

How To Naturally Lower Your Cholesterol Without Drugs...

**A Proven & Practical Guide
to Using Diet and Supplements
for Healthy Cholesterol Levels**

Edited by Dr. James Johnson, II – M.D., Ph.D.

What People Are Saying:

I really didn't want to change my diet, give up my bad habits or start exercising. You've shown me a way to lower my cholesterol without taking drugs or changing my life. Now, I'm taking ten different supplements not just for my high cholesterol but for my general health.

John F, Miami, FL

I never knew there way any other way than prescription drugs. The drug I was on costs almost \$100 a month plus the doctors visits and the liver tests they kept running on me. The supplements you said to take are very inexpensive and I don't have to see the doctor all the time now. My cholesterol is much lower on these supplements than it was on the prescription I was taking.

Mary L., Parma, OH

I was overweight, ate the wrong foods, didn't take any supplements and sat around watching TV for exercise. I stopped eating red meat, butter and cheese for a start. I took some of the supplements in the book. I walk the dog every day now. I'm losing weight and my cholesterol is now normal. This is really reasonable.

Paul J., Lodi, CA

I had genetically high cholesterol and triglycerides both over 300. The prescription drugs I took didn't lower them much at all and cost me a fortune! I had pretty much given up until I read your book. I take most of the supplements and changed my diet a lot. I joined the YMCA and swim three times a week now. My cholesterol and triglycerides are now in the high normal range after only three months. I'm glad I discovered your book.

Charles A., Boston, MA

Legal Disclaimer:

This information is not intended as medical advice. It is written solely for informational and educational purposes. Please consult a health professional should the need for one be indicated. Because there is always some risk involved, the author and publisher are not responsible for any adverse affects or consequences resulting from the use of any of the suggestions, preparations or methods described in this book. The publisher does not advocate the use of any particular diet or health program, but believes the information presented in this book should be available to the public.

Since natural and/or dietary supplements are not FDA approved they must be accompanied by a two-part disclaimer on the product label: that the statement have not been evaluated by FDA and that the product is not intended to "diagnose, treat, cure or prevent any disease."

All listed addresses, phone numbers and fees have been reviewed and updated during production. However the data is subject to change.

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The information contained in this booklet should not be considered medical advice. The ideas, thoughts, and opinions expressed herein belong solely to the author, who is not a medical doctor. Except as otherwise noted, no statement in this book has been reviewed or approved by the Food and Drug Administration.

About This Book

The research around the world on cholesterol, triglycerides, and coronary heart disease generally seems endless every year since this is the primary cause of death in Western countries. I went through Chemical Abstracts (the “Chemists Bible”) for the past ten years and had to go over the thousands and thousands of studies by hand and pick the largest, the most interesting and the most thorough. The researchers of the world are in basic agreement about the causes and cures for heart and artery disease.

This is a very factual book with endless scientific citations and references to published studies in medical journals. It was meant to be this way so you would know the things you read in here are truthful, honest and accurate. No one has ever taken the last ten years of published research and condensed it down into a short easy to read and understand book like this. There are many books written on cholesterol and heart health and most of them simply aren’t very good at all.

Where else are you going to read a compilation of over thirty supplements that are supposed to lower your cholesterol and triglycerides? Where else are you going to see red yeast rice, beta-sitosterol, guggul gum, flax oil, beta glucan and soy isoflavones recommended as the cornerstone of your cholesterol supplement program? And nowhere else are you going to read a review of how your basic hormones- estrogen, testosterone, pregnenolone, progesterone, and melatonin - affect your blood lipid levels and how to measure these at home.

Everyone who reads this book will have the ability to lower their cholesterol, improve their heart and artery health and live longer naturally without resorting to drugs.

OVERVIEW

The information you find in this book can help you choose to do whatever you want to do and still lower your cholesterol and triglycerides naturally without drugs or medication. In an ideal world it would be wonderful to see everyone who read this book to go on a macrobiotic diet, walk an hour a day, join a gym, not smoke cigarettes, drink alcohol in excess or drink coffee, take about twenty supplements a day and test and balance all their basic hormones. You would never need to test your cholesterol levels again.

Anyone can make important and continual better choices in the food they eat every day. Anyone can do some kind of exercise they enjoy even if it is just walk the dog a half hour a day. There are programs available to stop smoking and to stop drinking but I haven't seen any to stop a caffeine addiction yet! Anyone can take at least a dozen proven, inexpensive, effective and safe natural supplements. Anyone can test their hormone levels and take melatonin, pregnenolone, progesterone or testosterone where indicated. These are things anyone can do.

You can lower your cholesterol and triglycerides with no change in diet, exercise or lifestyle simply by taking the supplements recommended herein. You can make very dramatic changes just by making some better food choices every day and taking the worst culprits like butter out of your daily fare. You can reduce excessive smoking, drinking or coffee consumption if that is a problem, without giving them up completely if you feel you can't. You can find a physical activity you enjoy and take it up daily. And you can balance your hormones inexpensively without even seeing a doctor. You can even keep taking cholesterol lowering medication and use the information in this book to lower the dose and make it more effective - but I hope everyone who reads this will put down their medication forever.

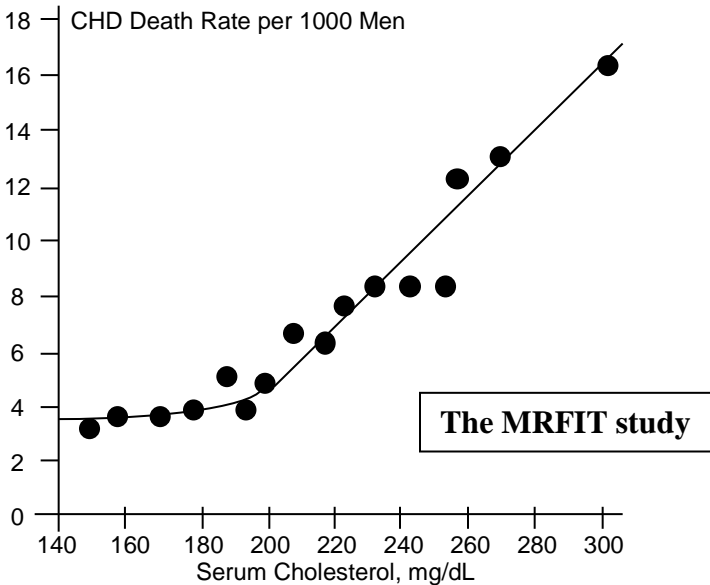
Chapter 1: About Blood Lipids

We have fats (lipids) in our blood that are necessary for life. We are only going to be concerned with cholesterol, high density cholesterol, low density cholesterol and triglycerides. Total cholesterol is the most important to measure. HDL takes cholesterol from the bloodstream into the liver, while LDL takes it back into the bloodstream. Therefore we want high HDL and low LDL levels generally. Triglycerides are esters of fatty acids and glycerol.

You should have your blood lipids measured regularly as part of your medical checkup. Cholesterol should definitely be under 200 with no excuses. Many Asian people and vegetarians normally have levels of only about 150 and this is the ideal. Divide your cholesterol level by your HDL level for the cholesterol:HDL ratio. For example if your cholesterol is 200 and your HDL is 40 (200 divided by 40) you have a ratio of 5.0. Men should be 4.0 or lower and women 4.5 or lower. Triglycerides should be under 100. You can also use the home test kits available in the drug stores but they only give values for total cholesterol.

Every year about 1.6 million Americans suffer heart attacks and almost one third of them die. The higher your cholesterol level the more chance you have of not only having a heart attack but suffering from stroke, atherosclerosis (clogged arteries), high blood pressure, cancer and dying early.

The National Cholesterol Education Program has done much to tell the public about the dangers of high cholesterol and how to reduce it. Look at the following chart (Arch. Int. Med., 148, 1998, p. 39) on cholesterol and death rates. 361,662 men aged 35-57 were studied for six years. The men with low cholesterol had only 3 deaths per 1,000 every year, while the men with high cholesterol had 16 deaths per year.



The Multiple Risk Factor Intervention Trial (MRFIT) study was based on 361,662 men aged 35-57 and was one of the largest, most important studies ever done on heart and artery health in general. This study has been covered in many medical journals due to the tremendous amount of information that was found. You can see for yourself based on the studies of over a third of a million people that the lower your cholesterol down to a level of about 150 the longer you are going to live. The higher your cholesterol the less time you have on earth.

The most popular diet books today are the Atkins Diet, the low carb diet, the "ketogenic" diet and the "glycemic" index. You are told not to eat any carbohydrates, that all carbohydrates are equal and somehow brown rice and white sugar are the same, and that you can eat all the meat and fat you want. It has become a widespread fad to say that lowering cholesterol levels does not extend our lives, low fat diets do not reduce heart disease, and lowering our cholesterol levels is a waste of time and effort. None of this is true, of course, but it gives people excuses to gorge themselves on fatty foods. The evidence is overwhelming for decades that you must maintain healthy blood lipid levels to live a long and full life

Chapter 2: Risks and Diseases

It has become faddish for some people to claim that “cholesterol doesn’t count” in order to rationalize eating high fat foods they are addicted to. This is the basis of the low carb, “ketogenic” or “glycemic” diets where you can eat all the meat, dairy and poultry products you want to. A review of the published medical literature for the past 30 years proves beyond any doubt that eating a diet high in saturated fats causes a rise in blood fats and resultant heart and artery disease among many other health problems such as breast and prostate cancers. Some people have gone so far as to talk about the “dangers of low cholesterol” and this is discussed in Chapter 14: Too Low Cholesterol?”

There are so many studies it is almost impossible to choose which ones to use, so we’ll use the reviews and the largest of the studies. One review (Atherosclerosis 118, 1995, p. 51-5) from St. Bartholemew’s Hospital in London looked at ten major cohort studies around the world. They said, “A systematic examination of the evidence on the relationship between serum cholesterol and ischaemic heart disease shows conclusively that serum cholesterol reduction in populations with high rates of heart disease is an effective and safe method of reducing heart disease rates.” All of these very large studies proved that the higher the cholesterol levels the more heart disease, and no matter how much you lowered the levels (down to 150) there were continual beneficial effects. Again, we see that the ideal is about 150 mg/dl.

The MRFIT Study of 356,222 men leaves no doubt as to the facts. A chart from that study is on page 13 showing the direct relation of cholesterol levels to heart and artery disease. This review in Circulation volume 88 showed that men from 40 different countries were studied. They showed that CHD rises as soon as your level goes over 150 and this is not just a phenomenon for people with high levels over 200. For every 1% rise in your cholesterol level you have a 2% rise in risk of coronary disease. The researchers said, “The relationship between serum cholesterol and six year risk of CHD death was continuous, graded, and strong over the entire range...” This means the ideal level is about 150 mg/dl and anything over that raises your risk of

CHD. They also found that diet was the major cause beyond any doubt and milk and butterfat (dairy foods) were especially indicated.

The MRFIT study was also reviewed in the Journal of the American Medical Association (volume 256, 1986, p. 2823-8). They said, “the relationship between serum cholesterol and CHD is NOT a threshold one, with increased risk confined to the two highest quintiles (groups divided into fifths), but rather is a continuously graded one that powerfully affects risk for the great majority of middle-aged American men.” Again, this means that every point over a level of about 150 increases your chances of heart disease and early death.

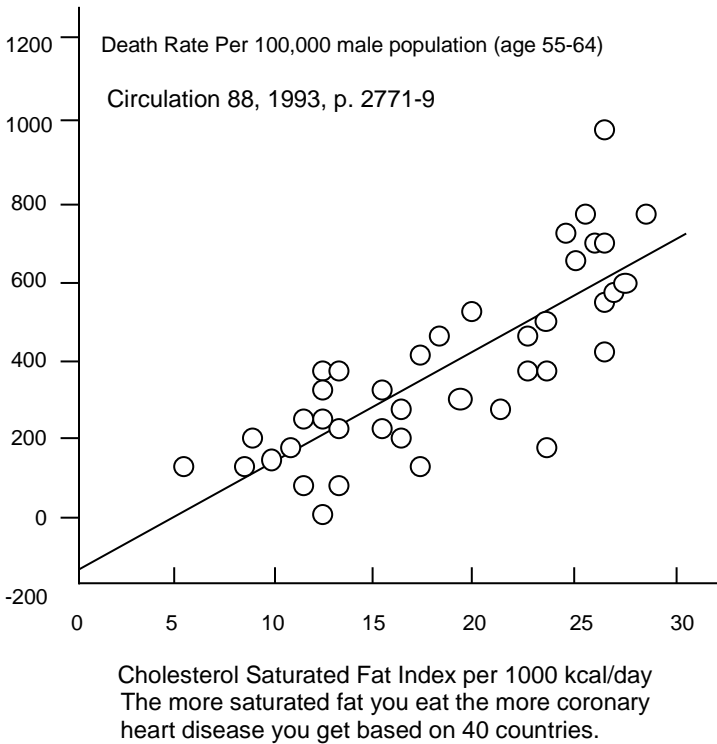
The Seven Countries Study (European Journal of Epidemiology 9, 1993, p. 527-36) had been ongoing for 25 years in 1993. Of all the factors they said, “Over 50% of the variance in CHD death rates in 25 years were accounted for by the difference in mean serum cholesterol.” Men in Japan averaged levels of about 165 total cholesterol while men in Finland, the Netherlands and the U.S. had levels of about 250! As always, the lower the level, the less the coronary disease rate. The cholesterol rate is far more important than smoking, drinking, exercise or even blood pressure.

