**SPECIAL REPORT** 

# **5 Secrets to Lower Cholesterol Naturally**



Healthy Choices For A Better Life

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T et's face it: an inordinate ⊿ number of adults have high cholesterol. Nearly 40 million Americans have it, and another 100 million have higher-thanhealthy levels. It's all a natural byproduct of the less-than-ideal diets we've all been keeping for decades and decades. Cholesterol has become something we must fight to keep down, and we must keep fighting and never stop, because our hearts' health depends on it. It is notable that cholesterol is not the problem in China that it is here.

This problem is not so significant in what it is, but rather what it does: high cholesterol will cause hardening of the arteries, a very dangerous condition indeed. High levels of cholesterol irritate the walls of blood vessels and cause them to change. The higher your cholesterol, the greater the risk for heart disease. Blocking your body from raised cholesterol means shielding it from these diseases: *dyslipidemia* (abnormal amount of lipids in the blood), *hypercholesterolemia* (high blood cholesterol) and *hyperlipoproteinemia* (abnormally high levels of any or all lipids and/or lipoproteins in the blood). Many doctors suggest that cholesterol levels should not exceed 180 mg/dl. Your total cholesterol is made up of: lowdensity lipoprotein (LDL), the "bad" form that causes blockage in the arteries; high-density lipoprotein (HDL), the "good"

one that prevents cholesterol from building up in the arteries; and triglycerides, a form of fat in your blood that is dangerous.

Coronary heart disease is the most common cause of death in the United States. Approximately 500,000 Americans die of this disease each year. Researchers have found many risk Many doctors suggest that cholesterol levels should not exceed 180 mg/dl. High cholesterol is one of the preventable risk factors that pave the road to heart attacks.



factors that pave the road to heart attacks that are also preventable. One of them is high cholesterol. These are essentially fats floating in your bloodstream, with the LDL type being extremely dangerous when it collects in large amounts.

Even though the relationship between heart disease and high cholesterol is well-established, both the medical and lay communities are to blame for not doing a good job in controlling the epidemic of high cholesterol in North America. From a large population survey, it's estimated that only about 2% of people

> with high cholesterol levels are being treated. Moreover, of those being treated with drugs, less than 50% are actually taking it as directed by their physicians. For the others, who knows if they even take the drug? In all. about 52 million adults

require dietary changes, and another 13 million adults need a cholesterol-lowering agent.

So...what will that agent be?

### 5 Natural Secrets to Lower Cholesterol

### Fiber

You may have heard that fiber lowers cholesterol. But if you've tried it and didn't get results, you might not have been taking the right kind. If you get 10 grams more per day of soluble fiber, it not only could help lower cholesterol, but could also trigger a 29% drop in heart attack risk, as revealed in a Harvard study.

Eating fiber, either in your diet or via supplements, is directly linked with both the prevention and treatment of many diseases. All the talk about fiber's importance for the human body is not debatable. Fiber is simply huge when it comes to good health, but the average adult in North America falls well below nutrition recommendations for daily fiber intake. And this means that the amazing health benefits of this simple substance are going unused.

### Fiber's many incarnations

Let's take a quick peek at the many varieties of fiber, because it isn't just one thing. In 2001, experts developed specific definitions of fiber that distinguish between *dietary* fiber (found naturally in vegetables) and *functional* fiber (the synthetic kind that can be added to foods or used as supplements).<sup>1</sup>

In the family of dietary fibers, we find the following:

- *Lignin*: in woody plants and seeds
- *Cellulose*: found in all plants
- *Beta-glutans*: whole-grain fiber in oats and barley
- Hemicellulose: in plants
- *Pectins*: found in all fruits and berries
- Gum: found in seeds
- *Inulin/oligofructose*: found in certain plants, such as onions and artichokes
- *Resistant starch*: in bananas and legumes

In the family of functional fibers, we find five in particular:

- *Psyllium*: undisputed king of fiber, found in psyllium seeds
- *Chitin/chitosan*: in the bones of crabs, lobsters

- *Fructooligosaccharides*: synthetic, blended with glycose, used in food
- *Polydextrose/polyols*: used as bulking agent and sugar substitute in food
- *Resistant dextrins*: formed when starch is heated, enzymes are added, used as a food additive

### Soluble vs. Insoluble

When *soluble* fiber mixes with liquid, it turns into gel. When *insoluble* fiber hits liquid, it doesn't. Instead, in our bodies, it passes straight through our intestines intact. Here are their main differences and health benefits. You'll notice the big winner for cholesterol is soluble fiber.

