

Cholesterol - A Summary

This leaflet gives a brief summary about cholesterol. There is also a similar but more detailed leaflet called 'Cholesterol' and a detailed longer leaflet called 'Preventing Cardiovascular Diseases'.

Understanding cholesterol and atheroma ('furring of the arteries')

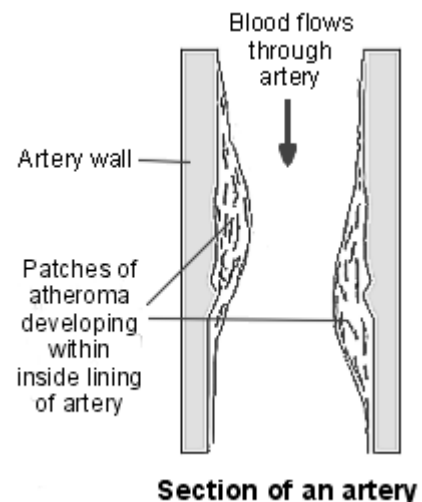
Cholesterol is a lipid (fat chemical) that is made in the liver from fatty foods that we eat. A certain amount of cholesterol is present in the bloodstream. You need some cholesterol to keep healthy. Cholesterol is carried in the blood as part of particles called lipoproteins. There are different types of lipoproteins, but the most relevant to cholesterol are:

- Low density lipoproteins carrying cholesterol - LDL cholesterol. This is often referred to as 'bad cholesterol' as it is the one mainly involved in forming atheroma (see below).
- High density lipoproteins carrying cholesterol - HDL cholesterol. This is often referred to as 'good cholesterol' as it may actually prevent atheroma formation.

Patches of atheroma are like small fatty lumps which develop in the inside lining of arteries (blood vessels). A patch of atheroma makes an artery narrower, which may reduce the blood flow. Also, sometimes a blood clot (thrombosis) forms over a patch of atheroma.

Depending on the arteries affected, a build up of atheroma can cause: angina, heart attack, stroke, transient ischaemic attack (TIA or 'mini-stroke'), and other artery related problems.

You are more likely to develop atheroma if you have certain risk factors which include: smoking, high blood pressure, high cholesterol level, diabetes, obesity, lack of exercise, an unhealthy diet, a strong family history of heart disease or a stroke, and certain ethnic groups.



You should have a blood test to check your cholesterol level:

- If you are aged 40 or more.
- If you are an adult at any age and have:
 - A strong family history of early cardiovascular disease. This means if you have a father or brother who developed heart disease or a stroke before they were 55, or in a mother or sister before they were 65.
 - A first degree relative (parent, brother, sister, child) with a serious hereditary lipid disorder. For example, familial hypercholesterolaemia or familial combined hyperlipidaemia. These diseases are uncommon.

A cholesterol check should be done as part of an overall assessment of your risk of developing heart disease or stroke. A 'risk factor calculator' is commonly used by doctors and nurses. This calculates your risk of developing heart disease or stroke within the next 10 years. A score is calculated which takes into account all your risk factors such as age, sex, if you smoke, blood pressure, cholesterol level, family history, etc.

Do I need to lower my cholesterol level?

Treatment to reduce your cholesterol level will usually be advised if your 'risk factor' score is high. No matter what your current cholesterol level, if your overall risk is high then treatment to lower your cholesterol is usually advised.

Also, the following people should have treatment to lower their cholesterol level, regardless of the risk factor score. This is because the risk calculator may not necessarily take into account these people who have a high risk of developing atheroma.

- People with a very high cholesterol level (a total cholesterol to high density lipoprotein ratio of 6 or more).
- People with familial (hereditary) lipid disorders.

What treatments can lower a cholesterol level?

Drugs called 'statins' are the usual treatment to lower a cholesterol level. There are several brands of statin drug. They work by blocking an enzyme (chemical) which is needed to make cholesterol in the liver. See leaflet called '*Statins*' for details. Other types of drugs are sometimes used.

A healthy diet, and foods that contain plant sterols or stanols can reduce the cholesterol level. For example, certain yoghurts, margerines, etc. However, these do not usually reduce the cholesterol level very much and a statin drug is usually recommended.

Note: cholesterol is only one 'risk factor' for developing heart disease or stroke. You should also do as much as you can to reduce any other risk factors. For example, don't smoke, aim to lose weight if you are overweight, eat a healthy diet, aim to exercise regularly, keep your salt intake down, and have your blood pressure checked at least every 3-5 years.

Further help and information

Heart UK

7 North Road, Maidenhead, Berkshire, SL6 1PE

Helpline: 0845 450 5988 Web: www.heartuk.org.uk

Provides information on heart disease and its management by lifestyle and drugs. Aims to help anyone at high risk of heart disease especially families with inherited high cholesterol.

British Heart Foundation

14 Fitzhardinge Street, London, W1H 6DH

Tel (Heart Information Line): 08450 70 80 70 Web: www.bhf.org.uk

References

- [Lipids management](#), Clinical Knowledge Summaries (October 2006)
- [Cardiovascular disease - statins](#), NICE (January 2006)
- [Risk estimation and the prevention of cardiovascular disease](#), SIGN (2007)

Comprehensive patient resources are available at www.patient.co.uk

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