

least 10 repetitions (lifting weights, etc.) easily, and then work up until you can do 15 easily, and then increase the weight so that you can only do 10 easily, and continue increasing.

2. Lose weight. If you follow the diet and exercise recommendations here, you will likely lose weight. For more information on how to lose weight and how much to lose, ask us for our Weight Loss handout.

3. Stop smoking. Although stopping smoking won't decrease your cholesterol, it is the greatest risk factor for cardiovascular disease that you can do something about. For more information on stopping smoking, ask us about our Stop Smoking handouts.

4. Improve your diabetes. If you are diabetic, this will contribute to elevated lipid levels and make you more susceptible to cardiovascular disease, so it is vitally important to manage those blood sugars. For more information, ask us about our Diabetes handouts.

5. Get your blood pressure under control. Another large risk factor for cardiovascular disease is hypertension, or high blood pressure. Just like stopping smoking, getting your blood pressure normal won't fix your cholesterol, but it will decrease your risk of cardiovascular disease. Talk to your doctor about getting your blood pressure controlled to a goal of 110's systolic over 60's diastolic with treatment.

The majority of persons who follow these guidelines will obtain their cholesterol goals. Your success depends upon you, so do everything you can to get your cholesterol under control! If you have medical problems that contribute to your high cholesterol, speak to your doctor about your options.

Note: Any sustainable change requires energy and determination. Many people find that they have better results when they have help. So pray to God for help and find a partner to keep you accountable. Don't be afraid to ask for help. God bless you as you make the changes necessary to be healthy and fit.



CHOLESTEROL LEVELS & CORONARY RISK		
Risk	Total Chol. (mg%)	LDL-Chol. (mg%)
Ideal	<160	<90
Elevated	160-180	90-110
High	181-220	111-150
Very high	221-260	151-190
Dangerous	>260	>190

[To convert to mmol/L divide values by 39]

CHOLESTEROL LEVELS AND DIET	
Diet	Cholesterol (mg%)
Typical US Diet	200-240
U.S. Lacto-Ovo-Vegetarian	180-200
U.S. Healthy Vegetarian	150-170

[To convert to mmol/L divide values by 39]

Tables taken from *Lifeline, The Vegetarian Advantage*, Dr. Hans Diehl.



**Healing, Educating
and Advocating
Lifestyles for Total Health**
www.healthbythebook.org

Controlling Your Cholesterol



What is Cholesterol?

Cholesterol is a waxy, fat-like substance that occurs naturally in all parts of the body. Your body needs some cholesterol to work properly, and your liver produces all the cholesterol that your body needs. Cholesterol is used to make cell components and hormones. The problem with cholesterol comes when there is too much cholesterol in the blood.

Why is an Elevated Cholesterol Level Bad?

When cholesterol levels are elevated for a long period of time, excess cholesterol and fats are deposited in the walls of arteries (atherosclerosis) throughout the body, and these deposits can grow, causing the inside of the artery to narrow, making it harder to get oxygen-rich blood to the organs. These deposits, called plaques, can also become unstable, and their surface can break forming a blood clot which blocks the artery completely. When this happens in the heart it leads to a heart attack; in the brain it leads to memory loss, senility, or stroke; in the kidneys it leads to kidney disease; in the legs it leads to claudication (a painful condition affecting the calf muscles); and in the penis it leads to impotence.

What is a Normal Total Blood Cholesterol Level?

The answer to that question is: it depends. In China, where coronary heart disease is very rare, normal total cholesterol levels range from 90-160 mg%. In North America, cholesterol levels of 200-240 mg% are normal. These levels, however, are only normal for people who normally die from heart disease. You really don't want to have normal cholesterol levels. You want to have ideal cholesterol levels — like those found in countries where heart disease is rare. Ideally, you want total cholesterol levels below 160 points, because this makes you virtually heart attack proof and insures against further progression of atherosclerosis.

What about Good and Bad Cholesterol?