At Providence University in Taiwan (Journal of the American College of Nutrition 118, 1999, p. 358-65) a study was done with centenarians (people 100 years of age and older) to see what factors allowed them to live so long. Total cholesterol levels were one of the most important factors. Even though cholesterol levels are supposed to become less predictive as we age this study showed that this is always a central key to longevity.

The American Heart Association published a Special Report in the journal Circulation in 1990 (volume 81, p. 1721-33) on the importance of cholesterol as the main indication of CHD. “The evidence linking elevated serum cholesterol to CHD is overwhelming”, they said. They reviewed all the major studies especially the Framingham, Helsinki and MRFIT since they are the largest of all. To their credit they said that diet is the most

important factor here and the best solution to the problem rather than drug treatment.

The famous Framingham Study again showed that total cholesterol, HDL, LDL and triglycerides taken together are the single most important determinant of heart disease. We could go on quoting major studies like this, but the point is made, the proof is there and there can be no doubt about this. Please look at the chart below on saturated fat consumption in 40 countries and the death rate from heart and artery disease. Saturated fat is the main cause of high blood fat levels.



A 25 year follow-up was done on the Seven Countries Study (Journal of the American Medical Association 274, 1995, p. 131-6). Here 12,467 men in seven different countries were studied for 10 years originally. "Across cultures, cholesterol is linearly related to CHD mortality, and the relative increase in CHD mortality rates with a given cholesterol increase is the same."

They found cholesterol levels averaged 240 for American men, 253 for European men but only 165 for Japanese men (this was back in 1958 and the Japanese now average about 180). The Americans and Europeans had far higher CHD rates than the Japanese.

At the National Institute of Public Health in the Netherlands Netherlands Journal of Medicine 51, 1997, p. 1-9) doctors found that cholesterol levels increased in both men and women as they aged. In both men and women this increased an astounding 60 points from the ages of about 22 to 57. They said the main cause of this was clearly the consumption of saturated animal fats. They also agreed that many cohort studies have proven the correlation between serum cholesterol and mortality from heart disease and this risk is continuously graded with increasing levels.

Again at St. Bartholemew's Hospital (European Journal of Clinical Nutrition 48, 1994, p. 305-25) researchers looked at international studies. This time they looked at results from seventeen different countries and concluded, "Variations in serum cholesterol accounted for 80% of the tenfold range of CHD across countries." In other words there was a ten times higher rate of illness and death in the higher levels compared to the lower levels. They also said, "These results show conclusively the efficacy and safety of attaining low cholesterol levels by dietary means in lowering the risk of CHD. Policies to achieve this objective should be a major public health strategy in the economically developed world." These medical doctors said that DIET is the way to do this and not reliance on drugs.

I have large files of studies like these and they all show the same conclusions. Total cholesterol especially when used with HDL, LDL and triglycerides is the best indicator we have for our risk of coronary heart disease - the largest killer by far in the developed world.

Chapter 3: Diet, Diet, Diet

A wholesome natural diet is the most important thing you can do to keep your cholesterol and triglycerides at healthy levels. Diet is the very key to health more than any other factor. If you were eating well you would not have a cholesterol problem. The supplements are very secondary to eating a low fat diet, high in fiber and high in complex carbohydrates. A diet based on whole grains, green and yellow vegetables, beans of all kinds, fruits, salads, seafood and occasional chicken and red meat will allow you to live longer and have a much higher quality of life. Ideally your fat calorie intake would only be 10%, but even a 20% intake would be acceptable. The problem is that Americans and Europeans eat about 40% fat calories and most of these are saturated animal fats. It is animal foods that are the problem for blood lipid levels. Asian people of all nationalities traditionally have very low cholesterol levels as they eat very little animal fat. In fact in rural Red China the average cholesterol level is only about 150. The average American level is about 225.

Let's look at the different food groups:

Red meat as beef, pork and lamb is the main cause of high blood fats. You don't have to be a vegetarian to change this, but you do have to moderate the amount of red meat you eat. You just can't eat one-half pound slabs of red meat each day and expect to have healthy cholesterol levels. You can choose to eat red meat more effectively by cutting lean meat into small pieces, marinating it and stir-frying it with vegetables. You would be surprised at how far a four ounce portion will go this way. You can also choose to eat fish and seafood instead of red meat as they do not raise your cholesterol level.

Poultry and eggs are two of the top ten allergenic foods known. Many people have unknown allergies to both poultry and eggs. It doesn't matter whether this is chicken, turkey, duck, pheasant, goose or whatever. And eggs are worse than poultry because of the very high (i.e. 250 mg per egg) levels of cholesterol found in eggs. Skinless, boneless chicken used in soups, casseroles or stir-frys once a week is reasonable. Taking

eggs out of your diet completely or at least switching to the no-cholesterol egg substitutes is a must if you want to have healthy cholesterol levels.

Dairy products are generally full of saturated fat. No fat or low fat dairy products are now widely available but are still full of lactose. This is discussed in Chapter 4: Fats and Oils. Use soy milk and soy cheese instead of dairy as these contain vegetable oils and no lactose. Visit www.notmilk.com to see more on this.

Whole grains should be the basis of your meals. Whole grains are literally the staff of life and have been for centuries. Eat brown rice instead of white, eat whole wheat pasta instead of white, eat whole grain bread instead of white, eat whole grain cold cereals instead of the refined ones, eat more oatmeal, barley, buckwheat and cornmeal. You can eat all the whole grains you want and keep healthy cholesterol levels and lose weight.

Green and yellow vegetables come in a great variety. Learn to cook these fresh in variety of cultural ways by reading cookbooks from around the world. Some people think of vegetables as boring and lacking in taste. This is because they are eating canned and boiled vegetables without flavor. It is not merely the vitamins and minerals in green and yellow vegetables that are important but many other necessary nutrients such as sterols, lignans, antioxidants and other vital constituents.

Beans are considered by some as “peasant food”, but beans should be a basic part of our diet. Pinto, black, navy, northern, garbanzo, pink, lentils, lima, kidney, cranberry, fava, red chili , aduki and other beans make a wonderful addition to our diets and are full of fiber, protein and vitamins and minerals. Studies show that eating beans actually lowers our blood fats. A study at Pontif University in Chile fed beans to laboratory animals and lowered their cholesterol 20% (Journal of Nutritional Biochemistry 3 (1992) p. 486-90). At the famous Cornell University laboratory animals were fed beans with their diet for eight weeks. They concluded, “Serum cholesterol in the test animals was also significantly lower compared to the controls”. (Journal of Scientific Food Agriculture 57 (1991) p. 611-21.

Fruits, of course, have no fat or cholesterol and should be eaten instead of sweetened desserts. Sweeteners of all kinds eaten in excess will raise our blood fats due to disrupting our metabolism. A study at the University of Minnesota (American Journal of Clinical Nutrition 55, 1992, p. 851-6) showed that when healthy people were given modest amounts of common sugar such as fructose this, “resulted in significantly higher fasting serum total and LDL cholesterol and also caused transient change in postprandial (after meals) serum lactate and triglycerides. Honey, maple syrup, molasses, brown sugar, raw sugar, evaporated cane juice, etc. are no better than regular white sugar as all sweeteners are basically the same simple sugars.

If you don't want to be a vegetarian seafood can be eaten in moderation as fish and shellfish do not raise our cholesterol levels, are easily digested and are very nutritious.

What scientific studies do we have that eating a low fat, complex carbohydrate diet really works? Lots of studies and we'll go over some of them briefly. At the Institute of Biomedical Science in Taiwan (American Journal of Clinical Nutrition 58, 1993, p. 354-9) young male and female vegetarians were studied who ate diets of 63% complex carbohydrates but quite a high fat intake of about 25%. Not only did they have consistently low cholesterol and triglyceride levels but their other blood parameters such as uric acid, fibrinogen, antithrombin, etc. were excellent. But you don't have to be a vegetarian at all to gain these advantages in your health.

At the University of Otago in New Zealand (European Journal of Clinical Nutrition 52, 1998, p. 728-32) young (average age 37) healthy men were given either a traditional high fat Western diet or a low fat diet based on complex carbohydrates from grains, vegetables, legumes and fruit. The men on the healthy diet lost weight, their cholesterol levels fell and their HDL levels rose while their LDL levels fell in only six weeks. They were allowed to select their own foods from a range of foods offered

Harvard University sponsored The Nurse's Study and did a follow up for many years. The Journal of the American Medical Association (September 28, 2000) reported that the 75, 251

participants were questioned as to how many whole grain foods they ate. The women who ate as little as two or three slices of whole wheat bread had up to 40% less ischemic strokes (the most common form) than the women who didn't eat whole grains. The more whole grains they consumed the more their risk of stroke declined. This study has been going on for fifteen years now. Strokes are the third leading cause of death in the U.S. and affect men and women equally.

Not surprisingly cholesterol and triglyceride levels are very correlated with obesity. You can easily lose weight without dieting by simply making better food choices. You can still eat the same AMOUNT of food when you just choose better foods to eat. You do not have to eat less food at all; you just have to eat different foods. You do not have to count calories or adjust your portions either. The hunger drive is even more primal and more powerful than the sexual drive and no amount of will power will stop you from eating when you're hungry. You must fill your stomach when you eat and you can fill your stomach with delicious natural food and enjoy your meals greatly while staying slim and feeling good.

Billions of dollars are wasted every year treating the symptoms of obesity because we refuse to look at the cause of this epidemic of being overweight. Americans basically eat high fat, low bulk, low fiber, high-calorie density, highly refined, high-sugar foods. People in Asia, Africa and Latin America generally eat lower fat, high-bulk, high-fiber, low-calorie density, unrefined unsweetened foods for the most part. If you eat a high-fat diet you will have a high body fat ratio. Not only that but the very same fatty acids you eat will comprise the fat deposits in your body. Vegetable oils are just as fattening as animal fats and have the same amount of calories. You are what you eat and the more fat you eat the fatter you will be. A stick of butter has about 1,000 calories but won't satisfy your hunger. In comparison it would be impossible for most people to sit down and eat twenty apples. A good book to read on how to eat all the delicious natural food you want while staying healthy and slim with low blood fats is Terry Shintani's "The Hawaii Diet". Other good books on eating well have been written by Dean Ornish, John McDougall, Susan Powter, Gary Null and Robert Pritikin, and any of the macrobiotic authors such as Michio Kushi.

Chapter 4: Fats and Oils

Saturated fats are basically found only in animal foods and cholesterol is only found in animal foods. If you didn't eat red meat, poultry and eggs, and dairy products you wouldn't have a cholesterol problem in the first place. Yes, fish and seafood contain both saturated fats and cholesterol but do not raise your cholesterol or triglyceride levels. Most people are not willing to stop eating meat, poultry, eggs and dairy, and it is certainly their right to eat these foods in moderation. But, it is simply impossible for you to eat these foods as staples and maintain healthy blood lipid profiles. A breakfast of bacon, eggs and buttered toast is simply not reasonable. You can reduce the amount of animal foods in your diet and still be happy and you can take the worst of these- like bacon, butter and hard cheeses- out of your diet and replace them with other foods. Ideally you want to eat 20% or less of fat calories and most all of these from vegetable sources. A really good diet for people recovering from heart or artery disease would only be a 10% fat calorie diet. Reducing your fat calorie intake to, say, 30% is just not going to show any benefits. The magic number is 20% or less.

You may be thinking of all those low fat or no fat dairy products out there, but they all contain lactose. Lactose is the problem with dairy in addition to the saturated fat. What is wrong with milk sugar (lactose)? After the age of about three years old all babies stop secreting the enzyme lactase, which digests the lactose. No adult of any race secretes lactase and is therefore unable to digest milk sugar. Asians and Africans especially are sensitive to dairy products. Milk is the number one allergenic food on earth. There is a variety of very good tasting soy products you can replace dairy foods with. There are many varieties of soy, rice and even almond milk. Meltable soy cheese comes in a variety of traditional cheese flavors such a cheddar, mozzarella, and jack.

