Natural Statin vs SINthetic Statin

Lovastatin, a compound isolated from *Aspergillus terreus*, was the first statin to be marketed.

Author: Professor of Medicine Desire' Dubounet, D. Sc. L.P.C.C.

Statins are a class of medicines that are frequently used to lower blood cholesterol levels. The drugs are able to block the action of a chemical in the liver that is necessary for making cholesterol.

Synthetic Statin side effects can be uncomfortable, making it seem like the risks outweigh the benefits of these powerful cholesterol-lowering medications. Consider the risks and benefits.

Doctors often prescribe synthetic statins for people with high cholesterol to lower their total cholesterol and reduce their risk of a heart attack or stroke. Most people taking statins will take them for the rest of their lives unless they can achieve normal cholesterol levels through diet, exercise, weight loss and nutritional supplements. This can make statin side effects more difficult to manage.

For some people, synthetic statin side effects can make it seem like the benefit of taking a statin isn't worth it. Before you decide to stop taking a statin, discover how synthetic statin side effects can be reduced.
What are synthetic statin side effects?

**Muscle pain and damage**
The most common statin side effect is muscle pain. You may feel this pain as a soreness, tiredness or weakness in your muscles. The pain can be a mild discomfort, or it can be severe enough to make your daily activities difficult. For example, you might find climbing stairs or walking to be uncomfortable or tiring.

Very rarely, statins can cause life-threatening muscle damage called rhabdomyolysis (rab-doe-mi-OL-ih-sis). Rhabdomyolysis can cause severe muscle pain, liver damage, kidney failure and death. Rhabdomyolysis can occur when you take statins in combination with certain drugs or if you take a high dose of statins.

**Liver damage**
Occasionally, synthetic statin use could cause your liver to increase its production of enzymes that help you digest food, drinks and medications. If the increase is only mild, you can continue to take the drug. Rarely, if the increase is severe, you may need to stop taking the drug. Your doctor might suggest a different statin. Certain other cholesterol-lowering drugs, such as gemfibrozil (Lopid) and niacin (Niacor, Niaspan), slightly increase the risk of liver problems in people who take statins.

Although liver problems are rare, your doctor will likely order a liver enzyme test before or shortly after you begin to take a synthetic statin. You shouldn't need any additional liver enzyme tests unless you begin to have signs or symptoms of trouble with your liver. Contact your doctor immediately if you have unusual fatigue or weakness, loss of appetite, pain in your upper abdomen, dark-colored urine, or yellowing of your skin or eyes from taking synthetic statins.

**Digestive problems**
Some people taking a statin may develop nausea, gas, diarrhea or constipation after taking a synthetic statin. These side effects are rare. Most people who have these side effects already have other problems with their digestive system. Taking your synthetic statin medication in the evening with a meal can reduce digestive side effects.

**Rash or flushing**
You could develop a rash or flushing after you start taking a statin. If you take a statin and niacin, either in a combination pill such as Simcor or as two separate medications, you're more likely to have this side effect. Taking aspirin before taking your statin medication may help, but talk to your doctor first.

**Increased blood sugar or type 2 diabetes**
It's possible your blood sugar (blood glucose) level may increase when you take a
statin, which may lead to developing type 2 diabetes. The risk is small but important enough that the Food and Drug Administration (FDA) has issued a warning on statin labels regarding blood glucose levels and diabetes. Talk to your doctor if you have concerns.

**Neurological side effects**
The FDA warns on statin labels that some people have developed memory loss or confusion while taking statins. These side effects reverse once you stop taking the medication. Talk to your doctor if you experience memory loss or confusion. There has also been evidence that statins may help with brain function — in patients with dementia or Alzheimer's, for example. This is still being studied. Don't stop taking your statin medication before talking to your doctor.

**Who's at risk of developing synthetic statin side effects?**
Not everyone who takes a synthetic statin will have side effects, but some people may be at a greater risk than are others. Risk factors include:

- Taking multiple medications to lower your cholesterol
- Being female
- Having a smaller body frame
- Being age 65 or older
- Having kidney or liver disease
- Having type 1 or 2 diabetes
- Drinking too much alcohol (More than two drinks a day for men age 65 and younger and more than one drink a day for women of all ages and men older than 65)
"Education and Treatment Starts with Teaching Patients what NOT to Eat, Say and Do."

Desiree Dubouneet

Foods boiled in Oil are slow Poisons. Bake potatoes and cut into fries, no boiled oil.

"You are not just what you eat, You are what you eat and what you absorb. Malabsorption is the number one disease Today."

Desiree Dubouneet

"Then Teach What to Eat, How to Exercise, Reduce Stress, Interact Teach How To Show Love, and Respect"

Desiree Dubouneet
Eat at least five servings of fruits and vegetables a day, use vegetables as the center of the meal.

Remember: do not eat foods boiled in oil, get good cold processed vegetable oils and thus good fatty acids, not trans or cooked animal oils. Eat only Levulose (fructose fruit sugars) not Dextrose (cane, corn, potato, grape sugar). Wellness is your Reward. Remember to chew your food, fruits alone, fluids alone, and melons alone.

Make vegetable and fruit juice part of your daily Wellness Healthy Regime.
Naturally-Occurring Statins

The oyster mushroom, a culinary mushroom, naturally contains lovastatin. Red rice also has the SAME chemical as the expensive unsafe SYNthetic drugs sold for lowering cholesterol.

Some types of statins are naturally occurring, and can be found in such foods as oyster mushrooms and red yeast rice. Randomized controlled trials found them to be effective.

Red yeast rice is used to colour a wide variety of food products, including pickled tofu, red rice vinegar, char siu, Peking Duck, and Chinese pastries that require red food colouring. It is also traditionally used in the production of several types of Chinese wine, Japanese sake (akaisake), and Korean rice wine (hongju), imparting a reddish colour to these wines. Although used mainly for its colour in cuisine, red yeast rice imparts a subtle but pleasant taste to food and is commonly used in the cuisine of Fujian regions of China.

Traditional Chinese medicine

In addition to its culinary use, red yeast rice is also used in traditional Chinese herbology and traditional Chinese medicine. Its use has been documented as far back as the Tang Dynasty in China in 800 A.D. It is taken internally to invigorate the body, aid in digestion, and revitalize the blood. A more complete description is in the traditional Chinese pharmacopoeia, Ben Cao Gang Mu-Dan Shi Bu Yi, from the Ming Dynasty (1378-1644).

Red yeast rice and 'statin' drugs

In the late 1970's researchers in the United States and Japan were isolating lovastatin from Aspergillus and monacolins from Monascus, respectively, the latter being the same yeast used to make red yeast rice, but cultured under carefully controlled conditions. Chemical analysis soon showed that lovastatin and monacolin K were identical. An article "The origin of statins" summarizes how the two isolations, documentations and patent applications were just months apart. Lovastatin became the patented, prescription, drug Mevacor for Merck & Co. Red yeast
rice went on to become a contentious, non-prescription, dietary supplement in the United States and other countries.

Lovastatin and other prescription 'statin' drugs inhibit cholesterol synthesis by blocking action of the enzyme HMG-CoA reductase. As a consequence circulating total cholesterol and LDL-cholesterol are lowered. In a meta-analysis of 91 randomized clinical trial of ≥12 weeks duration, totaling 68,485 participants, LDL-cholesterol was lowered by 24-49% depending on the statin. Different strains of Monascus yeast will produce different amounts of monacolins. The 'Went' strain of Monascus purpureus (purpureus = purple in Latin), when properly fermented and processed, will yield a dried red yeast rice powder that is approximately 0.4% monacolins, of which roughly half will be monacolin K (identical to lovastatin). Monacolin content of a red yeast rice product is described in a 2008 clinical trial report.

Regulatory restrictions

The Food and Drug Administration (FDA) position is that red yeast rice products that contain monacolin K, i.e., lovastatin, are identical to a drug and thus subject to regulation as a drug. In 1998, the FDA initiated action to ban a product (Cholestin) containing red yeast rice extract. The U.S. district court in Utah allowed the product to be sold without restriction. This decision was reversed on appeal to the U.S. District Court. (Moore, 2001) (see Further Reading: PDRhealth). Shortly thereafter the FDA sent warning Letters to companies selling red yeast rice. The product disappeared from the market for a few years.

How to Grow Red Yeast Rice

By Mason Howard, eHow Contributor

updated: May 28, 2010

Turn regular rice into red yeast rice.

Red yeast rice is used traditional Asian cooking. It is eaten as is, added to dishes to add flavor and color and is a natural preservative. Red yeast also has medicinal properties. Monacolin K, for example, is largely present in red yeast rice and is known to help lower cholesterol. Add yeast powder to whole grain rice to cultivate your own red yeast rice.
How to Make Red Yeast Rice

By Laura Dixon, eHow Contributor
updated: August 21, 2009

Red yeast rice is a colorful addition to various Asian dishes and beverages and is prized for its food-coloring abilities. These vibrant grains are also sold as health supplements, since researchers have discovered the potential cholesterol-lowering effects of the food. Despite this, the Food and Drug Administration pulled the supplements from American store shelves in 2007 due to concerns over their possible association with kidney and muscle problems. Produced by fermenting a type of red yeast known as Monascus purpreus over rice, this unique food is pleasing to both the eye and palate.

Difficulty: Moderate
Instructions

Things You'll Need:

- 1 cup of rice
- Water
- Powdered Monascus purpureus (red yeast)
- Large bowl
- Thick, heavy-gauge cooking pan

1. Soak the rice in a large bowl of cold water until each grain is fully saturated, for about 30 to 40 minutes.
2. Drain the water from the bowl with the soaked rice and pour the rice into a cooking pan with a thickly lined bottom to prevent burning.
3. Add 1 ½ cups of water to the pan and cook on medium heat until the water begins boiling. Put a lid on the pot and turn down the heat to the lowest setting and let the rice simmer for 15 to 20 minutes. Turn off the stove and allow the rice to sit in the pot for about 10 minutes more, so the grains can settle.
4. Remove the lid and check to see that all water has been absorbed. Then sprinkle 1 to 2 tablespoons of M. purpureus or powdered red yeast rice over the rice, and mix together.
5. Put the lid back on the pan and allow the mixture to incubate at room temperature for three to six days. During this time the rice should become cultured by the M. purpureus and will turn a reddish purple color.

Warning Cholesterol is needed by the body it makes sex hormones. If you lower cholesterol too much it will be a problem and your sex drive will suffer. The Statin in red rice and oyster mushrooms also lowers Q10. So be careful. If you are prescribed a statin formula show this book to your doctor and ask about a more natural way to lower cholesterol.

Do not diagnose High Cholesterol without a proper test and or a doctor’s opinion.
Red Beans 'n Rice

1 pound dried red beans
1 lb. oyster or other mushrooms
1 cup chopped onions

1/4 cup chopped green onions
1/2 cup chopped green peppers
salt and pepper to taste

Wash and sort out beans. Add enough water to cover beans completely in a 4 quart saucepan and soak overnight. The next morning, heat the beans to a slow boil. Add all the remaining ingredients and cook slowly 3 hours. Add more water during cooking, if necessary. The beans are done when they become soft and the water boils down to form a thick gravy. Season with salt and pepper. Serve on Red Rice

Serves 6.
The **oyster mushroom**, a culinary mushroom, naturally contains lovastatin.

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**Dr Desi’s Natural Cholesterol Lowering Oyster Mushroom SOUP**

2 Servings

- 2 1/2 cups water
- 3/4 lb oyster mushroom
- 2/3 lime
- 1 lemon grass, crushed
- 2 kaffir lime leaves
- 2 tablespoons fish sauce
- 5 sprigs cilantro, chopped
- 2-3 chili peppers, crushed
- 1 teaspoon nam prik pow (Optional)

**Tips and substitutions**

For a vegetarian soup, substitute mushroom soy sauce for fish sauce. Use vegetarian nam prik pow.

You only need to have boiled the lemon grass for a couple minutes to bring out the flavor. Wash the mushrooms and set them aside.

Crush the lemon grass with the back of your knife or a meat tenderizer. Tie the lemon grass into a knot and drop it into a pot of water. Bring the lemon grass broth to a boil then add the oyster mushrooms. Pull the kaffir lime leaves from their middle stems and drop them in the pot. Add nam prik pow, if you like. Turn off the heat.

Crush chili peppers and place them in a serving bowl. If you don’t like it hot, do not crush the chili peppers. Add fish sauce and 2/3 of the lime to the bowl. Pour the soup in the bowl. Taste and see if you might want to add more lime or more fish sauce. I love mine very spicy and sour. This means that I need to add a teaspoon of fish sauce and more lime, so that I can taste all the flavors.

Sprinkle with chopped cilantro and serve hot.
I have found in my practice that eating 10 hard or soft boiled eggs a day will lower bad cholesterol and give good cholesterol a boost to increase to sex drive.

**Cardiovascular risk factors**

There are many risk factors associated with coronary heart disease and stroke. Some risk factors such as *family history*, ethnicity and age, cannot be changed. Other risk factors that can be treated or changed include tobacco exposure, high blood pressure (*hypertension*), *high cholesterol, obesity, physical inactivity, diabetes, unhealthy diets*, and harmful use of alcohol.

Of particular significance in developing countries is the fact that while they are grappling with increasing rates of cardiovascular disease, they still face the scourges of poor nutrition and infectious disease. Nevertheless, with the exception of sub-Saharan Africa, cardiovascular disease is the leading cause of death in the developing world. You will not necessarily develop cardiovascular disease if you have a risk factor. But the more risk factors you have the greater is the likelihood that you will, unless you take action to modify your risk factors and work to prevent them compromising your heart health.

**Modifiable risk factors**

*Hypertension* is the single biggest risk factor for stroke. It also plays a significant role in heart attacks. It can be prevented and successfully treated but only if you have it diagnosed and stick to your recommended management plan.

Abnormal blood lipid levels, that is high total cholesterol, high levels of triglycerides, high levels of low-density lipoprotein or low levels of high-density lipoprotein (HDL) cholesterol all increase the risk of heart disease and stroke. Changing to a healthy diet, exercise and medication can modify your blood lipid profile.

Tobacco use, whether it is smoking or chewing tobacco, increases risks of cardiovascular disease. The risk is especially high if you started smoking when young, smoke heavily or are a woman. Passive smoking is also a risk factor for cardiovascular disease. Stopping tobacco use can reduce your risk of cardiovascular disease significantly, no matter how long you have smoked.

*Physical inactivity* increases the risk of heart disease and stroke by 50%. Obesity is a major risk for cardiovascular disease and predisposes you to diabetes. Diabetes is a risk factor for cardiovascular disease.

Type2 *diabetes* a major risk factor for coronary heart disease and stroke. Having diabetes makes you twice as likely as someone who does not to develop cardiovascular disease. If you do not control diabetes then you are more likely to develop cardiovascular disease at an earlier age than other people and it will be more devastating. If you are a pre-menopausal woman, your diabetes cancels out the protective effect of estrogen and your risk of heart disease rises significantly.

A *diet* high in saturated fat increases the risk of heart disease and stroke. It is estimated to cause about 31% of coronary heart disease and 11% of stroke worldwide.

Being poor, no matter where in the globe, increases your risk of heart disease and stroke. A chronically stressful life, social isolation, anxiety and depression increase the risk of heart disease and stroke.
Having one to two alcohol drinks a day may lead to a 30% reduction in heart disease, but above this level alcohol consumption will damage the heart muscle.

Certain medicines may increase the risk of heart disease such as the contraceptive pill and hormone replacement therapy (HRT). Left ventricular hypertrophy (LVH) is a risk factor for cardiovascular mortality.

There are nine main risk factors for cardiovascular disease (CVD), including high blood pressure, smoking, poor diet, lack of exercise and being overweight or obese. Many of the risk factors are linked, which means that if you have one of the risk factors you are also likely to have others. The risk factors for CVD are discussed in more detail below.

- **High blood pressure** (hypertension) – is by far the most important risk factor for CVD. Poorly controlled high blood pressure can damage your artery walls and increase your risk of developing a blood clot.
- **Smoking** (or other tobacco use) – the toxins in tobacco can damage and narrow your coronary arteries, making you more vulnerable to coronary heart disease.
- **High blood cholesterol** – can cause your arteries to narrow and increase your risk of developing a blood clot.
- **Diabetes** – the high blood glucose (sugar) levels associated with type 1 diabetes or type 2 diabetes can damage the arteries. Many people with type 2 diabetes are also overweight or obese.
- **Poor diet** – a high fat diet can speed up the formation of fatty deposits inside your arteries, leading to both high blood cholesterol levels and high blood pressure.
- **Lack of exercise** – people who do not exercise regularly usually have higher cholesterol levels, high blood pressure, high stress levels and are also more likely to be overweight.
- **Being overweight or obese** – being overweight or obese increases your risk of developing diabetes and high blood pressure. People who are overweight or obese often have poor diets and do not exercise regularly. Read more about obesity.
- **Excessive alcohol consumption** – can increase both your cholesterol levels and blood pressure.
- **Stress** – stress can increase your blood pressure and the hormones associated with stress are thought to also increase your blood glucose levels.
**Non-modifiable risk factors**

Simply getting old is a risk factor for cardiovascular disease; risk of stroke doubles every decade after age 55.

