

The Women's Health Research Program Health Bulletin

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When to take cholesterol-lowering medication

What is cholesterol?

Cholesterol is an essential compound that is naturally produced by the body. It is a building block for cell membranes and necessary for the production of hormones such as oestrogen and testosterone and also, vitamin D. Approximately 80 per cent of the body's cholesterol is manufactured in the liver, while the remainder comes from the diet. The cholesterol in the diet comes mainly from eggs and from animal products which are high in saturated fat, such as meat and full fat dairy foods. Cholesterol is transported in the blood around the body by two key transport systems:

- Low density lipoprotein cholesterol (LDL-C), often called the '*bad cholesterol*' because high levels are associated with an increased risk of cardiovascular disease (CVD).
- High density lipoprotein cholesterol (HDL-C), often called the '*good cholesterol*' because it protects against the development of CVD.

When cholesterol is measured, it is important to measure the total cholesterol, the HDL-C and LDL-C levels and the level of triglycerides (another 'storage' fat transported in the blood).

Risk Factors for Heart Disease

Elevated total and LDL-C levels are associated with an increased risk of atherosclerosis and coronary heart disease, although other risk factors are equally important. These risk factors include:

- Smoking
- High blood pressure
- Overweight and obesity
- Diabetes
- Physical inactivity

In Australia, health authorities recommend that total cholesterol levels should be less than 5.5mmol/L, with LDL-C levels less than 3.0mmol/L.

However, the decision to treat a person with cholesterol-lowering medication is not based on the cholesterol level alone, but on the individual's 'absolute' cardiovascular risk.

An individual's 'absolute' cardiovascular risk takes into account the other risk factors listed above and the likelihood of the person having a stroke or heart attack in the next five years is estimated.

To do this, a calculator such as the 'Australian cardiovascular risk calculator', may be used.

For example, a 52 year old non-smoking woman, who is not diabetic, with a total cholesterol of 6.8 mmol/L and HDL-C of 2.1 mmol/L, has only a 2 per cent risk of stroke or heart attack in the next five years.



This is the May edition of our women's health bulletin written by Dr Jennifer Johns. These are to give you the latest women's health information and update you on how you can be involved in women's health research.

Dr Jennifer Johns
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By contrast, a woman of the same age, who smokes and has diabetes, but a total cholesterol of only 5.2 mmol/L and HDL-C of 0.9 mmol/L has a 21 per cent chance of having cardiovascular disease in the next five years. Reducing the risk in this high-risk woman involves a multi-pronged approach, including quitting smoking, good diabetic control and reducing cholesterol with a combination of a low-fat diet and medication.

Cholesterol-lowering Medications

Statins

The most commonly prescribed medications for cholesterol-lowering are statins, which are extremely effective and have a low risk of causing serious side-effects. The main side-effect of statin therapy is muscle ache and pain, and rarely, severe muscle damage.

Fibrates

Fibrates can increase HDL-C levels and are often used in people with type two diabetes, especially those with features of the metabolic syndrome. They are also used in combination with statins, particularly when HDL-C levels are very low.

Ezetimibe

Ezetimibe is a newer drug which inhibits absorption of cholesterol by the intestine. It is well-tolerated and has a modest effect on cholesterol levels. It is used predominantly in combination with a statin or on its own in statin-intolerant people.



Dr Fiona Jane of the Women's Health Research Program screening a study participant

Who is at Risk?

Individuals at higher risk and in whom drug treatment is almost always indicated are:

- Those with clinical evidence of:
 - Vascular disease including coronary disease, stroke, peripheral vascular disease
 - Diabetes
 - Chronic kidney disease
 - Familial hypercholesterolaemia
- Aboriginal and Torres Strait Islander peoples with LDL-C > 2.5mmol/L
- Those with absolute risk assessed as ≥ 15 per cent of a CVD event in next the five years.

When treatment is initiated, the target cholesterol is ≤ 4.0 mmol/L and LDL cholesterol ≤ 2.0 mmol/L. Once the target is achieved cholesterol should be checked at least annually.

Get involved in research

Worried about your waistline?

Would you like to join a study looking at the effects of a commonly used oral medication on reducing your weight and waistline? If you are aged between 35 and 65, are overweight and not a diabetic, you may be eligible to join this study.

If you would like more information, regarding this and other studies please visit our website <http://womenshealth.med.monash.edu.au> or contact the Women's Health Research Program on 03 9903 0820 or by email on womens.health@monash.edu