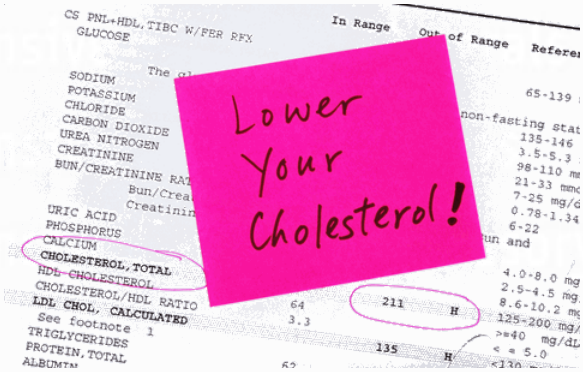
How to Lower Cholesterol

An Evidence-based Diet and Lifestyle Program

Dr. James Meschino DC, MS, ND



About Dr. James Meschino, DC, MS, ND

A recognized expert in the use of nutritional supplements in the prevention and management of degenerative diseases and anti-aging, Dr. James Meschino, DC, MS, ND, was appointed to the advisory board of the Academy of Anti-Aging Research in 2001. He is a doctor of naturopathy, an associate professor at the Canadian Memorial Chiropractic College and has been a Faculty Member of the American Council of Exercise (ACE). He is also a faculty member of the Integrative Cancer Therapy Fellowship Program for physicians, sanctioned by the American Academy of Anti-Aging Medicine.

Dr. Meschino has appeared as a health and anti-aging expert on many television and radio programs in Canada and the United States.

The published author of five nutrition, supplementation and wellness books, he has also had over 50 research review papers on nutritional supplementation published by America -Online and is the regular anti-aging and natural therapies columnist for *Dynamic Chiropractic*. Dr. Meschino's continuing education seminars for health practitioners are authorized for continuing education credits in many states and provinces throughout North America.

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The Benefits and Risks of Cholesterol-Lowering Statin Drugs

In recent years medical practitioners have increasingly relied on statin drugs (HMG CoA Reductase Inhibitors), such as atorvastatin, lovastatin, fluvastatin, pravastatin, and rosuvastin, as a primary method to reduce high cholesterol. Statin drugs primarily work by blocking the production of cholesterol within the liver. These drugs have been shown to reduce total cholesterol levels by approximately 20-40% and reduce LDL-cholesterol by a reported 27-55%. Statin drugs also have a modest effect on raising HDL and lowering triglyceride blood levels. *(Edmunds & Mayhew, pp. 312-25).*

Overall, clinical studies have suggested that statin drugs reduce risk of heart attack by approximately 30% over five years of treatment.

(Pedersen, et al., 1998, pp. 1453-60)73 (Collins, Armitage, Parish, Sleigh & Peto, 2003, pp. 2005-16)74 (Heart Protection Study Collaborative Group, 2002, pp. 2005-16)75 (LIPID Study Group, 1998, pp. 1349-57) (LIPID Study Group, 2002, pp. 1379-87)77 (Shepherd, et al., 1995, pp. 1301-7) (Sacks, et al., 1995, pp. 621-3)

Drug companies indicate that the incidence of significant side effects associated with statin drugs is low; approximately 1-2% for serious muscle damage and liver dysfunction (usually represented as an increase in liver enzyme laboratory tests). *(Edmunds & Mayhew, pp. 312-25).* However, some physicians who prescribe these drugs, indicate that side effects are much more common. A survey by a prominent American cardiologist suggests that muscle aches and weakness occur in approximately 30% of patients who take statins. The survey further suggested that patients who take a statin drug, often develop annoying, sometimes incapacitating muscle aches and weakness that abruptly stop when they discontinue use of the drug, and return when drug use is resumed. *(Davis, 2004).*

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In addition to risk of liver damage and muscle pain, rare cases of life-threatening rhabdomyolysis with acute renal failure secondary to myoglobinuria have occurred with statin use. Rhabdomyolysis is a condition in which large numbers of skeletal muscle cells die, causing massive amounts of muscle proteins, myoglobin, to enter the bloodstream. The muscle proteins become trapped in the kidneys where they interfere with the kidneys' normal filtering process, leading to potentially fatal kidney damage and renal failure.