Your family’s history of cardiovascular disease indicates your risk. If a first-degree blood relative has had coronary heart disease or stroke before the age of 55 years (for a male relative) or 65 years (for a female relative) your risk increases.

Your gender is significant: as a man you are at greater risk of heart disease than a pre-menopausal woman. But once past the menopause, a woman’s risk is similar to a man’s. Risk of stroke is similar for men and women.

Your ethnic origin plays a role. People with African or Asian ancestry are at higher risks of developing cardiovascular disease than other racial groups.

**Blood lipids (fats) as a risk factor for cardiovascular disease**

Abnormal levels of lipids (fats) in the blood are risk factors for cardiovascular disease.

Cholesterol is a soft, waxy substance found among the lipids in the bloodstream and in all the body’s cells. It is important to the healthy functioning of our bodies. It is needed to form cell membranes and hormones.

The human body makes cholesterol and we also consume it when we eat animals and animal derived food like milk and cheese. We can also make cholesterol from foods that do not contain cholesterol such as coconut fat, palm oil and trans fats, often used in foods such as french fries, cakes and cookies.

Cholesterol is carried through our blood by particles called lipoproteins: low-density lipoprotein (LDL) and high-density lipoprotein (HDL). High levels of LDL cholesterol lead to atherosclerosis increasing the risk of heart attack and ischemic stroke. HDL cholesterol reduces the risk of cardiovascular disease as it carries cholesterol away from the blood stream.

Estrogen, a female hormone, raises HDL cholesterol levels, partially explaining the lower risk of cardiovascular disease seen in premenopausal women.

**The other blood fat – triglyceride**

Triglyceride is the most common type of fat in the body. Normal triglyceride levels vary by age and sex. But if you have heart disease or diabetes you are likely to have high levels.

High levels of triglyceride combined with high levels of LDL cholesterol speed up atherosclerosis increasing the risk for heart attack and stroke.

**What are normal blood lipid levels?**

Your lipid levels are dependent on your age, sex, genetic makeup, lifestyle choices, and will vary over time. Although a line between safe and dangerous levels is not easy to draw, there are recommendations that your physician will make.

European recommendations suggest the following targets:
Optimal total cholesterol: less than 5.0 mmol/l.
LDL cholesterol: 3.0 mmol/l or less.
HDL cholesterol: 1.2 mmol/l or more in women and 1.0 mmol/l in men.
Triglycerides: 1.7 mmol/l or less.

American recommendations suggest the following targets:

Optimal total cholesterol: 5.1 mmol/l.
LDL cholesterol: 2.6 mmol/l or less.
HDL cholesterol: more than 1.0 mmol/l.
Triglycerides: 1.7 mmol/l or less.

A Natural Alternative to Statin Drugs

Heart disease has become one of the primary health concerns in this country, and the use of cholesterol-lowering drugs has become almost commonplace. Chances are you or someone you know is taking one. This article will discuss three studies that prove a simple sugar cane extract is more potent than Statin Drugs.

In May of 2001, the National Cholesterol Education program revised its "statin" drug recommendations. As a result, under the new guidelines the number of people in the United States "qualifying" for prescription drug treatment skyrocketed from 13 million to 36 million. These recommendations also bypass attempts to lower cholesterol by means of diet and exercise and instruct physicians to prescribe first and ask questions later.

While these new guidelines are certainly good for the patent medicine industry, they may not be in the best interest of the millions of people now "required" to take statin drugs. Statin drugs are often associated with side effects such as nausea, headaches, dizziness, sleep disturbances, liver problems, muscle weakness, and pain. One statin drug, Baycol, was recalled by the manufacturer in August 2002 after it was found to be linked to over 50 deaths.

In addition to these risks, statin drugs cost an average of over $100 a month. Since the revised guidelines mean big business for patent medicine companies, it's no wonder that news of the natural alternative to these drugs has remained unknown to the general public.

The Sweet Secret for Effectively Lowering Cholesterol Levels
Clinical trials show that one natural substance offers even better results than prescription drugs at lowering overall cholesterol and triglyceride levels while raising levels of HDL (good) cholesterol and
protecting against blood clotting. This amazing substance, a fraction of sugar cane called policosanol, offers all of these benefits with virtually no side effects, at less than half the cost of prescription statin drugs. And it may actually eliminate your need for cholesterol-lowering prescription drugs.

By now you know that refined sugar is on the "no-no" list. In fact, refined sugar can actually cause a huge list of health problems, including premature tissue stiffening. There is no doubt that eliminating refined sugar is a crucial step in living a healthy lifestyle.

**Not all Sweeteners are Created Equal**

However, not all sugar is created equal. Certain specific natural sugars can help fight bacteria and infections. Whole sugar cane and other sugar cane fractions can also be good for you. For example, molasses, as the "whole juice" of sugar cane, is a somewhat healthful sweetener, containing useful amounts of iron, chromium, pyridoxine (vitamin B6), and other nutrients that help our bodies metabolize sugar. But the powers of sugar cane go far beyond the nutrients in molasses.

Policosanol is technically not a sugar at all. It's a group of eight to nine "long chain alcohols" (solid, waxy compounds). It actually contains no sugar and has no extra calories so it doesn't have an adverse effect on blood sugar levels. Research is accumulating to show that policosanol is more effective than the most popular patent medicines for lowering total cholesterol and triglyceride levels. As added bonuses, policosanol helps to prevent strokes by inhibiting platelet aggregation and abnormal blood clotting and may lower blood pressure. And unlike the popular patent medications, policosanol has virtually no side effects, and does not seriously interfere with our bodies ability to produce co-enzyme Q10 as the patent statin medications do.

Unlike many other supplements whose claims are supported solely by traditional wisdom or laboratory tests, policosanol has demonstrated its abilities in human trials -- trials that compared its performance head to head with top-selling statin drugs. As you will read, policosanol rivaled and even outperformed the statins.

**Policosanol vs Mevacor (lovastatin)**

In a randomized, double-blind, placebo-controlled study, 53 individuals with type 2 diabetes and high cholesterol were asked to follow a lipid-lowering diet for six weeks. After that, the patients were divided into two groups. One group was given 10 milligrams of policosanol daily, while the other group was given 20 milligrams of Mevacor daily for 12 weeks. While both groups experienced lowered total cholesterol, the policosanol groups LDL cholesterol dropped 4% lower than the Mevacor group. Also, the policosanol groups HDL (good) levels rose nearly 8%, compared to a 3% drop in the Mevacor group. But the most exciting results occurred in the triglyceride levels. Policosanol caused an 18% drop in triglycerides. Mevacor offered only a 0.5% drop. ([See figure 1](#))

**Policosanol vs Zocor (simvastatin)**

In another study, 53 individuals ages 60 to 77 with "primary hypercholesterolemia" (high cholesterol not linked to diabetes or other known metabolic problems) first followed a lipid-lowering diet for six weeks. After that, they were "randomized" to take either 10 milligrams of Zocor or 10 milligrams of policosanol daily for eight weeks. Again, both groups experienced overall lowered cholesterol levels. However, triglyceride levels in the policosanol group were 5% lower than those in the Zocor group. ([See figure 2](#))

**Policosanol vs Pravachol (pravastatin)**

In this trial, 68 individuals ages 60 to 80 with "type 2 hypercholesterolemia" (a very common type) and "high coronary risk" were first asked to follow a low-fat diet for six weeks. After the six weeks, the participants were divided into two groups, one of which took 10 milligrams of policosanol daily, and the other took 10 milligrams of Pravachol daily, both for eight weeks. Policosanol offered better results in all areas, lowering LDL levels 4% more than Pravachol, lowering triglycerides 11% more, and raising (good) HDL levels 18% or 13% more than Pravachol. ([See figure 3](#))
Policosanol is a natural drug which has its roots and origins firmly placed in Cuba's cane sugar industry. It is a by-product of cane sugar but it can also be found in yam and beeswax. It is a mixture of eight different fatty alcohols and organic compounds found in plants and although it is produced from sugar cane it will not raise blood sugar levels. It is highly regarded by the scientific community as having earned its place as a significant fighter against high LDL cholesterol levels.

**Policosanol: An Equal Opportunity Cardiovascular Aid**

Medical research is frequently criticized for not paying enough attention to metabolic differences between men and women and for focusing much more on men than on women. One research team, however, concentrated exclusively on the female response to policosanol. This randomized, placebo controlled, double-blind study consisted of 244 post-menopausal women. All followed a cholesterol lowering diet for six weeks, and then divided into two groups. One group was given a placebo for 24 weeks. The other group was given 5 milligrams of policosanol daily for 12 weeks, followed by 10 milligrams daily for the next 12 weeks. The results were dramatic: Policosanol lowered LDL cholesterol by 25% and raised HDL cholesterol 29%. Total cholesterol levels fell nearly 17% in the policosanol group. In the placebo group, LDL, triglyceride, and total cholesterol levels actually went up. (See figure 4)

It's quite apparent that policosanol can make a very significant improvement in serum cholesterol levels for women as well as for men.

**Policosanol Lowers Blood Pressure -- Statin Drug Raises It**

High blood pressure is another marker of cardiovascular disease and, as such, is subject to monitoring and -- too often -- prescription drug treatment. Fortunately, the benefits of policosanol extend to this arena as well.

In the Mevacor study mentioned above, policosanol lowered blood pressure by what the researchers termed "a mild but significant degree." Systolic blood pressure (the "upper" number) dropped by approximately 8 points, and diastolic blood pressure (the "lower" number) dropped by approximately 3 points. Both numbers actually went up with Mevacor, the systolic by 2 points and the diastolic by approximately 5 points.

In the Zocor study, the policosanol group showed statistically significant lowered blood pressure levels (an 8 point drop in systolic and a 4 point drop in diastolic). The Zocor group did not show statistically significant results.

**A Protective Powerhouse**

The studies summarized above are just a few of many that demonstrate the beneficial effects of policosanol. In head-to-head comparisons with various statin drugs, policosanol does a better job. And not only is policosanol at least as safe as placebo, it appears safer!

Policosanol does not require a prescription and is widely available in natural food stores, compounding pharmacies, and various on-line sources in 10 and 15 milligram capsules. Although other strengths are also available, a single 15 milligram capsule daily appears to be enough for most uses. Policosanol is also available through the Tahoma Clinic Dispensary (425) 264-0059.

**An aspirin a day keeps heart attacks away?**

Mainstream physicians, especially cardiologists, have made a big deal of the adage "an aspirin a day keeps heart attacks away." What they usually don't make a big deal of is the fact that continuous aspirin use can lead to gastrointestinal bleeding and accelerate progression toward osteoporosis.

Treatment with aspirin has become common because of its positive effects on platelet aggregation. If aggregation is excessive, clots form too easily and the risk of heart attack is higher. A more natural approach that avoids the potential side effects of aspirin is fish oil (1 to 2 tablespoonsful of cod liver oil
daily), makes platelets more slippery and less likely to stick together. It now appears that policosanol shares fish oil's safe and effective anti-clotting attributes.

**Policosanol vs Pravachol for blood clots**
The study on policosanol vs. Pravachol referenced also examined policosanols effects on platelet aggregation, or clotting. The researchers used four natural substances to induce clotting in the study participants. They then measured policosanols effectiveness against each of these substances. Policosanol inhibited aggregation by 16.6%, 20.3%, 42.2%, and 69% respectively when exposed to the four substances. In considerable contrast, Pravachol actually made clotting worse in the first measure. Even Pravachols best results, measured in the last test, were still 20% lower than those offered by policosanol.

In another comparative trial using healthy volunteers, 20 milligrams of policosanol daily was found to be just as effective as 100 milligrams of aspirin (the daily dose most widely recommended by mainstream physicians).'

There's no question that a combination of policosanol and cod liver oil is much preferable to aspirin, not only for platelet aggregation inhibition and cholesterol regulation but also for cardiovascular health and health in general. If you are already taking a prescription cholesterol medication, please consult your doctor before making any changes.

**Policosanol: Good for both men and women**
Medical research is frequently criticized for not paying enough attention to metabolic differences between men and women and for focusing much more on men. One research team, however, concentrated exclusively on the female response to policosanol.4 This randomized, placebo controlled, double-blind study consisted of 244 post-menopausal women. All followed a cholesterol lowering diet for six weeks, and then divided into two groups. One group was given a placebo for 24 weeks. The other group was given 5 milligrams of policosanol daily for 12 weeks, followed by 10 milligrams daily for the next 12 weeks. The results were dramatic: Policosanol lowered LDL cholesterol by 25% and raised HDL cholesterol 29%. Total cholesterol levels fell nearly 17% in the policosanol group. In the placebo group, LDL, triglyceride, and total cholesterol levels actually went up. (See figure 4)

It's quite apparent that policosanol can make a very significant improvement in serum cholesterol levels for women as well as for men and it seems to be head and shoulders above other cholesterol supplements as shown in the chart below.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Raises HDL</th>
<th>Lowers LDL</th>
<th>Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policosanol</td>
<td>Yes</td>
<td>Yes</td>
<td>None -- except weight loss!</td>
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<tr>
<td>Red Rice Yeast</td>
<td>Yes</td>
<td>Yes</td>
<td>Risks similar to statin drugs</td>
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<td>CoQ10</td>
<td>No</td>
<td>Yes</td>
<td>None</td>
</tr>
</tbody>
</table>

As with any other herbal supplement, if you are taking any other medications, it's always wise to consult with your doctor first. Should you decide to take policosanol, it goes very well with the antioxidant properties of green tea.
Statins: Safe and natural alternatives to cholesterol drugs

Date: 15/04/05

**Keywords:** Other Natural Remedies,

I remember reading years ago about a powerful new insecticide that was touted to be the most efficient cockroach killer ever produced.

I remember reading years ago about a powerful new insecticide that was touted to be the most efficient cockroach killer ever produced. Scientists estimated that it would be effective for about 10 years, by which time the cockroach population was expected to have adapted to the poison. And worse: Cockroaches would then be better adaptors and therefore more resistant to any new insecticides that came along.

Don’t you hate it when a solution puts out one fire, only to start another one?

A similar problem occurs when doctors and patients are encouraged by the medical mainstream to focus myopically on cholesterol as Public Enemy Number One of heart disease. Those who are convinced that lowering LDL cholesterol is the golden key to heart health might be inclined to take a statin drug. And if they do, they might very well succeed in pushing the LDL down.

But for many patients who choose statins, the LDL threat is extinguished while other fires may begin burning.

**Permanent markers**
In several e-alerts we’ve written extensively about coenzyme Q10 (CoQ10), a superior antioxidant that’s essential for the production of energy in every cell of the body. Through years of research CoQ10 has been shown to be effective in protecting the cardiovascular system and helping to prevent heart disease. Ironically, statin drugs have been shown to deplete essential CoQ10 levels, which is why some doctors recommend CoQ10 supplements when they prescribe a statin drug.

Last year, US researchers at the University of Illinois (UI) conducted a study to examine the effects of atorvastatin (better known by its brand name; Lipitor) and supplements of CoQ10 on several heart disease markers.

As reported in the American Journal of Cardiology, the UI team tested 14 subjects with no history of heart problems. After taking atorvastatin for three to six months, 10 subjects showed deterioration in at least one marker for heart function, and five subjects had deterioration in THREE different heart function markers.

This would be a good time to restate the obvious: Statin therapy is supposed to IMPROVE cardiovascular health.
After tests revealed the potential problems, nine subjects received 300 mg of CoQ10 daily for three months. During this period they continued to take atorvastatin. At the end of this second phase of the study, eight of the subjects showed improved levels of heart function markers, and the five that had previously shown worsening in three different markers improved in all three markers.

This is a small study, but even so, the conclusion - that CoQ10 reduced the potential risk of heart failure that was apparently prompted by atorvastatin use - should serve as an eye-opener for anyone whos sold on the life saving value of statins.

**Put to the test**  
If you take statin drugs, or if youre in a high-risk group for cardiovascular problems, its a good idea to have your CoQ10 level tested.

If you find you are deficient, CoQ10 supplements are widely available. Generally, most health professionals agree the absolute minimum you should take daily is 30 mg, with 100 mg being considered the optimal dose by many. However, some practitioners recommend taking one milligram of CoQ10 for every pound of body weight. But for people with serious heart problems, recommend doses as high as 300 to 400 mg per day are not uncommon.

**Safe alternatives**  
Contrary to what the medical mainstream will tell you about lowering LDL and raising HDL, there are a number of very safe natural alternatives to statin drugs.

In a past e-alert I told you about perilla oil (a natural source of omega-3 fatty acids), arjuna (an ancient Ayurvedic herb that has been proven to lower cholesterol by as much as 12 percent in just 30 days) and ProFibe (a grapefruit pectin powder that lowered LDL cholesterol between 25-30 percent in a study that included more than 200 subjects).

