Healthy living

Cholesterol, triglycerides and coronary heart disease
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What are cholesterol and triglycerides?

Cholesterol and triglycerides are substances found in your blood. They are often called ‘blood fats’. The medical term for blood fats is ‘blood lipids’.

**Cholesterol**

Cholesterol is a fatty substance produced naturally by your body. You can also get cholesterol from some foods. It is used for many different things in your body, but is a problem when there’s too much of it in your blood.

There are two main types of cholesterol. **Low density lipoprotein** (LDL) is also known as ‘bad’ cholesterol because it can add to the build up of plaque in your arteries and increase your risk of getting coronary heart disease (CHD).

**High density lipoprotein** (HDL) is also known as ‘good’ cholesterol because it helps to protect you against CHD.

Most of the cholesterol in your blood is made up of LDL cholesterol. Only a small part is made up of HDL cholesterol.

It’s best to aim for low LDL cholesterol and higher HDL cholesterol.

**Triglycerides**

Triglycerides are also produced naturally by your body and found in some foods. They are found in your blood and stored in your body’s fat deposits. Like cholesterol, your body needs triglycerides to work properly. However, there is evidence to suggest that some people with higher levels of blood triglycerides are at increased risk of CHD.
What is a ‘high’ blood fat level?

Generally, the lower your LDL cholesterol and triglycerides, and the higher your HDL cholesterol, the better. This is especially true for people with CHD or other risk factors for cardiovascular disease (CVD).

Talk to your doctor about what your blood fats levels should be.

What causes high blood fats levels?

High cholesterol is mainly caused by eating foods high in saturated and trans fats.

Foods high in saturated fat include fatty meats, full fat dairy products, butter, coconut oil and palm oil, and most deep fried take-away foods and commercially baked products, such as pies, biscuits, buns and pastries.

Foods high in trans fat include most deep fried take-away foods and commercially baked products, such as pies, biscuits, buns and pastries.

Cholesterol in food (dietary cholesterol) has only a small effect on LDL cholesterol. Saturated and trans fats in food cause a much greater increase in LDL cholesterol.

You can include some cholesterol-rich foods, such as offal (e.g. liver, pâté and kidney) and prawns, as part of a healthy balanced diet low in saturated and trans fats. You can also eat up to six eggs a week as part of a healthy balanced diet low in saturated and trans fats without increasing your risk of CHD.

See page 8 for more healthy eating tips.
Your genetics also affect your cholesterol. Some people will still have high cholesterol even if they follow a healthy balanced diet low in saturated and trans fats. These people may need to take cholesterol-lowering medicine as prescribed by their doctor.

High triglycerides are caused by eating foods high in fat and kilojoules, being overweight and drinking alcohol.

What’s wrong with high blood fats levels?

High cholesterol causes fatty deposits to gradually build up in blood vessels, making it harder for blood to flow through. This can increase your risk of a heart attack or stroke.

High cholesterol is also a major risk factor for CHD.* Other risk factors for CHD include:

- smoking – both active smoking and being exposed to second-hand smoke
- high blood pressure
- diabetes
- being physically inactive
- being overweight
- depression, social isolation and a lack of quality social support.

The more risk factors you have, the higher your overall risk of developing CHD.

High triglycerides also increase the risk of developing CHD in some people. However, the relationship between high triglycerides and CHD is less clear than that between high cholesterol and CHD.

*Risk factors for CHD are things that increase your chance of developing it.
Should I have my blood fats levels measured?

Most people with high blood fats levels feel perfectly well and often have no symptoms. Therefore, the best way to find out if your blood fats levels are high is to have a blood test.

We recommend that all adult Australians aged 45 years or older have their blood fats levels measured. Measurement is also recommended for people who are younger than 45 years old, but who have other risk factors for CHD, such as a family history of CHD, high blood pressure or smoking. Aboriginal and Torres Strait Islander people should have their blood fats levels measured from the age of 18 years.

Your doctor will tell you how often you need to have your blood fats levels measured. It will depend on your age and risk of developing CHD. For example, a person aged 45 years or older who has a low overall risk may not need to have their blood fats levels measured for five years. However, another person aged 45 years or older with a higher overall risk will probably need to have yearly measurements.

If you have to start taking cholesterol-lowering medicines, you may need to have measurements done more often to start with so that your doctor can check if the medicine is working properly.

Children don’t usually need to have their blood fats levels measured unless they have diabetes. However, testing in children may be considered if there is a strong family history of CHD.