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Symptoms of Rhabdomyolysis include:

- Muscle pain (in specific muscles or throughout the body)
- Weakness
- Tenderness
- Fever
- Nausea or Vomiting
- Dark Urine

As such, patients taking these drugs are instructed to report immediately unexplained muscle pain, fever, tenderness or weakness. *(Edmunds & Mayhew, pp. 312-25).* As well, some researchers and clinicians suggest that statin drugs increase the risk of congestive heart failure, as statin drugs reduce the body's synthesis of coenzyme Q10, which is required for energy production within cardiac muscle. *(Watts GF, et al., 1993, pp. 1055-7, Pepe, et al., 2001, p. 521).* Some human studies also show a higher incidence of breast cancer in female statin drug users compared to non-users *(Mortimer, Axelrod & Zimbro, ASCO Annual Meeting 2003, Downs, et al., 1998b, pp. 1615-22), (Szucs, et al., 1998, pp. 319-29)* and a large Danish study indicated that statin users have a higher risk for the development of polyneuropathy, with risk increasing the longer the patient used the drug. *(Gaist, Jeppesen U, Garcia Rodriguez LA, Hallas & Sindrup, 2002, pp. 1333-7).*

From the available evidence it appears that the safety profile of statin drugs has not been fully established and that many questions remain unanswered regarding health problems that may arise from their long-term use. Moreover, some of these side effects are very serious and life-threatening and, by some counts, side effects from these medications occur in an alarmingly high percentage of patients. As such, some physicians encourage patients to use more natural interventions (diet, soluble fiber and natural supplements other than red yeast rice), as their first efforts to lower cholesterol and to use statin drugs as a last resort and/or use them only in very high-risk patients. *(Davis, 2004).*

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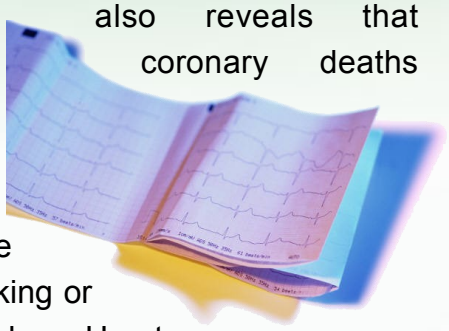
This eBook highlights the dietary approach for lowering cholesterol levels, either independently or in conjunction with cholesterol-lowering prescription drugs.

Aggressive dietary therapy and exercise represent the primary measures to lower cholesterol unless hypercholesterolemia is due to genetic factors (only 5-10% of hypercholesterolemic cases result primarily from genetic influences), or there has been a previous cardiovascular event, or hypercholesterolemia is secondary to another health problem (Cushing's syndrome, hypothyroidism, anorexia nervosa, nephritic syndrome, primary biliary cirrhosis), or induced by thiazide drugs, progestins, anabolic steroids or retinoid drugs. (*http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Cholesterol_genetic_factors) (Edmunds & Mayhew, pp. 312-25)*

Dietary Measures to Lower Cholesterol

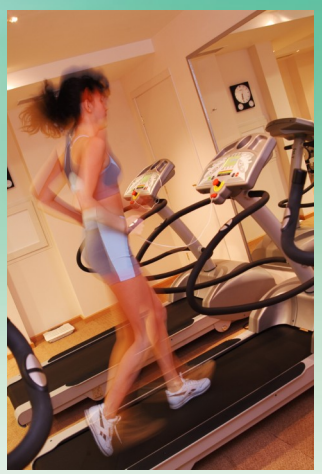
In light of recent recommendations from Adult Treatment Panel III (in regards to hypercholesterolemia) and the overall findings from the Framingham Heart Study, the evidence suggests that achieving a fasting blood cholesterol level below 150 mg/dL confers the greatest degree of prevention against heart disease. As doctor Castelli points out, in 40 years of the Framingham study there has not been one single heart attack in anyone with a total cholesterol under 150 mg/dL. The Framingham Heart study also reveals that approximately 90% of all coronary deaths could be prevented if total cholesterol was kept below 182 mg/dL, systolic blood pressure was under 120 mmHg, and no smoking or diabetes was present. The Framingham Heart Study began in 1948 under the jurisdiction of the National Heart, Lung and Blood Institute, in which every two years the 5,000 volunteer participants are monitored for a host of risk factors for heart disease. *(http://www.pbs.org/saf/1104/features/castelli4.htm)*

As doctor Castelli points out, in 40 years of the Framingham study, there has not been one single heart attack in anyone with a total cholesterol under 150 mg/dL.