### Soluble

- Latches onto fatty acids
- Helps body release and absorb sugar more slowly
- Could help prevent diabetes
- Could help diabetics control blood sugar
- Could lower cholesterol
- Could reduce risk of heart problems
- Foods include: dried beans/ peas, flaxseed, oranges, apples, carrots, nuts, barley, and oat bran



<u>Soluble fiber</u>: Foods include dried beans/peas, flaxseed, oranges, apples, nuts, barley and oat bran.



#### Insoluble fiber:

Foods include dark green leafy vegetables, green beans, whole wheat, oat, corn bran, seeds, nuts, and the skins of many fruits and vegetables.

### Insoluble

- Helps move food through intestines
- Keeps acid levels normal in intestines
- Could cure/prevent constipation
- Keeps bowel movements regular
- Toxins get shipped through colon quicker
- Could protect colon from cancer-causing microbes
- Foods include: dark green leafy vegetables, green beans, whole wheat, oat, corn bran, seeds, nuts, and the skins of many fruits and vegetables



### Heart benefits of fiber

Research shows that a higher intake of fiber-rich foods reduces the risk of heart disease. Researchers from the University of Minnesota recently reviewed the results from 10 studies from the U.S. and Europe.<sup>2</sup> They found that for every 10 g you eat a day, you have a 14% decrease in the risk of coronary events (such as a heart attack) and a 24% decrease in deaths from heart disease. This is especially true if the fiber came from cereal or fruit. Fiber shields the heart from problems in large part by reducing cholesterol, triglyceride, and blood pressure levels.

High intake of dietary fiber has been linked to a lower risk of heart disease in many largescale studies that followed people for a long period of time.<sup>3</sup> In a Harvard study of over 40,000 male health professionals, researchers found that a high total dietary fiber intake was linked to a 40% lower risk of heart disease, compared to a low fiber intake.<sup>4</sup> Cereal fiber, found in whole grains, was especially beneficial. A related Harvard study of female nurses produced quite similar findings.<sup>5</sup>

### **Getting enough**

A few years ago, the Food and Nutrition Board of the Institute of Medicine established its first recommended intake, called Adequate Intake (AI), for total fiber. These guidelines are based on many studies to show that dietary intake of about 14 grams per 1,000 calories consumed was associated with a significant reduction in diabetes and heart disease.

- Under 50 years of age: AI: 38 g/day for men and 25 g/ day for women
- Over 50 years: AI: 30 g/day for men and 21 g/day for women

Yet the average fiber intake in the U.S. is well below these numbers. For men, it's about 17 g/day and for women about 13 g/day.

Here are four quick tips to increase your intake of fiber immediately:

- 1. Eat beans, split peas or lentils at least once a week
- 2. Eat at least five servings of fruits and vegetables a day
- Eat oatmeal, whole grain cereal or bran cereal for breakfast
- 4. Eat only whole grains; no refined grains



Here is something you might find interesting: high cholesterol is rarely a problem in Asia. Their low-fat diet and high intake of this particular nutrient is why. In a clinical study, just 375 mg a day of this supplement cut "bad" LDL cholesterol by 16%!<sup>6</sup>

Now, that is just to whet your appetite. Let's really dive into this Chinese herbal remedy. You might know it better as what every tea shop in the world dishes out on a daily basis: green tea. Green tea is far and away the most medicinal tea in existence.



Green tea ingredients include volatile oils, vitamins, minerals, caffeine, and, most notably, polyphenols.

### The miracle beverage in question

Green tea, a Chinese remedy, is also one of the most popular teas in the world. It is far and away the most medicinal tea in existence.