What oils are good for general use? Corn oil is a fine choice since it comes from grain. Safflower and sunflower oils are a good choice. Sesame is too expensive for general use. Olive oil is a good choice but olive oil is not "good for you" no matter what you've read about it. Soy oil tastes terrible unless it is so highly

refined as to be nutrition-less. Peanut oil comes from one of the top ten allergenic foods known and should be avoided. Cottonseed oil was never meant for human consumption and is merely sold for profit as a byproduct of the cotton industry. Walnut, avocado, almond and other gourmet oils are expensive and have limited use in salads dressings and such. Please avoid anything that is labeled “vegetable oil” or “vegetable oil blend” as this can be almost anything! Usually it is cottonseed or other cheap industrial oil in food grade. Palm and coconut oil are surprisingly not bad for you occasionally. The scare stories that circulated about them were not based on honest studies. These oils are really meant for the people in the hot, tropical areas they are produced.

Now let's talk about canola oil. You've seen this endlessly promoted as a healthy oil. This contradicts the facts completely. The name comes from “Canadian oil” and is from the rapeseed plant (from the Latin “rapa” or turnip) and contains less than 2% erucic acid. The rapeseed plant contains so much toxic erucic acid that humans and animals could not eat the oil. The plant was so extremely genetically engineered to lower the erucic acid that it cannot be called natural in any sense of the word anymore. Avoid canola oil and any foods that contain it as this is purely a promotion for profit and the rapeseed plant was never meant for human or animal consumption.

Americans eat an astounding 42% fat calories, mostly saturated animal fats. A good vegetarian diet supplies all the essential fatty acids you need. The only oil that is “good for you” is a gram (a mere 9 calories) of flax oil daily to supply omega-3 fatty acids, which are lacking in our diets. Eat as little fat in your diet as possible. It's fat that makes you fat, not food. It's saturated animal fat that raises your blood lipids. Read the labels of every food you buy to see the percent of fat calories. Bake and broil your food and stop frying it. Stop using fats like butter to flavor your food. Read books on healthy eating by Dean Ornish, John McDougall, Gary Null, Robert Pritikin, Susan Powter, Michio Kushi and Howard Shapiro. You can eat all you want when you eat whole healthy natural foods like whole grains, vegetables, beans, fruits, salads and even seafood. You don't need to “go on a diet”- you just need to make better food choices.

Chapter 5: Trans Fatty Acids

Hydrogenated vegetable oils actually warrant a separate chapter for many reasons. These are the worst possible fats you can eat and are even more harmful than the saturated animal fats. These are in so many of our foods and hidden in so many foods it is difficult to avoid them. Hydrogenated vegetable oils are unnatural and do not exist in nature so our bodies simply do not know how to deal with them much less digest them. People just don't realize how unhealthy these fats are or they would quit buying the endless tons of them every year. Read the labels of every food you buy and you'll be amazed at just how common they really are in America.

Margarine is not, "better than butter" and never has been. Food manufacturers found they could extend the shelf life of foods and make them less subject to rancidity by using these cheap, artificial, manmade creations. By subjecting vegetable oils, especially inexpensive ones like cottonseed, to extremely high pressure and heat, saturating them with hydrogen gas using exotic metal catalysts like platinum they could "saturate" unsaturated vegetable oils artificially. This extends shelf life at the cost of your health. In this chapter I want to prove to you beyond any doubt that these laboratory creations are hurting your health and shortening your life, so that you will never again knowingly buy foods containing them. There are many, many studies on the negative effects of trans fatty acids, but we will only look at a few of the most informative human studies done at some of the most prominent clinics in the world.

At the University of Kuopio in Finland (Metab. Clin. Exper. 48, 1999, p. 870-5) healthy women were studied in a randomized crossover protocol by giving them the usual high saturated fat European diet or diets high in hydrogenated oil. In the hydrogenated oil diet a mere 5% caused higher total cholesterol, LDL cholesterol and triglyceride levels in just four weeks. They concluded the hydrogenated fat diet, "resulted in a higher total/HDL cholesterol ratio and an elevation in triglycerides and Apo B (which is a negative indicator for heart health) concentrations."

At Tufts University in Boston (Metab. Clin. Exper. 45, 1996, p. 241-7) elderly men and women were fed either diets of 30% fat calories from corn oil or hydrogenated corn oil margarine for a month and then switched to the other diet for a month. They said, "Mean total cholesterol levels were lowest when subjects consumed the corn oil diet as compared with the margarine diet." This is real world proof on real people that margarine raises your cholesterol levels, contributes to clogged arteries and heart disease and causes poor quality of life ending in early death.

At the National Public Health Institute in Finland (Am. J. Clin. Nutr. 65, 1997, p. 1419-26) 80 healthy men were studied for their intake of trans fatty acids. Half the men were given diets high in saturated animal fats, and the other half diets equally high in trans fatty acids. They concluded that high amount of the trans fatty acids, "had more adverse effects on lipoproteins than did equal amounts of (animal fats)." The intake of trans fats also worsened the LDL/HDL ratio.

Quite a lot of work was done at Wageningen Agricultural University in the Netherlands. One group of researchers there (Can. J. Physiol. 75, 1997, p. 211-6) reviewed other major studies on the effects of trans fat on humans. They concluded that it is well established that "trans fatty acids raise serum LDL and lower HDL in humans." They also concluded that trans fats also raise lipoprotein A "Lp(a)" which is a basic indicator of heart disease. Because of the adverse effects they have on people all foods containing them should have clear statements on the labels as to the amounts therein. In another study there (J. Lipid Res. 33, 1992, p. 399-410) healthy men and women were given diets based on either vegetable oil, animal fat, or hydrogenated oils. The researchers said, "7.7% of energy from trans fatty acids in the diet significantly lowered HDL cholesterol and raised LDL cholesterol..." A third study at Wageningen was another review of other major studies with a full 22 references (Curr. Opin. Lipidol. 7, 1996, p. 34-7) came to the same conclusions as the other studies about the adverse effects of trans fatty acids in our diets. Europeans and Americans are estimated to eat about 5 to 15 grams of these every day and the amount is rising.

A really impressive study was done with 748 men (Am. J. Clin. Nutr. 56, 1992, p. 1019-24) at Brigham and Women's Hospital in Boston. This was a very in-depth and complex study that measured many physiological parameters and biological markers. It was clear to the doctors that trans fats in our diets raise LDL levels, lower HDL levels and raise total cholesterol. They said, "On the basis of results from other studies...this would correspond to a 27% increase in the risk of myocardial infarction (heart attack)."

A fine study was done at the University of Oslo in Norway (J. Lipid Res. 36, 1995, p. 1370-84) where young men were fed either margarine or butter in their diets. We've been told for many years now that, "margarine is better than butter" when, in fact, it is worse than butter. The men eating the margarine lowered their HDL levels and their HDL/LDL ratio was worsened. The researchers concluded, "consumption of partially hydrogenated fish oil may unfavorably affect lipid risk factors for coronary heart disease..." You don't have to choose butter or margarine as you can use vegetable oils instead.

At the famous Harvard Medical School (Lancet 341, 1993, p. 581-5) doctors reviewed the very large and long term Nurses Study of 85,095 women and how much margarine and hydrogenated oil they reported consuming. It was obvious that the intake of these fats was, "directly related to risk of coronary heart disease", and that "consumption of partially hydrogenated vegetable oils may contribute to the occurrence of CHD."

A very alarming study was done collaboratively at several clinics around the world working together to study breast cancer (Cancer Epidem. Bio. Prev. 6, 1997, p.705-10) under the direction of EURAMIC. They studied 698 cases of breast cancer in European women and concluded that, "the adipose concentration of trans fatty acids showed a positive correlation with breast cancer." This means they actually took biopsies (tissue samples) of breast tissue to analyze how much hydrogenated fats were actually in the bodies of the women from their dietary consumption. Now we have a proven link in humans to show the relation of eating these unnatural fats and higher cancer rates.

At Limburg University in the Netherlands (J. Lipid Res. 33, 1992, p. 1493-501) doctors studied the effects of trans fats on levels of lipoprotein A or Lp(a) which they called a strong risk factor for CHD. In three strictly controlled experiments on healthy men and women fed either saturated fats, monosaturated and polyunsaturated fats, or hydrogenated oils. The people on the hydrogenated oil diet raised their Lp(a) levels to really dangerous levels in only a month. They concluded, "These short-term experiments suggest that diets high in trans-monosaturated fatty acids may increase serum levels of Lp(a)." If this was done in a month imagine what the effects are year after year.

From time to time you will see studies in major medical journals, such as a recent 2001 issue of the Journal of the American Medical Association, claiming that these hydrogenated oils are very safe or even preferable to natural fats and oils. Back to the old "margarine is better than butter" story. You will notice in small print in each of these so-called "studies" that they are funded and paid for by such organizations as the United Soybean Board and the National Association of Margarine Manufacturers. So much for objective science.

Folks, read your labels. Stop buying any foods that contain hydrogenated or partially hydrogenated oils. Do not eat in fast food restaurants as I have discovered that nearly everything they serve is full of these. It can be a little difficult to find such things as potato chips and corn chips that aren't made with hydrogenated oils. There are non-hydrogenated margarines such as Smart Balance/Earth Balance available. You will be surprised at just how many foods contain these unnatural and dangerous synthetic oils.

Chapter 6: Practical Supplements

This will be the longest chapter in order to cover all the known supplements to help you lower your blood lipids. These will be in alphabetical order. Obviously, you're not expected to take ALL of these supplements. I've simply listed all that can naturally help improve your cholesterol levels.

However, those **highlighted in RED** I believe to be the most effective and best supplements to take. I would focus on purchasing products that contain those specific ingredients because you'll see the most dramatic benefits from them.

Acidophilus is important to keep our intestinal flora (good bacteria that digest our food) in balance and prevent growth of the harmful bacteria. It is in our large intestine where we digest fats. Studies at the University of Reading in England, TNO Institute in the Netherlands and other clinics have shown the value of acidophilus supplements to keep your intestines healthy, as that is where fat is digested and cholesterol is absorbed or excreted. Purchase a good brand with 3 billion units and keep it in the refrigerator. You can find brands that have several strains in one capsule. There is even a special, stable "spore" form called "lactospore" available that can be used with regular acidophilus. People in Western societies usually have very low counts of good bacteria due to eating too much, eating too much fat, drinking coffee, drinking alcohol and eating too much sugar. This causes poor digestion and the many resulting problems thereof.

Alfalfa extract has been promoted for lowering cholesterol but I was unable to find one single published study on this in Chemical Abstracts in the last ten years. Alfalfa is a fine herb but is relatively weak and needs to be extracted. This does not seem to be a good choice for lowering cholesterol.

Alginates are simply salts of alginic acid extracted from seaweeds. These are used extensively as food additives in common foods such as salad dressings to thicken them. These colloids (ultrafine particles) are very effective at lowering blood

lipids and removing toxic heavy metals like mercury from our blood. Scientists have known about both of these qualities for decades now but it never became a popular supplement for some reason. It is very difficult to find this at the retail level however. Search the Internet for sodium alginate if you are interested as this is an inexpensive, safe and very overlooked way to not only lower your cholesterol but to remove any excess mercury, cadmium and other metal toxins from your blood. It would be nice to see some company offer an inexpensive alginate product

Artichoke leaf extract contains chlorogenic acid, cynarin and other effective compounds. There are some studies that showed if you took enough of it you could lower your cholesterol. Artichoke extract is well known for its beneficial effects on the liver and in treating liver ailments. This is pricey and almost no one offers it, other than one product called [CholesLo](#). What you want to make sure is you purchase a product that contains the following extracted ratio: 15% Chlorogenic Acid, 5% Cynarin. This is the clinically proven ratio for lowering cholesterol.

Beta carotene is a good supplement to take and will work with other supplements synergistically to lower cholesterol. Take 10,000 to 25,000 IU daily of any good brand. This is a better choice than taking vitamin A, is a basic antioxidant, and has many other benefits for your health generally. There are many studies on beta carotene showing how powerful and effective it is it is as an antioxidant, how it helps regulate cholesterol metabolism and protects against atherosclerosis. This should be a part of your daily supplement program for many other reasons than just cholesterol.

Beta Glucan is discussed in Chapter 10.