I have also told you about policosanol, a compound of fatty alcohols thats gaining a reputation as an effective alternative to statin drugs. In one study, more than 240 post-menopausal women significantly lowered LDL levels (25.2 percent) while raising HDL levels by nearly 30 percent.

Niacin supplements have also been shown to dramatically boost HDL.
If you have heart disease and are not in need of emergency surgery, such as bypass, angioplasty or stent placement, you can reverse your heart disease by eliminating the behaviors that have contributed to your condition, and picking up healthy new habits. You may need what Dr. Ornish calls a "pound of cure" (as opposed to an "ounce of prevention"). This means making big - and sustainable -- changes to your diet, exercise routine and approach to stress management. Start getting better today with Dr. Ornish's 4-step plan to reverse your heart disease in 28 days. Click here to read an excerpt from Dr. Ornish's book, "The Spectrum, A Scientifically Proven Program to Feel Better, Live Longer, Lose Weight, and Gain Health," with recipes by chef Art Smith, Oprah Winfrey's one-time personal chef. If followed correctly, you may reduce the plaque clinging to your artery walls and begin undoing decades of damage. For those who don't have heart disease, there is a wide spectrum of preventive choices you can make to live healthily.

1. Get the Plaque Out of Your Arteries
Trim the fat and overhaul your diet. Under the Reversal Diet, only 10% of your diet comes from fat; 15-20% comes from protein; and 70-75% comes from complex carbohydrates. Your body can start to heal once you stop doing what's causing the problem in the first place; if you stop consuming the food that contributed to the blockages in your arteries, your body will have a better chance of rebooting and recovering. Incorporate heart-healthy foods into your diet that contain protective and preventive nutrients. A plant-based diet of fruits, vegetables, whole grains, legumes and soy products in their natural, unrefined forms not only helps to reverse heart disease, but also possesses anti-cancer and anti-aging properties.

Life-Saving One-Month Food Plan

**Breakfast**
- Oatmeal with dried cranberries
- 4oz. of natural vegetable or fruit juice

Eating oatmeal is a great non-fat way to get your complex carbohydrates.

**Morning Snack**
- Non-fat granola bar
- Banana
- One cup of tea; green tea, without milk or sugar, is ideal

**Lunch**
- Stir-fried veggies with low-sodium teriyaki sauce and brown rice
- Green salad with edamame, chickpeas, beans and fat-free raspberry dressing, and one whole wheat roll

A lunch like this provides plenty of protein, from non-animal sources.

**Dinner**
- Tacos: black beans, brown rice, fat-free sour cream, fat-free cheese and salsa; corn tortillas

These tacos are low in fat and high in protein.

**Night Snack**
- Hummus with assorted dipping vegetables

**2. Reduce Inflammation of the Artery Walls**
- Exercise your arteries. Exercise helps to strip away the irritating materials that contribute to artery ruptures. Start with 30 minutes throughout your day. You don't necessarily have to do all 30 minutes at once with a trip to the gym, though working up a sweat is encouraged. You can exercise by making simple modifications to your daily routine. Walk more. Take the stairs. Park your car further away from the entrance. Play with your kids or grandkids.

**3. Stop the Heart from Spasming and Make the Arteries More Elastic**
- Change your arteries to change your heart. Take up to one hour a day to meditate or to engage in meditative exercises, like yoga. Calming yourself and taking control of your stress will actually serve to relax the arteries and reduce the buildup of blockages in them.

**4. Open Your Heart**
- Involve your family and friends; their support will reinforce your efforts. Love and support are powerful factors in healing heart disease. For his book "Love & Survival," Dr. Ornish surveyed hundreds of studies showing that people who feel loved and supported are many times less likely to get sick and die prematurely than those who are lonely and depressed. Open your eyes to a new approach to wellness and open up your arteries.
- When you make these lifestyle changes, you're likely to feel so much better so quickly, it reframes the reason for making these changes, as explained in Dr. Ornish's "The Spectrum," from the "fear of dying" to the "joy of living." Remember that it's less about sacrifice as it is more about achieving a rewarding and sustainable new healthy lifestyle for the long haul.

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**Menus for heart-healthy eating: Cut the fat and salt**

Heart-healthy eating can be easy if you have a strong start. Use these menus to kick off your heart-healthy diet.

*By Mayo Clinic staff*
Do you want to adopt a heart-healthy diet but aren't sure where to start? One way to begin is to create a daily meal plan that emphasizes whole grains, fruits and vegetables and limits high-fat foods (such as red meat, cheese and baked goods) and high-sodium foods (such as canned or processed foods).

Below are two days’ worth of heart-healthy menus. Use them as examples of heart-healthy eating.

**Day 1 menu**

**Breakfast**
- 1 cup cooked oatmeal, sprinkle with 1 tablespoon cinnamon and chopped walnuts
- 1 banana
- 1 cup skim milk

**Lunch**
- 1 cup low-fat (1 percent or lower) plain yogurt with 1 teaspoon ground flaxseed
- 1/2 cup peach halves, canned in juice
- 5 Melba toast crackers
- 1 cup raw broccoli and cauliflower
- 2 tablespoons low-fat cream cheese, plain or vegetable flavor (as a spread for crackers or vegetable dip)
- Sparkling water

**Dinner**
- Grilled turkey burger (4 ounces) with a whole-grain bun
- 1/2 cup green beans with toasted almonds
- 2 cups mixed salad greens
- 2 tablespoons low-fat salad dressing
- 1 tablespoon sunflower seeds
- 1 cup skim milk
- 1 small orange

**Snack**
- 1 cup skim milk
- 9 animal crackers

**Day 1 nutrient analysis**
<table>
<thead>
<tr>
<th>Calories</th>
<th>1,556</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total fat</td>
<td>42 g</td>
</tr>
<tr>
<td>Saturated fat</td>
<td>11 g</td>
</tr>
<tr>
<td>Monounsaturated fat</td>
<td>12 g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>109 mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>1,595 mg</td>
</tr>
<tr>
<td>Carbohydrate</td>
<td>229 g</td>
</tr>
<tr>
<td>Fiber</td>
<td>26 g</td>
</tr>
<tr>
<td>Protein</td>
<td>81 g</td>
</tr>
</tbody>
</table>

**Day 2 menu**

**Breakfast**
1 cup plain low-fat yogurt, topped with 3/4 cup blueberries
3/4 cup calcium-fortified orange juice

**Lunch**
1 whole-wheat pita stuffed with 1 cup shredded romaine lettuce, 1/2 cup sliced tomato, 1/4 cup sliced cucumber, 2 tablespoons crumbled feta cheese and 1 tablespoon reduced-fat ranch dressing
1 kiwi
1 cup skim milk

**Dinner**
Chicken stir-fry with eggplant and basil
1 cup brown rice with 1 tablespoon chopped dried apricots
1 cup steamed broccoli
4 ounces red wine or concord grape juice
Snack
3 graham cracker squares
1 cup fat-free frozen yogurt

Day 2 nutrient analysis

<table>
<thead>
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<th>Value</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>Total fat</td>
<td>24 g</td>
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<tr>
<td>Saturated fat</td>
<td>7 g</td>
</tr>
<tr>
<td>Monounsaturated fat</td>
<td>9 g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>103 mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>1,638 mg</td>
</tr>
<tr>
<td>Carbohydrate</td>
<td>230 g</td>
</tr>
<tr>
<td>Fiber</td>
<td>28 g</td>
</tr>
<tr>
<td>Protein</td>
<td>80 g</td>
</tr>
</tbody>
</table>

On both days, if you're thirsty, drink water as a calorie-free way to supplement your diet.

A heart-healthy diet is one of the most important steps for a person with heart disease; combined with a healthy lifestyle, it can slow or even reverse the narrowing of arteries and prevent further complications.

Caregivers can help a loved one who has heart disease by adopting a diet that reduces LDL ("bad") cholesterol, lowers blood pressure, lowers blood sugar, and reduces body weight. The most powerful nutrition strategy helps people with heart disease focus on what they can eat, and in fact, research has shown that adding heart-saving foods is just as important as cutting back on others. As a caregiver, here are some strategies to help you plan meals for someone with heart disease:

1. **Serve more vegetables, fruits, whole grains, and legumes.** These foods may be one of the most powerful strategies in fighting heart disease.

2. **Choose fat calories wisely by:**

   - Limiting total fat grams.
• Serving a minimum of saturated fats and trans-fats (for example, fats found in butter, salad dressing, sweets and desserts).
• When using added fats for cooking or baking, choose oils that are high in monounsaturated fat (for example, olive and peanut oil) or polyunsaturated fat (such as fats found in soybean, corn and sunflower oils).

3. Serve a variety -- and just the right amount -- of protein-rich foods. Balance meals with lean meat, fish, and vegetable sources of protein.

4. Limit cholesterol consumption. Dietary cholesterol that is found in red meat and high-fat dairy products can raise blood cholesterol levels, especially in high-risk people.

5. Serve complex carbohydrates. Include foods like whole wheat pasta, whole-grain breads and sweet potatoes to add fiber and regulate blood sugar levels. Avoid simple carbohydrates like soda and sugary foods.

6. Serve meals regularly. By serving regular meals, you can help someone with heart disease control blood sugar, burn fat more efficiently, and regulate cholesterol levels.

Other Heart Disease and Diet Tips

• De-emphasize salt. This will help your loved one control his or her blood pressure.
• Encourage exercise. The human body was meant to be active. Exercise strengthens the heart muscle, improves blood flow, reduces high blood pressure, raises HDL cholesterol ("good" cholesterol), and helps control blood sugar levels and body weight.
• Encourage hydration. Water is vital to life. Staying hydrated makes you feel energetic and eat less. Encourage your loved one to drink 32 to 64 ounces (about one to two liters) of water daily (unless he or she is fluid restricted).

An excellent motto to follow is: dietary enhancement, not deprivation. When people enjoy what they eat, they feel more positive about life, which helps them feel better.

How Much Is in a Serving?

When trying to coordinate an eating plan that's good for the heart, it may help to know how much of a certain kind of food is considered a "serving." The following table offers some examples.

<table>
<thead>
<tr>
<th>Food/amount</th>
<th>Serving/exchange</th>
<th>The size of</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 cup cooked rice or pasta</td>
<td>2 starch</td>
<td>tennis ball</td>
</tr>
<tr>
<td>1 slice bread</td>
<td>1 starch</td>
<td>compact disc case</td>
</tr>
<tr>
<td>1 cup raw vegetables or fruit</td>
<td>1 fruit or vegetable</td>
<td>baseball</td>
</tr>
<tr>
<td>1/2 cup cooked vegetables or fruit</td>
<td>1 fruit or vegetable</td>
<td>cupcake wrapper full or size of ice cream scoop</td>
</tr>
<tr>
<td>1 ounce cheese</td>
<td>1 high-fat protein</td>
<td>pair of dice</td>
</tr>
<tr>
<td>1 teaspoon olive oil</td>
<td>1 fat**</td>
<td>half dollar</td>
</tr>
</tbody>
</table>
3 ounces cooked meat | 1 protein | deck of cards
---|---|---
3 ounces tofu | 1 protein | deck of cards

** Remember to count fat servings that may be added to food while cooking (oil for sautéing, butter, or shortening for baking)
Choose fruits and vegetables over unhealthy fatty foods.
good
SUGAR
Oil

Eat at least five servings of fruits and vegetables a day, use vegetables as the center of the meal.

Remember: do not eat foods boiled in oil, get good cold processed vegetable oils and thus good fatty acids, not trans or cooked animal oils. Eat only Levulose (fructose fruit sugars) not Dextrose (cane, corn, potato, grape sugar). Wellness is your Reward. Remember to chew your food, fruits alone, fluids alone, and melons alone.

Make vegetable and fruit juice part of your daily Wellness Healthy Regime.
High Triglycerides

Also indexed as: Hypertriglyceridemia

Too many of the fatty compounds known as triglycerides can compromise your health. According to research or other evidence, the following self-care steps may be helpful:

**What you need to know:**

Don't forget the fish

Eat more fatty fish and take a daily fish oil supplement providing 3,000 mg of the triglyceride-lowering omega-3 fatty acids EPA and DHA

Get the niacin you need

Under your doctor’s supervision, take niacin (vitamin B3) in amounts large enough to reduce triglyceride levels

Slim down

Normalize triglyceride levels by losing excess weight through a long-term program of exercise and healthier eating

Diet right

Eat less sugar and other refined carbohydrates, and limit alcohol and caffeine

Focus on fitness

Begin a regular exercise program to lower triglyceride levels

These recommendations are not comprehensive and are not intended to replace the advice of your doctor or pharmacist. Continue reading the full high triglycerides article for more in-depth, fully-referenced information on medicines, vitamins, herbs, and dietary and lifestyle changes that may be helpful.

Triglycerides (TGs) are a group of fatty compounds that circulate in the bloodstream and are stored in the fat tissue. Individuals who have elevated blood levels of TGs (known as hypertriglyceridemia) appear to be at increased risk of developing heart disease.
People with diabetes often have elevated TG levels. Successfully controlling diabetes will, in some cases, lead to normalization of TG levels.

Product ratings for high triglycerides

<table>
<thead>
<tr>
<th>Science Ratings</th>
<th>Nutritional Supplements</th>
<th>Herbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>★★★★☆</td>
<td>Fish oil (EPA/DHA)</td>
<td>Guggul</td>
</tr>
<tr>
<td></td>
<td>Niacin (vitamin B3)</td>
<td>Oats</td>
</tr>
<tr>
<td></td>
<td>Pantethine</td>
<td></td>
</tr>
<tr>
<td>★★★☆☆</td>
<td>Calcium</td>
<td>Achillea wilhelmsii</td>
</tr>
<tr>
<td></td>
<td>Chromium</td>
<td>Fenugreek</td>
</tr>
<tr>
<td></td>
<td>Fructo-oligosaccharides (FOS)</td>
<td>Garlic</td>
</tr>
<tr>
<td></td>
<td>Inositol hexaniacinate (vitamin B3)</td>
<td>Psyllium</td>
</tr>
<tr>
<td></td>
<td>Krill oil</td>
<td>Red yeast rice</td>
</tr>
<tr>
<td></td>
<td>L-carnitine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Policosanol</td>
<td></td>
</tr>
<tr>
<td>★★★☆☆</td>
<td>Creatine monohydrate</td>
<td>Green tea</td>
</tr>
<tr>
<td></td>
<td>Fiber</td>
<td>Maitake</td>
</tr>
</tbody>
</table>

- ★★★★☆: Reliable and relatively consistent scientific data showing a substantial health benefit.
- ★★★☆☆: Contradictory, insufficient, or preliminary studies suggesting a health benefit or minimal health benefit.
- ★★★☆☆: For an herb, supported by traditional use but minimal or no scientific evidence. For a supplement, little scientific support and/or minimal health benefit.

What are the symptoms?

Very high triglycerides can cause pancreatitis, an enlarged liver and spleen, and fatty deposits in the skin called xanthomas. Otherwise, high triglycerides may not cause symptoms until and unless heart disease or other diseases of blood vessels develop.

Dietary changes that may be helpful
While consuming moderate amounts of alcohol does not appear to affect TG levels, heavy drinking is believed to be an important cause of hypertriglyceridemia.1 Alcoholics with elevated TG levels should deal with the disease of alcoholism first.

Ingesting refined sugar increases TG levels, as well.2 3 People with elevated TGs should therefore reduce their intake of sugar, sweets, and other sugar-containing foods. There is also evidence that ingesting fructose in amounts that are found in a typical Western diet can raise TG levels, although not all studies agree on that point.4 It should be noted that most studies of fructose investigated the refined form, not the fructose that occurs naturally in some fruits.

In a study of heavy caffeine users (individuals who were consuming an average of 560 mg of caffeine per day from coffee and tea), changing to decaffeinated coffee and eliminating all other caffeinated products for two weeks resulted in a statistically significant 25% reduction in TG levels.5

Diets high in fiber have reduced TG levels in several clinical trials,6 but have had no effect in other clinical trials.7 Water-soluble fibers, such as pectin found in fruit, guar gum and other gums found in beans, and beta-glucan found in oats, may be particularly helpful in lowering triglycerides.

Consumption of a low-fat, high-carbohydrate diet reduced TGs in one study.8 However, in another study, populations that consumed a low-fat, high-carbohydrate diet had higher TG levels, compared with populations that consumed lower amounts of carbohydrates.9 Suddenly switching to a high-carbohydrate, low-fat diet will generally increase TGs temporarily, but making the switch gradually protects against this short-term problem.10

The blood level of TGs following a meal may be a more important indicator of coronary heart disease risk than the fasting level.11 12 However, a low-fat diet (55% carbohydrates, 23% fats, 22% proteins) that succeeded in normalizing other blood lipids, including fasting TG levels, failed to normalize post-meal TG levels in a group of people with hypertriglyceridemia.13 These results suggest that dietary reduction of fasting TGs, even if the diet controls other blood lipids, may not be enough to provide optimal protection against coronary heart disease. Many doctors recommend a diet low in saturated fat (meaning avoidance of red meat and all dairy except nonfat dairy) to reduce TGs and the risk of heart disease.14

Some,15 16 but not all,17 studies have found that increasing consumption of fish is associated with a lower risk of heart disease. Significant amounts of TG-lowering omega-3 fatty acids (EPA and DHA) can be found in the fish oil of salmon, herring, mackerel, sardines, anchovies, albacore tuna, and black cod. Many doctors recommend that people with elevated TGs increase their intake of these fatty fish.