Green tea also connects the ancient world to the present. About 4,000 years ago, the story goes, a Chinese emperor had a cauldron of water boiling. Leaves from a nearby shrub blew into the water and, at that moment, tea was born. It was green tea. Fast forward to the modern age, and we've found major health benefits from this substance.

Green tea is unfermented, meaning that all its medicinal ingredients remain from production all the way into your mug. These ingredients include volatile oils, vitamins, minerals, caffeine, and, most notably, polyphenols. These are what intrigue scientists, as these hold massive antioxidant properties. These are the ones responsible for green tea's health effects. In green tea, the major polyphenol belongs to the family known as *catechins*.

In most areas of China, green tea is king. The quality stuff is picked in April, and leaves are baked to quell any bitterness. When good green tea is steeped, the water remains fairly clear and the leaves remain green. The water's temperature should be about 85°C. But, of course, fresh green tea can be harder to find over here, so many of us settle for packaged brands.

### Green tea's heart-pumping properties

This report focuses on cholesterol in particular, but below we give a roundup of reasons why green tea's a hearthealthy beverage or supplement. You'll find cholesterol in there, along with some other intriguing cardiovascular health benefits. So, green tea can help:

1. Lower cholesterol: In a study conducted in China, 220 men and women with mild to moderate high cholesterol were randomly assigned to a daily capsule containing green tea extract or placebo for a total of 12 weeks.<sup>7</sup> In those treated with the green tea extract, total and LDL (bad) cholesterol were significantly lowered by 11.3% and 16%, respectively, as compared to no change in the placebo-treated group.

- 2. Reduce risk of death from coronary heart disease: In a Japanese study involving 8,522 men and women followed for 12 years, those men who drank 10 cups of green tea a day experienced a 58% reduction in the risk of death from coronary heart disease as compared to those who drank only three cups a day.<sup>8</sup>
- 3. Lower blood pressure: In a Japanese study, 240 obese individuals were given green tea containing 583 mg of catechins or placebo.<sup>9</sup> In the group treated with green tea, there was a lowering of systolic blood pressure as compared to the placebo group. Moreover, the greentea-treated group had a reduction in body fat and LDL cholesterol as well.

## **4. Prevent strokes:** In a Japanese study with 4,200

men and women who died of cardiovascular diseases or cancers, drinking green tea was inversely associated with death due to all causes (except cancer)—and due to heart disease in particular.<sup>10</sup> This protective effect was stronger in women than men. The strongest inverse association was observed in those with stroke. Compared to women who drank less than one cup of green tea a day, those who drank six or more cups a day had a 42% lower risk of dying from stroke.

## **3** Plant Sterols

And here we have a botanical wonder that could reduce LDL ("bad") cholesterol by significant amounts. Nutrients from plants work wonders against high cholesterol. And one plant sterol is leading the pack. It has been found to lower total cholesterol 10.2% and LDL cholesterol 14.1% by researchers in the prestigious *New England Tournal of Medicine*<sup>11</sup> Its

Margarine is one great place to find sitostanol.



We eat sterols every day in margarine, salad dressings, fruits, vegetables, nuts, seeds, cereals, legumes, soy products, and oils.



name is "sitostanol," and one great place to find it in is margarine.

### What are these?

Sterols are natural substances found in plants. Over many years, evidence has mounted that they could help lower cholesterol levels. They are, in fact, compounds that are related to cholesterol. We eat them every day in margarine, salad dressings, fruits, vegetables, nuts, seeds, cereals, legumes, soy products, and oils. (Another positive reason to eat healthy.)

> In order to get an amount that will lead to effects in the body, aim for between 3.4 and 5.1 g per day. Use them together with nutrientrich vegetables, most particularly yellow/ orange and dark green vegetables. Getting two to three servings of foods fortified with plant sterols is going above and beyond, to a great healthy place, and will definitely help provide the recommended levels for controlling cholesterol.

