fat dairy products and have no more than 7 eggs per week.
- If you drink alcohol, have no more than two standard drinks on any one day. A high alcohol intake increases blood pressure and can increase triglycerides in the blood.

Where to get help

- Your **GP (doctor)** or other health professional
- **Heart Foundation Helpline** Tel. **13 11 12** or **health@heartfoundation.org.au**
- **Dietitians Association of Australia** Tel. **1800 812 942** or **[find a dietitian near you](#)**
- **Diabetes Victoria** Tel. **1300 437 386**
- Community health centre

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