Lifestyle changes that may be helpful

Exercise lowers TG levels.18 People who have diabetes, heart disease, or are over the age of 40, should talk with a doctor before beginning an exercise program.

Smoking has been linked to elevated TG levels.19 As always, it makes sense for smokers to quit.
Obesity increases TG levels. Maintaining ideal body weight helps protect against elevated TG levels. Many doctors encourage people who have elevated TGs and who are overweight to lose the extra weight.

Other therapies

People with high triglycerides are typically advised to reduce their weight and limit the consumption of processed foods, simple sugars, alcohol, and saturated fats. The latter is found predominantly in animal products, such as meat, eggs, and dairy products, and in tropical oils such as palm and coconut.

Vitamins that may be helpful

Many double-blind trials have demonstrated that fish oils (also called fish-oil concentrates) containing EPA and DHA (mentioned above) lower TG levels. The amount of fish oil used in much of the research was an amount that provided 3,000 mg per day of omega-3 fatty acids. To calculate how much omega-3 fatty acid is contained in a fish-oil supplement, add together the amounts of EPA and DHA. For example, a typical 1,000-mg capsule of fish oil provides 180 mg of EPA and 120 mg of DHA (total omega-3 fatty acids equals 300 mg). Ten of these capsules would contain 3,000 mg of omega-3 fatty acids. Other sources of omega-3 fatty acids, such as flaxseed oil, do not lower TGs. While flaxseed oil has other benefits, it should not be used for the purpose of reducing TGs.

In a double-blind study of people with elevated blood levels of cholesterol and triglycerides, supplementation with 2 to 3 grams per day of krill oil from Antarctic krill (a zooplankton crustacean) for three months decreased levels of triglycerides. However, 1 to 1.5 grams per day was not effective. Krill oil was significantly more effective than either a placebo or small amounts of regular fish oil containing 900 mg per day of omega-3 fatty acids.

Cod liver oil, another source of omega-3 fatty acids, has also been found to lower TGs. Cod liver oil is less expensive than the fish-oil concentrates discussed previously. However, cod-liver oil also contains relatively large amounts of vitamin A and vitamin D; too much of either can cause side effects. In contrast, fish-oil concentrates have little or none of these vitamins. Individuals wishing to use cod liver oil as a substitute for a fish-oil concentrate should consult a doctor.

Omega-3 fatty acids from fish oil and cod liver oil have been reported to affect blood in many other ways that might lower the risk of heart disease. However, these supplements sometimes increase LDL cholesterol—the bad form of cholesterol. A doctor can check to see if fish oil has this effect on an individual. Research shows that when 900 mg of garlic extract is added to fish oil, the combination still dramatically lowers TG levels but no longer increases LDL cholesterol. Therefore, it appears that taking garlic supplements may be a way to avoid the increase in LDL cholesterol sometimes associated with taking fish oil. People who take fish oil may also need to take vitamin E to prevent the oil from undergoing potentially damaging oxidation in the body. It is not known how much vitamin E is needed to prevent such oxidation. The amount required would presumably depend on the amount of fish oil used. In one clinical trial, 300 IU of vitamin E per day prevented oxidation damage in individuals taking 6 grams of fish oil per day.
Pantethine is a byproduct of pantothenic acid (vitamin B5). Several clinical trials have shown that 300 mg of pantethine taken three times per day will lower TG levels. Pantethine, which is found in most B vitamins, does not have this effect.

The niacin form of vitamin B3 is used by doctors to lower cholesterol levels, but niacin also lowers TG levels. The amount of niacin needed to achieve worthwhile reductions in cholesterol and TG levels is several grams per day. Such quantities can cause side effects, including potential damage to the liver, and should not be taken without the supervision of a doctor. Some doctors recommend inositol hexaniacinate (a special form of vitamin B3) as an alternative to niacin. A typical amount recommended is 500 mg three times per day. This form of vitamin B3 does not typically cause a skin flush and is said to be safer for the liver than niacin. However, the alleged safety advantage of inositol hexaniacinate needs to be confirmed by additional clinical trials. Moreover, it is not clear whether inositol hexaniacinate is as effective as niacin at lowering cholesterol and TG levels.

In a preliminary trial, supplementation with 800 mg of calcium per day for one year resulted in a statistically significant 35% reduction in the average TG level among people with elevated cholesterol and triglycerides. However, in another trial, calcium supplementation had no effect on TG levels. One of the differences between these two trials was that more people in the former trial had initially elevated TG levels.

In a double-blind trial, 30 people with type 2 (non-insulin-dependent) diabetes received 200 mcg of chromium per day (as chromium picolinate) for two months and a placebo for an additional two months. The average TG level was significantly lower (by an average of 17.4%) during chromium supplementation than during the placebo period. Some, but not all, trials support these findings. It is not clear whether chromium supplementation affects TG levels in non-diabetics, but some evidence suggests that it does not.

L-carnitine is another supplement that has lowered TGs in several clinical trials. However, the effect of carnitine is unpredictable, and some individuals have experienced an increase in triglyceride levels after receiving this supplement. Some doctors recommend 1–3 grams of carnitine per day, in the form known as L-carnitine.

Several double-blind trials have evaluated the efficacy of fructo-oligosaccharides (FOS) or inulin (a related compound) for lowering blood cholesterol and triglyceride levels. These trials have shown that in individuals with elevated total cholesterol or triglyceride levels, including people with type 2 diabetes, FOS or inulin (in amounts ranging from 8 to 20 grams daily) produced significant reductions in triglyceride levels; however, the effect on cholesterol levels was inconsistent. In people with normal or low cholesterol or triglyceride levels, FOS or inulin produced little effect.

The effect of policosanol on serum triglycerides has been inconsistent, ranging from no effect up to as much as a 19% reduction. Several controlled studies have compared policosanol with cholesterol-lowering medications, such as statins, and have found policosanol similarly effective.
sugar-cane-derived preparation in the proportions of long-chain alcohols, and whether these types of policosanol are as effective as sugar-cane-derived policosanol is unknown.

A double-blind trial found that a supplement of 5 grams of creatine plus 1 gram of glucose taken four times per day for five days followed by twice a day for 51 days significantly lowered serum total triglycerides in both men and women. However, another double-blind trial found no change in any of these blood levels in trained athletes using creatine during a 12-week strength training program. Creatine supplementation in this negative trial was lower—only five grams per day was taken for the last 11 weeks of the study.

Are there any side effects or interactions? Refer to the individual supplement for information about any side effects or interactions.

Herbs that may be helpful

Guggul, a mixture of ketonic steroids from the gum oleoresin of Commiphora mukul, is an approved treatment of hyperlipidemia in India and has been a mainstay of Ayurvedic herbal approaches to preventing atherosclerosis. Clinical trials indicate that guggul is effective in the treatment of high TGs; in one trial, serum TGs fell by 30.3%

However, these results have not been confirmed by large, controlled trials. The recommended daily intake of guggul is typically based on the amount of guggulsterones in the extract. The recommended amount of guggulsterones is 25 mg three times per day. Most extracts contain 5–10% guggulsterones. Guggul’s effect on TGs should be monitored for three to four months, and guggul may be taken long term if successful in lowering TGs.

Reports on many clinical trials of garlic performed until 1998 suggested that triglycerides were lowered by an average of 8–27% and cholesterol by 9–12% over a one- to four-month period. Most of these trials used 600–900 mg per day of a garlic supplement standardized to alliin content and allicin potential. More recently, however, three double-blind clinical trials have found garlic to have minimal success in lowering triglycerides and cholesterol. One negative trial has been criticized for using a steam distilled garlic “oil” that has no track record for this purpose, while the others used the same standardized garlic products as the previous positive clinical trials. Based on these findings, the use of garlic should not be considered a primary approach to lowering high triglycerides and cholesterol.

Odor-controlled, enteric-coated garlic tablets standardized for allicin content can be taken in the amount of 900 mg daily (providing 5,000–6,000 mcg of allicin), divided into two or three daily portions.

In a double-blind trial, people with moderately high triglycerides took a tincture of Achillea wilhelmsii, an herb used in traditional Persian medicine. Participants in the trial used 15–20 drops of the tincture twice daily for six months. At the end of the trial, participants experienced significant reductions in triglycerides compared to those who took placebo. No adverse effects were reported.

Fenugreek has been shown to lower total and LDL cholesterol and triglyceride levels in people with high lipid levels in preliminary trials. Bread made with 50 grams defatted fenugreek powder was used
twice daily in the trial. Similar results have been seen at half that amount in people with diabetes and elevated blood levels of various lipids. A small randomized trial found similar results using 100 grams fenugreek seeds daily. One small clinical trial found that either 25 grams or 50 grams per day of defatted fenugreek seed powder were effective in reducing triglycerides over a 20-day period. Mild diarrhea and gas can accompany the first few days of fenugreek use, though it almost always fades as the person taking it adapts.

Psyllium seeds and husks have shown a modest ability to lower blood triglyceride levels in some, but not all, clinical trials. Further research is needed to assess the effect of psyllium on triglyceride levels more closely, as much of the study so far has focused on lowering cholesterol levels.

Intake of three cups or less of green tea daily has been shown not to affect blood triglyceride levels. Intake of four or more cups per day has been correlated with lower triglyceride levels. Overall, the evidence is unclear on how much of an effect high levels of intake of green tea has on triglyceride levels.

Although primarily used to lower high serum cholesterol, red yeast rice extract, high in monacolins, has been found to significantly lower serum triglyceride levels. People in the trial took 1.2 grams (approximately 13.5 mg total monacolins) of a concentrated red yeast rice extract per day for two months. The sale of Cholestin has been banned in the United States, as a result of a lawsuit alleging patent infringement. Other red yeast rice products currently on the market differ from Cholestin in their chemical makeup. None contain the full complement of 10 monacolin compounds that are present in Cholestin, and some contain a potentially toxic fermentation product called citrinin. Until further information is available, red yeast rice products other than Cholestin cannot be recommended.

Animal studies suggest the mushroom maitake may lower fat levels in the blood. However, this research is still preliminary and requires confirmation by controlled human trials.

Are there any side effects or interactions?
Refer to the individual herb for information about any side effects or interactions.


Sally, a 56 year old retired real estate agent, came to see me in the office with the chief complaint of hot flashes, night sweats, mood disturbance and weight gain which are all fairly typical post-menopausal symptoms. In addition, she also had leg pain for the past 3 months, which prevented exercising. Lumbar Spine MRI Scan to evaluate the leg pain showed only a bulging disk and was otherwise negative. About 6 months ago, Sally’s cholesterol was 245, and her cardiologist prescribed a cholesterol lowering statin drug, Crestor. Sally has no history of heart disease, does not smoke, eats a healthy diet, and takes a few vitamins, and doesn’t supplement with CoEnzyme Q-10.

I explained to Sally that her leg pain was a well known adverse side effect of Crestor, a valid reason for stopping the drug. The leg muscle pain is caused by Statin Drug depletion of Co-Enzyme Q 10, which is important for energy production in the muscle cells. I suggested to Sally that she supplement with CO-enzyme Q-10, and strongly recommended stopping the statin drug.
What is the definition of elevated cholesterol?

When I was a medical student in 1976, normal cholesterol was 240. However, this was changed in 1993 to the new guidelines.

**New Cholesterol Guidelines in 1993**

above 240: high  
above 200: borderline high  
below 200: desirable

The cholesterol guidelines were revised downward to 200 by a committee of nine doctors, eight of whom were receiving money from statin drug companies, a blatant conflict of interests. In addition, there was no science behind this revision. (1) (2) (3)

A 2006 paper in the Annals of Internal Medicine (October 3, 2006; 145(7): 520-530) argues that there is NO EVIDENCE to support the target numbers outlined by the Cholesterol Guidelines panel, challenging the mainstream medical belief that lower cholesterol levels are always better. “This paper is not arguing that there is strong evidence against the LDL targets, but rather that there’s no evidence for them,” said Dr. Rodney A. Hayward, a study author. A 2004 petition letter to the NIH by 30 prominent MD’s complains about the faulty Cholesterol Guidelines and asks for a revision.

The laboratory will flag any cholesterol test results above 200 as abnormal. Please ignore this. In reality a cholesterol reading above 200 and below 240 is normal. If above 240, then nutritional supplements containing niacin, omega 3 oils, and plant sterols are used to bring it down to 240. (4)

Mary Enig says: "Blood cholesterol levels between 200 and 240 mg/dl are normal. These levels have always been normal. In older women, serum cholesterol levels greatly above these numbers are also quite normal, and in fact they have been shown to be associated with longevity. Since 1984, however, in the United States and other parts of the western world, these normal numbers have been treated as if they were an indication of a disease in progress or a potential for disease in the future. (4)

**A cholesterol of 240 is NOT ELEVATED. This is normal and compatible with good health.**

**Medical Terrorism through Drug Company Advertising:**
The reality is that there is **no mortality benefit** from lowering cholesterol with statin drugs: Both lines on the mortality chart below are superimposed meaning the number of deaths in the statin drug group was identical to the number of deaths in the placebo group. Chart Courtesy of (Eddie Vos).

Analyzing data from five statin drug studies (4S, WOSCOPS, CARE, TEXCAPS/AFCAPS and LIPID), Peter R Jackson found a **1% increase in mortality after 10 years** on statin drugs in people with no pre-existing heart disease (primary prevention)(38).

**Just say NO When Your Doctor Prescribes a Statin Drug.**

The truth is that NO woman should ever be given Lipitor or any other statin drug for elevated cholesterol. Dr. Rose says, "There are no statin trials with even the slightest hint of a mortality benefit in women and women should be told so". (5). In other words, **statin drugs don’t work for women.**

**No Female Should Ever Take A Statin Drug**

Let me repeat that so this is very clear: No female should ever take a statin drug to lower
cholesterol for primary prevention of heart disease. They don’t work for women. Women who take Lipitor or any other statin drug to lower cholesterol do not live any longer than women who don’t take the drug. There is no benefit in terms of prolonging your life for women.

**Adverse Side Effects of Statin Drugs:**

On the other hand, there are plenty of adverse side effects which include muscle pain, cognitive impairment, neuropathy, congestive heart failure, transient global amnesia, dementia, cancer and erectile dysfunction (impotence). Read about Statin Drug adverse side effects on this message board and this message board. The side effects are thought to be caused by Co-Enzyme Q10 depletion.

**Why Do Cardiologists Give Statin Drugs to Women?**

Why do cardiologists and mainstream docs continue to prescribe statins to women? It is very simple, they succumb to the drug company “spin” from the drug reps and the medical journals which are slanted in favor of statins. In addition, the mainstream doctors succumb to patient's demands and expectations for the drugs after seeing the celebrity TV ads.

**Are You Still Not Convinced?**

Mary Enig writes, "No study has shown a significant reduction in mortality in women treated with statins. The University of British Columbia Therapeutics Initiative came to the same conclusion, with the finding that statins offer no benefit to women for prevention of heart disease." (6) (7)

Are you still not convinced that women should NOT take Statin Drugs? Don’t take my word for it. Take the word of Judith Walsh MD who wrote this in JAMA, 4 years ago in an article entitled, Treatment of Hyperlipidemia in Women: "For women without cardiovascular disease, lipid lowering does not affect total or CHD (Cardiovascular Heart Disease) mortality. Lipid lowering may reduce CHD events, but current evidence is insufficient to determine this conclusively. For women with known cardiovascular disease, treatment of hyperlipidemia is effective in reducing CHD events, CHD mortality, nonfatal myocardial infarction, and revascularization, **but it does not affect total mortality.**"(8)

Translation: Cholesterol lowering with statin drugs does not reduce total mortality in women, PERIOD. It doesn’t reduce mortality in women without heart disease, called primary prevention. It doesn’t reduce mortality in women with heart disease, called secondary prevention.