In regards to achieving a fasting blood cholesterol below 150 mg/dL Castelli contends that all persons, with exception of the 5-10% of hypercholesterolemic patients who have familial hypercholesterolemia (genetic cases) could achieve this desirable blood cholesterol level upon adopting a vegetarian diet. However, most people are able to achieve levels below 180 mg/dL and often below 150 mg/dL with adoption of a low fat diet (no more than 7-15 grams of saturated fat and no more than 150-200 mg of cholesterol ingestion per day). Castelli himself was able to reduce his total blood cholesterol from 270 to 190 mg/dL and raised his HDL-cholesterol (good cholesterol) from 49 to 63 mg/dL simply through the adoption of a low fat diet (as presented above) and daily exercise. Most physicians would recommend drug therapy for patients with a total fasting cholesterol of 270 mg/dL. *(http://www.pbs.org/saf/1104/features/castelli4.htm)*

Other researchers have arrived at similar conclusions. Dr. Dean Ornish showed that the combination of daily exercise, with daily stress reduction and diet with less than 10% calories from fat was sufficient to lower LDL -cholesterol by an average of 37.4% within two months. This group of high-risk patients also experienced a 90% reduction in frequency of angina episodes. *(Ornish, et al., 1983, pp. 54-9)*



- ✓ Dr. Dean Ornish showed that the combination of daily exercise, with daily stress reduction and diet with less than 10% calories from fat was sufficient to lower LDL-cholesterol by an average of 37.4% within two months.
- ✓ More recently a small, but significant clinical trial by Dr. Caldwell Esselstyn Jr. of the Cleveland Clinic Foundation showed that a plant-based diet in conjunction with cholesterol-reducing medication eliminated progression of coronary artery disease over a 12 -year period in patients with triple-vessel disease.
- ✓ The evidence strongly suggests that attaining a fasting blood cholesterol level below 150 mg/dL is the desirable goal for both the primary and secondary prevention of coronary heart disease.

More recently a small, but significant clinical trial by Dr. Caldwell Esselstyn Jr. of the Cleveland Clinic Foundation showed that a plant-based diet in conjunction with cholesterol-reducing medication eliminated progression of coronary artery disease over a 12-year period in patients with triple-vessel disease. Most of the 18 patients had experienced an earlier failed intervention of bypass surgery or angioplasty. All patients who maintained the diet achieved the cholesterol goal of less than 150 mg/dL and had no recurrent coronary events during the 12 years. At 5 years, angiography was repeated in most cases. By analysis of the stenosis percentage none had progression of disease, and 70% had selective regression. These data are compelling when one considers that the same group had experienced more than 49 coronary events during the 8 years before this study. *(Rosamond, et al., 1998, pp. 861-867)*

The evidence strongly suggests that attaining a fasting blood cholesterol level below 150 mg/dL is the desirable goal for both the primary and secondary prevention of coronary heart disease. The problem is that health officials have not provided the public with accurate information about what blood level of cholesterol to achieve and what dietary program to employed to achieve the optimal protection against the number one cause of death in America.

The evidence strongly suggests that attaining a fasting blood cholesterol level below 150 mg/dL is the desirable goal for both the primary and secondary prevention of coronary heart disease. The problem is that health officials have not provided the public with accurate information about what blood level of cholesterol to achieve and what dietary program to employed to achieve the optimal protection against the number one cause of death in America.

