

Cholesterol (blood fat) problems

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Symptoms

High [cholesterol](#) [1]An essential component of cell membranes and nerve fibre insulation, cholesterol is important for the metabolism and transport of fatty acids and the production of hormones and Vitamin D. Cholesterol is manufactured by the liver, and is also present in certain foods. High blood cholesterol levels have been linked to heart disease and may be a side effect of some anti-HIV medications. is not immediately noticeable by a specific and obvious physical symptom. Long term increases in cholesterol are associated with increased risk of heart disease. [Diabetes](#) [2][Diabetes mellitus] A disorder in which sugars in the diet cannot be metabolised into energy due to a lack of the enzyme insulin. Late-onset diabetes mellitus may be a long-term side effect of some anti-HIV drugs. (now more common in people with HIV) also greatly adds to the risk of heart disease. A blood test is used to measure cholesterol levels.

Causes

Many [antiviral](#) [3]A medication or substance which is active against one or more viruses. May include anti-HIV drugs, but these are more accurately termed antiretrovirals. drugs, particularly protease inhibitors, are associated with rises in cholesterol levels. HIV disease can cause alterations in [blood fats](#) [4]A type of fat in the blood. Elevated triglyceride levels may be a side effect of some anti-HIV drugs.. Smoking, lack of exercise, inadequate diet (especially diets high in saturated animal fats) and increased age are all associated with increased cholesterol levels.

Complementary & Supportive Therapy

Dietary supplements: Omega 3 Fish Oils are a key essential dietary fat that helps reduce triglycerides. Good sources are deep-sea fish with dark flesh such as tuna, halibut, salmon, mackerel and cod. Several studies have shown that Policosanol (an oil extract from sugar cane) has a beneficial effect in the reduction of total cholesterol and reduces LDL (bad) cholesterol. Policosanol also appears to raise HDL (good cholesterol). Many of the trials [enrolled](#) [5]The act of signing up participants into a study. Generally this process involves evaluating a participant with respect to the eligibility criteria of the study and going through the informed consent process. people whose cholesterol levels had not previously improved with diet alone. A high dose of vitamin B3 (niacin) acts to reduce the levels of complex [blood fats](#) [6]A fat. called triglycerides, and increases HDL (good) cholesterol, although it is less effective at reducing LDL (bad) cholesterol. Red yeast rice may also reduce cholesterol and triglyceride levels.

(Note: this substance has not yet been approved for use in medicines in Australia. The products currently available are presented as foods and therefore cannot make therapeutic claims. Also, red yeast rice is reported to contain statins, some of which are scheduled in State and Territory drugs and poisons legislation as 'prescription only' substances. Until a full safety evaluation has been undertaken, due care should be exercised.)

Diet: Dietary modifications are suggested as a first line treatment. Limiting saturated fat intake (mostly from animal food sources such as fatty meats, full dairy cream products, coconut and palm oil and bakery items) and replacing with monounsaturated and polyunsaturated fats (mostly from plant food sources such as nuts, seeds, canola, olive oil and avocado) has been shown to decrease blood fat levels. Increasing plant food fibre such as wheat, oats, rice and grains, fruit and vegetables, nuts, seeds and legumes (beans), is often effective in reducing cholesterol. Simple sugar and alcohol intake is linked to increasing triglyceride levels, meaning refined [carbohydrate](#) [7]Any of a number of compounds, including sugars and starches, which are important as sources of energy. Along with fat and protein, one of the main constituents of food. foods such as white breads, cakes, lollies and soft-drinks should be replaced with less processed foods such as multigrain breads and cereals, fruit, vegetables, legumes and low fat dairy products. Alcohol should be consumed in moderation.

Exercise: Physical activity can help control heart disease risk factors such as obesity, elevated blood fats and [high blood pressure](#) [8] Persistently high blood pressure, an outwardly symptomless condition which carries an increased risk of serious illnesses such as stroke, heart disease and heart attack.. The Heart Foundation recommends that people include at least 30 minutes of moderate intensity activity on most, if not all days of the week (e.g. brisk walking, swimming, etc.). The amount of activity can be accumulated in shorter bouts if necessary e.g. 3 x 10 minute walks daily. Weight training may also be beneficial.

Medical & Drug Treatment

Lipid-lowering drugs are used to lower blood fats but will only be recommended when blood fats continue to increase or persist over a long time, and have not responded to diet and lifestyle changes, or switching your HIV antiviral drugs. Lipid lowering drugs can interact adversely with HIV antiviral drugs. This interaction can worsen side effects and can cause additional kidney, [liver](#) [9] A large organ, located in the upper right abdomen, which assists in digestion by metabolising carbohydrates, fats and proteins, stores vitamins and minerals, produces amino acids, bile and cholesterol, and removes toxins from the blood. and muscle side effects, which can be severe.

Changing your HIV antiviral drugs may be recommended. Depending on your HIV treatment history and other indicators, it may be recommended that you swap from protease inhibitors to non-nucleoside reverse transcriptase inhibitors. Your doctor will only recommend stopping the causative HIV drug in extreme circumstances.

Special Precautions & Considerations

- A dietician will assist with improving dietary food choices.
- Your doctor may prescribe niacin (vitamin B3) to further enhance the capacity of prescribed lipid-lowering drugs. Niacin can have side effects when high doses are taken including intense red flushing of the skin, a burning feeling, rapid heart beat (palpitations) and upset stomach and nausea.

[◀ Blood sugar changes](#) [10] [up](#) [11] [Muscle inflammation, pain & soreness](#) [▶](#) [12]

Links:

[1] <http://www.napwa.org.au/glossary/term/88>

[2] <http://www.napwa.org.au/glossary/term/95>

[3] <http://www.napwa.org.au/glossary/term/123>

[4] <http://www.napwa.org.au/glossary/term/114>

[5] <http://www.napwa.org.au/glossary/term/489>

[6] <http://www.napwa.org.au/glossary/term/100>

[7] <http://www.napwa.org.au/glossary/term/86>

[8] <http://www.napwa.org.au/glossary/term/98>

[9] <http://www.napwa.org.au/glossary/term/102>

[10] <http://www.napwa.org.au/resource/managing-side-effects/blood-sugar-changes>

[11] <http://www.napwa.org.au/resource/managing-side-effects/managing-common-side-effects>

[12] <http://www.napwa.org.au/resource/managing-side-effects/muscle-inflammation-pain-soreness>