**Still not convinced?** then read this article by Malcolm McKendrick, a doctor in England, in the British Medical Journal, May 2007, entitled: "Should Women be Offered Cholesterol Lowering Drugs? **NO**". (8A) "To date, none of the large trials of secondary prevention with statins has shown a reduction in overall mortality in women. Perhaps more critically, the primary prevention trials have shown neither an overall mortality benefit, nor even a reduction in cardiovascular end points in women. This raises the important question whether women should be prescribed statins at all. I believe that the answer is clearly no." (8A)

Note: Secondary prevention means women with known heart disease. Primary prevention means women without known heart disease.
Still not convinced? Then read this June 2007 article by Electra Kaczorowski, of the National Women’s Health Network "There is currently no indication that women of any age or any risk level will benefit from taking statins to prevent CHD and other heart conditions – yet this is precisely how statins are being marketed to women." (9)

Still not convinced? Are statin drugs good for anybody? Read this review article by Joel Kauffman PhD, Dec 2003, in which the best statin trial results (the HPS simvastatin study) had an absolute reduction of all cause death rate of 0.38% per year. Yet this performance was inferior to the less expensive alternatives of buffered aspirin or Omega-3 oils. (10)

Quote: "The most favorable (statin) trial with seemingly impeccable reporting and minimal financial conflict of interest was the Heart Protection Study (HPS), on simvastatin for 5 years, in which secondary prevention in men (86% of patients) of any unwanted vascular event gave a RR = 0.76 (5.5% absolute, 1.1% per year), and an all-cause death rate drop of 0.38% per year. (Lancet 2002; 360:7-22) Since this performance is inferior to that of either Bufferin in men or omega-3 fatty acid supplements, both of which have lesser side-effects, and are far less expensive, the logic of prescribing simvastatin seems faulty." (10)

Still not convinced? Then read this article by Harriett Rosenberg from Women and Health Protection from June 2007, Do Cholesterol Lowering Drugs Benefit Women? (11) Evidence for Caution: Women and statin use By Harriet Rosenberg Danielle Allard Women and Health Protection June 2007

Quote: "Our review of these fields identifies a troubling disjuncture between the widespread use of statin medication for women and the evidence base for that usage. What we found instead was evidence for caution."

Still not convinced? Not only are statin drugs a failure for women, they also should never be prescribed to the elderly. Mortality in the elderly goes up as cholesterol goes down. Read this Letter to the Editor by Eddie Vos. (12)

Quote:"Regarding women, two 2004 analysis found no reduction in deaths from statin over placebo. In actual patient outcomes, the J-LIT study in 41,801 hypercholesterolemic Japanese (2/3rds women) found mortality in the 2 lowest on-statin cholesterol categories 2-3 times higher; its authors cautioned about 'hyperresponders' to statin. The 4S study ended with 3 more dead women on statin vs. placebo, and another ‘successful’ study, HPS, found no significant mortality benefit in women." See article for references.

Still not convinced? Then read this article by Bill Sardi, Who Will Tell the People? It Isn't Cholesterol! (13) " If physicians were truly honest with their patients, there probably would be very few people being treated for primary prevention with a statin drug."

Still not convinced? Then read this Jan 2007 Lancet article by Harvard trained MD, John Abramson, "Are lipid-lowering guidelines Evidence-Based?". (14)

Quote:"No studies have shown statin cholesterol-lowering drugs to be effective for women at any age, nor for men 69 years of age or older, who do not already have heart disease or diabetes. Better than 50 adults have to take a cholesterol-lowering drug for 1 patient to avoid a mortal heart attack, and that figure only applies to high-risk patients. There is a vanishing benefit to lowering cholesterol for healthy adults." [Lancet 2007; 369:168-169].

Dr. John Abramson joins with 30 more eminent MD's in this Sept 2004 letter to the NIH
calling for a complete revision of the faulty cholesterol treatment guidelines.


"Among healthy people, statin drugs do not prevent early death from heart disease, despite their cholesterol lowering effects. This is because there is no correlation or relationship between low cholesterol and the progression of atherosclerosis – the number one cause of heart disease. Repeat that sentence. This became abundantly clear with the statin drug trials."

The New York Times Questions the Value of Lowering Cholesterol with Statin Drugs !!


"In the last 13 months, however, the failures of two important clinical trials have thrown that hypothesis into question. (that cholesterol lowering is beneficial).

First, Pfizer stopped development of its experimental cholesterol drug torcetrapib in December 2006, when a trial involving 15,000 patients showed that the medicine caused heart attacks and strokes. That trial — somewhat unusual in that it was conducted before Pfizer sought F.D.A. approval — also showed that torcetrapib lowered LDL cholesterol while raising HDL, or good cholesterol.

Torcetrapib’s failure, Dr. Taylor said, shows that lowering cholesterol alone does not prove a drug will benefit patients.

Then, on Monday, Merck and Schering-Plough announced that Vytorin, which combines Zetia with Zocor, had failed to reduce the growth of fatty arterial plaque in a trial of 720 patients. In fact, patients taking Vytorin actually had more plaque growth than those who took Zocor alone.

Despite those drawbacks, that trial, called Enhance, also showed that patients on Vytorin had lower LDL levels than those on Zocor alone. For the second time in just over a year, a clinical trial found that LDL reduction did not translate into measurable medical benefits." endquote from Alex Berenson New York Times (16)
In an historic turnaround, Business Week’s Jan 28, 2008 cover story asks the heretical question, "Do Cholesterol Drugs Do Any Good? Research suggests that, except among high-risk heart patients, the benefits of statins such as Lipitor are overstated."

Astonishingly, Business Week makes the following statements: "Current evidence supports ignoring LDL cholesterol altogether " and "Cholesterol lowering is not the reason for the benefit of statins." (17)

**Investigation !! by House Committee and New York Attorney General Andrew Cuomo**

1) Senator John Dingell’s House Committee of Energy and Commerce has recently subpoenaed both Merck and Pfizer. Merck’s subpoena investigates the Vytorin - Enhance scandal and Pfizer’s subpoena investigates the Jarvik-Lipitor Celebrity Ads. Dingell wants to know why Jarvik was selected as spokesman for Lipitor even though Jarvik was never licensed to practiced medicine.

![Image of a police officer](image.png)

**John D. Dingell**

[Click Here for Dingell’s Letter to Merck on Vytorin Scandal](#)

[Click Here for Dingell’s Letter to Pfizer Investigating Jarvik-Lipitor Ads](#)

2) The Attorney General has a few questions: The Enhance Vytorin scandal has prompted New York Attorney General Andrew Cuomo to issue a subpeana to Merck & Co and Schering-Plough Corp to investigate the allegations of deceitful marketing and insider trading.

The Vytorin Enhance Data showed no benefit for the Zetia/Zocor combination compared to
Zocor alone. This created a scandal because of the late registration of the Enhance study, and accusations of insider trading, dumping stock in advance of the unfavorable results. **Merck and Schering sat on the results** of an unfavorable study for almost two years. They claim they haven’t peeked at the data, but Schering President Carrie Cox dumped 28 Million worth of stock back in the spring of 2007.

3) Two recent drug trials, ENHANCE and Torcetrapib showed no health benefit of lowering LDL cholesterol.

**Dr Steven Nissen**, cardiologist at Cleveland Clinic, said this of the Merck Enhance-Vytorin data:

"ENHANCE (Vytorin) results were a big surprise and a big disappointment. The data show no benefit for ezetimibe (Zetia) on top of simvastatin (Zocor). In fact, the data on both the rate of progression of atherosclerosis and cardiovascular events are trending in the wrong direction. This is a pretty clear failure. Physicians should now stop using ezetimibe or Vytorin except as a last resort. The drug doesn’t work”.

The results of the ENHANCE had to be released because now all trials must be pre-registered with the government because of new FDA rules Sept 2007. In the old days it would have been buried. (22B)

The following quote about Vytorin-Enhance from Bill Sardi at LewRockwell.com is illuminating (18.)

"The revelation that statin cholesterol drugs may be of little or no benefit, as revealed in a lengthy cover story in January 28 issue of Business Week (BW) magazine, begs the question: how did this misdirection go on for so long?

As the BW article pointed out, statin drugs "are the best-selling medicines in history, used by more than 13 million Americans and an additional 12 million patients around the world, producing $27.8 billion in sales in 2006."

How can anyone question the benefits of such a drug, asks BW, when they are "thought to be so essential that, according to the official government guidelines from the National Cholesterol Education Program (NCEP), 40 million Americans should be taking them. Some researchers have even suggested – half-jokingly – that the medications should be put in the water supply, like fluoride for teeth. And it's almost impossible to avoid reminders from the industry that the drugs are vital. A current TV and newspaper campaign for one statin drug, as endorsed by Dr. Robert Jarvik, artificial heart inventor, proclaims that this drug 'reduces the risk of heart attack by 36%...in patients with multiple risk factors for heart disease'."

**Statin drug ruse revealed:**

But the cholesterol/statin drug ruse finally unraveled when, after two years of foot dragging delays to release data from a large study involving Zetia, a cholesterol-lowering drug that inhibits cholesterol absorption from foods, and Vytorin, which is a combination of Zetia plus...
Zocor, the latter a statin drug that inhibits formation of cholesterol in the liver, revealed no health benefits.

Even though this drug combo lowered circulating cholesterol numbers better than either drug alone, it did not reduce plaque formation in arteries and did not confer a projected reduction in mortality.

In fact, an earlier review published last year in the British journal Lancet by Drs. John Abramson of Harvard Medical School and James M. Wright MD of the University of British Columbia, could find no evidence for a reduction in cardiac mortality in a combined review of all published statin drug studies. [The Lancet 2007; 369:168–169]

Falsifying the numbers:

The Business Week report says statin drugs benefit only 1 in 100 users, but they claim to reduce the risk of a non-mortal heart attack by 36%. But that figure is a relative number, not a hard one. About 3% of patients taking an inactive placebo pill will experience a heart attack compared to 2% taking a statin drug, which produces the so-called 30-plus percent risk reduction. But in hard numbers, this is only a 1% reduced risk. This type of misleading advertising wouldn’t pass Federal Trade Commission guidelines. But public health agencies, serving as free publicity agents for the statin drug manufacturers, repeat the claim to give it a ring of credibility.” end quote from Bill Sardi on Lew Rockwell.com.

Merck ran these Cholesterol Lowering-Vytorin Television Ads (see below) over the course of about a year spending 160 million dollars, allowing a windfall of 1-2 billion dollars on the sale of Vytorin. All the time they knew that the ENHANCE study showed that Vytorin didn't work. Take at look at the TV ads that fooled a nation into spending a fortune for drugs that don't work.
The Vytorin Ads have been pulled, so you won't be seeing them on national TV anymore.

Click here for a Wall Street Journal story, "Congress Investigates Vytorin Ads", by Anna Wilde Mathews: (22A)

Click Here for "Vytorin Ad Shame Taints Entire Marketing Industry Cholesterol Drug's Ad Campaign Turns Into PR Nightmare, Fanning Flames of Public Mistrust of DTC" by Rich Thomaselli Published: January 21, 2008 (22C).

**Lipitor and the Dracula of Medical Technology**

In a previous newsletter [Lipitor and the Dracula of Medical Technology](#), I discussed the Robert Jarvik celebrity ads for Lipitor. One year later after this first newsletter, John Dingell’s House Committee on Energy and Commerce is now investigating the matter. They have issued Subpoenas to Pfizer CEO, Jeffrey B Kindler, asking for information about the Jarvik-Lipitor Ad Materials. (22)

Among other things, Chairman John Dingell wants to know why Jarvik takes Lipitor, and why Jarvik appears to be representing a doctor in the Ads, yet has never actually been licensed to practice medicine. Jarvik never actually prescribed Lipitor or any other drug for that matter. In response, Pfizer pulled the Jarvik Lipitor ads (2/25/08) from Television and will not be shown any more. (40)

The New York Times [dubbed](#) the Jarvik Heart, "the Dracula of Medical Technology". After 90 Jarvik Hearts were implanted, the Jarvik Artificial Heart was banned. All Jarvik Heart recipients died a slow agonizing death within 6 months from multi-organ failure and sepsis, and all recipients were given the Kevorkian option of ;[assisted suicide with a key](#) to turn off the machine, ending their lives.

![Jarvik Heart](image)

1982: Seattle dentist Barney Clark, first Jarvik Heart Recipient Lived 112 Days

Would Barney B. Clark want Dr. Jarvik to sell Lipitor in television commercials?
Click Here for a Wall Street Journal Article about Dingell’s Investigation asking why Jarvik was chosen to sell Lipitor (23). Click Here to see Robert Jarvik appearing in a Lipitor Television Video selling Lipitor to the masses (60 seconds).(24)

Can you imagine what Jarvik would think about Lipitor if Jarvik had an enlightening conversation with John Abramson, M.D., or actually looked at the J-LIT data shown in the chart below which shows that mortality is the highest at the lowest cholesterol and LDL levels, a result just the opposite to what one would expect if cholesterol lowering was beneficial to one’s health. Notice the lowest mortality (lowest red bar) is located at 240–250 total cholesterol, and as cholesterol is lowered below 230, mortality goes up. The LDL chart below shows the same findings.

If Jarvik knew what this chart showed, would he then call a press conference recanting his position, apologizing to the nation for his part in the misleading and deceitful Lipitor Drug Ad campaign? Would Jarvik then tell the truth, and caution all women and elderly to avoid statin drugs? If Doctor Jarvik has an ounce of moral fibre that is exactly what he should and must do. We are waiting.

Feb 25 2008 latest development: Pfizer pulls the Jarvik Lipitor Ads. (40)

**How to Prevent and Reverse Heart Disease without Statins**

Click Here to read my article: Reversing Heart Disease Without Drugs
Click Here to read about **Hypothyroidism and Heart Disease**

**From the book:** *Solved: The Riddle of Heart Attacks* by Broda O. Barnes, M.D., Ph.D. and Charlotte W. Barnes. Prevention of Heart Attacks: The Key to Progress in Medicine

In 1970, Dr. Broda Barnes had 1,569 patients on natural thyroid hormone who were observed for a total of 8,824 patient years. These patients were compared to similar patients in the Framingham Study. Based on the statistics derived in the Framingham Study, **seventy-two** of Dr. Barnes's patients should have died from heart attacks; however, only **four** patients had done so. **This represents a decreased heart attack death rate of 95 percent in patients who received natural thyroid hormone—a truly remarkable finding.**

**A List of All the Statin Drugs with Chemical Name and Trade Name:**

- Atorvastatin = Lipitor, Torvast
- Cerivastatin = Lipobay, Baycol.
- Fluvastatin = Lescol, Lescol XL
- Lovastatin = Mevacor, Altocor
- Mevastatin
- Pitavastatin = Livalo, Pitava
- Pravastatin = Pravachol, Selektine
- Rosuvastatin = Crestor
- Simvastatin = Zocor, Lipex
- Simvastatin+Ezetimibe = Vytorin
- Lovastatin+Niacin extended-release = Advicor
- Atorvastatin+Amlodipine Besylate = Caduet

**How Do Statin Drugs Work?**

Statin Drugs lower cholesterol by inhibiting the enzyme **HMG-CoA reductase**, which is the rate-limiting enzyme of the mevalonate pathway of cholesterol synthesis. Inhibition of HMG-CoA reductase also blocks production of Co-Enzyme Q10.

**How were Statin Drugs Invented?**

Statins are isolated poisons derived from the fungus known as red yeast rice (*Monascus purpurus*).

Did you find this newsletter interesting? Feel free to Email it to a friend, or sign up for the newsletter with the link on the left sidebar.

**Can't convince your doctor NOT TO prescribe statin drugs for you?** **Print this newsletter and give it to your doctor.**

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The new cholesterol guidelines

USA Today, 2004, Cholesterol guidelines become a morality play the Associated Press

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Mary Enig, Cholesterol and Heart Disease-- A Phony Issue

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Dangers of Statin Drugs: What You Haven't Been Told About Popular Cholesterol-Lowering Medicines By Sally Fallon and Mary G. Enig, PhD

Therapeutics Initiative, Do Statins have a Role in Primary Prevention? There were 10,990 women in the primary prevention trials (28% of the total). Only coronary events were reported for women, but when these were pooled they were not reduced by statin therapy, RR 0.98 [0.85-1.12]. Thus the coronary benefit in primary prevention trials appears to be limited to men, RR 0.74 [0.68-0.81], ARR 2.0%, NNT 50 for 3 to 5 years.

(8) [http://jama.ama-assn.org/cgi/content/abstract/291/18/2243](http://jama.ama-assn.org/cgi/content/abstract/291/18/2243)

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Statin Drugs: A Critical Review of the Risk/Benefit Clinical Research, Joel M. Kauffman,
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LETTER TO THE EDITOR: Statins for women, elderly: Malpractice? Nutrition, Metabolism & Cardiovascular Diseases (2007) 17, e19ee20 Eddie Vos 127 Courser Rd, Sutton (Qc),

Who Will Tell the People? It Isn't Cholesterol! by Bill Sardi

Are lipid-lowering guidelines evidence-based? J Abramson and JM Wright

The Hidden Truth About Cholesterol-Lowering Drugs, by Shane Ellison, MS, Organic Chemistry


Government Health Agencies Complicit in Cholesterol Ruse by Bill Sardi on Lew Rockwell.com

Pharma Marketing Blog by Shaun McIver, of Streamlogics, Inc discussion of Zetia Enhance trial.


Vytorin video AD on You Tube 30 sec, Humorous clothes which look like the food. These adds have been pulled from natuional television.

