

Cholesterol: It's Function & It's Management

Cholesterol Overview:

- Cholesterol is caused by-
 - High fat diet
 - Obesity
 - High familial cholesterol
 - Aging
 - Gender
 - High stress
 - Insulin shifts
 - Adrenaline-Cortisol shifts
 - Hypothyroid conditions

- Functions of Cholesterol-
 - Synthesizes Provitamin D (bone loss actually stimulates cholesterol production to make Vitamin D3)
 - Precursor to Bile Acid production in the body
 - Precursor to steroid hormone production (glucocorticoids, mineralcorticoids, pregnelone, DHEA, cortisol, testosterone, progesterone, estradiol, aldosterone)
 - Lower HDL leads to insuline resistance
 - *HDL (good cholesterol)- is a powerful antioxidant much like Vitamin C, E, etc and assists LDL from oxidizing*
 - *HDL also is anti-inflammatory and has an inverse relationship with triglycerides (high triglycerides=lower HDL numbers)*
 - HDL gets lowered by:
 - Smoking
 - Obesity
 - Sedentary lifestyle
 - High nitric oxide
 - Insulin shifts
 - Cholesterol seals abrasions in the arteries when Vitamin C is lacking to stimulate collagen production
 - LDL is associated with better memory and cognition. Low cholesterol causes neurodegeneration of the hippocampal cells and causes slowing to visumotor speeds
 - ***Cholesterol is multifunctional and the building block of many other bio substances. If you want/need to lower it you must lower the demand for it!***
 - When HDL is too low and LDL is too high this creates “thick blood” and causes shear stress on the arterial walls and strips away the endothelial lining. LDL repairs these damaged areas of the endothelial lining from oxidative damage.

- Real Cholesterol Dangers:
 - Result from Oxysterol in the body which are oxidized cholesterol particles that become abundant in LDL fractions causing-
 - Atherosclerosis
 - Apotosis
 - Necrosis
 - Inflammation
 - Immune Suppression
 - Gall stones
 - Oxidation is caused by:
 - Adrenaline Shifts
 - Insulin Shifts
 - Petrochemical exposure

Cholesterol: It's Function & It's Management

- Heavy Metals
- Drugs, Medication
- Radiation and Electromagnetic Stress
- Chronice Infections
- Low antioxidant diet
- Mental emotional stress
- Poor food combining

**To stop cardiovascular disease we must stop the oxidative stress. Oxidized cholesterol is more important than the high numbers of cholesterol*

**Integra Urinalysis Panel provides more in depth look at bio-markers that show oxidative stress and other states. Please call our office for more information.*

General Advice for Balancing Cholesterol:

1. **Do not go on a low fat diet.** A diet too low in fats can decrease HDL (good cholesterol). The key is eating healthy fats from olive, fish, flax oil and other nuts and seeds.
2. **Watch world on carbohydrates:** Excess carbs cause a sharp rise in blood sugar that produces an insulin response. This leads to fat production and storage, high triglycerides, and increased cholesterol.
3. Include Anti-cholesterol foods:
 - Psyllium fiber
 - Oat bran
 - Fish & fish oils
 - Olive oil
 - Apples & fruits
 - Soy products (preferably fermented such as tempeh & miso)
 - Shrimp
 - Green tea
 - Red wine
 - Vegetables- especially root vegetables like carrots and beets along with greens (kale, collards, mustard, chard, spinach, etc)
 - Almonds
4. Cholesterol and exercise study:
 - 45 minutes of moderate cardio exercise, 3x's weekly
 - Includes walking, joggin, hiking, gardening
 - Weight bearing exercises 3x's weekly
5. Stress Reduction:
 - Relaxation pose is the simplest method to do at home to promote stress reduction.
 - Lay on the floor with your legs elevated up on an ottoman or chair. Lie there for 15 minutes and just breathe and relax. The elevation of the legs helps discharge blood back to the heart and helps to balance the sympathetic and parasympathetic nervous systems. For more information, see Stress Reduction handout.

Note: The information included in this document is not meant to replace standard medical care. It is for educational purposes. Please consult with your doctor before embarking on any medical therapy or diet.