

## Cholesterol and Statin Drugs

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Since the 1950's physicians have been taught that cholesterol was a bad thing. Why? We know that the liver makes about 80% of our cholesterol and regulates it conjunction with our dietary intake. We know that cholesterol is required for a wide number of functions in the body:

- The membrane of every cell - required to regulate what goes in and out of the cell
- Bile - use to create bile and bile salts which break down the dietary fats and allows you to absorb the good fats
- Hormones - used to synthesize steroid hormones: testosterone, estrogen, cortisol, aldosterone
- Neural insulation - required to synthesize the neuron myelination
- Absorption - required to absorb fat based vitamins: A, D, E, K
- Acts as an antioxidant
- Bone formation - contributes to bone formation, they would be hollow and brittle without it
- Cholesterol plaque is there to protect damaged arteries: a clogged artery is better than a ruptured one
- Vitamin D3 - oxidation of cholesterol is the 1<sup>st</sup> step by which cholesterol transforms into vitamin D3
- Cholesterol sulfate deficiency leads to glucose intolerance.

Unfortunately, MDs tell us about HDL and LDL as if there is only compound representing each category, when in fact there are multiple compounds. They tell us that HDL is good, and LDL is bad, when in fact if HDL 3 is great than HDL 2a or 2b we are in trouble. Further, it is now being recognized that some of the LDLs are more important for health than the HDLs:

- HDL 2a and 2b - want to be high - extracts fats from arterial walls and prevents fats from adhering to the walls
- HDL 3 - want to be lower than HDL 2
- LDL A - large and buoyant LDL - this is what you want
- LDL B - predominantly small and dense LDL - you don't want this-> diabetes, hi blood pressure, arteriosclerosis
- LDL mixed
- LDL R - associated with a bad diet
- LDL a - a good inflammatory marker
- IDL - similar to an LDL but without the TG, transports TG fats and cholesterols; and can promote growth of atheroma
- Lp(a) Lipoprotein consists of an LDL-like particle and controlled genetically; kidney function impt for clearing it

- VLDL 1,2 - very large and transports TGs to adipose and muscle.

The media did catch up with the fact that many dietary factors can help the liver regulate the cholesterols in the body:

- Decrease saturated fats and increase soluble fibers: oats, oat bran, barley, Chinese mushrooms.
- Good chocolate - 100% chocolate obviously being the best.
- Beans and other legumes (fiber).
- Good oils: almond, coconut, sesame, sunflower (Olive is a scam and Soy/Corn are GMO).
- Nuts: 23 almonds; 14 English walnut halves; 49 pistachios; add to salads, shakes, pasta and yogurt.
- Organic grape juice or organic red wine (drink with peppers).
- Tomatoes: Lycopene.
- Fruits and Vegetables: Brussels sprouts; pear and grapefruits; dried plums; nectarines; plums; apples.

There are also a number of supplements that can help regulate cholesterols and cardio function:

- Copper - required for connective tissues synthesis
- Zinc - enhances arterial flexibility
- Sulfur - enhances cardio function and required for glutathione synthesis which regulates NO which is a vasodilator
- Magnesium - required for a healthy heart and ATP synthesis
- Vitamins B1, B2, B3 - required for ATP synthesis
- Chromium - required for cholesterol regulation.

There are also a number of herbal tinctures that help the liver regulate cholesterol:

- Butcher's Broom: Helps strengthen the blood vessel walls; increases peripheral circulation; acts as a diuretic (which will thin the blood); also acts an anti-inflammatory which eliminates inflammation from the blood vessels and elsewhere in the body; and regulates cholesterol.
- Capsicum: Meaning peppers and come in both heat and heatless varieties, i.e. bell peppers vs chilli's; the capsicum compound has been used to boost metabolism, (weight loss); increases circulation and blood flow; facilitates the delivery of oxygen and other nutrients; lowers high blood pressure and regulates cholesterol.
- Fenugreek contains trigonelline alkaloids and the amino acid lysine (which helps maintain nitrogen balance in the body) and L-tryptophan (to make serotonin) and steroidal saponins which inhibit excess cholesterol absorption and synthesis while not effecting HDLs.

- Garlic: The high levels of organosulfur help regulate the cholesterol in our blood “serum levels”, while raising HDLs; also has an anti-clotting effect that helps reduce clots and plaque formation in the blood vessels thus lowering high blood pressure.
- Guggul: Contains antioxidants, resin, volatile oils, gum and guggulsterones which lower both LDLs and VLDLs as well as TGs and it raises HDLs. When we have low levels of Vitamin D, VLDLs can oxidize causing plaque, but the anti-oxidants in guggul prevent this as well as other types of plaque caused from platelet stickiness which can thicken the blood and create plaque/inflammation; caution should be used with inflammatory bowel diseases.
- Hawthorne: Contains anti-oxidants, bioflavonoids, Vitamins B1, 2, 3, 5, 6, 9 and 12, C, as well as tannins, cardio glycosides, purines and saponins and minerals, and is used in most Western formulas, benefits the body in a wide number of ways and is probably one of the most common herbs for the cardiovascular system in general as it is a good heart tonic; helps to dilate blood vessels and prevents degeneration of the vessels; increases the blood flow to the heart muscles; regulates blood pressure; reduces LDL and high blood pressure.
- Holy Basil: In many of the East Indian or Ayurvedic formulas: reduces cortisol, improves immune function and helps regulate cholesterol; it is also used with issues like adrenal fatigue, because it strengthens the adrenals as opposed to Rhodiola and Ginseng which have a stimulating effect.
- Licorice: Contains the glycoside glycyrrhizin which helps to regulate heart rhythms; also known to be good for detoxing the liver, strengthening the adrenals and helps regulate hormonal imbalance in females. The DGL (deglycyrrhizinated) form is preferred especially if there is high blood pressure issues.
- Psyllium: Research has shown that 5 grms of psyllium, twice a day significantly lowers LDL in the blood.
- Skullcap: Normally utilized for calming the mind and sleeping, has been shown to increase HDLs thus decreasing the ratio between LDL and HDL.

Statin drugs, like many medications are harmful to the body because they deplete the body of CoQ10 which is not only a great antioxidant, but hugely important to the mitochondrial production of cellular energy, aka, ATP. Statin drugs typically block the last enzyme so that the body cannot make cholesterol. If we follow the functional pathway after the synthesis of cholesterol, we find the enzyme path required to synthesize CoQ10. So obviously if there is no cholesterol, there is no CoQ10. Consequently, anything and everything can be effected if cells cannot function effectively [1-4].

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<sup>1</sup><https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2605338/>

<sup>2</sup><https://www.ncbi.nlm.nih.gov/pubmed/17344789>

<sup>3</sup><https://my.clevelandclinic.org/health/articles/16774-heart-healthy-benefits-of-chocolate>

<sup>4</sup><https://www.healthline.com/nutrition/13-foods-that-lower-cholesterol-levels>

<sup>5</sup><https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2888631/>

<sup>6</sup><https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6121943/>

<sup>7</sup><https://globalnews.ca/news/4979292/consumers-warned-fake-olive-oil/>

<sup>8</sup><https://www.cbsnews.com/video/dont-fall-victim-to-olive-oil-scam/>

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