Phytosterols are very important and extremely beneficial for lowering cholesterol. Plant sterols and plant stanols are collectively known as phytosterols. Plant sterols are plant compounds with chemical structures similar to that of cholesterol. Especially high sterol levels are found in rice bran, wheat germ, corn oils, and soybeans. Interestingly, phytosterols so closely resemble cholesterol that they can actually block food-based cholesterol from being absorbed into the bloodstream. The result

is that both phytosterols and dietary cholesterol end up excreted in waste matter. Because of their ability to block dietary cholesterol absorption, phytosterols can help lower your cholesterol levels. Studies have shown that daily phytosterols can lower these cholesterol measurements by an average of 10% to 14%. Because of these strong findings, the National Cholesterol Education Panel issued a new recommendation in 2001 that plant stanols and sterols be added to cholesterol-lowering regimens, along with the more traditional cholesterol-fighting tools, such as regular exercise, weight loss, and a low-fat diet.

Boron is deficient in our soils and in our foods. In fact boron is considered the most deficient of all minerals especially here in America. Boron is a very important mineral to take for a lot of reasons. There are studies showing it's important in cholesterol metabolism. You only need a mere 3 mg a day. Some good multivitamins contain boron but usually not the 3 mg you need. This will work with the other minerals and, along with magnesium, is necessary for calcium absorption.

Chitin is the natural fiber found in shellfish shells and has been sold as a popular diet aid since it absorbs fat, especially saturated fat, in the food we eat. This will help lower cholesterol if you take about 2 grams a day. Other health benefits such as better digestion were shown in various animal studies. Chitin also has other health benefits which makes it worth taking. Unfortunately most of the diet products sold actually contain chitosan (an unnatural, synthetic derivative) instead of real, natural chitin. Chitosan (which is deacylated chitin) will also lower cholesterol if you take two grams a day but you should always choose the natural product over the synthetic when you can. Read the label. The price has come down on this very much in the last few years making it a more practical choice.

Chromium is a very important trace element to take and works with the other minerals. Chromium is often deficient in our refined diets and you only need 200 mcg (a microgram is a millionth of a gram) a day. Some good multivitamins contain this but make sure they supply 200 mcg. There are many studies on this showing the value of chromium supplementation for our health in general and you can choose any type of chromium as they are

all very bio-available. Don't be misled by promotional claims of superiority as the different manufacturers all claim theirs is the best and the "only one that really works".

Curcumin is the active ingredient in the spice tumeric. This has been used in Indian Ayurvedic medicine for over 1,000 years. Curcumin is a very impressive supplement with antiviral, anti-inflammatory, anticancer and antioxidant effects as well as cholesterol lowering ability. Get a brand that provides at least 500 mg of actual curcumin stated on the label. There are lots of good studies on using curcumin for cholesterol. There have been many studies published on this for conditions ranging from arthritis to various forms of cancer. This is a most important supplement to take for many reasons and every month there are new studies published on just how effective and powerful it is.

Vitamin C is a fine antioxidant when used in moderation of 500 mg or less a day. We only need about 60 mg and taking megadoses of several grams acidifies our naturally alkaline blood and unbalances our system. This will work with the other vitamins and other antioxidants to give a better quality of blood as long as you do not use large amounts of it. Long term studies show the dangers of using megadoses, so don't take more than 500 mg. Years ago several books were written claiming that taking several grams a days (3,000 to 5,000 mg) would result in great health benefits. Since then we have learned that such doses result in much more debilitating side effects than benefits.

Vitamin E is a definite for heart and artery health. Thirty years ago the medical world would not even admit vitamin E was a necessary nutrient. This is found in whole grains and very deficient in our diets. Take 400 IU of any good brand you like. Whether you choose d-alpha, mixed tocopherols or the new tocotrienols is up to you. The studies on vitamin E and cardio health go back 30 years and are overwhelming. This is definitely one of the basic supplements you want to take daily. Your multivitamin will most probably not contain the amount you need so buy it separately.

Fenugreek extract has shown promise in lowering cholesterol, but the few animal studies used huge amount to do

so. Until there is more research this is not a good choice. Fenugreek extract has shown much more potential in such conditions as diabetes.

Fibers generally especially psyllium are very good for keeping your cholesterol low and they will also help keep you regular in your bowel movements. You can use sea fiber like chitin, or the usual plant fibers like guar gum, glucomannon, fruit pectin, oat bran, wheat bran or others. Ideally your diet should be full of fibers especially from whole grains and from various beans. The more whole, natural foods you eat like whole grains and beans the less you will need a supplement fiber. Eating a naturally high fiber diet is the best way to get your daily fiber intake rather than taking a supplemental form of it. Certain supplements contain specific “fat absorbing” fibers that not only help lower cholesterol, but help you lose weight. One product that contains these specific “fiber blockers” is called [CHEATmeals](#).

Flax Oil is discussed in Chapter 9.

FOS is short for fructooligosaccharides and is otherwise known as inulin, an extract of chicory root. This has been known about for a long time, but only recently was it discovered that this feeds your good intestinal bacteria. It has been shown that the higher your levels of beneficial flora in your intestines the lower your cholesterol levels generally. FOS is very good for your intestinal health and has good science behind it. Surgeons should be giving this to patients after intestinal surgery to help them heal faster. Anyone with intestinal disorders should consider using this in large doses (like three grams a day) for a year. FOS is widely available and you should take one or two 750 mg capsules a day with your acidophilus. If you can't find this, search the Internet for an inexpensive brand. If you want to improve your intestinal health taking FOS along with a strong brand of acidophilus and some L-glutamine every day will do wonders for you along with abstinence from alcohol, coffee, a high fat diet and too many calories.

Garlic has many proven health benefits and can be used in your cooking. Many studies over the years have verified the advantage to garlic supplements for better cholesterol levels. Here it is important to get a good, reliable, dependable brand that has

high levels of active ingredients. If you take an unknown brand you may well get no results at all from it. Of course, you can choose to use lots of fresh garlic in your cooking. The composition of garlic supplements varies greatly and you have to get a good brand to get results.

Glucomannon is a plant fiber from the konjac root and may help you lose weight while lowering your cholesterol. It is inexpensive and widely available but you should take at least 2-3 grams a day at least at first. This swells up in your stomach giving you a feeling of fullness so you may eat less and still feel full. There are many studies on the effectiveness of glucomannon including human studies. As stated above under “fibers”, certain supplements contain specific “fat absorbing” fibers that not only help lower cholesterol, but help you lose weight. One product that contains these specific “fiber blockers” is called [CHEATmeals](#).

Glutamine is a common amino acid known as “L-glutamine”. It is easily found and very inexpensive. L-glutamine has shown very impressive benefits on the health of our intestines and even surgeons are giving it to patients after intestinal surgery. It also has been shown to spike levels of human growth hormone when taken in doses of one gram two times a day (AM and PM). The scientific literature recently has published many studies on the benefits of L-glutamine supplementation. This is a definite part of your supplement program and will help keep your intestines full of good bacteria and free of the bad.

Glutathione is an antioxidant enzyme that helps fight dangerous free radicals and is involved in cholesterol metabolism. Ironically orally taking glutathione itself does a poor job of raising blood levels. Fortunately there is a supplement called N-acetylcysteine or “NAC” that effectively raises glutathione levels. Take a 600 mg capsule daily. Unfortunately, the other basic antioxidant enzyme S.O.D. (superoxide dismutase) is not orally absorbed and must be injected to get into the bloodstream. NAC is a good general supplement for anyone over the age of 40.

Grape extract can come either from the seeds or from the skins. Grape skin extract is called “resveratrol” and there are claims it will lower cholesterol. The only studies I found were

funded by the manufacturer. Wait until there is more objective evidence here. The seed extract is a popular antioxidant and cholesterol benefits are claimed for it as well although the active ingredients are very different. Again, there is a scarcity of evidence for this. Both are considered to be good antioxidants generally and are inexpensive and easily available.

Guar gum is a very good fiber to use. You can take capsules preferably as mixing this with any liquid will thicken it up so much it will be hard to drink. In fact it is used commonly as a thickener in foods such as salad dressing. There are many studies on the benefits of this fine fiber from the *Cyamopsis* plant in India. Like other such fibers you need at least 2-3 grams a day for results. Surprisingly, there are lots of studies on this inexpensive natural supplement. This is inexpensive and commonly found.

Guggulsterones is a powerful ancient remedy has been re-discovered by Western culture. Gugulipid (gugulesterones) is made from the resin of the commiphora mukul tree of north central India. There have been dozens of clinically proven studies demonstrating that the correct dosage and form of “guggul” can decrease cholesterol levels between 11% to as much 80%. In addition to cholesterol reduction, it also helps with weight loss by increasing your metabolism and thyroid production. Please note, all clinical studies were done with a 10% extract, utilizing both E and Z forms.

Lecithin has been around for a long time and emulsifies fats so they can go into solution. It works by decreasing the absorption of cholesterol in our intestines and other mechanisms. This is sold everywhere and is very inexpensive as it is a soybean extract. Take a 1200 mg softgel once or twice a day. It is also known as phosphatidyl choline and is good for brain health, memory and liver function. Do not confuse this with “PS” or phosphatidyl serine, which is also a fine supplement for brain health in 100 mg doses. This is a good choice for good heart and artery health with studies going back for many years. Lecithin has been shown to lower total cholesterol, LDL cholesterol, homocysteine levels as well as being anti-atherogenic and help keep arteries clear of buildup.

Magnesium is a vital mineral that has many proven benefits. Magnesium should definitely be a part of your supplement program as calcium cannot be absorbed without both magnesium and boron. Even if you are eating a diet rich in whole grains (the best source) it is still wise to take about a 300 to 500 mg supplement of any kind you like. There are numerous scientific studies on magnesium supplements that show various benefits to health including lower cholesterol and even lower blood pressure.

Manganese is a very important mineral that will work with the other minerals in maintaining proper blood lipid levels. You only need about 2 mg a day and this should be found in a good multivitamin supplement. You need all the basic minerals and trace elements to work together as a team, and manganese is an important and basic one.

Minerals are discussed individually. The importance for getting all the minerals and trace elements we need for proper cholesterol synthesis and metabolism is not generally recognized. This would include calcium, magnesium, iron, zinc, boron, selenium, chromium, iodine, molybdenum, manganese, copper, silicon and vanadium. A lot of research needs to be done in this area. Soon we will see more research on minerals like molybdenum, copper and zinc and their role in cholesterol metabolism. All minerals work together in concert so it is important to make sure you get enough of all of them. Our soils are generally mineral deficient and our processed foods are very lacking in mineral content. Nearly everyone is lacking in several important minerals especially the trace elements.

Niacin, niacinamide and “non-flushing” niacin are NOT good choices for lowering your cholesterol regardless of the hype you’ve read. You need massive doses that unbalance your body metabolism even though it is a water-soluble vitamin. There are much more natural, safer and effective means of lowering cholesterol than using megadoses of niacin. Remember that megadoses of anything are contraindicated. Don’t fall for this no matter how many slick articles you read. Many people are now taking various forms of niacin in large doses when there are much better, more effective and safer ways to lower cholesterol.

Octacosanol/Policosanol from wheat germ oil aka policosanol is touted as an effective means to lower cholesterol. Yes, there are some studies on this in animals and humans, but it can be pricey and not rarely found in retailers. If you take the recommended 20 mg a day this could get very expensive but also very effective. I believe it works so well because it also helps to lower blood sugar levels and reduce inflammation – BOTH being critical for heart health.

Pectin is found basically in the inner rind of citrus fruits or in apples. Both are probably the same in effectiveness. Do NOT fall for the advertisements for overpriced “modified” citrus pectin. Plain old, regular, inexpensive citrus or apple pectin is a very effective fiber. Like the other fibers you need to take at least 2-3 grams of this daily. Studies abound on the use of pectin and this is a very good choice but you have to take enough of it. There are other health benefits to taking pectin and this is a good general supplement.

Red rice yeast has been promoted as a wonder drug for cholesterol. Yes, it does work if you take the CORRECT FORM of it, but it isn't cheap. Many supplements only give you the “powder” form, when the best and most effective is an extracted form at 2.5% ratio. The red yeast (*Monascus Purpureus*) fermented on rice has been used in China for its health-promoting effects for over 2000 years. This yeast is the source of a group of compounds known as monacolins that can lower cholesterol levels by blocking a key enzyme in the liver. There have been countless studies showing that red yeast rice extract can work as well as a drug, but WITHOUT the negative side-effects. BUT – there is a warning on this – a toxic by-product called “citrinin” must be removed from the fermentation process, when producing red yeast rice. One product that does this is [CholesLo](#).

Selenium is a critical trace element and is often deficient in our diet of refined foods. You only need about 200 mcg a day and your daily multivitamin supplement should contain this much. This works together in concert with the other minerals. They all work together and when one is missing the others cannot work optimally as they should. This is a definite and scientists have finally shown that this is necessary for our health. You'll find many

clinical studies in the literature on the various benefits of selenium supplementation.

