

Heart disease - risk factors explained

Coronary heart disease occurs when your coronary arteries (the arteries that supply blood and oxygen to your heart muscle) become clogged with fatty material called 'plaque' or 'atheroma'. Plaque slowly builds up on the inner wall of the arteries, causing them to become narrow. This process is called 'atherosclerosis'. It can start when you are young and be well advanced by middle age.

If your arteries become too narrow, the blood supply to your heart muscle is reduced. This may lead to symptoms such as angina. If a blood clot forms in the narrowed artery and completely blocks the blood supply to part of your heart, it can cause a heart attack.

Heart disease is the leading single cause of death in Australia, with over 23,600 Australian lives lost to the disease in 2008.

Risks you can change and risks that you can't

There is no single cause for coronary heart disease, but there are 'risk factors' that increase your chance of developing it. There are 'modifiable' risk factors (ones that you can change) and 'non-modifiable' risk factors (ones that you can't change). Modifiable risk factors include:

- Smoking
- High total blood cholesterol
- High blood pressure
- Diabetes
- Being physically inactive
- Being overweight
- Depression, social isolation and a lack of quality social support.

Risk factors that you can't change include increasing age, being male and having a family history of heart disease. Aboriginal and Torres Strait Islander people are also at increased risk of coronary heart disease.

The good news is that you can reduce your overall risk of developing coronary heart disease by leading a healthy lifestyle and taking medicines as prescribed by your doctor.

Smoking

As well as causing cancer, 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 your artery walls. Smoking increases your risk of heart attack, stroke and peripheral arterial disease (that can lead to gangrene and limb amputation).

Smoking makes your blood 'stickier', causing blood cells to clump together. This slows blood flow through your arteries and makes blockages more common. Blockages may cause heart attack and stroke.

It also makes your artery walls sticky, causing them to become clogged with fatty material called 'plaque' or 'atheroma'. Smokers often have cold hands or feet as a result of clogged arteries, which may also lead to serious problems such as gangrene. If the clogged artery is your coronary artery, it can cause angina. If a blood clot forms in the narrowed coronary artery and completely blocks the blood supply to a part of your heart, it can cause a heart attack.

High total blood 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.

A high total blood cholesterol level causes fatty material to gradually build up in coronary arteries, making it harder for blood to flow through. It is mainly caused by eating foods high in saturated and trans fats.

Your total blood cholesterol level includes two types of blood 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 total 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 a low LDL cholesterol level and a higher HDL cholesterol level.

High blood pressure

Blood pressure is the pressure of the blood in your arteries (the blood vessels that carry oxygen and nutrients to the body) as it is pumped around the body by the heart. Blood pressure depends on two main things: the amount of blood pumped by the heart and how easily the blood can flow through the arteries.

Your blood pressure will go up and down throughout the day, depending on the time of day and what you are doing. However, high blood pressure is a condition where your blood pressure is consistently high.

Your family history, eating patterns, alcohol intake, weight and level of physical activity have a strong influence on blood pressure. In some people, medicines, including the oral contraceptive pill, contraceptive 'depot' injections, steroids (cortisone-like medicines) and arthritis medicines, can also raise blood pressure.

High blood pressure can overload the heart and coronary arteries and speed up the artery-clogging process. This can lead to problems such as heart attack and stroke.

High blood pressure can also affect arteries to other parts of the body, such as the eyes, kidneys and legs.

If high blood pressure is not treated, the heart may weaken because of the constant extra demand. This may cause 'heart failure', a serious condition with symptoms such as tiredness, shortness of breath and swelling of the feet and ankles.

Diabetes

Diabetes increases the risk of heart attack, angina and stroke. People with coronary heart disease frequently have type 2 diabetes. People with diabetes and coronary heart disease are at higher risk of heart attack and stroke.

The reported increase in diabetes in Australia is thought to be associated with more people being physically inactive, having unfavourable eating habits and being overweight.

There are two main 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.

If you have diabetes, it is important that you manage your condition by being physically active, enjoying healthy eating and maintaining a healthy 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 total blood cholesterol level, control your blood pressure and regularly see your doctor for diabetes reviews.

Being overweight

Being overweight increases your risk of a number of health problems, including:

- Coronary heart disease
- Diabetes
- High blood pressure
- High blood cholesterol
- Gall bladder disease
- Joint problems, such as gout, arthritis and joint pain
- Sleep problems, such as sleep apnoea
- Certain types of cancer.

Carrying extra weight around your middle (being 'apple-shaped') is more of a health risk, so it is especially important for you to lose weight if this is the case.

To achieve a healthy body weight, 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.

Being physically active

Physical activity is an important part of looking after your health and reducing your risk of coronary heart disease. Regular physical activity will:

- Improve your long-term health
- Reduce your risk of heart attack
- Give you more energy
- Help you to manage your weight
- Help you to achieve a healthier total blood cholesterol level
- Lower your blood pressure
- Make your bones and muscles stronger
- Make you feel more confident, happy and relaxed
- Help you to sleep better.

If you have had a heart attack, regular physical activity will help you to recover more quickly. If you have diabetes, it will also help you to control your blood glucose levels.

Physical activity doesn't have to be strenuous – moderate-intensity physical activity, such as brisk walking, is great for your health. We recommend that you do at least 30 minutes of moderate-intensity physical activity on most, if not all, days of the week. You can do this in smaller bouts, such as three 10-minute walks, if it is easier.

Depression

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 coronary heart disease.

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.

For more information on depression, visit www.beyondblue.org.au

Family history

A person's family history of disease or genes can increase their tendency to develop:

- High blood pressure
- High blood cholesterol
- Diabetes
- A particular body shape.

Whereas having a family history of coronary heart disease is a risk factor for developing it, fortunately it does not mean that you will develop it. However, if you do have a family history of coronary heart disease, it is important to reduce or remove your other risk factors. For example, limit the amount of saturated and trans fats you eat, be smoke-free and lead an active, healthy lifestyle.

Gender and age

Generally, men have a higher risk than women of developing coronary heart disease in middle age. The risk rises as they get older.

However, the risk of developing coronary heart disease is an important issue for women, especially as they get older. It is not clear why women tend to get coronary heart disease at a later age than men, although it is likely that hormonal changes after menopause, combined with changes in their risk factors, play a role.

Despite your gender and age, you can reduce your risk of developing coronary heart disease if you follow a healthy lifestyle and take medicines as prescribed by your doctor.

Where to get help

- Your doctor or other health professional
- Heart Foundation's Health Information Service Tel. 1300 36 27 87
- Community health centre

Things to remember

- There is no single thing that causes coronary heart disease, but several risk factors that contribute to it.
- You can reduce your risk of developing coronary heart disease by reducing or removing the modifiable risk factors, such as smoking, high total blood cholesterol, high blood pressure, being physically inactive, being overweight, diabetes, depression and social isolation.
- Take any medicines as prescribed by your doctor.

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

Heart Foundation

Content on this website is provided for education and information purposes only. Information about a therapy, service, product or treatment does not imply endorsement and is not intended to replace advice from your doctor or other registered health professional. Content has been prepared for Victorian residents and wider Australian audiences, and was accurate at the time of publication. Readers should note that, over time, currency and completeness of the information may change. All users are urged to always seek advice from a registered health care professional for diagnosis and answers to their medical questions.

For the latest updates and more information, visit www.betterhealth.vic.gov.au

Copyright © 1999/2012 State of Victoria. Reproduced from the Better Health Channel (www.betterhealth.vic.gov.au) at no cost with permission of the Victorian Minister for Health. Unauthorised reproduction and other uses comprised in the copyright are prohibited without permission.