Want to know more? Call 1300 36 27 87
How blood fats are measured

Your doctor will organise a blood test to measure your blood fats levels. Because your level of blood triglycerides increases from eating and drinking, you will need to ‘fast’ (not eat anything and only drink water) before giving a blood sample.

The blood sample is usually taken from a vein in your arm and sent to a laboratory for testing. The laboratory will send the results to your doctor.

Your doctor will consider your overall health, any medicines you are taking and any CHD risk factors that you have, such as high blood pressure or being overweight. He or she will then talk with you about the most important steps you should take to reduce your risk of developing CHD and improve your health.

How can I lower my blood fats levels?

Making the lifestyle changes outlined below, in particular changing some of the foods you eat, is very important to help lower your blood fats levels and improve your health.

You may also need to take medicines, such as statins, to manage your blood fats levels and lower your risk of having a heart attack or stroke.

Be smoke free

Smoking is a major risk factor for CVD. Smoking affects the arteries that supply blood to your heart and other parts of your body. It reduces the amount of oxygen in your blood and damages artery walls. Smoking increases your risk of heart attack, stroke and peripheral arterial disease.
Tips for quitting
Quitting smoking can be hard at first but, like learning to ride a bike or drive a car, you can do it with planning, practise and help.

Planning
• Set a date for quitting.
• Begin to change your habits.
• Learn how to handle stress and your urges to smoke.
• Think about who and what can help you through the tough times.

Don’t give up
Some people slip up after they have quit and start smoking again. Don’t see this as a failure.

Think about what made you smoke again. How will you deal with this situation next time? What worked and what didn’t work? Learn from this and try quitting again.
Seek help

- Talk to your doctor or pharmacist about quitting smoking. They can tell you about the options available to help you to quit, and can help to check your progress.

- Consider nicotine replacement products (nicotine gums, patches or lozenges), or bupropion tablets.

- Talk to family members or friends and ask them for support and encouragement.

- Read self-help materials and attend quit smoking courses.

- Call the Quitline on 13 78 48 for information and advice about quitting smoking.

Enjoy healthy eating

If you have high blood fats levels, you can help to lower them by changing some of the foods that you eat and following a healthy balanced diet low in saturated and trans fats.

Replace foods that contain unhealthy saturated and trans fats with foods that contain polyunsaturated and monounsaturated fats. Foods high in polyunsaturated fats include margarine spreads and oils such as sunflower, soybean and safflower; oily fish; and some nuts and seeds. Foods high in monounsaturated fats include margarine spreads and oils such as olive, canola and peanut; avocados; and some nuts.

To help to reduce your triglycerides levels you should also reduce the amount of alcohol you drink, or stop drinking it altogether. In addition, we recommend that people with high blood triglycerides levels consume fish oil supplements and omega-3 enriched foods and drinks. Omega-3 oils are a type of polyunsaturated fat that, like other polyunsaturated fats, reduce your risk of CHD and can help to lower your triglycerides.
levels. Start by consuming 1,200 milligrams of omega-3 per day and then increase the dose to 4,000 milligrams per day. Talk to your doctor before you start to take supplements.

**Healthy eating tips**
Healthy eating is about enjoying foods from a variety of different food groups. Follow our healthy eating tips below to help you look after your heart health.

- Use spreads and margarines made from canola, sunflower or olive oil, and dairy blends that have earned the Heart Foundation Tick, instead of butter.
- Use a variety of oils for cooking – some suitable choices include canola, sunflower, soybean, olive, sesame and peanut oils.
- Use salad dressings and mayonnaise made from oils such as canola, sunflower, soybean, olive, sesame and peanut oils.
- Choose reduced, low or no fat milk, yoghurt, custard and desserts, or calcium added non-dairy food and drinks. Try to limit ice-cream to three times a week.
- Have two to three serves (150 grams) of oily fish every week. The fish may be fresh, frozen or canned.
- Select lean meat (meat trimmed of fat and poultry without skin).
- Try to limit processed meats, including sausages, and deli meats, such as salami. Choose deli meats with the Heart Foundation Tick.
- Snack on plain, unsalted nuts and fresh fruit (aim to eat two serves of fruit every day).
• Incorporate dried peas (e.g. split peas), dried beans (e.g. haricot beans, kidney beans),
canned beans (e.g. baked beans, three bean mix) or lentils into at least two meals a week.
• Eat plenty of vegetables (aim for five serves
of vegetables every day).
• Choose wholegrain breads, cereal, pasta,
rice and noodles.
• Try to limit take-away foods, such as pastries,
pies, pizza, hot chips, fried fish, hamburgers
and creamy pasta dishes, to once a week.
• Try to limit salty, fatty and sugary snack foods,
such as crisps, cakes, pastries, biscuits, lollies
and chocolate, to once a week.
• Try to limit foods such as liver, kidneys and pâté.
• Include two or three serves of plant sterol
enriched foods every day (for example, plant sterol enriched margarine, yoghurt, milk and bread).
• Include up to six eggs every week.