Silicon is the “forgotten mineral” but is finally being discovered as very necessary. You will not find this in your multivitamin supplement. Horsetail herb is often used as a source of silicon but it is very weak and this is an expensive way to provide it. I prefer plain silica gel, which is what you find in those little paper bags in your supplements that soak up moisture. If you can find an inexpensive silicon supplement of regular, inexpensive silica gel take it. More will be discovered about the importance of silicon in our diets and you are going to be hearing more about silicon in the future. Search the Internet for this.

Soy Isoflavones are discussed in Chapter 11.

Spirulina has been hyped for a long time now as some kind of wonder food. It is simply fresh water algae as is chlorella. In the few studies I’ve seen, none of them have been impressive at all and no active ingredients were ever identified. You need a lot of this to get the supposed effects and it is pricey. If you eat 3-4 grams a day it may reduce your appetite but there is simply no evidence this has real health benefits much less lowering cholesterol. Often you see this sold by promoters and multi-level marketers. Despite the promotions I would spend my money on other supplements than this.

Taurine is a common amino acid and has been promoted for a variety of health benefits. The few studies were very unimpressive and used huge amounts of taurine to get any benefits. Unless more convincing research comes out don’t bother. If you want to take taurine for other health reasons that is another matter but cholesterol lowering does not seem to be one of its benefits.

Tea (green) really does work and really will help your cholesterol levels. The catechins and polyphenols found in green tea are very powerful antioxidants. Find a decaffeinated brand and do not take the inexpensive brands full of caffeine. This is simply common black tea before it is fermented. Many studies have been

done on the health benefits generally and the active ingredients. Green tea extract is a good choice for a lot of reasons.

Vanadium is the last supplement to discuss. Only in the last few years have we come to realize how important vanadium is as a trace element. This works together with the other minerals in concert and it is estimated you only need 10 mg a day. There are many other health benefits to vanadium and it is often deficient in our diets. You won't find this in your multivitamin supplement probably. You will see more and more research on this in the future.

Chapter 7: Liver Health

I will keep this chapter short, but needless to say – liver health is of paramount importance for healthy cholesterol levels. Most of the body's supply of cholesterol (approximately 80%) is made in the liver. This process is rigorously controlled by biochemical feedback mechanisms. The amount of cholesterol produced by the liver is controlled by the enzyme HMG-CoA reductase (*by the way, the above ingredient Red Rice Yeast extract works mainly by inhibiting this enzyme*).

As you can see, the liver is the "power house" in the body for many functions, but especially cholesterol. Many people have unhealthy livers to do lack of hydration because they don't drink enough water, to use of too many prescription drugs (or any drug for that matter), alcohol consumption and a poor diet.

So, if your liver is weak and tired from always trying to clean out and filter all the junk you are putting in your body every day, it won't have enough energy to regulate your cholesterol levels and therefore, cholesterol rises.

My suggestion is to keep your liver as clean and healthy as possible. Here's what I suggest:

- **Drink more water.** You should have you half your body weight in ounces every day. So, if you weight 120 lbs, you should have a minimum of 60 oz of water each day. Most important time is first thing in the morning to hydrate the body and flush the liver.
- **Add lemon/lime juice** to your water and meals when possible.
- **Eat organic** – especially meats and eggs. The pesticides and hormones put a great amount of stress on the liver.

- **Reduce drugs** as much as possible. They definitely put the largest amount of stress. Over the counter, prescription, alcohol, tobacco, etc., etc. are all considered DRUGS and cause the most damage.
- **Use natural supplements** to help detoxify and cleanse your liver. The best ingredients are Milk Thistle, NAC, Alpha Lipoic Acid and Turmeric.

One reason I've continually suggested the use of [CholesLo](#) is because it contains a "Liver Cleansing Formula" in the product. No other product on the market does this. Of course, in addition to lower cholesterol levels, you'll have easier fat loss and improved skin and aging.

Chapter 8: Homocysteine

There's a lot of talk about cholesterol, but rarely any mention about Homocysteine Levels – which is a mistake. About 50% of American adults have elevated blood cholesterol levels, a key risk factor for heart disease according to the National Heart, Lung, and Blood Institute. But are you aware that half of all heart attacks happen to people with normal blood cholesterol levels?

That's because your blood cholesterol provides your total cholesterol, including high-density lipoproteins (HDL) and low-density lipoproteins (LDL) but not some other important numbers, like your homocysteine level and C reactive protein

Researchers now believe that testing homocysteine levels is over 40% more accurate at predicting heart disease, than checking cholesterol. So, just because you lower your cholesterol (diet, drugs, etc.), does NOT mean you're "safe" when it comes to heart disease, strokes or heart attacks.

Make sure you ALSO check your Homocysteine levels and keep them fairly low, in the range of 5-15 micromoles per liter of blood (best if it's less than 10).

What Is Homocysteine?

Homocysteine, an amino acid in the blood, is associated with an increased risk of heart attack and stroke. Some medical experts predict that homocysteine levels will prove to be as important as cholesterol in predicting heart health. In fact, they expect measuring homocysteine levels will become a part of regular cardiac risk assessments.

Studies have shown that high levels of homocysteine are caused by a lack of nutrients in the diet, particularly the B group of vitamins. Without these essential vitamins your body is unable to produce the enzymes necessary to remove homocysteine efficiently from your blood. Homocysteine will cause damage to

your arteries when present in high concentrations - hence the link between homocysteine and heart disease.

How Can You Treat Homocysteine?

A lack of B Vitamins leads to elevated homocysteine levels, which is why high homocysteine and vegetarian diets are directly related. Fortunately the situation is easily treatable.

In the late 60's Dr. Kilmer McCully determined through extensive research that taking adequate amounts of folic acid (vitamin B9), along with vitamins B6 and B12 your levels of homocysteine will normalize.

Numerous studies since have proven Dr. McCully's work to be 100% accurate and the correct total daily dosage for these B vitamins should be around:

- B9 - Folic Acid: 200-600 mcgs
- B6: 20-60 mgs
- B12: 100-300 mcgs

Again, these are total daily dosages. You may purchase these B-vitamins separately or you can simply use [CholesLo](#) since this product contains the correct formula and ratio (*can you see why I am such a fan of this great product?!...)*

Chapter 9: Flax Oil and Omega-3 Fatty Acids

It is very important to understand that we eat too many omega-6 fatty acids and too few omega-3 fatty acids. There has been so much research done on the benefits of omega-3 supplementation you can hardly count all the studies. This includes diseases and conditions of all types and not just blood lipids. It is very difficult to get a good supply of omega-3 fats in your diet unless you eat a lot of fatty fish like sardines, salmon, herring and mackerel. Most of the studies have, in fact, been based on fish liver oils. Fortunately the best source in the world is the flax seed. Any studies using fish liver oils would have gotten the same results with flax oil. This is a cleaner, less expensive plant product that is preferable to fish oils. The omega-6 fatty acids are known as linoleic while the omega-3's are known as linolenic. This can be confusing due to the similarity of names. Let's look at just a few of the human studies using omega-3's to not only lower cholesterol and triglyceride levels but to improve blood parameters generally such as antithrombotic activity.

At the University of Toronto (Am. J. Clin. Nutr. 69, 1999, p. 395-402) flaxseed lowered undesirable LDL cholesterol levels in both men and women. At the National Institute of Nutrition in India (Nutr. Res. 12, 1992, p. 569-82) people were given high content omega-3 oils in their diets and their total cholesterol and triglyceride levels dropped as well as other blood qualities were improved.

At the University of Iceland two different groups of Icelanders were studied- native and Canadian. Even though the native Icelanders had higher total cholesterol and high LDL levels (but lower triglycerides) they had far less mortality from ischemic heart disease because they had lower omega-6 fatty acid levels yet three times the omega-3 levels than the Canadians. This low ratio of omega -6 to omega-3 fats in their blood protected them from heart disease and premature death.

At Aalborg Hospital in Denmark (Lipids 29, 1994, p. 145-7) volunteers were given flax oil (high in omega-3's) or corn oil (high in omega-6's) in their diets in a classic double blind study. They

could not taste the difference in their foods. The people given the flax oil based diet lowered their triglycerides and LDL levels as well as their total cholesterol levels with no change in what they ate or how they exercised. At the University of Oslo in Norway doctors gave fish oil (high in omega 3's) or corn oil (high in omega-6's) to different groups of people for four months. Those people getting the omega-3's lowered their LDL levels significantly and improved their other blood parameters generally.

At Ullevål Hospital in Norway (Scand. J. Clin. Lab. Invest. 54, 1994, p. 273-80) another classic double blind study was done with 57 patients all of whom had high cholesterol levels and who had undergone heart bypass surgery. Those patients given the omega-3's lowered their triglyceride levels significantly but also improved their glucose homeostasis (blood sugar metabolism was normalized), which leads to diabetes when unbalanced.

At the University of Regensburg in Germany 35 men with heart disease were given a double blind study for vegetable based omega-3 fatty acids and fish oil based omega-3's. Both groups lowered their total cholesterol and LDL levels. This shows that whatever the source- fish or flax- the benefits still occur.

At the Northern General Hospital in Britain (Lipids 27, 1992, p. 533-8) 365 people with diagnosed heart disease, high cholesterol or a family history of heart disease were given a fish oil supplement high in omega-3 fats but no other dietary changes for a period of four full years. The ones getting the supplement suffered a mere 1% heart attack rate in this time, while the ones who got no supplements suffered a drastic 9% heart attack rate. This proves the long term effects and how the benefits accrue over time. The fish oil group lowered their total cholesterol, lowered their triglycerides, raised their HDL levels and lowered their undesirable blood fibrinogen levels as well.

At the Jordan Heart Fund Foundation in New Jersey (Am. J. Clin. Nutr. 12 (1993), p. 501-4) doctors gave flaxseed and vitamin E supplements to patients with hypercholesterolemia for three months. Their cholesterol levels fell and their LDL levels fell as well. Platelet aggregation decreased to more desirable levels as well as other blood measurements improved.

At the United States Agricultural Research Service in Maryland scientists gave a similar combination of fish oil high in omega-3 fatty acids along with vitamin E to a group of forty healthy men with no history of heart or artery disease. They were fed the usual high fat American diet of 40% fat mostly of saturated animal fats for eight weeks in a double blind study where half the men got plain vegetable oil high in omega-6s. At the end of eight weeks the ones getting the fish oil and vitamin E had greatly improved blood profiles not just for fat levels but also red corpuscle count.

It is almost impossible to reduce blood pressure in people with supplements, since this is due more to stress than anything else. Generally, the only way to lower blood pressure is to make basic changes in lifestyle including diet, exercising, smoking, drinking alcohol and coffee. Studies show that about one fourth of Americans have a higher than desirable blood pressure and younger people suffer from this more every year. At the University of Trondheim in Norway doctors gave omega-3 fatty acid supplements to men with high blood pressure with no other treatments or changes in their lifestyles (Proc. Scand. Sympos. on Lipids 16th 1991). Amazingly enough they lowered their blood pressures just from taking the supplements. This kind of study is very remarkable and shows we can strengthen our bodies to deal with stress without raising our blood pressure, which causes strokes and early death.

At Nycomed Pharma AS in Norway (J. Optimal Nutr. 2, 1993, p. 73-81) 52 men were either given fish oil (with 66% omega-3 fatty acids) supplements or olive oil supplements for three weeks. With the fish oil their fibrinogen levels fell 13% to a healthier level, triglycerides fell an amazing 28% in this short time and their good HDL levels went up 10%. The men on the olive oil increased their triglycerides a full 27%. So much for the "olive oil is good for you" propaganda. A low fat diet is best and the lower the fats in your diet the better. Vegetable oils are simply less harmful than animal fats.

At the University of Kansas (J. Appl.Nutr. 43, 1991, p. 5-15) sixteen healthy men with no known heart or circulation conditions were given omega-3 supplements as fish oil. Their

triglyceride levels dropped an impressive 36%. What prescription drug at any price could give results like this? At Kings College in London Brit. J. Nutr. 68, 1992, p. 163-73) nine healthy males were given fish oil capsules for six weeks. The results were most impressive in that triglyceride and LDL levels fell and apoprotein-B (Ap-B) levels went up to a healthier level. Other blood parameters such as platelet aggregation fell to healthier levels. In addition to all this they also found both their systolic and diastolic blood pressure levels fell. Again we find omega-3's have the power to lower blood pressure with no change in lifestyle. The same results would have been obtained with flax oil.

At Uppsala University in Sweden 13 volunteers were given fish oil supplements or a placebo for two weeks in a double blind study. Then the groups were switched and the ones getting the fish oil now got the placebo (Nutrition Research 12, 1992, p. 455-68). Constant and regular measurement of their blood was continually taken. Dangerous Lipoprotein-A (Lp-A) was lowered by 19%, total cholesterol fell as did triglycerides and HDL levels rose in the supplemented groups. You could hardly ask for anything better than this.

