



Health Hint article by David Coory

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Cholesterol – why higher can be better

"A man is as old as his arteries." Research for the new edition of my Stay Healthy book has unearthed surprising facts about this life enhancing substance, cholesterol.

Cholesterol is a soft, waxy substance, needed for countless functions in every cell of our body and brain. We die without it. About 80% of cholesterol is made by our liver. The remaining 20% is normally supplied by protein foods such as eggs.

Cholesterol not dangerous in itself

Cholesterol is essential for life, yet has the image of a rampaging killer in the minds of most New Zealanders. Why is this?

Cholesterol's negative image began back in 1948, when 5,209 citizens of the town of Framingham, Massachusetts were selected by the USA Health Service for a 20 year study into the causes and treatment of cardiovascular disease. It was called the Framingham study.

Many facts were gained from this study. One of which was that many who developed cardiovascular disease, also had high blood cholesterol levels. It was assumed at the time that high cholesterol was therefore a principle cause of cardiovascular disease. This appeared plausible, as plaque build-ups in artery walls contain cholesterol, although they also contain fat, calcium and other substances.

Since then however, numerous clinical trials have found no evidence that high blood cholesterol causes cardiovascular disease. In fact half of all heart attacks take place in individuals with normal cholesterol levels.

Researchers at the University of San Diego School of Medicine go even further and point out, that rather than being harmful, high cholesterol in those aged over 75 is protective of health and linked with a clearer mind and lower risk of Alzheimer's. However it depends on what form of cholesterol we are talking about.

High Density and Low Density cholesterol

There is only one kind of cholesterol in our

body, but cholesterol takes on different characteristics as it combines with proteins for its varying roles in the body.

High Density Cholesterol (HDL)

Think of H for healthy. Healthy HDL cholesterol is essential for every cell in our body. It is called 'good' as one of its roles is to carry repair materials away from body cells for recycling. These materials include excess LDL cholesterol (see below) and clotted blood from artery repairs. This reduces the risk of clots formed during artery repairs from breaking away. Generally speaking, the higher our level of HDL cholesterol the healthier we are.

Low Density Cholesterol (LDL) (Also **VLDL & IDL** Very Low Density Lipids and Intermediate Density Lipids) Here again this type of cholesterol is essential for the repair and maintenance of every cell in our body.

LDL cholesterol carries protein and fats to body cells for repairs (rather than from the body cells as with HDL cholesterol). It is often called 'bad' (mostly incorrectly) as it is LDL cholesterol that is found in repaired, narrowed arteries.

However the only problem with LDL cholesterol arises when our blood levels of healthy HDL cholesterol are insufficient to carry away excess LDL cholesterol and other repair material from the repaired areas of our arteries, generally less than 60% of our LDL.

A blood level reading of LDL cholesterol above 3 mmol/L is usually a sign that there is not enough HDL cholesterol circulating in our blood to remove the excess LDL.

Some advanced researchers have found that tiny oxidised, LDL particles (called oxysterol) can contribute to inflammation, a root cause of cardiovascular disease.

The role of cholesterol in the body is highly complex and not yet fully understood, but it is clear that natural HDL and LDL cholesterol are not the cause of artery damage, they are just the repair materials.

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