### The yogurt principle

A 2008 study has found that plant sterols, when consumed with a low-fat yogurt, could help lower blood cholesterol levels. It represents another dietary way to take high cholesterol into your own hands. In the study, 26 adults with high cholesterol kept low-fat diets. They took a single dose of plant sterols during a meal, and then the same dose with an afternoon snack. They discovered that one snack in particular helped harness the power of plant sterols: yogurt. "These results indicate that a single dose of PS [plant sterols] in low-fat yogurt, provided as a snack, lowers cholesterol levels," in patients with high cholesterol, the study concludes.<sup>12</sup>

### **Sterols vs. Cholesterol**

Plant sterols actually compete in the body with cholesterol to be absorbed. In this way, they reduce the amount of cholesterol in the bloodstream. The more of these healthy natural elements you take in, the less cholesterol you take in.

Foods that contain sterols are an excellent complementary addition to a diet low in saturated fat and high in fruits, vegetables and whole grains. Some studies have shown that getting 2-3 g of sterols could reduce LDL cholesterol levels by 10%—thereby reducing heart disease risk by up to 20% over the first five years. Even if you are taking statins to reduce your high cholesterol, there is evidence that plant sterols could safely and effectively lower your cholesterol levels further.<sup>13</sup>

Plant sterols are like the secret ingredient in a cholesterol-busting diet. They are what people don't consider. If you combine sterols with other great goods like soy and fiber in a low-saturated fat diet, you could reduce cholesterol yourself by as much as 35%.<sup>14</sup>



Here we find out the "Italian Secret." Garlic's heart-boosting properties are out of this world, but not many people know that it can boost HDL ("good") cholesterol levels through the roof.<sup>15</sup> Watch those levels soar! HDL cholesterol actually takes fat molecules right out of the bloodstream, whereas LDL cholesterol molecules build up in the body. That's the difference; a big difference.

### Garlic for the heart

Garlic is one of medicine's oldest herbs, used in many ancient societies. It's mentioned many times in the Bible. It is a powerful antibacterial agent, and in the 1850s this became apparent to a scientist named Louis Pasteur. During the world wars, doctors used garlic to treat battle wounds and infections when antibiotics weren't available.

A slew of studies in the past 20 years have demonstrated garlic's ability to keep your heart healthy. There are three conditions in particular, including high cholesterol, where this amazing food lends a hand.

Atherosclerosis: Countless studies have concluded that garlic will limit how much plaque forms in your arteries. The herb maintains the elasticity of aging blood vessels that tend to get more rigid as time goes on. Garlic also widens the arteries by relaxing the muscles surrounding it. One study, on patients between 50 and 80 with atherosclerosis, found



A slew of studies in the past 20 years have demonstrated garlic's ability to keep your heart healthy. Several studies have proved that garlic lowers blood pressure modestly. that 900 mg of garlic reduced the formation of plaque on the arteries by up to 18%.<sup>16</sup>

**High cholesterol:** Though the evidence is mixed, garlic has strong potential to lower cholesterol levels modestly. Researchers compared the results of 13 previous trials and found proof that the herb lowered cholesterol about 5% further.<sup>17</sup> Other studies have found that this ancient and powerful herb could raise HDL cholesterol levels as well, thus strengthening the cardiovascular system.

Hypertension: Garlic is an old remedy for hypertension. Several studies have proved that garlic lowers blood pressure modestly. For instance, one study used 2.4 g of garlic in nine patients with severe hypertension. Amazingly, only

> five hours elapsed before systolic pressure fell an average of 7 mm and diastolic pressure 16 mm. The latter continued on a significant decrease

for up to 14 hours after the dose with no side effects.<sup>18</sup> Other studies have found that 900 mg is a good amount to eat a day for this purpose.

#### Get the most from garlic

It should come as no great surprise that the beloved root we all know as garlic is good for the heart. It's been the subject of many studies over the years trying to assess exactly how it helps. Now a new study has weighed in, and it says that garlic basically makes your blood vessels stronger and healthier.

Researchers have found natural compounds in the garlic that make your blood vessels release hydrogen sulfide. This chemical plays an essential role in the body, causing those vessels to relax. It also lowers the amount of inflammation in the area. Both are important for a proper flow of blood.

The researchers say that fresh garlic (rather than supplements) is the way to go.

> A "garlic-rich diet" will help ensure your blood vessels remain healthy.<sup>19</sup>

One important part of the study was that researchers crushed the clove of garlic first. To get the benefits of the hydrogen sulfide, it's important to prepare the garlic properly. Crushing is the key. In fact, the differences in past studies may have to do with how garlic had been used.