At the Women's University in Japan 50 healthy young women with no heart or circulatory problems were studied for a wide variety of diets ranging from 15% fat calories all the way to 40% fat calories. Their diets literally directly determined the quality of their blood especially the ratio of omega-3 fatty acids to omega-6 fatty acids they ate each day. The women with the highest levels of omega-3s and the lowest levels of omega-6's had the lowest total cholesterol and triglyceride levels and the highest HDL levels. (Nippon Eiyo 49, 1996, p.137-41). This shows direct blood measurement compared to diet in normal people and why we should eat less fat and oils of all types and balance our omega-3 to omega-6 ratios by taking flax oil supplements.

Chapter 10: Beta Glucan

Beta glucan is a polysaccharide found in oats, barley, yeast and mushrooms. The miraculous powers of beta glucan to lower cholesterol and triglycerides and strengthen our immune systems have been known about for more than a decade now. It has been all but impossible to economically extract it from even inexpensive oats and leftover beer brewing yeast. Finally, in the year 2000 technology had advanced and you could get inexpensive beta glucan in 100 and 200 mg capsules very inexpensively. At the University of Hamburg in Germany it was shown that all 1,3 configuration beta glucans have the same biological potency whether they are derived from oats or yeast - the two major sources (Carbohydrate Research 297, 1997, p. 135-43). They said, "All glucans investigated, regardless of molar mass and solution structure, stimulate the investigated immunological measures..." Just so you will know, yeast and mushrooms are 1,3/1,6 arrangements and oat and barley are 1,3/1,4 structural arrangements, but they are all basically true 1,3 beta glucans. Some companies will tell you one is better than the other in order to sell their product so please don't listen to advertising pitches. Read the label and compare products carefully as you need at least 100 mg a day to be effective.

Actually beta glucan is probably the most powerful immunity enhancer known to science regardless of cost. There are many studies on animals and humans, showing the great value it has to strengthen our immune systems and even the potential to help against tumors and cancer growth. At the University of Saskatchewan in Canada (Microbiol. Immun. 41, 1997, p. 991-8) researchers showed the power to stimulate the immune system. Other studies have found such potential uses as fighting infections, improving intestinal flora, irritable bowel syndrome, diabetic conditions, ulcers and digestion. This, however, is a book on cholesterol so that is what we'll stress. There are many, many studies on blood lipids so we'll just talk about some of the more interesting of the human studies.

At Harvard Medical School in Massachusetts (Crti. Rev. Food Sci. Nutr. 39, 1999, p. 189-202) doctors found that both oat

and yeast beta glucans lowered serum cholesterol levels. They did this by simply adding beta glucan to the diets of the people they studied. Notice that there is no use of drugs here and this comes from Harvard Medical School where they are traditionally concerned with prescription drugs and not natural plant supplements. In their words, "In addition to decreasing the intake of total fat, saturated fat and dietary cholesterol, blood serum cholesterol can be further decreased by dietary fiber, especially from sources rich in beta glucan such as oats and yeast."

At the University of Syracuse in New York seventy-one men and women with high cholesterol were given various combinations of low fat diets or regular diets with and without oat beta glucan. In a matter of weeks total cholesterol levels were reduced as much as 17% (Journal of the American Dietary Association 90, 1990, p. 223-9). Their high-density cholesterol levels were also increased significantly. This shows the benefit of making better food choices along with taking effective supplements since the people who ate the low fat diet while taking the oat supplement got the best results.

At the University of Massachusetts (Am. J. Clin. Nutr. 70, 1999, p. 208-12) researchers found that giving obese men with high cholesterol levels yeast derived beta glucan lowered both their total and LDL levels by a full 8% with no change in diet. They summarized the study, "Thus, the yeast derived beta glucan fiber lowered the total cholesterol concentrations and was well tolerated." As usual any side effects were positive in nature.

At the U. S. Human Nutrition Research Center in Maryland (J. Nutr. Biochem. 8, 1997, p. 497-501) people were given oat extracts high in beta glucan content and lowered their cholesterol levels with no changes in diet or exercise. They also found out that other metabolic conditions improved, so new benefits of beta glucan are always being discovered.

Again at the Human Nutrition Research Center (J. Am. Coll. Nutr. 16, 1997, p. 46-51) men and women with high blood lipid levels were given oat extracts high in beta glucan. After only five weeks the groups were switched and those getting the beta glucan received only the usual American diet. Both total

cholesterol and LDL levels decreased significantly. In their words, “A significant dose response due to beta glucan concentration in the oat extract was observed in the total cholesterol levels.” Thorough studies like this in real people at the most prestigious research centers in the world leave no doubt about the power of beta glucan to lower blood fats.

At Industrial Research Limited in New Zealand (Carbo. Polymers 29, 1996, p. 7-10) researchers used barley derived beta glucan to try and understand the actual metabolic mechanisms by which it lowered blood fats. They first discovered that it increased the secretion of bile acids from the gall bladder. By using highly sophisticated NMR spectroscopy techniques they found the situation to be more complicated than the mere enhanced gall bladder activity. We are more concerned with the practical matters that beta glucan actually works rather than the how and why of it all.

At the University of Lund in Sweden (Ann. Nutr. Metab. 43, 1999, p. 301-9) 66 mildly hypercholesterolemic men were given oat milk in their diet high in beta glucan content for five weeks. This was a classic double blind study where half the men received rice milk with no beta glucan. Of course the men getting the oat milk lowered their total cholesterol and they said, “It is concluded that oat milk has cholesterol reducing properties.”

You can see from studies like these there is no doubt that beta glucan is a safe, effective, powerful, proven and inexpensive way to lower your cholesterol levels, yet most people have never even heard of it. Most vitamin companies don't even sell it and it can be difficult to find a reliable, strong, inexpensive brand in your drug store or even in your health food store. People keep taking dangerous, expensive, prescription cholesterol-lowering drugs when then can use natural remedies like beta glucan. Now that you have this book in your hands you know better.

In addition to the benefits we've just covered, it is important to take this because it may well be the most important immune enhancer known to science. Beta glucan strengthens our immune systems so we have optimum healing power in our body and fight off infections of all kinds whether bacteria, fungi or viruses.

You should understand that it is very difficult to study human beings for immune function. Animal studies are used because obviously you can't infect humans with deadly microorganisms and then give half of them beta glucan and see who lives and who doesn't. Animal studies have shown results for such conditions infections of many types, tumors, diabetes, intestinal function and ulcers.

The animal studies have been done for the last ten years in clinics worldwide and published in the major medical journals but beta glucan has only become economically available to consumers in the last few years. In fact only in the year 2000 did the price fall enough to allow you to buy 100 mg and higher capsules reasonably.

At the University of Saskatchewan beta glucan protected mice from deadly injections of *Staphalococcus aureus*. In another study mice were injected with equally deadly *Eimeria vermiformis* but beta glucan protected them. And yet in a third study mice were given the toxic drug dexamethasone and then injected with the deadly *Eimeria* virus. Even after their immune systems were impaired by the drug the beta glucan protected them. At SRI International the *Euglena gracilis* virus was injected into various test animals but beta glucan stopped them from dying. At the University of Kansas pigs were given deadly *Staphalococcus suis* and beta glucan saved them. The doctors there did an in-depth study of various immune system markers to see how it worked.

At the Mayo Clinic lung cancer in mice was reduced by beta glucan. At Tokyo College doctors found strong anti-tumor properties for beta glucan. At Tokyo University doctors found anticancer activity in mice when given beta glucan and suggested they be used as, "biological response modifiers in cancer patients." At Wuhan University they found powerful anti-tumor activity in mice given beta glucan. At the University of Louisville they found the anti-tumor effect of beta glucan was largely due to enhancing beneficial natural killer (NK) cells. Please read my book "What Is Beta Glucan" for more information. This is a basic supplement you should be taking daily for many reasons.

Chapter 11: Soy Isoflavones

No, this chapter is not going to try to persuade you to eat more soyfoods surprisingly. Eating more soy foods is a fine thing to do, but it is not a practical way to get many isoflavones into your diet. It just isn't realistic to tell Americans to eat a lot of tofu (a highly refined food anyway), tempeh, annatto, seitan, soy sauce, soy flour, soy sprouts, soybeans, soy cheese and soy milk. You could drink an eight ounce glass of soymilk every day, but that would add 200 unneeded calories. This would come to 6,000 unneeded calories per month and a whopping 72,000 unneeded calories a year. It's better to use it for your cold cereal and in cooking.

There are two main isoflavones we are concerned about which are genestein and daidzein. These are not "phyto-estrogens" as you have been told endlessly. They are, in fact, flavones and completely unrelated to estrogen or any other hormone. Flavones are plant pigment flavonoids while estrogens are steroids secreted by the endocrine (ductless) glands. There are so many studies on the benefits of isoflavones for so many different conditions you just can't count them all and new ones appear in the journals every day. We are just going to look at some of the most impressive human studies that show value in improving blood lipid profiles. There are many other reasons to take these that this should be a basic part of your supplement program. You need about 40 mg a day so read the label of your supplement carefully to see that you are getting a total of at least this much of combined genestein and daidzein.

At the Panum Institute in Copenhagen (*Am.J. Clin. Nutr.* 69, 1999, p. 419-25) people were given soy protein and this lowered their LDL levels while raising their HDL levels in only six weeks with no change in diet or exercise.

At Baylor College in Houston (*Am. J. Clin. Nutr.* 68, 1998, p. 1385S-9S) subjects were given soy protein which, again, lowered their LDL levels while raising their HDL levels in only five weeks. It was interesting to note that in this study both normal and people with high cholesterol levels were included and both

benefited significantly. It is difficult to get people with normal levels to reduce them even further. Even better results were obtained when the soy supplement was used with the National Cholesterol Education Program Diet, which emphasizes low fat, high fiber and complex carbohydrates.

At St. Michael's Hospital in Toronto (Metab. Clin. Exper. 48, 1999, p. 809-16) men and women were given a low fat diet with added soy protein. Researchers found the soy supplement very much strengthened the effects of the low fat diet. In their words, "A combination of vegetable protein and soluble fiber significantly improved the lipid-lowering effect of a low saturated fat diet."

At the University of Illinois (Am. J. Clin. Nutr. 68, 1998, p.1375S-9S) postmenopausal women were given soy isoflavones, which lowered their total cholesterol levels while raising their HDL levels and lowering their LDL levels. This was a very well done and professional study. In addition to improving blood lipid levels they found that some of the women increased their bone density and actually reversed some of the effects of osteoporosis.

A Japanese journal (Daizu Tanakushitsu 13, 1992) published a series of articles on soy protein and blood lipids in men and women. These studies were done at Nagoya, Kyushu, Tokai and Tokushima Universities, and the National Defense Medical College. These studies used different diets and different conditions while giving soy supplements to varying subjects. At all five institutions the conclusions were basically in agreement that modest soy supplementation lowered cholesterol levels and improved the ratios significantly in short periods of time.

A second study at the University of Illinois (Am.J. Clin. Nutr. 71, 2000, p. 1077-84) studied men of widely varying ages with hypercholesterolemia. Without any changes in diet or exercise they gave them soy supplements and lowered their cholesterol levels in only six weeks.

At the Dunn Nutrition Center in England (Brit. J. Nutr. 74, 1995, p. 587-601) premenopausal women were studied in depth for a full nine months. Of course their cholesterol levels improved

when they were fed soy supplements with isoflavones, but they found other very positive benefits to their health as well. Their hormonal metabolism improved generally and their menstrual cycles became more regular and less problematic. This was a very unique long term study that shows there are more benefits to soy isoflavones still to be discovered.

The American Heart Nutrition Committee (Circulation, December 2000) advised Americans with high cholesterol to add soy protein to their diets. Dr. Erdman said that numerous studies show that soy isoflavones lower LDL, raise HDL, lower triglycerides and lower total cholesterol levels. Endorsements from such prestigious groups as this should be heeded.

At Wake Forest University in North Carolina (Arch. Int. Med. 159, 1999, p. 2070-6) doctors studied the effects of soy isoflavones on men and women with high cholesterol levels. By giving them a daily supplement over a two month period they successfully lowered their LDL levels thereby improving their LDL/HDL ratios. They also lowered their total cholesterol. This study was extremely professional and very well done.

The Harvard Medical School publishes "The Heart Letter" which is a very well done monthly report on the studies regarding heart and circulatory problems and their cures. In the October 2000 issue they said that studies overwhelmingly prove adding soy to the diet lowers cholesterol and thereby lowers the risk of heart and artery disease. They went on to say that soy supplements make the blood vessels more elastic, and can actually lower systolic (the more important of the two readings) blood pressure. Basic lifestyle changes are usually the only way to lower blood pressure at all.