Letter from John Dingel Mich to CEO of Pfizer asking for records on Jarvik and Lipitor, celebrity endorsement of Lipitor Ads.

Wall Street Journal January 16, 2008, 3:44 pm Congress Investigates Vytorin Ads Posted by Anna Wilde Mathews

Lipitor Ad with Robert Jarvik 60 seconds. This ad has been pulled and no longer shown on national television.

New Questions on Treating Cholesterol By ALEX BERENSON Published: January 17, 2008

 LDL Cholesterol, Bad Cholesterol or Bad Science by Anthony Colpo, Journal of American Physicians and Surgeons Volume 10 Number 3 Fall 2005


Statin Adverse Effects: Implications for the Elderly by Beatrice A. Golomb, M.D., Ph.D. Geriatric Times May/June 2004 Vol. V Issue 3. "No survival benefit with statin drugs is seen in elderly patients at high risk for cardiovascular disease (Shepherd et al., 2002). For patients older than 85, benefits may be more attenuated and risks more amplified (Weverling-Rijnsburger et al., 1997). In fact, in this older group, higher cholesterol has been linked observationally to improved survival.

Preventive health care in elderly people needs rethinking, BMJ 2007;335:285-287 (11 August), "Preventive use of statins shows no overall benefit in elderly people as cardiovascular mortality and morbidity are replaced by cancer".

Pravastatin in elderly individuals at risk of (PROSPER): a randomised controlled trial. THE LANCET • Published online November 19, 2002 •

SpaceDoc, Duane Graveline MD Autho of Statin Drugs Side Effects

THINCS The International Society of Cholesterol Sceptics

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SUICIDE AND EUTHANASIA Barney Clark’s key to turn off artificial heart.

Statins for primary prevention: at what coronary risk is safety assured?
Peter R Jackson Br J Clin Pharmacol. 2001 October; 52(4): 439–446. For people with no
known heart disease (primary prevention), "statin use could be associated with an increase
in mortality of 1% in 10 years."

Statins act like Vitamin D !! Lancet. 2006 Jul 1;368(9529):83-6. Grimes DS. "There are
many reasons why the dietary-heart-cholesterol hypothesis should be questioned, and why
statins might be acting in some other way to reduce the risk of coronary heart disease.
Here, I propose that rather than being cholesterol-lowering drugs per se, statins act as
vitamin D analogues, and explain why. This proposition is based on published
observations that the unexpected and unexplained clinical benefits produced by
statins have also been shown to be properties of vitamin D. It seems likely that
statins activate vitamin D receptors."

(40) http://www.reuters.com/article/governmentFilingsNews/idUSN2525934020080225
Pfizer pulls TV ads with heart expert Jarvik . By Lisa Richwine Mon Feb
25,WASHINGTON (Reuters) - Pfizer Inc said on Monday it was pulling television
advertisements for its Lipitor cholesterol drug featuring Dr. Robert Jarvik, inventor of the
Jarvik artificial heart, because they created "misimpressions."
The ads involving Jarvik had come under scrutiny from a U.S. House of Representative
committee as part of an investigation into celebrity endorsements of prescription
medicines. Democratic lawmakers had voiced concern that Jarvik's qualifications were
 misrepresented in widely seen TV commercials touting the blockbuster drug. They said
Jarvik seemed to be dispensing medical advice even though he is not a practicing physician.

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Red onion helps prevent heart disease

PTI, Oct 7, 2010, 04.29pm IST

The humble red onion, commonly used in Indian and Mediterranean cuisine, can help prevent heart disease, scientists have claimed.

Researchers at the Chinese University in Hong Kong found that red onion helps remove bad cholesterol from the body which is responsible for heart attacks and strokes.

It also retains the body's good cholesterol that in turn helps protect against heart disease, they said.

Zhen Yu Chen, who led the research, said: "Despite extensive research on onions, little is known of how their consumption interacts with human genes and proteins involved in cholesterol metabolism within the body."

"Our study was therefore undertaken to characterize the interaction of onions with enzymes in an
attempt to explore the underlying cholesterol-lowering mechanism," Zhen was quoted as saying by the Daily Mail.

"This study is the first of its kind to investigate the interaction of red onions with biological functions."

For their study, the scientists fed crushed-up red onions to hamsters who had all been put on a high-cholesterol diet.

They found that after eight weeks, levels of bad cholesterol, or low density lipoprotein (LDL), had dropped by an average of 20 per cent.

But over the same time period there was no reduction in the hamsters' high cholesterol levels, also known as high density lipoprotein (HDL), they said.

"The results support the claim that the regular consumption of onion reduces the risk of coronary heart disease," said Zhen.

Although white onions are by far the most popular type in Britain, red onions are widely used in India, the Middle East and the Mediterranean.

Onions have long been known to have many health benefits including preventing cancer, heart disease and common coughs and colds. It has been found that some parts of the world where onion consumption is high have even been shown to have much lower cancer rates.

For example in Georgia, the US, where the small, sweet Videlia onion is grown the number of stomach cancer diagnoses are a half the average for the rest of the cancer.

In China, where people eat more onions and garlic than anywhere else in the world, the risk of stomach cancer is 40 per cent lower than average.

**Lower Your Cholesterol**

*Ten ways to get the numbers down.*
No doubt you've heard it a thousand times by now: Heart disease is the number one killer among both men and women. And about half of all adults in America have cholesterol levels that are too high—which means there's a good chance yours are. If you haven't had them checked lately, don't ignore it any longer.

Cholesterol, the naturally occurring waxy substance produced by your body, isn't a bad thing—unless you have too much of the bad kind. Then it contributes to the formation of artery-clogging plaque, increasing your risk of heart disease and stroke.

Bad kind? That's right. You have two main types of cholesterol: Low-density lipoprotein, or LDL (the “bad” cholesterol), and high-density lipoprotein, or HDL (the “good” cholesterol). LDL carries cholesterol into your arteries, and HDL carries it away to your liver. Needless to say, the less LDL and the more HDL you have the better. Beyond that basic fact, other details matter too, like the size of your LDL particles. Smaller, denser LDL particles are more dangerous because it's easier for them to burrow into artery walls.

If you have high cholesterol, your doctor may put you on cholesterol-lowering medication. But even if he does, pay special attention to the tips in this chapter. Because research suggests that by eating the right foods, getting enough exercise, and generally taking good care of yourself, you could slash your risk of dying from heart disease by an incredible 80 percent.

1. **Drink two glasses of orange juice every morning.** But make it Minute Maid’s HeartWise or another brand spiked with the same kind of cholesterol-lowering plant sterols found in margarine spreads like Benecol. When researchers at the University of California-Davis asked 72 men and women with mildly high cholesterol to drink either HeartWise or regular OJ, those drinking the sterol-fortified juice found their total cholesterol levels dropped 7 percent (an average of 13 points) and levels of “bad” LDL cholesterol dropped 13 percent (an average of 8 points). Those who drank regular juice had no changes. But maybe they weren't drinking enough: Another study, this one from the University of Western Ontario, found that three glasses a day of orange juice--any orange juice--for four weeks raised HDL levels 21 percent and improved the ratio of good to bad cholesterol by 16 percent.

2. **Eat six or more small meals a day.** A large study of British adults found that people who ate six or more times a day had significantly lower cholesterol than those who ate twice a day, even though the “grazers” got more calories and fat! In fact, the differences in cholesterol between the two groups were large enough to reduce the grazers' risk of coronary heart disease 10-20 percent. Just make sure those six meals are truly small.
3. **Quaff a glass of wine every evening with dinner.** Studies find a daily glass of wine or beer a day can boost levels of HDL cholesterol. Make the wine a red one--red wines are 3-10 times higher in plant compounds called saponins believed to be responsible for much of wine's beneficial effects on cholesterol.

4. **Fix all your sandwiches on whole grain bread.** Simply cutting back on simple carbs like white bread and eating more complex carbs, like whole grain bread and brown rice, can increase HDL levels slightly and significantly lower triglycerides, another type of blood fat that contributes to heart disease.

5. **Use paper filters when brewing your coffee and skip the espresso.** Two substances found in brewed coffee, kahweol and cafestol, increase cholesterol levels. But paper filters trap these compounds, so they're only a problem if you drink espresso or use coffeemakers without filters.

6. **Use olive oil in your homemade salad dressing tonight.** A Baylor College of Medicine study found that diets rich in the kind of monounsaturated fat found in olive oil reduced LDL cholesterol in people with diabetes or metabolic syndrome--a cluster of risk factors including low HDL, high insulin levels, and overweight--just as well as following a low-fat diet.

7. **Sip a cup of black tea every four hours.** Government scientists found that three weeks of drinking five cups a day of black tea reduced cholesterol levels in people with mildly high levels.

8. **Add half a tablespoon of cinnamon to your coffee beans** (ground or whole) before starting the pot. A Pakistani study found that 6 grams cinnamon a day (about 1/2 tablespoon) reduced LDL cholesterol in people with type 2 diabetes nearly 30 percent and cut total cholesterol 26 percent.

9. **Have oatmeal for breakfast every morning.** There's a reason oat manufacturers are allowed to boast about the grain's cholesterol-lowering benefits: Plenty of research has proved them. Rich in a soluble fiber called beta glucan, oatmeal can drop your LDL 12-24 percent if you eat one and a half cups regularly. Choose quickcooking or old-fashioned oats over instant.

10. **This week, have a few glasses of cranberry juice every day** (cut it with seltzer or water so you get less sugar). Cranberries are rich sources of anthocyanins, flavonols, and proanthocyanidins, plant chemicals that prevent LDL cholesterol from oxidizing, a process
that makes it more likely to stick to artery walls. These chemicals also keep red blood cells from getting too sticky. An added bonus: They initiate a complex chemical reaction that helps blood vessels relax. Plus (the part you were waiting for) they decrease LDL cholesterol levels. Not only that, but University of Scranton researchers reported that three glasses of cranberry juice a day can raise HDL levels up to 10 percent.

Start looking after your heart health today. Discover how three daily portions of Flora pro.activ can help lower your cholesterol

Many of us think adopting healthy habits is a real challenge. But when it comes to something as important as your heart, simple changes to your lifestyle and diet can achieve great results. Lowering your cholesterol is the perfect example.

High cholesterol is a major risk factor in developing heart disease – and changing your diet is one of the key ways you can bring it down. And what could be easier than switching to the Flora pro.activ range of foods? Flora pro.activ low-fat spreads, one-a-day mini drinks, milk and low-fat yogurts contain plant sterols, an active ingredient that is clinically proven to filter out cholesterol in the gut, meaning less is absorbed by the body. Eating Flora pro.activ foods every day can lower harmful cholesterol by 10%, and this can be increased by a further 5% when combined with a healthier diet and lifestyle.

The danger of cholesterol

Found naturally in the body, cholesterol is a waxy substance produced by your liver. Diet can also contribute to cholesterol levels, and too much unhealthy saturated fat can increase the amount of bad (LDL) cholesterol circulating in your blood. This is when it becomes a problem, as high levels can cause a build-up of fatty deposits in your arteries and lead to heart problems.

Does Flora pro.activ really work?

The benefits are well researched, with 40 clinical studies indicating the Flora pro.activ range of foods can significantly lower damaging LDL cholesterol. While switching to a healthy balanced diet alone can lower cholesterol by an average of 5%, eating the right amount of plant sterols each day is clinically proven to lower cholesterol an extra 10%. No other individual food is more effective at lowering your cholesterol.

How much do I need to eat?

Three is the perfect number to remember. That’s because three servings from the Flora pro.activ range provide the daily recommended 2g-2.5g of plant sterols needed to lower your cholesterol. So all you need each day is to eat three portions of Flora pro.activ spread, milk or yogurt (0.75g sterols per portion, or 2.25g total) or drink just one Flora pro.activ mini drink (2g plant sterols). It’s that simple.
Lower cholesterol with this spread

Spread flora [proavite on your favorite crackers and top with this zesty relish. Red bell peppers and sweet red onion are simmered in white wine vinegar and red pepper flakes.

Apple Cinnamon Oatmeal

Prep Time:
5 Min

Cook Time:
5 Min

Ready In:
10 Min

Ingredients

- 1 cup water
- 1/4 cup apple juice
- 1 apple, cored and chopped
- 2/3 cup rolled oats
• 2 teaspoons crushed psyllium seed
• 1 teaspoon ground cinnamon
• 1 cup milk

**Directions**

1. Combine the water, apple juice, and apples in a saucepan. Bring to a boil over high heat, and stir in the rolled oats and cinnamon. Return to a boil, then reduce heat to low, and simmer until thick, about 3 minutes. Spoon into serving bowls, and pour milk over the servings.

**Other recipes to lower cholesterol**

1. **Meaty Cabbage Stew**
   Boil lean ground beef along with kidney beans, pinto beans, red onions, red yeast rice, oyster mushrooms, coleslaw mix, and diced tomatoes. Add tomato juice. Let it simmer for a while. Add some seasoning to taste. Serve hot.
   This is a very simple low cholesterol recipe for people on the go. With minimal preparation time, you can make a healthy vegetable stew with a delicious, meaty taste. Just be sure you use extra lean beef in this recipe so you’ll get minimal fats and cholesterol.

2. **Special Tuna Salad**
   Open a can of tuna in brine or oil. Drain. Flake the meat in small sizes. Add pickles and dried cranberries for a sweet and sour tart taste. Put pepper, vinegar, and seasoning. Toss in a salad bowl until all ingredients are mixed well. Add red onions, red yeast rice, oyster mushrooms for extra impact.
   This recipe to lower cholesterol is perfect for lunch or dinner. You can eat it as is or you can use it as a sandwich filling. Just make sure you use rye bread. Tuna, along with other oily fish like salmon, are good sources of Omega-3 fatty acids that are good for the heart. Fish make a good alternative to red meat and poultry as it can reduce cholesterol level in the blood.

3. **Steamed Fish Delight**
   Steam a good serving of salmon. Boil a small pack of tomato sauce in a sauce pan. Add seasoning and pepper to taste. When the fish is done, put in a platter. Pour over the prepared tomato sauce. Put some parsley on the side for garnishing.

   Add red onions, red yeast rice, oyster mushrooms for extra impact. This recipe is a good twist to the traditional steamed fish with mayonnaise meal. Mayonnaise is made with eggs, which are high in cholesterol. It is best that it is removed from your diet, or at least limit its intake.
Fish are healthy meats. Tomato sauce can also help the functions of the heart because studies show that it produces Omega-3 when heated. This recipe is best for dinner or for lunch.

4. Vegetable Shake
Cut carrots, tomatoes, and a small amount of ginger into cubes. Put in a blender. Squeeze a lemon into it. Blend well. You can also add green chili and peanuts if desired. Put a small amount of honey to taste.

This low cholesterol recipe is good for snacks or breakfast. A vegetable shake is a good substitute for protein shake that is usually prepared for building muscles. If protein shakes can build muscles, this vegetable shake will surely lower down your cholesterol level in no time.

These recipes crave basal alertness time so they can be enjoyed alike by the busiest individuals. Keep in apperception that cholesterol is primarily acquired from the aliment that you eat. In adjustment to advance a advantageous lifestyle, you accept to alpha bistro right. These aliment items would absolutely advice you lower bottomward your cholesterol akin until it goes back to normal. Recipes to lower cholesterol above good examples, and you can easily prepare.

Lower Your Cholesterol With Herbal & Homeopathic Foods & Remedies

Unfortunately, the medical community is quick to prescribe another expensive medication to lower cholesterol but they are far less likely to suggest great herbal or homeopathic measures like this.

Along with getting plenty of fiber, there are foods that will help in promoting the lowering of cholesterol as well as herbs that can further reduce cholesterol.

Foods containing pectin are advantageous to lowering cholesterol levels. Carrots, apples and the white layer inside of citrus rinds are particularly beneficial.

Avocado, which is very high in fat, has unexpectedly become a cholesterol reducer. A study of women who were given a choice of a high monounsaturated fats (olive oil) along with avocado diet or a complex carbohydrate consisting of starches and sugars reported interesting results. In six weeks, the former group on the olive oil and avocado diet showed an 8.2 percent reduction in cholesterol.
Beans. Gotta love ‘em. They are high in fiber and low in cholesterol. What more could you ask for! A cup and a half of beans, or the amount in a bowl of soup, can lower total cholesterol levels by as much as 19 percent!

Garlic. We discussed garlic earlier but it is well worth repeating here. Use it liberally in your diet. Not only will it help to lower your cholesterol it is also credited with lowering blood pressure. Be sure you include generous amounts of garlic as well as onions in your daily diet.

Cayenne pepper (Capsicum minimum) and other plants that contain the phenolic compound capsaicin have a well demonstrated effect in lowering blood cholesterol levels, as does the widely used spice Fenugreek.

Caraway is another aromatic spice with demonstrable cholesterol lowering properties.

A whole range of Asian herbal remedies new to western medicine are proving to be valuable in this field.

Remember when the “low-fat” mantra began? We all jumped in with both feet and some of us still live on low fat foods, like having a baked potato but no butter or sour cream. Maybe you eat pasta, veggies and fat free desserts. So how come you still gain weight?