This isn't the first time we've heard about crushing garlic. A recent study showed that crushing garlic keeps the healthy compounds intact during the cooking process. The crushing process protects garlic from damage in the frying pan.<sup>20</sup>

They found that boiling garlic for three minutes or cooking it in a 400-degree oven for the same time provides the same amount of compounds as raw garlic. But if we notch the time up to six minutes, we find that the cooking process nearly destroyed this uncrushed garlic. Then they crushed the garlic, using a press, and put it through the same test. They found that the compounds remained at the six-minute mark rather than disappearing.

### **5** A Healthy Lifestyle Approach

There is one particular all-natural approach that has been shown to slash high cholesterol up to 37.4%!—a huge drop to say the least.<sup>21</sup> It is a lifestyle approach that people are turning to more and more, and could represent a great way to lower cholesterol, improve the heart, lose weight and avoid cardiovascular disease.

It is from Dean Ornish, whose book *Eat More, Weigh Less* has revolutionized the health industry. He preaches a vegetarian whole foods diet, regular exercise and stress reduction techniques. In a comparison of diet plans, Ornish's approach was proven the best out of a slew of popular options.<sup>22</sup> The results were published in the prestigious *Journal of the American Medical Association*. Let's look at this further.

### "Eat More, Weigh Less"

The study took eight best-selling weight loss programs and scored them based on how well they provided foods that help prevent A healthy lifestyle approach has been shown to slash high cholesterol up to 37.4%!



The winners scored high due to the heavy reliance on fruits, vegetables and whole grains.



heart disease. Lowering cholesterol is a big, big part of that. Of course, there are fruits and vegetables, but there's also nuts, soy, cereal fiber, the ratio of unsaturated fats to saturated fats (good to bad), and the ratio of white meat to red meat. Each factor swas a possible 10 points, with a perfect score being 70.

The final tally:

- Eat More, Weigh Less: 64.6 points (92%)
- 2. Weight Watchers, High-Carb: 57.4 points (82%)
- 3. The New Glucose Revolution: 57.2 points (82%)
- 4. The South Beach Diet, Phase 2: 50.7 points (72%)
- 5. Weight Watchers, High-Protein: 47.3 points (68%)
- 6. Atkins for Life, 100-gram carb: 46 points (66%)
- 7. The South Beach Diet, Phase 3: 45.6 points (65%)
- Atkins for Life, 45-gram carb: 42.3 points (60%)
- 9. The runaway winner was Dr. Dean Ornish's program. This one and the first three scored high due to the heavy reliance on fruits, vegetables and whole grains. Atkins, South Beach and Weight Watchers High-Protein scored poorly because they were higher in red meat and trans fats.

Sure, you can probably lose weight with any diet. But since a good diet should provoke longterm eating habits, those habits should be heart-friendly. Now let's look at the lesser-known number one plan.

It's not just how much you eat, but also what you eat. That's the premise behind Dr. Ornish's weight loss program. While some diets reduce portion sizes and starve the body's fat away, this program focuses on changing the food you eat, but doesn't suggest you eat less than you want. The book contains 250 recipes and the weight loss plan that is designed to not only help you shed pounds, but also lower cholesterol, reduce blood pressure, and lower your risk for heart disease, diabetes, osteoporosis, and cancer.

Dr. Ornish is a cardiologist (heart specialist) and his program is based on clinical research that proves eating nutritiously can both shield the heart and trim the fat. He was on the forefront of research that found that watching your diet, exercising regularly and managing stress can unclog an artery naturally. The main thrust of his program is to follow a largely vegetarian diet with only 10% of your total calories each day coming from fat.

He is vehemently opposed to high-protein diets such as Atkins.

He points to a simple calculation for losing weight: 1) burn more calories, and

2) eat fewer calories. For point one, you exercise. For point two, you can consume less food. That's what most diets tell you. But an easier way to do it is to eat less *fat*, because you then don't have to eat less food.