At Wake Forest University again (Menopause 5, 1998, p. 7-13) 51 healthy, non-hypercholesterolemic, premenopausal women were given a soy supplement with 34 mg of isoflavones in a classic double blind crossover study for six weeks. Not only did they lower their total and LDL cholesterol levels but their systolic blood pressure declined as well. They said, "Soy supplementation in the diet of ...women resulted in significant improvements in their

lipid and lipoprotein levels, blood pressure and perceived severity of vasomotor symptoms.

We could go on with study after study on real people given soy isoflavone supplements in clinics around the world, but you see these benefits are established clearly in the medical field. Soy isoflavones improve our blood profiles significantly, improve the quality of our arteries and are even shown to lower blood pressure. All of these effects have been obtained without any change in diet or exercise. When combined with other proven supplements, a low fat diet and reasonable exercise such as walking the effects are much more dramatic.

It has become popular in certain circles and on the Internet and from some misguided “experts” to talk about the “dangers” of soy. This misinformation has become rather popular despite the fact there are never any valid references to verify their claims of “dangerous side effects” from eating soy foods and taking soy supplements. It should be obvious that the billions of Asian people who have eaten soy foods as a basic part of their diets for centuries never suffer these supposed “side effects”. You can see from the many clinical studies that there are never negative side effects from the patients taking these supplements. We have only discussed the benefits of soy isoflavones for blood lipids basically. Entire books have been written about the benefits of soy isoflavones for many other conditions. In fact, new studies are done every day and new benefits are discovered all the time. People are becoming aware that the real dangers lie in milk and milk products and the benefits lie in soy products. Milk and dairy consumption is down and now grocery stores carry more and more soy milk, soy cheese, tofu, and other soy products all the time. The dairy interests are understandably upset about so many people switching from dairy products to soy products.

Chapter 12: Lifestyle

Aside from the food we eat every day let's take a quick look at lifestyle. How much exercise do you get every day? Do you drink alcohol? Do you drink coffee? Do you smoke cigarettes?

Exercise is the most important lifestyle factor to look at. Do you do physical work at your job? Do you enjoy any sports every week that give you a workout like golf or tennis? Do you belong to a gym or have workout equipment in your house? Do you belong to an indoor swimming pool? Do you take a walk every day? Walking is the most practical, most effective and most enjoyable exercise for many people. You can lower your blood lipids as well as lower your blood pressure with no change in diet simply by walking a half hour a day. Studies abound on the cholesterol lowering benefits of any exercise even for young people.

At the University Medical School in Turkey (Indian J. Physiol. Pharmacol. 43, 1999, p. 523-5) it was shown that men of any age who exercised regularly had lower total cholesterol, lower LDL levels, higher HDL levels, less body fat and all in all less risk for coronary heart disease. At the University of Maryland (Med. Sci. Sports Exer. 26, 1994, p. 1307-15) a ten month long-term study was done on older obese men using a combination of a low-calorie diet and aerobic exercise. Of course the men lost weight and body fat, lowered total, LDL and triglyceride levels and raised HDL levels. The same university did another long-term nine month study (Metab. Clin. Exp. 48, 1999, p. 943-5) on middle-aged overweight men. This time they put them on the American Heart Association (AHA) diet, which really isn't very strict or hard to follow at all, and had them do aerobic exercise regularly. They got the same results as in the previous study and the men improved their health very much. At the Center for Adult Diseases in Osaka (Domyaku Koka 21, 1994, p. 585-9) doctors took 459 middle aged healthy men and just had them walk every day. No change in diet, lifestyle or supplements - just walking. They found their HDL levels went up and the risk for coronary heart disease went down almost immediately. At the University of Padua in Italy (J. Sports Med. 31, 1991, p. 196-203) young men and women athletes were given either aerobic or resistance exercise and they found benefits no

matter what kind of exercise they did. The usual results of lower total cholesterol, LDL levels and triglycerides and higher HDL levels were obtained in already well-trained athletes. A similar study was done at the University of Vermont (Metab. Clin. Exp. 41 (1992, p. 1351-60) where they again found whether you do aerobic or resistance exercise it just doesn't matter and you get the same basic cardiovascular benefits. They said, "Aerobically trained and resistance trained young males have comparable and favorable cardiovascular disease risk profiles compared with untrained males, and this appears to be related to their low level of adiposity (fat mass) and low intake of dietary fat."

At the University of Pittsburgh (J. Sports Med. 35, 1995, p. 50-8) groups of both premenopausal and postmenopausal women were asked to walk every day. The postmenopausal women had an average age of 55 and a whopping 38% body fat! The doctors said, "A single bout of walking has the potential to acutely affect the blood lipid profile of premenopausal as well as postmenopausal women". At Texas A&M University (J. Appl. Physiol. 79, 1995, p.279-86) middle-aged men were given short-term exercise programs with the usual beneficial results. The researchers said, "These data show that a single session of exercise performed by untrained hypercholesteremic men alters blood lipid and apolipoprotein concentrations". Please note they said just one single session.

You already knew that exercise is good for you and lowers your blood lipids without changing your diet. Think what even daily walking will do when you make some changes in your diet and take proven supplements?

One third of American adults smoke. Smoking is correlated with many major diseases such as various cancers. The biggest and most important heart studies like the Seven Countries Study, and the Helsinki Study have shown over and over there is no doubt that smoking worsens your blood lipid profile, is a major factor for coronary heart disease, is an important factor in many other diseases and shortens life. The National Cholesterol Education Program published a lengthy report (Arch. Int. Med. 148, 1988, p. 36-69) on all aspects of treating hypercholesteremia. Examining smoking as a factor they found men with the lowest

cholesterol levels had only 1.6 deaths per 1,000 if they didn't smoke, but 6.3 deaths if they did. Men with the highest cholesterol levels had 6.4 deaths per 1,000 if they didn't smoke but a frightening 21.4 deaths if they did. The problem is that nicotine is so addictive it is very hard to stop. There is no reason to quote a list of studies here to show what is already obvious. Smoking is a major factor in heart disease, alters our steroid levels, has countless negative effects on us and causes early death. If you want to live a long healthy life and have a good quality of life and avoid heart and artery disease you have to stop smoking. It is very important to note that if you do quit smoking that very quickly your health recovers and you approach the same level of CHD risk as those who have never smoked. It is never too late to quit and you can quickly reverse most of the damage you've done.

The best study I found was done on twins - one smoked and one didn't (Thromb. Haemo. 75, 1996, p.14-18) at the Instituto Scientifico in Italy. The twins who smoked had 13% higher triglycerides and 8% lower HDL levels as well as an 8% higher white blood cell count (which is a negative) along with other negative changes in their blood parameters. They concluded, "Cigarette smoking is associated with an atherogenic lipid profile (i.e. clogs your arteries) and with changes in platelets and white cells potentially reflecting endothelial cell damage." What better proof can you have than identical twins? At the Institute of Biochemistry in Scotland (Eur. J. Clin. Invest. 23, 1993, p. 630-40) the doctors studied healthy men and concluded, "LDL cholesterol, plasma triglycerides, and VLDL (very low density) triglycerides were found to be substantially increased and plasma HDL cholesterol decreased in smokers." At the Center for Clinical Studies in Florida (Contraception 44, 1991, p. 505-16) doctors studied both pre- and postmenopausal women. It was clear that the women who smoked had lower levels of HDL cholesterol and were at higher risk of CHD- the biggest single killer of women in the U.S. At Osaka Prefectural College in Japan (Seikatsu Eisei 40, 1996, p. 163-6) 1,243 Japanese men were studied. They said, "In conclusion, this study of the joint association of cigarette smoking, serum lipid levels and blood pressure with white blood cell counts as a risk factor for CHD confirming previously reported results..." Please note that the combination of alcohol and nicotine works together to be much more harmful in effect.

The research showed something fascinating about coffee. One would logically think that it wouldn't matter what kind of coffee you drank, but it very much does. If you drink the regular filtered coffee or instant coffee in moderation (i.e. one or two cups a day) you will not have any known negative effects on your heart. However if you drink unfiltered, French press, espresso, Turkish and other such types even two cups a day will affect you very much. There are many such studies that show only the boiled, unfiltered coffee does this or drinking regular coffee in excess (i.e. more than two cups a day). Some of these studies were done at the Nordic School of Public Health in Sweden, National Institute of Public Health in the Netherlands and King's College in London. If you want to drink coffee always drink filtered or instant coffee and never more than two cups a day.

We come to a much more complex problem with alcohol. Most all countries on earth have a serious problem with alcohol consumption and no other drug on earth causes anywhere near the damage that excessive alcohol consumption does. Every major study has shown that excessive (i.e. more than two drinks a day or heavy drinking even once a week) alcohol consumption is a major risk for coronary heart disease. Ironically some studies have shown that people who have only one or two drinks a day and never have more than this actually have less heart disease and better cholesterol levels and live longer than people who don't drink alcohol at all. If you only drink one or two drinks a day you are not going to hurt your blood lipid profile, get more heart disease or die earlier. If you drink more than two drinks a day or drink heavily even one day a week your cholesterol is going to go up, you'll have a bigger risk of heart and artery disease and you will die earlier. You should be aware that even one or two drinks a day have been shown to put you at higher risk for other diseases such as breast cancer.

Chapter 13: Tough Cases

There are a good number of people with genetically high cholesterol over the 300 level, as well as triglycerides over 300. Such people are at severe risk for all forms of coronary and artery disease and premature death. Obviously they need to do more to lower their blood fats. Here diet is no longer an option and better food choices have to be made.

Let's remember that there is no cholesterol in any plant and that cholesterol is only found in animals and animal products. People who eat a pure vegetarian diet with no eggs or dairy consume no cholesterol at all. They usually have levels of about 140 mg/dl and every milligram of this is manufactured by their livers from the plant foods they eat. So people with severely high levels should stop eating all beef, pork, lamb, poultry, eggs, milk, and all dairy products. Seafood can be eaten in moderation as a four-ounce portion daily but fatty fish like salmon, swordfish, mackerel, tuna and catfish (yes, catfish is about 30% fat calories) should be avoided. Low fat fish such as flounder, grouper, sole, trout, mahi, wahoo, cod and others are good choices. Shellfish such as crab, scallops, shrimp and lobster do not raise cholesterol.

Vegetable oils contain no cholesterol but these should be very restricted as well. Vegetable oils also are generally high in omega-6 fatty acids and low in omega-3 fatty acids, which is another reason to use as little as possible of these. Americans eat fat too many omega-6 fatty acids and far too few omega-3s. Omega-3 fatty acids are not abundant in common foods so there are no specific vegetables to recommend to get a good balance of omega-6 versus omega-3. Flax is the best known source and taking two grams of flax oil is recommended. This is a better source than fish oil for a variety of reasons.

Milk and dairy products should be avoided entirely and that includes the low fat and no fat ones like skim milk and no fat yogurt. There are a variety of very good tasting soy, rice, almond and oat products to replace them.

It is very important that people with very high blood fats take all five of the “cornerstone supplements”- beta-sitosterol, guggul gum, flax oil, beta glucan and soy isoflavones. It would also be a good idea to double the amount of beta-sitosterol to 600 mg, double the amount of flax oil to 2,000 mg, and double the amount of beta glucan to 200 mg. The guggul gum and soy isoflavones should remain at 250 mg (10% sterones) and 40 mg respectively.

Many of the other supplements discussed should also be included in your program. This would include acidophilus, beta carotene, curcumin, vitamin E, FOS, garlic, L-glutamine, guar gum, lecithin, pectin and a full complement of minerals that were mentioned. These supplements are inexpensive and generally good for your health in many other ways and not just for lowering your cholesterol.

Hormone balancing in cases like this is no longer an option. As we discuss in a later chapter, you must test your levels by either using a home saliva test kit or seeing your doctor and having your blood serum levels checked. DHEA and testosterone are the first ones to measure and do not take these unless you are proven to be low. Melatonin should be used and that can be tested at 3:00 AM with saliva. Transdermal progesterone can be used by both men and women only in different amounts. Pregnenolone should be considered by anyone over the age of forty. If estradiol or estrone levels are too high then changes in lifestyle and using DIM can lower them. This is the only book to talk about the effects of our hormones on our cholesterol and triglyceride levels. Doctors are completely unaware of this and don't test hormone levels for people with severely high blood fats as they should.

Exercise is not an option for such people either. You must get some exercise daily even if it is just briskly walking a half hour a day. This goes hand in hand with weight loss as people with severely high cholesterol levels need to get down to a normal weight.

Chapter 14: Too Low Cholesterol?