Good question. Researchers from the National Center for Health Statistics studied the eating habits of 8.260 adult Americans between 1988 and 1991. They found that Americans have significantly reduced their fat intake but still packed on extra pounds.

In fact, a national health and nutrition survey of American adults concludes that two thirds of the population is overweight.

The answer is very simple and right in front of us. So many of us jumped on the low fat diet and assumed that if it’s low fat it can’t make us fat. Right? Wrong. We were so involved with the low fat concept that we forgot to count calories!

If you are eating more calories that your body needs, whether from fat or carbohydrates, the body will store them as fat. Period. According to a National Institutes of Health study, by 1990 the average American was consuming hundreds more calories a day than he was consuming 10 years before.

There are researchers who believe that eating small amounts of fat can keep you from overindulging on total calories. Ohio State University nutrition scientist John Allred points out that dietary fat causes our bodies to produce a hormone that tells our intestines to slow down the emptying process. We feel full and are less likely to overeat.

Add a little bit of peanut butter to your piece of fruit and it can help to keep you from a binge later.

Here is another trap to avoid. Reducing fat might not be as smart as it sounds. Tufts University scientists recently put 11 middle-aged men and women volunteers on a variety of average reduced and low fat diets.

The results were astounding. Very low fat diets which provided only 15 percent of fat from calories did have a positive effect on blood cholesterol and triglyceride levels. By the way, that diet is so strict there is no way it could be duplicated in real life. But a reduced fat diet, which is more realistic, only affected those levels if accompanied by weight loss.

Not only that, they concluded that cutting fat without losing weight actually increased triglyceride levels and decreased HDL!
So while excess fat is not healthy, it isn't a dirty word either. Without some fat in our diets, our bodies could not make nerve cells and hormones or absorb fat-soluble vitamins.

If obesity is one of your high cholesterol causes, try losing a pound a week with a 500 calorie solution. No, we aren't going to ask you to only eat 500 calories a week! What you can do is easily lose a pound a week just by cutting 500 calories a day out of your diet. You can easily burn 250 of them just by spending about 30 minutes of aerobic exercise, like bicycling, dancing or just walking. To get rid of the other 250 try cutting out mayonnaise, doughnuts and alcohol.

If there were no other reason to take control of cholesterol, here's one that certainly has merit.

**A recent study found that men with high cholesterol are twice as likely to be impotent as men whose cholesterol levels are normal or low.**

Researchers recorded cholesterol levels of 3,250 healthy men between the ages of 25 and 83. Men with total cholesterol higher than 240 milligrams/dl were twice as likely to have trouble achieving or maintaining an erection than men who cholesterol levels were below 180 milligrams/dl.

Men who had low levels of HDL were also twice as likely to suffer from impotence. The same high-fat diet that narrows arteries and blocks blood flow to your heart also narrows the arteries that carry blood to your penis. Blood has to be able to get to your penis in order for you to have an erection. Take control now and you'll find yourself improving in this area of your life as well.

The typical American diet consists of fatty meats, processed cold cuts, dairy products and fried foods. As if that weren't enough, throw in commercially baked breads, roles, cakes, chips and cookies. This is a surefire path to high cholesterol.

Oddly, ingesting cholesterol will not raise the blood cholesterol nearly as much as eating a type of fat called “saturated fat.” Like cholesterol, saturated fat is primarily found in animal products like cheese, butter, cream, whole milk, ice cream, lard and marbled meats.

Don't believe that if you just change to vegetable oil you can eliminate the problem. Some vegetable oils are also high in saturated fat. Palm oil, palm kernel oil, coconut oil and cocoa butter are also very high in saturated fat. Unfortunately, these are also most often used in commercially baked goods, coffee creams and nondairy whipped toppings, so make sure you read labels.

Here is a chart showing the comparisons of different oils.
Although all of the oils listed above (except butter) contain no measurement of dietary cholesterol, to lower your own cholesterol level, you must use oils low in saturated fat. Canola oil (7% saturated fat) is one of the best available cooking oils. Olive oil (14% saturated fat) is also good to use.

One more rule that makes this chart just a bit misleading. Any fat that is hard at room temperature, such as stick margarine, is not good for your cholesterol. Margarine has been hydrogenated (hardened) and that process adds trans fatty acids.

Trans fatty acids are as bad for you as saturated fat, so stick margarine is equal to butter as far as your cholesterol is concerned. Diet and soft margarines are a better bet. Also look for brands of margarine or shortening that top the ingredient list with oils rich in monounsaturated fat, like canola oil.

Try substituting butter and margarine with a fruit puree. Prune puree is one particularly popular alternative but try using applesauce and apricots as substitutes.

<table>
<thead>
<tr>
<th>Product</th>
<th>Saturated</th>
<th>Cholesterol</th>
<th>Polyunsaturated</th>
<th>Monounsaturated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canola Oil</td>
<td>7%</td>
<td>0 mg</td>
<td>35%</td>
<td>56%</td>
</tr>
<tr>
<td>Safflower Oil</td>
<td>9%</td>
<td>0 mg</td>
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<td>Sunflower Oil</td>
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<td>42%</td>
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</tr>
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<td>Corn Oil</td>
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<td>0 mg</td>
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<td>25%</td>
</tr>
<tr>
<td>Olive Oil</td>
<td>14%</td>
<td>0 mg</td>
<td>12%</td>
<td>74%</td>
</tr>
<tr>
<td>Hydrogenated Sunflower Oil</td>
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<td>0 mg</td>
<td>40%</td>
<td>46%</td>
</tr>
<tr>
<td>Sesame Oil</td>
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<td>0 mg</td>
<td>44%</td>
<td>42%</td>
</tr>
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<td>0 mg</td>
<td>60%</td>
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<td>36%</td>
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<td>17%</td>
<td>0 mg</td>
<td>37%</td>
<td>46%</td>
</tr>
<tr>
<td>Peanut Oil</td>
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<td>Margarine, stick</td>
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<td>Coconut Oil</td>
<td>92%</td>
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</table>
What has the chefs who specialize in nutrition so excited about using prune puree is the significant difference in fat grams as well as calories. One cup of prune puree has 407 calories and one gram of fat. One cup of butter has 1,600 calories and 182 grams of fat. One cup of oil has 1,944 calories and 218 grams of fat. You can see now why bakers are excited about prunes!

Prunes also contain large amounts of pectin which helps hold in the air bubbles that make baked goods rise. They also have large amounts of sorbitol, a sugar alcohol, which helps keep baked goods moist and gives them the flaky, tender taste of shortening or butter.

The only drawback to using fruits like applesauce and apricots as fat substitutes is that baked goods tend to become soggy and moldy within a day or two so plan quantities accordingly. Also, when baking with substitutes for fat, use cake flour instead of regular all purpose flour. It will keep the baked good tender. Don’t over bake your fat reduced recipes as they do tend to dry out quicker than traditional recipes that call for butter or oil.

Here’s another healthy living tip for you. If you really have trouble giving up your favorite high fat cheese, try this. Turn it into a low fat version. Just zap it in the microwave for a minute or two. Pull it out and drain off the oil. It will significantly reduce the fat content of the cheese. This will work well for cheese sandwiches, toppings and other recipes that call for your favorite cheese.

Scientists have discovered that water mixed with fructose suppresses the appetite better than glucose with water or even diet drinks. Fructose is the kind of sugar found in fruits. Drink a glass of fructose rich orange juice a half hour to an hour before a meal. You will eat fewer calories during the next meal and still feel comfortably full.

Don’t think that just because we are discussing “fat free” regimens that you must cut beef completely out of your diet. Too much of this “good thing” won’t do you any favors. However, you can have your steak and eat it too, provided it’s a cut that is relatively low in fat and cholesterol and you do not add fat in the cooking and serving process.

When shopping for beef, select grade eye of round is considered by some to be just that. A 3 ½ ounce serving has approximately four grams of fat, less than half of the amount in a 1 ounce serving of cheddar cheese. It also contains 69 milligrams of cholesterol, among the lowest for meats, and it is a good source of zinc, iron and other nutrients.

Tip round, bottom round and top sirloin are also relatively lean and high in these nutrients.

Turkey breast and chicken breast are prizes as soon as you remove the skin. Turkey has less than 1 gram of fat and 83 milligrams of cholesterol. Chicken has 3.6 grams of fat and 85 milligrams of cholesterol.

Pork tenderloin is the top choice for the “other white meat,” while leg shank is the leanest choice among lamb cuts.

Cinnamon has blood-thinning properties that can help lower cholesterol levels, says Vasant Lad, B.A.M.S., M.A.Sc, director of the Ayurvedic Institute in Albuquerque, New Mexico. He suggests this tea: Mix 1 teaspoon of cinnamon and ¼ teaspoon of trikatu (a lend of ginger and two kinds of peppers) directly into a cup of hot water, then stir and steep for five minutes.

Add a teaspoon of honey once the tea has cooled. Dr. Lad says to drink this beverage twice daily, once in the morning and once in the evening. Trikatu is available from Ayurvedic practitioners and in some health food stores.
The best meal for anyone worried about their cholesterol is a meal low in saturated fat and abundant in fruits and vegetables. And although there are no magic bullets beyond that healthy prescription, certain foods have been shown to give cholesterol levels an extra nudge in the right direction.

Weave some of these whole foods, all pinpointed by research as cholesterol-friendly, into your daily diet, and be sure to try some of our heart-healthy recipes below.

**Alcohol**

Drinking a glass of wine with dinner — any alcoholic beverage, in fact — has been shown to raise good-cholesterol levels and lower the risk of a heart attack. (Excessive drinking, however, raises heart-disease danger.)

**Almonds**

Substances in almond skins help prevent LDL "bad" cholesterol from being oxidized, a process that can otherwise damage the lining of blood vessels and increase cardiovascular risk.

- Sprinkle almonds on cereals and salads, nibble on a handful for an afternoon snack.

**Avocados**

The monounsaturated fats in avocados have been found to lower "bad" LDLs and raise "good" HDLs, especially in people with mildly elevated cholesterol.

- Slice avocados into sandwiches and salads or mash with garlic, lemon juice and salsa for a terrific guacamole.

**Barley**

When volunteers in a USDA study added barley to the standard American Heart Association diet, LDL "bad" cholesterol levels fell more than twice as far.

- Barley makes a great substitute for rice, adds depth to soups and is terrific combined with dried fruits, nuts and a little oil and vinegar for a hearty salad.

**Beans & Lentils**

From a recent study in the Annals of Internal Medicine, LDL "bad" cholesterol levels fell almost twice as far in those volunteers on a low-fat diet who added beans and lentils (along with more whole grains and vegetables) to the menu.

- Experiment with beans in soups, salads, and dips. Tuck them into burritos, lasagnas and casseroles.

**Blueberries**

Blueberries contain a powerful antioxidant called pterostilbene that may help lower LDL cholesterol.
• Toss a cup of frozen blueberries together with a half-cup of orange juice and vanilla-flavored yogurt into the blender for a healthy breakfast drink. Sprinkle fresh blueberries on cereals and eat them by the handfuls for snacks.

Oats

When women in a University of Toronto study added oat bran to an already heart-healthy diet, HDL-cholesterol levels — the beneficial kind — climbed more than 11 percent.

• Consider a daily bowl of oat bran hot cereal or old-fashioned oatmeal for breakfast. Oat bran muffins can also pack a tasty dose into your day.

Psyllium seed

The most powerful of cholesterol lowering foods but taste and allergic sensitivity make it little used.

• Consider adding some to your diet in foods in small proportions.

SINTHETIC DRUG STATIN RISKS and HISTORY

Statins (or HMG-CoA reductase inhibitors) are a class of drug used to lower cholesterol levels by inhibiting the enzyme HMG-CoA reductase, which plays a central role in the production of cholesterol in the liver. Increased cholesterol levels have been associated with cardiovascular diseases (CVD), and statins are therefore used in the prevention of these diseases. Randomized controlled trials have shown that they are most effective in those already suffering from cardiovascular disease (secondary prevention), but they are also advocated and used extensively in those without previous CVD but with elevated cholesterol levels and other risk factors (such as diabetes and high blood pressure) that increase a person's risk.\textsuperscript{11}

The best known of the statins is atorvastatin, marketed as Lipitor and manufactured by Pfizer. By 2003 it had become the best-selling pharmaceutical in history,\textsuperscript{21} with Pfizer reporting sales of $12.4 billion in 2008.\textsuperscript{13} As of 2010, a number of statins are on the market: atorvastatin (Lipitor and Torvast), fluvastatin (Lescol), lovastatin (Mevacor, Altocor, Altoprev), pitavastatin (Livalo, Pitava), pravastatin (Pravachol, Selektine, Lipostat), rosuvastatin (Crestor) and simvastatin (Zocor, Lipex).\textsuperscript{14} Several combination preparations of a statin and another agent—such as ezetimibe/simvastatin, sold as Vytorin—are also available.

Adverse effects

The most common adverse side effects are raised liver enzymes and muscle problems. In randomized clinical trials, reported adverse effects are low; but "higher in studies of real world use", and more varied.\textsuperscript{16} In randomized trials statins increased the risk of an adverse effect by 39% compared to placebo (odds ratios 1.4); two-thirds of these were myalgia or raised liver
enzymes with serious adverse effects similar to placebo.\textsuperscript{[27]} However, reliance on clinical trials can be misleading indications of real-world adverse effects – for example, the statin cerivastatin was withdrawn from the market in 2001 due to cases of rhabdomyolysis (muscle breakdown), although rhabdomyolysis did not occur in a meta-analysis of cerivastatin clinical trials.\textsuperscript{[26]} Other possible adverse effects include cognitive loss, neuropathy, pancreatic and hepatic dysfunction, and sexual dysfunction.\textsuperscript{[26]}

Some patients on statin therapy report myalgias,\textsuperscript{[28]} muscle cramps,\textsuperscript{[28]} or, less frequently, gastrointestinal or other symptoms. Liver enzyme derangements may also occur, typically in about 0.5\%,\textsuperscript{[citation needed]} are also seen at similar rates with placebo use and repeated enzyme testing, and generally return to normal either without discontinuance over time or after briefly discontinuing the drug. Multiple other side-effects occur rarely; typically also at similar rates with only placebo in the large statin safety/efficacy trials. Two randomized clinical trials found cognitive issues while two did not; recurrence upon reintroduction suggests that these are causally related to statins in some individuals.\textsuperscript{[29]} A Danish case-control study published in 2002 suggested a relation between long term statin use and increased risk of nerve damage or polyneuropathy\textsuperscript{[30]} but suggested this side effect is "rare, but it does occur";\textsuperscript{[31]} other researchers have pointed to studies of the effectiveness of statins in trials involving 50,000 people which have not shown nerve damage as a significant side effect.\textsuperscript{[32]}

Rare reactions include myositis and myopathy, with the potential for rhabdomyolysis (the pathological breakdown of skeletal muscle) leading to acute renal failure. Coenzyme Q10 (ubiquinone) levels are decreased in statin use;\textsuperscript{[33]} Q10 supplements are sometimes used to treat statin-associated myopathy, though evidence of their effectiveness is currently lacking.\textsuperscript{[34]} A common variation in the \textit{SLCO1B1} gene, which participates in the absorption of statins, has been shown to significantly increase the risk of myopathy.\textsuperscript{[35]}

Graham et al. (2004) reviewed records of over 250,000 patients treated from 1998 to 2001 with the statin drugs atorvastatin, cerivastatin, fluvastatin, lovastatin, pravastatin, and simvastatin.\textsuperscript{[36]} The incidence of rhabdomyolysis was 0.44 per 10,000 patients treated with statins other than cerivastatin. However, the risk was over tenfold greater if cerivastatin was used, or if the standard statins (atorvastatin, fluvastatin, lovastatin, pravastatin, simvastatin) were combined with fibrate (fenofibrate or gemfibrozil) treatment. Cerivastatin was withdrawn by its manufacturer in 2001.

All commonly used statins show somewhat similar results, however the newer statins, characterized by longer pharmacological half-lives and more cellular specificity, have had a better ratio of efficacy to lower adverse effect rates.\textsuperscript{[citation needed]} Some researchers have suggested that hydrophilic statins such as fluvastatin, rosuvastatin, and pravastatin are less toxic than lipophilic statins such as atorvastatin, lovastatin, and simvastatin, but other studies have not found a connection;\textsuperscript{[37]} it is suggested that the risk of myopathy is lowest with pravastatin and fluvastatin probably because they are more hydrophilic and as a result have less muscle penetration.\textsuperscript{[citation needed]} Lovastatin induces the expression of gene atrogin-1, which is believed to be responsible in promoting muscle fiber damage.\textsuperscript{[27]}
Although there have been concerns that statins might increase cancer, several meta-analyses have found no relationship to cancer, the largest of which as of 2006 included nearly 87,000 participants.\[^{38}\] However, in 2007 a meta-analysis of 23 statin treatment arms with 309,506 person-years of follow-up found that there was an inverse relationship between achieved LDL-cholesterol levels and rates of newly diagnosed cancer that the authors claim requires further investigation.\[^{39}\]

Several case-control studies have found that statins reduce cancer incidence,\[^{38}\] including one\[^{40}\] which showed that patients taking statins for over 5 years reduced their risk of colorectal cancer by 50%; this effect was not exhibited by fibrates although the trialists warned that the number needed to treat would approximate 5000, making statins unlikely tools for primary prevention.\[^{40}\]

**Drug interactions**

Combining any statin with a fibrate, another category of lipid-lowering drugs, increases the risks for rhabdomyolysis to almost 6.0 per 10,000 person-years.\[^{36}\] Most physicians have now abandoned routine monitoring of liver enzymes and creatine kinase, although they still consider this prudent in those on high-dose statins or in those on statin/fibrate combinations, and mandatory in the case of muscle cramps or of deterioration in renal function.