For more healthy eating information, talk to your
doctor or ask them for a referral to an accredited
practising dietitian. You can also call our Health
Information Service on 1300 36 27 87 or visit
Be physically active

Your body is designed to move. Regular, moderate-intensity physical activity is good for your heart and is a great way to have fun. Being active can also help to manage other risk factors, such as having high blood pressure and being overweight.

We recommend that you include at least 30 minutes or more of moderate-intensity physical activity (such as brisk walking) on most, if not all, days of the week. The amount of activity can be accumulated in shorter bouts, such as three 10-minute walks.

Manage your blood pressure

High blood pressure (also called ‘hypertension’) can strain your heart and speed up the development of CHD. See your doctor regularly to have your blood pressure checked.

To help to lower your blood pressure it is important to reduce your excess body weight, be physically active, limit your alcohol intake and reduce your salt intake.

Ask your doctor for advice. You may need to take medicine for the long-term to manage your blood pressure.
Achieve and maintain a healthy body weight

The keys to achieving and maintaining a healthy weight are to enjoy healthy eating and do regular physical activity.

To achieve a healthy body weight, you need to balance the energy (kilojoules) coming into your body through food and drinks with the energy (kilojoules) being used up by your body through regular physical activity.

To lose weight, you need to use up more energy (kilojoules) through physical activity and consume less energy (kilojoules) from food and drinks.

Manage diabetes

Diabetes increases the risk of heart attack, angina and stroke. There are two types of diabetes:

- type 1 (previously known as insulin dependent or juvenile onset diabetes)
- type 2 (previously known as non-insulin dependent or mature onset diabetes).

It is important that you manage your diabetes by being physically active, enjoying healthy eating and (where appropriate) reducing your weight.
If you have type 2 diabetes, you may need to take medicines to help you to maintain normal blood glucose levels, as well as make these lifestyle changes.

It is also important to stop smoking, reduce your cholesterol, manage your blood pressure and regularly see your doctor for diabetes reviews.

Maintain your psychological and social health

Studies have shown that some people who have depression, are socially isolated, or do not have quality social support are at greater risk of developing CHD.*

Depression can be treated with medical and non-medical therapies. If you think that you have depression, talking to your health professional is the best first step.

Take your medicines as prescribed

Some people may need to take medicines to lower their blood fats levels.

Cholesterol-lowering and other ‘lipid-modifying’ medicines are very effective in lowering your blood fats levels and your risk of CHD. They are an important treatment for people who have a high risk of CHD, but who haven’t been able to adequately lower their blood fats levels by making lifestyle changes.

These medicines also effectively reduce the risk of further heart problems in people who already have CHD.

Want to know more?

If you would like specific dietary advice, talk to an accredited practising dietitian. Your doctor will be able to give you a referral to one, or if you would like to contact one yourself:

- contact the Dietitians Association of Australia on 1800 81 29 42 or visit www.daa.asn.au
- check the Yellow Pages.

If you have general questions about cholesterol, triglycerides and CHD, or anything else we have discussed in this booklet, call our Health Information Service on 1300 36 27 87 (local call cost) and speak to one of our trained health professionals. You can also visit www.heartfoundation.org.au.

To speak with a health professional call 1300 36 27 87
Key points to remember about cholesterol, triglycerides and coronary heart disease

High cholesterol and triglycerides increase your risk of developing coronary heart disease, including heart attack and stroke.

Most people with high cholesterol and triglycerides feel perfectly well and often have no symptoms.

The best way to find out if your cholesterol and triglycerides are high is to have them measured by your doctor.

To help to lower your cholesterol and triglycerides and your risk of coronary heart disease:

- be smoke free
- enjoy healthy eating
- be physically active
- manage your blood pressure
- achieve and maintain a healthy body weight
- manage your diabetes, if appropriate
- maintain your psychological and social health
- take your medicines as prescribed.

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