

### Cholesterol article 3

High cholesterol has become an increasing problem over the past decade and not surprisingly, there has also been a corresponding increase in the incidence of diabetes and obesity. All of these issues have a common cause – metabolic dysfunction.

The most important things to do when wanting to lower cholesterol levels are to address the underlying metabolic break down, remove excess substrate from which cholesterol can be made and assist the clearance of cholesterol from the body via the liver and the bowel. (I covered this in my last article which can be viewed at [www.selfhealclinic.co.nz](http://www.selfhealclinic.co.nz)).

In addition to correcting the diet, it is important to ensure that certain nutrients are available to the body in the optimal quantities. Our modern diet with its refined and processed foods often fails to deliver these adequately, resulting in nutrient depletions which exacerbate the problem.

A lot of people are already aware of the role that essential fatty acids play in the balance between HDL and LDL cholesterol and it is not uncommon to get patients with high cholesterol who are already using omega 3 supplements such as fish oil or flaxseed oil. Many of them are however using less than the optimal dose. This is in the region of 3000 to 4000mg daily, and it pays to remember that fish oils are converted a lot more efficiently in the body than flaxseed oil. Low omega 3 levels in the diet are known to correlate to higher LDL levels and lower HDL. Omega 3's have also been shown to assist in the reduction of triglycerides as well as improving the balance between HDL and LDL cholesterol.

Out of all the vitamins, vitamin B3 and vitamin C would have to be two of the most important in helping cholesterol to be cleared correctly. Vitamin C is required to enable cholesterol to stay soluble and it is well established that certain forms and dosage ranges of B3 can significantly reduce harmful cholesterol levels in the bloodstream. Niacin is one of these but has the draw back of causing flushing with doses as low as 30mg in some people. There is another form – inositol hexaniacate – which will do just as good a job but is a lot more user friendly than niacin for the doses required.

The finding that B3 lowered cholesterol was confirmed by researchers at the Mayo Clinic in 1956, 1961 and 1962 which launched B3 on its way as a hypocholesterolemic substance. Since then it has been found to be a normalizing agent, meaning it elevates HDL cholesterol, decreases LDL and VLDL (very low density lipoprotein) cholesterol and lowers triglycerides. In 1981 three other researchers ( Mok, Zechs and Berman) found it could lower cholesterol by 22 percent and triglycerides by 52 percent and wrote, "To our knowledge, no other single agent has such potential for lowering both cholesterol and triglycerides." It has also been shown to lower cholesterol levels in individuals with hereditary high cholesterol where they have been unresponsive to normal medication, when used in conjunction with that medication. Furthermore continuous use of the correct level of B3 has been shown in many studies to decrease mortality and prolong life in those with previous serious cardiac risk.

When you consider that high cholesterol is basically a metabolic problem, it makes sense that B3 should have such a profound effect. Cholesterol rises in those with a diet containing too many dense carbohydrates and saturated fat. Dense carbohydrates require B3 to be processed and turned into energy. Most dense carbohydrates have lost most of

their B3 content through processing and shelf life, so eating them depletes the body of B3. Before you know it, you have one of the key contributors to both metabolic disease and high cholesterol – the oversupply of carbohydrate foods in the face of B3 depletion. It is also no coincidence that many people comment that their energy goes up when we make the required changes to their diet and replace the missing B3, because it improves the metabolic function. It should be noted that it may require substantial doses of B3 in the correct form for 6 months before changes will be observed in a blood test result.

Coming back to vitamin C, studies have shown that cholesterol accumulates in the blood and in the liver where there is a chronic latent vitamin C deficiency. The reason for this is that the incorporation of cholesterol into the bile acids in the liver requires vitamin C. There is a significant direct correlation between the concentration of vitamin C in the liver and the rate of cholesterol transformation to bile acids. If you get frequent infections of any type, bleeding gums when brushing your teeth, regular bleeding noses, bruise easily, have varicose veins or hemorrhoids, or have cataracts, you are short in vitamin C.

Because high cholesterol is most commonly a sign of metabolic dysfunction, nutrients which aid better blood sugar control and metabolism can also make a difference. These include chromium, zinc, magnesium, selenium, iodine and manganese.

The key organs involved in cholesterol clearance are the liver and bowel. To maintain good bowel function and bind cholesterol so that it is not absorbed back through the gut lining and into the blood stream, high levels of fibre are required in the diet. Whole oats, brown rice, pearl barley, whole rye and psyllium fibre are the five most efficient things to use for this purpose and must be used every day, preferably as two servings. There are a number of herbs which can be useful as well. The best ones are globe artichoke leaf, red yeast rice, tumeric, ginger and green tea. Ginger can be used as a tea by chopping the raw root into a cup and pouring boiling water over it. It is ready to drink after steeping for 10 minutes and acts to improve circulation and reduce risk of clotting at the same time. It must however, not be used in conjunction with blood thinning medication.

Lipoprotein A is a relative of LDL cholesterol and may adhere to damaged blood vessel linings, eventually forming atherosclerotic plaques. It is thought to be an oxidized form of cholesterol resulting from free radical damage which makes adequate antioxidant intake another important factor in reducing the risk associated with high cholesterol. This is where foods like dark coloured berries, raw carrots, raw beetroot and parsley come into their own. My advice is to eat a cup per day of one or two of the above. Berries are particularly good because frozen ones can be used all year around and are a good source of fibre and vitamin C as well as being very pleasurable to eat.

Oxidized cholesterol is also found in large amounts in fried and processed foods. Studies have found that it is the oxidized cholesterol which increases the amount of atherosclerotic deposits on blood vessel walls. It is highly sensible therefore to avoid all fried and processed food.

**If you have any queries regarding the information in this article or would like to address some health issues of your own, we encourage you to call us on 06 304 8177. The dispensary is open 9.30am – 4pm Tuesday, Thursday, Friday and 10.30am – 4pm Saturday.**