With the popularity of the “ketogenic” diet where you eat all the meat and fat you want, it has become popular to say, “cholesterol doesn’t matter” and even that cholesterol should not be too low. This is patently ridiculous of course. Even a popular health magazine stated that the optimal range for serum cholesterol is 180 to 200. They further said that cholesterol levels below 180 cause an “increased risk of mortality”.

You have seen references to the largest and most comprehensive studies on heart and artery health in the world in this book including the Framingham Study, the 17 Countries Study and the MRFIT Study. These proved that you get benefits all the way down to a level of 150 mg/dl total serum cholesterol.

As we age and reach the age of 70 or more we do start losing the ability to synthesize cholesterol. Therefore you can find sickly people who eat a high fat diet, get no exercise and have very unhealthy lifestyles yet still do not have high cholesterol levels. When we reach old age our cholesterol levels become less accurate in predicting good heart health. For older people like this you have to look at their cholesterol results in light of how they live. This makes it even more important to eat a low fat diet, exercise, take effective supplements, balance our hormones and live a healthy lifestyle.

Look at Japan for example. The average cholesterol level used to be about 150 for centuries because of their cultural preference for a low fat diet based on rice, vegetables and seafood. Due to Westernization they now eat much more red meat, poultry, eggs and even dairy products, which used to be unknown there. The average cholesterol level is now about 180 and heart and artery disease has gone up accordingly. They now suffer from far more hypercholesteremia, high blood pressure, atherosclerosis, aneurisms, strokes and heart attacks. When you have 125 million people raise their average cholesterol and have a resultant rise in heart and artery disease the results are clear.

All we have to do here is distinguish people who have low cholesterol and triglyceride levels due to poor health and poor liver function, and people who have low levels due to a low fat diet and healthy lifestyle. Yes, there have been a few studies to show that sickly people with unhealthy lifestyles with low cholesterol can have a higher rate of uncommon strokes for example. This is because they aren't well in the first place and their low blood fats are due to the fact they aren't in good health.

An excellent review from St. Bartholemew's Hospital in London settles this quite well. They went over ten of the largest cohort studies ever done on cholesterol. Every study agreed that the lower the cholesterol the better regardless of any other factors. The authors concluded, "All of them show a similar effect and none provide any evidence for a threshold below which there ceases to be an effect. The two largest provide strong evidence against a threshold over the range of serum cholesterol covered by the studies" (Atherosclerosis 118, 1995, p. S1-S5).

I've found that people who promote this "don't let your cholesterol get too low" propaganda are simply trying to justify eating high fat foods and lowering the standards for good health. A level of about 150 mg/dl of serum total cholesterol remains the ideal for all races of men and women of all ages.

Chapter 15: Hormone Balancing

Where else are you going to read about the influence of your hormone levels on your blood lipid profile? Did your doctor ever test your hormone levels after finding high cholesterol and triglycerides? In fact did your doctor ever suggest to you to test your basic hormone levels? The main thing to understand about our hormones is that they all act together in concert, therefore we need to balance all of the main hormones as much as possible. When one hormone is excessive (or deficient) the others simply cannot function at peak performance. We are going to talk about estrogens, testosterone, DHEA, pregnenolone, progesterone and melatonin as well as growth hormone. While men and women have the same hormones, only in very different amounts, they do function and act differently. This could be a very complex and long chapter but we'll simplify it and not give citations for the hundreds of published studies.

It is a sacred myth in our society that women are somehow “deficient” in estrogen after menopause and estrogen supplementation is what they need. The truth is that both men and women over 50 are generally excessive in both estradiol and estrone due to many factors such as dietary fat intake, obesity, lack of exercise and alcohol consumption. One in eight American women will end up with breast cancer, which research shows is a direct effect of high estrogen levels. Statistics show that all men will end up with prostate cancer if they live long enough and research reveals that this, too, is a direct effect of excessive estrogen levels. Men and women should test their free (not bound) levels of estradiol and estrone to see if they are excessive. If they are too high you can reduce fat intake, lose weight, exercise and stop drinking alcohol. You can also take 400 mg of indole-3-carbinol (I-3-C) or 200 mg of its derivative di-indolyl methane (DIM). I-3-C is a natural component of cruciferous vegetables such as broccoli, cabbage, brussel sprouts, and cauliflower and studies prove it (or it's derivative DIM) lowers both estradiol and estrone levels safely and effectively while improving estrogen metabolism generally. Excessive estrogen levels have been shown repeatedly to be a major factor in coronary heart disease

especially in men. The current program of estrogen supplementation for women is a farce for the most part.

Both men and women should test their testosterone levels for many reasons. Women may be deficient or excessive in testosterone while men can only be deficient. Testosterone deficiency is a very important influence in heart and circulatory disease. Men have about ten times the amount of testosterone in their blood than women do. If a woman is excessive she can only lower testosterone levels by lifestyle changes; there are no magic supplements to lower it. Men and women with tested low testosterone levels can use natural testosterone gels or creams (not testosterone salts such as propionate or enanthate and certainly not methyl testosterone) by prescription to raise their levels. They can also use over the counter androstenedione. Men can use 50 mg daily and women can use one quarter of this since they metabolize androstenedione less efficiently into testosterone. Never use testosterone or androstenedione unless you have tested yourself and proven you are deficient. The ideal is a youthful level as you had at, say, the age of 30.

DHEA falls in both men and women generally over the age of 40 and is a vital hormone for heart and circulatory health. Sometimes, however, women can be excessive while men are rarely excessive. You must test your levels of either free DHEA or DHEA-S (DHEA sulfate). Never use DHEA unless you have tested your levels with either blood or saliva and proven you are low. If you are too high only lifestyle changes will lower your levels. There are, again, no magic supplements to help you. If you are low try 10-25 mg a day and monitor your levels every 90 days until you are normal. DHEA is known as the life extension hormone for good reason and many books have been written on it as have thousands of clinical studies worldwide. There are many benefits to keeping a youthful DHEA level throughout life.

Progesterone is thought of as a female hormone but it is important for both men and women. Progesterone is important for the metabolism of cholesterol. Never use synthetic prescription progestins, which have many negative side effects and do not have the benefits of real human progesterone. Use natural USP transdermal progesterone with 800-1000 mg per two ounce jar.

Avoid anything with “yam extract” or “wild yam” on the label as they are ineffective and are known as “yam scam” in the trade. Progesterone is the natural antagonist to excessive estrogen levels and is very safe and very non-toxic. Both premenopausal women and post-menopausal women may well benefit from using transdermal natural progesterone and many books have been written on this by such authors as John Lee, Raquel Martin, Anna rushton, Marla Ahlgrimm, Sherrill Sellman, Marcus Laux and others. Men over fifty can use smaller amounts to protect against estrogen levels that actually exceed that of women of the same age.

You may have never even heard of pregnenolone but it is the grandmother hormone from which all our other sex hormones are derived. It is considered the most potent memory and brain hormone known. It falls after the age of 40 in both men and women very strongly. Dosages of 25 mg a day four days a week for women, and five days a week for men would be reasonable. You can inexpensively saliva test your levels if you don't want to pay a lot for a specially ordered blood tests. Very little is known about the effects of pregnenolone on our blood lipids but it is critical to balance all our hormones together and pregnenolone will become much more important as more studies are done and more is known about it. Common logic tells you to keep your pregnenolone at youthful levels throughout life especially as the actions of our other hormones depend on its actions.

Melatonin is a miracle hormone and we are just beginning to understand just how vital it is for our health and wellbeing. It is called the anti-aging hormone and decreases from the time we are teenagers until it almost disappears by the time we reach the age of 80. Only recently have studies come to light that show melatonin is vital in the metabolism of cholesterol and triglycerides and this is almost unknown either to the medical community or to the general public. I found studies from the University of Tokyo, The University of Seville, Al-Azhar University in Egypt, and Hong Kong Polytechnic University that show how vital melatonin is to cholesterol metabolism. To quote one of them, “melatonin also induced a marked protection in terms of decreasing serum cholesterol, LDL and triglycerides while HDL was increased by 56%...” Melatonin is secreted by the pineal gland is the most

important aging factor we know of. You must test this at 3:00 AM by itself, as melatonin is highest at night when we sleep. Try 3 mg and only take it at night and never during the day. This is a very safe and very non-toxic supplement and a vital part of your supplement program for many, many reasons. Read one of the many books that have been written about it.

Growth hormone is a very important factor in blood fat levels and growth hormone falls steeply as we age. The problem is that current technology only allows us to inject expensive doses of rhGH (recombinant human growth hormone) by prescription that cost about \$200 a month. Research shows all the non-prescription supplements out there that claim to raise growth hormone (no matter how well advertised) are ineffective promotions. Lifestyle is what keeps your growth hormone levels high - exercise, staying slim, eating less, eating well, fasting regularly, not drinking or smoking and just living a healthy lifestyle. You can take a supplement of one gram of L-glutamine in the AM and one gram in the PM to help raise your levels. L-glutamine has very beneficial effects on your intestines as well and is safe and inexpensive. Soon we will have various “secretagogues” like hexarelin or MK-677 to raise our growth hormone levels that can be used in a convenient nasal spray. Such compounds as hexarelin have been used on human children and the elderly safely and effectively in clinics now for years yet they are still unavailable to the public.

The chapter on Home Hormone Testing will tell you how to test your levels at home with saliva samples accurately and inexpensively without a doctor.

Chapter 16: Home Hormone Testing

I'm willing to bet medical doctors almost never test their high cholesterol patients for their basic hormone levels as part of their therapy. In the last chapter you saw how critical hormone levels are for your blood lipid levels. Have you ever had a doctor suggest you test your hormone levels for ANY condition? Most doctors almost never do this, have very little knowledge of hormones and don't even know the difference between bound, unavailable ones and free, bioavailable ones. Don't waste your money on testing bound levels of hormones. If you choose to have a doctor test your hormone levels, this means multiple blood draws, an expensive office visit, and \$150 to \$200 per hormone. And you still might get back results for bound, unavailable hormones that tell you almost nothing.

Proteins in our bloodstream called SHBG (sex hormone binding globulins) attach themselves to most of our hormones making them biologically unavailable. For example, testosterone is usually about 98% bound with about 2% free usable testosterone that actually affects our biological processes.

For about twenty years now researchers in clinics have been able to accurately measure hormone levels using saliva samples rather than blood. These samples were often used in Third World countries and in the field due to the lack of available refrigeration for blood samples. The World Health Organization approved this method in the 1990's due to its practicality, accuracy, reliability and inexpensiveness. Finally in the late 1990's this became available to the general public. You can now buy saliva test kits for estradiol, estrone, estriol, testosterone, androstenedione, DHEA, pregnenolone, cortisol, melatonin, thyroid hormones and IGF-1 among others.

This is a tremendous technological breakthrough in both traditional and holistic medicine, yet very few people and very few doctors are even aware of it much less know where to buy the saliva test kits. No matter what your condition you should know your basic hormone levels and raise those which are low and lower those which are excessive. Keeping youthful levels of

testosterone, melatonin, DHEA and pregnenolone will add years to your life and life to your years. Even many life extension advocates you promote the use of these hormones don't advise testing your levels before you use them. Almost no one knows what their basic hormone levels are so they can't even start to balance them and have youthful levels.

You can contact the following companies:

Aeron Life Cycles/Jason Products
8468 Warner Drive
Culver City, CA 90232
(800) 527-6605

Great Smokies/Body Balance
18-A Regent Park Drive
Asheville, NC 28806
(888) 891-3061

ZRT Labs
1815 N.W. 169th Place #3090
Beaverton, OR 97006
(503) 466-2445

OptiMale at www.optimale.net
375 280th Street
Osceola, WI 54020
(888) 342-7272

These labs generally offer kits testing from 1-4 hormones at about \$30 apiece. Melatonin has to be ordered separately and tested at 3:00 AM. Vegetarians (and fish eaters) will have lower levels of hormones generally. Currently none of the labs will test pregnenolone. Time of day is very important for when the sample is taken so use the same time every morning (e.g. 8:00 AM for example) for consistency.

Conclusion

There really is NO need to ever take a prescription drug. There are so many natural methods that can individually and collectively improve not only your cholesterol levels, but also your immune system, organ health (liver, heart, pancreas, kidney). It doesn't take dramatic life-style changes to see improvements – but you DO need to take action and start making even minor improvements and adjustments.

Walking 3x a week for 30 minutes, reducing processed foods and taking natural supplements like [CholesLo](#) will make dramatic improvements in your cholesterol levels and overall health – without having to take harmful drugs.

Remember, nobody will ever care about your body's health as much as you do – certainly not your doctor or the pharmaceutical companies. Take action today and start seeing and feeling results tomorrow!