Consumption of grapefruit or grapefruit juice inhibits the metabolism of statins. Furanocoumarins in grapefruit juice (i.e. bergamottin and dihydroxybergamottin) inhibit the cytochrome P450 enzyme CYP3A4, which is involved in the metabolism of most statins (however it is a major inhibitor of only lovastatin, simvastatin and to a lesser degree atorvastatin) and some other medications\[^{41}\] (it had been thought that flavonoids (i.e. naringin) were responsible). This increases the levels of the statin, increasing the risk of dose-related adverse effects (including myopathy/rhabdomyolysis). Consequently, consumption of grapefruit juice is not recommended in patients undergoing therapy with most statins. An alternative, somewhat risky, approach is that some users take grapefruit juice to enhance the effect of lower (hence cheaper) doses of statins. This is not recommended as a result of the increased risk and potential for statin toxicity.
# Summary of Prescription Drug Interactions with Grapefruit Juice Categorized Based on Likelihood of Clinical Importance

<table>
<thead>
<tr>
<th>Category A: Low or negligible likelihood of clinically important interaction</th>
<th>Category B: Clinically important interaction possible</th>
<th>Category C: Clinically important interaction likely</th>
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<tbody>
<tr>
<td>Macrolide Antimicrobials</td>
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<td>Clarithromycin</td>
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<td>Erythromycin</td>
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<td>Telithromycin</td>
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<tr>
<td>Sedative-Hypnotics and Anticholinergics</td>
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<tr>
<td>Alprazolam</td>
<td>Triazolam</td>
<td>Buspirone</td>
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<td>Quazepam</td>
<td>Midazolam</td>
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<td></td>
<td>Diazepam</td>
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<td>Other Psychotropic Drugs</td>
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<tr>
<td>Clozapine</td>
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<td>Fluvoxamine</td>
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<td>Haloperidol</td>
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<td>Methadone</td>
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<td>Sertraline</td>
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<tr>
<td>Calcium Channel Antagonists</td>
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<tr>
<td>Amlodipine</td>
<td>Nisoldipine</td>
<td>Fosidipine</td>
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<td>Diltiazem</td>
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<td>Nicardipine</td>
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<td>Nifedipine</td>
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<td>Nimodipine</td>
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<td>Verapamil</td>
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<tr>
<td>Antiarrhythmics</td>
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<td>Amiodarone</td>
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<td>Quinidine</td>
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<tr>
<td>Statins (HMG-CoA Reductase Inhibitors)</td>
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<tr>
<td>Atorvastatin</td>
<td>Fluvastatin</td>
<td>Simvastatin</td>
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<td>Pravastatin</td>
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<tr>
<td>Anticonvulsants</td>
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<tr>
<td>Phenytoin</td>
<td>Carbamazepine</td>
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<td>Immunosuppressant</td>
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<td>Cyclosporine</td>
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<td>Antiretrovirals</td>
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<tr>
<td>Hormones</td>
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<td>Estradiol</td>
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<td>17β-estradiol</td>
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<td>Progesterone</td>
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<tr>
<td>Methylprednisolone</td>
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<td>L-thyroxine</td>
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<tr>
<td>Other Drugs</td>
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<tr>
<td>Acebutolol</td>
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<td>Digoxin</td>
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<td>Glyburide</td>
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<td>Omeprazole</td>
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<td>Scopolamine</td>
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<td>Sildenafil</td>
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Concerns

Some scientists take a skeptical view of the need for many people to require statin treatment. Given the wide indications for which statins are prescribed, and the declining benefit in groups at lower baseline risk of cardiovascular events, the evidence base for expanded statin use has been questioned by some researchers. A smaller group of scientists, such as The International Network of Cholesterol Skeptics, question the "lipid hypothesis" itself and argue that elevated cholesterol has not been adequately linked to heart disease. These organizations maintain that statins are not as beneficial or safe as suggested.
The HMG-CoA reductase pathway, which is blocked by statins via inhibiting the rate limiting enzyme HMG-CoA reductase. Comparative effectiveness

No large scale comparison exists that examines the relative effectiveness of the various statins against one another for preventing hard cardiovascular outcomes, such as death or myocardial infarction.

An independent analysis has been done to compare atorvastatin, pravastatin and simvastatin, based on their effectiveness against placebos. It found that, at commonly prescribed doses, there are no statistically significant differences amongst statins in reducing cardiovascular morbidity and mortality. The CURVES study, which compared the efficacy of different doses of atorvastatin, simvastatin, pravastatin, lovastatin, and fluvastatin for reducing LDL and total
cholesterol in patients with hypercholesterolemia, found that atorvastatin was more effective without increasing adverse events. [21]

Statins differ in their ability to reduce cholesterol levels. Doses should be individualized according to patient characteristics such as goal of therapy and response. After initiation and/or dose changes, lipid levels should be analyzed within 1–3 months and dosage adjusted accordingly, then every 6–12 months afterwards. [22] [23] [24] [25]

### Statin Equivalent Dosages

<table>
<thead>
<tr>
<th>% LDL Reduction (approx.)</th>
<th>Atorvastatin</th>
<th>Fluvastatin</th>
<th>Lovastatin</th>
<th>Pravastatin</th>
<th>Rosuvastatin</th>
<th>Simvastatin</th>
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</thead>
<tbody>
<tr>
<td>10-20%</td>
<td>--</td>
<td>20 mg</td>
<td>10 mg</td>
<td>10 mg</td>
<td>--</td>
<td>5 mg</td>
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<tr>
<td>20-30%</td>
<td>--</td>
<td>40 mg</td>
<td>20 mg</td>
<td>20 mg</td>
<td>--</td>
<td>10 mg</td>
</tr>
<tr>
<td>30-40%</td>
<td>10 mg</td>
<td>80 mg</td>
<td>40 mg</td>
<td>40 mg</td>
<td>5 mg</td>
<td>20 mg</td>
</tr>
<tr>
<td>40-45%</td>
<td>20 mg</td>
<td>--</td>
<td>80 mg</td>
<td>80 mg</td>
<td>5–10 mg</td>
<td>40 mg</td>
</tr>
<tr>
<td>46-50%</td>
<td>40 mg</td>
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<td>--</td>
<td>--</td>
<td>10–20 mg</td>
<td>80 mg</td>
</tr>
<tr>
<td>50-55%</td>
<td>80 mg</td>
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<td>--</td>
<td>20 mg</td>
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<tr>
<td>56-60%</td>
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<td>--</td>
<td>40 mg</td>
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</tbody>
</table>

### Starting dose

<table>
<thead>
<tr>
<th>Starting dose</th>
<th>Atorvastatin</th>
<th>Fluvastatin</th>
<th>Lovastatin</th>
<th>Pravastatin</th>
<th>Rosuvastatin</th>
<th>Simvastatin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starting dose</td>
<td>10–20 mg</td>
<td>20 mg</td>
<td>10–20 mg</td>
<td>40 mg</td>
<td>10 mg; 5 mg</td>
<td>20 mg</td>
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<td>if hypothyroid, &gt;65 yo, Asian</td>
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<tr>
<td>If higher LDL reduction goal &gt;45%</td>
<td>40 mg if &gt;45%</td>
<td>40 mg if &gt;25%</td>
<td>20 mg if &gt;20%</td>
<td>--</td>
<td>20 mg if LDL &gt;190 mg/dL (4.87 mmol/L)</td>
<td>40 mg if &gt;45%</td>
</tr>
</tbody>
</table>

### Optimal timing

- Anytime
- Evening
- With evening meals
Statins act by competitively inhibiting HMG-CoA reductase, the first committed enzyme of the HMG-CoA reductase pathway. Because statins are similar to HMG-CoA on a molecular level they take the place of HMG-CoA in the enzyme and reduce the rate by which it is able to produce mevalonate, the next molecule in the cascade that eventually produces cholesterol, as well as a number of other compounds. This ultimately reduces cholesterol via several mechanisms.

**Inhibiting cholesterol synthesis**

By inhibiting HMG-CoA reductase, statins block the pathway for synthesizing cholesterol in the liver. This is significant because most circulating cholesterol comes from internal manufacture rather than the diet. When the liver can no longer produce cholesterol, levels of cholesterol in the blood will fall. Cholesterol synthesis appears to occur mostly at night,\(^\text{[44]}\) so statins with short half-lives are usually taken at night to maximize their effect. Studies have shown greater LDL and total cholesterol reductions in the short-acting simvastatin taken at night rather than the morning,\(^\text{[45][46]}\) but have shown no difference in the long-acting atorvastatin.\(^\text{[47]}\)

**Increasing LDL uptake**

Liver cells sense the reduced levels of liver cholesterol and seek to compensate by synthesizing LDL receptors to draw cholesterol out of the circulation.\(^\text{[48]}\) This is accomplished via protease enzymes that cleave a protein called "membrane-bound sterol regulatory element binding protein", which migrates to the nucleus and causes increased production of various other proteins and enzymes, including the LDL receptor. The LDL receptor then relocates to the liver cell membrane and binds to passing LDL and VLDL particles (the "bad cholesterol" linked to disease). LDL and VLDL are drawn out of circulation into the liver where the cholesterol is reprocessed into bile salts. These are excreted, and subsequently recycled mostly by an internal bile salt circulation.
Other effects

Statins exhibit action beyond lipid-lowering activity in the prevention of atherosclerosis. The ASTEROID trial showed direct ultrasound evidence of atheroma regression during statin therapy. Researcher hypothesize that statins prevent cardiovascular disease via four proposed mechanisms (all subjects of a large body of biomedical research):

1. Improve endothelial function
2. Modulate inflammatory responses
3. Maintain plaque stability
4. Prevent thrombus formation

Statins may even benefit those without high cholesterol. In 2008 the JUPITER study showed fewer stroke, heart attacks, and surgeries even for patients who had no history of high cholesterol or heart disease, but only elevated C-reactive protein levels. There were also 20% fewer deaths (mainly from reduction in cancer deaths) though deaths from cardiovascular causes were not reduced.

Pharmacogenomics

A 2004 study showed that patients with one of two common single-nucleotide polymorphisms (small genetic variations) in the HMG-CoA reductase gene were less responsive to statins. A 2008 study showed that carriers of the KIF6 genetic mutation were more responsive to statin treatment.
Interactive pathway map
Bumps in the Road to New Cholesterol Guidelines

Dr. Steven Nissen, a Cleveland Clinic cardiologist, said of a medical committee’s guidelines, “There will be a large backlash.”

By GINA KOLATA
Published: November 25, 2013

They concluded that there was no evidence for targets or for using drugs in addition to statins to lower cholesterol.
It was supposed to be a moment of triumph. An august committee had for the first time relied only on the most rigorous scientific evidence to formulate guidelines to prevent heart attacks and strokes, which kill one out of every three Americans. The group had worked for five years, unpaid, to develop them. Then, at the annual meeting of the American Heart Association, it all went horribly awry.

Dr. Neil J. Stone of Northwestern University led the committee whose guidelines have upset many doctors. Many leading cardiologists now say the credibility of the guidelines, released Nov. 14, is shattered. And the troubled effort to devise them has raised broader questions about what kind of evidence should be used to direct medical practice, how changes should be introduced and even which guidelines to believe.

“This was a catastrophic misunderstanding of how you go about this sort of huge change in public policy,” said Dr. Steven Nissen, a Cleveland Clinic cardiologist who is a past president of the American College of Cardiology. “There will be a large backlash.”

What went wrong? Some critics say the drafting committee mistakenly relied only on randomized controlled clinical trials, the gold standard of medical evidence, but ignored other strong data that would have led to different conclusions. The group’s efforts were severely underfunded. And it announced fundamental changes in medical practices without allowing a public debate before its guidelines were completed.

“A lot of people expect they can come up with guidelines as a pure scientific discourse and present them to the public,” said Dr. J. Sanford Schwartz, a committee member and a
professor at the University of Pennsylvania. “That’s what we did here, but the world has changed.”

When the new guidelines were released, many doctors were shocked that they were suddenly being told to stop their decades-long practice of monitoring levels of LDL cholesterol, the kind that increases the risk of heart attacks and strokes, after patients begin taking statin medicines.

Others were stunned when a pair of Harvard medical professors offered evidence within days of the guidelines’ release that its new online risk calculator greatly overestimated a person’s chance of having a heart attack or stroke.

The committee writing the guidelines made a critical, early decision to consider only evidence from clinical trials, a marked departure from how previous guidelines were made. Some independent experts provided with an advance draft of the guidelines, including Dr. Roger S. Blumenthal of Johns Hopkins and Dr. Antonio M. Gotto Jr., a former president of the heart association, objected. They said a wealth of genetic and populations data indicated that lower cholesterol levels are better, especially for high-risk patients. The same critique would loom large after the guidelines were released.

Committee members also said they struggled with inadequate financial support. They originally formulated 18 important questions they would seek to answer. But it was soon apparent that they had overreached and did not have nearly enough money from the National Institutes of Health for such an ambitious effort.

“It definitely was a funding issue,” said Dr. Daniel J. Rader, a lipid specialist at the University of Pennsylvania who was a committee member for much of the time.

And the money dwindled over time after the National Institutes of Health underwent budget cuts. Every time the agency got hit, so did support for the committee drafting the guidelines, said Dr. Elizabeth G. Nabel, who was director of the heart institute for much of the time. “This is one of the untold consequences of budget reductions,” she said.

Eventually, the committee whittled the 18 questions to just three: Should doctors and patients aim for specific numerical target levels of LDL cholesterol? Should doctors use drugs other than statins to drive LDL levels down? And should there be target levels for LDL plus other forms of harmful cholesterol linked to cardiovascular risk?
They concluded that there was no evidence for targets or for using drugs in addition to statins to lower cholesterol.

The National Heart, Lung, and Blood Institute contracted with two companies to exhaustively review the scientific literature — thousands of papers submitted by committee members on those three questions. Meanwhile, the committee met by teleconference most Wednesdays.

The committee chairman, Dr. Neil J. Stone of the Feinberg School of Medicine at Northwestern University, who said he spent thousands of hours on the project and cut his family vacations short, sought consensus. Discussions continued until every vote was unanimous. “You can insert the word ‘Talmudic,’ ” said committee member Dr. Ronald Krauss of Children’s Hospital Oakland Research Institute.

But there were signs, even before the guidelines were made public, that trouble lay ahead. The National Lipid Association, which represents specialists in lipid disorders like high cholesterol, initially worked with the sponsors of the guidelines, but pulled out before they were released to the public, saying it could not endorse them. It disagreed with the abandonment of LDL cholesterol targets once patients began taking statins.

The guidelines were embargoed until just before the annual meeting of the American Heart Association. Some wondered: Why the secrecy? Why not follow the example of the U.S. Preventive Services Task Force, a panel of independent experts that advises the federal government, and release a draft first for public comment?

“I can’t answer that,” Dr. Stone said. “In retrospect that sounds fine. We will probably do that the next time.”

As it turns out, the preventive services task force will soon begin work on its own version of cholesterol guidelines and anticipates finishing within two years of its start date. When it publishes a draft of its recommendations, it will allow four weeks for public comment.

Some experts have raised the idea of a collaborative international effort to devise guidelines. Europe has its own set, but countries within Europe use different risk calculators, said Dr. Michael Lauer of the National Heart, Lung, and Blood Institute. “The way it works in Finland is different from the way it works in Spain.”

Dr. Seth Martin at Johns Hopkins asked in a post on the website of the American College of Cardiology, “Couldn’t we do this better as a worldwide team than on our own?”
References


46. ^ Wallace A; Chinn D; Rubin G (4 October 2003). "Taking simvastatin in the morning compared with the evening: randomised controlled trial". British Medical Journal 327 (7418): 788.


FOOD IS YOUR BEST MEDICINE

Healthy Eating Starts on your Shopping trip and Health Makes the next step at the Kitchen, The Dinner Table is the next step of Healthy Eating. Food made with anger, fear or hate is Poison. Food made with love is nutrition. If made with extra love, the food is Medicine Desire’s work on Medicine and Wellness has made her the World’s most Famous Medical Naturopath alive.