There are several types of cholesterol molecules. Low-density lipoproteins (LDL) are molecules that carry cholesterol from the liver to the body to be deposited. It is cholesterol from LDL that gets deposited in the artery walls, forming plaques. High-density lipoproteins (HDL) are molecules that carry cholesterol from the body to the liver to be used or excreted. That is why LDL is con-

sidered “bad” cholesterol, and HDL is considered “good” cholesterol. HDL levels can sometimes be raised by exercise, and eating a healthy plant-based diet, and reducing your intake of trans-fats.

What about Triglycerides?

Triglycerides are non-cholesterol fats that are transported by VLDL and stored in fat and liver cells. They are used for energy when the body needs it. Triglycerides can be elevated with alcohol intake, certain medications, diabetes, obesity, kidney & liver disease, low thyroid conditions, and a number of other medical situations. Elevated triglycerides, like cholesterol, can contribute to atherosclerosis. Normal triglyceride levels are 150 or below, but optimal levels are 100 or below.

Where does Cholesterol Come From?

As mentioned before, the liver produces all the cholesterol the body needs. The other main source is animal products. Whether it be fish, chicken, beef, pork, sea food, or animal by-products—such as milk, eggs, cheese, or butter—it contains cholesterol. If it can run, swim, or fly away from you, it contains cholesterol. By contrast, NO cholesterol is found in plant products.

Does Diet Impact Cholesterol Levels?

Absolutely! In fact, diet is the greatest factor when it comes to cholesterol management. Looking at data from the United States, those who consume a typical U.S. diet have average cholesterol levels of 200-240 mg%, whereas those who consume a lacto-ovo-vegetarian diet (excludes flesh foods, but includes dairy and eggs), have average cholesterol levels of 180-200 mg%. However, those on a healthy vegetarian diet (strictly plant-based diet) have average cholesterol levels of 150-170mg%.

What Diet Changes Will Help Improve My Cholesterol?

1. Eliminate animal products from your diet. This includes all flesh foods (pork, beef, chicken, seafood, fish, etc.) and animal by-products (milk, eggs, cheese, butter, etc.). Even “low-fat” meats still contain cholesterol, and your body doesn't need the extra cholesterol. Also, animal products have lots of saturated fats, which raise cholesterol levels in the blood more than any other dietary component except trans-fats.

2. Eliminate trans-fats from your diet. Trans-fats are formed when fats are heated at high temperatures

during processing or food preparation. Trans-fats are found in margarines, partially hydrogenated oils, shortening, cookies, cakes, crackers, french fries, and other fried foods. Trans-fats elevate LDL, decrease HDL, and promote inflammation in the body.

3. Eat a low-fat diet that focuses on healthy fats. Avoid as much as possible oil, margarine, shortening, dressings, and spreads like mayonnaise. Use healthy fats in moderation instead, like avocado, nuts, and seeds, which are rich in omegas and antioxidants. Research shows that eating nuts actually decreases cholesterol levels in those with high cholesterol. If you have to use oil, use cold-pressed olive oil. Better yet, eat olives! Ideally, 10% or less of your daily calories should come from fats.

4. Eat lots of high-fibre as-grown plant foods. Fibre is found in as-grown plant foods, such as fruits, vegetables, provisions, whole grains, nuts and seeds. Fiber binds cholesterol in the bowel and prevents some of it from being absorbed into the blood, thus decreasing cholesterol levels. Additionally, the antioxidants found in plant foods help prevent the LDL-cholesterol in the blood from being oxidized by free radicals. When LDL is oxidized, it can then enter the wall of the arteries and cause damage that starts—or continues—forming plaques. Antioxidants, like vitamins C and E, help prevent this oxidization, and thus protect the arteries from atherosclerosis.

What Else can I do to Improve My Cholesterol?

1. Get regular exercise. Try walking daily out in the sunshine and fresh air. Work up to at least a half hour daily, 5 days/week at a moderate intensity. Moderate intensity means that you can talk while walking, but would be too out of breath to sing. Also, do resistance exercise (lifting weights, resistance bands, push ups, etc.). Resistance exercises cause you to flex your muscle against an opposing force. This recruits more muscle cells to contract and ultimately leads to greater muscle mass, energy, and flexibility. Work out all major muscle groups (shoulders, arms, back, chest, abdomen, gluteus, and legs) 2X/week. Exercise so that you can do at