The key phrase in all of this is *complex carbohydrates*. High in fiber, these foods are digested slowly, so you get all the nutrients and you feel full. All the substances in these foods—fruits, vegetables, grains, and legumes – are the ones responsible for protecting against heart disease and cancer, while slowing down the aging process.

Dr. Ornish's plan is about altering your food choices, cutting down on fat, and increasing your intake of complex carbs.

#### In the end...

There are many ways you can help yourself eat your high cholesterol down to a lower level. Refining your diet is a big key. Since high cholesterol is mostly caused by eating saturated fats, start limiting those foods in your diet. Substitute fruits and vegetables for meat products—particularly red meat. Ensure you are eating whole foods rather than refined foods.

Don't overeat either. You'll be able to tug down your own cholesterol levels by eating healthy and eating smart. A big, big part of this is to follow a plant-based diet as much as possible. Stress vegetables, legumes and whole grains in your daily meals and snacks. Eating, alone, as Dr. Ornish suggests, can truly have a major impact on cholesterol, no matter how high your levels are.

Regular exercise is vital. Walk briskly 30 minutes a day to maintain general health and 60 minutes or more a day if you want to lose some weight. Maintain a normal body weight, which will correspond with improved cholesterol levels. Quit smoking, if you have this bad habit, as it's a fact that smoking cigarettes will increase insulin resistance, which will lead to many cardiovascular diseases. Monitor your cholesterol and triglyceride levels periodically. Ask your physician to check your cholesterol (HDL and LDL), triglycerides, and blood pressure about once a year, especially after age 40.

Together, let's make this nation one that doesn't fall victim to cholesterol! Follow a plant-based diet as much as possible.



# Bonus Natural Secret: The Cholesterol-Lowering Treat

A ccording to research, chocolate (in moderation) could improve heart health and change the levels of cholesterol in your blood in a beneficial way. No doubt you already have some questions about the preceding statement. How much chocolate is good for your heart? What kinds of chocolate could help lower cholesterol? But, most importantly, you might be wondering why the saturated fat in chocolate is supposed to be good for you, when this type of fat is normally considered bad.

You wouldn't be alone in expecting chocolate to be a dietary no-no for cardiovascular health. The past 10 years of research have shown that saturated fats are not good for the heart. Eating these fats on a regular basis has been linked to an increase in LDL cholesterol.

To help you understand better, here's a quick chemistry lesson on fats. Fat is oil that is solid at room temperature, while oil is liquid at the same temperature. The two versions of fat are similar at the molecular level. All fatty acids are long chains of carbon or hydrogen atoms with a carboxylic acid at the end. The number of carbon and hydrogen atoms in the fatty acid will determine most of its properties, such as how it tastes and whether it is a solid or a liquid.

Now, if all of the carbon atoms are joined by single bonds, such as in stearic and myristic acids, it is called a "saturated fatty acid." If there is one double bond in the molecule - you guessed it - it is called a "monounsaturated fat." And, finally, if there are two or more double bonds, like in linoleic acid, it is called a "polyunsaturated fat."

Medical research has been telling us for some time that monounsaturated and polyunsaturated fatty acids are much healthier for our bodies than saturated fats. Saturated fats, almost without exception, raise bad cholesterol and sometimes lower the good. However, the exception is a fatty acid with 18 carbon atoms. Stearic acid, a saturated fat, has been shown to lower total plasma cholesterol and LDL cholesterol. And now you understand how chocolate can be good for your cholesterol levels: it is loaded with saturated 18 carbon fatty acids.

In a study performed at the Chinese Academy of Medical Sciences in Beijing, researchers searched for studies that looked at how cocoa affected blood fats, or lipids. They found eight trials in all that included 215 people. After analyzing the studies, the research team found that eating cocoa cut levels of LDL cholesterol by about six mg/ dL and reduced total cholesterol by the same amount. The researchers also found that it was people with risk factors for heart disease, such as diabetes, who saw their LDL cholesterol and total cholesterol drop the most by around eight mg/dL each.

One note of caution: moderation is key! Only people who ate small amounts of cocoa - an amount containing 260 milligrams of polyphenols or less - experienced cholesterollowering effects; people who consumed more showed no effect.<sup>23</sup>

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