The basic diet favored by National Cholesterol Education Program, and other government agencies, contains not only grains, legumes, vegetables, and fruit, but also oil, low-fat milk and milk products, butter, cheese, poultry, lean meat, and fish. It allows for up to 30% of calories to be provided by fat. Unfortunately, there is no evidence to support the notion that by eating such a diet one can achieve a cholesterol level of 150 mg/dL or avoid coronary artery disease. *(Esselstyn, Jr., 2001, pp. 171-177)*

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There is emerging evidence that government agencies that issue dietary recommendations to the public have been influenced by lobbying groups and have not based their recommendations upon the best available scientific information.

Any group promoting dietary guidelines for the public should base its decisions upon science and not politics or economics. However, the USDA has been subjected to intensive industry lobbying, which compromises its capacity to be fair and objective.

As recently as October, 2000, the Physicians Committee for Responsible Medicine successfully litigated the USDA to ascertain the compensation sources of the US Dietary Guidelines Committee. Six of the eleven committee members, including the chairman, were found to have relationships with the meat, dairy, or egg industry. Ties to industry and politics result in conflict within our private and governmental health institutions, compromising the accuracy of their public message. *(Esselstyn, Jr., 2001,pp. 171-177)*

Ties to industry and politics result in conflict within our private and governmental health institutions, compromising the accuracy of their public message.

In short, the American people have not been provided with accurate information about how to lower their cholesterol into the optimal range with respect to the prevention of heart disease. As Dr. Esselstyn suggests, even though many people might find a plant-based diet initially difficult to follow, every patient with the diagnosis of coronary artery disease should at the least be offered the option of this potentially curative arrest and reversal approach.

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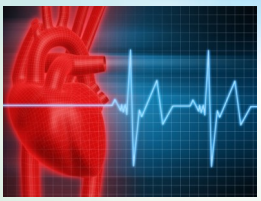
At the same time, experts such as Dr. Castelli point out that a vegetarian diet is not required in most cases, as many people are able to achieve a cholesterol level below 150 mg/dL by following a low fat diet that may include, in addition to plant-based foods, reasonable amounts of low fat dairy products, chicken breast, turkey breast, Cornish hen, and small amounts of soft margarine, olive oil, and low fat treats such as angel food cake. *(Castelli & Griffin, 1988b, pp. 44- 56)*



The Mediterranean diet and monounsaturated oils have become unjustifiably popular because of the Lyon Diet Heart Study. No studies of monounsaturated oils have shown them to arrest and reverse coronary disease. The Lyon study did show a slower rate of progression, but this is hardly an acceptable goal. In a study of patients with coronary disease, Blankenhorn actually showed the reverse, that disease progressed as rapidly in patients on a monounsaturated diet as it did in those on a saturated fat diet. *(de Lorgeril M, Salen, Martin JL, Deloye & Mamelle, 1999, pp. 779-785), (Blankenhorn, Johnson, Mack, El Zein HA & Vailas, 1990, pp. 1646-1652)*

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The Portfolio Diet

- ✓ The Portfolio Diet, proposed by Dr. David Jenkins and fellow researchers, has taken center stage as a means to lower cholesterol in hypercholesterolemic individuals using therapeutic lifestyle changes (TLC).
- ✓ This diet is essentially a low fat diet with special focus on foods that contain known agents to lower cholesterol (viscous fiber, soy protein, almonds and plant sterols).
- ✓ This diet has demonstrated a remarkable ability to significantly reduce total cholesterol and LDL cholesterol to a degree comparable to the use of first-generation statin drug, within patients recruited for the same study.

More recently, the Portfolio Diet proposed by Dr. David Jenkins and fellow researchers has taken center stage as a means to lower cholesterol in hypercholesterolemic individuals using therapeutic lifestyle changes (TLC). This diet is essentially a low fat diet with special focus on foods that contain known agents to lower cholesterol (viscous fiber, soy protein, almonds and plant sterols). This diet has demonstrated a remarkable ability to significantly reduce total cholesterol and LDL cholesterol to a degree comparable to the use of first-generation statin drug, within patients recruited for the same study. *(Jenkins, et al., 2006, pp. 582-91).*

What if Diet Therapy Fails

If dietary therapy (and aerobic exercise) fail to reduce blood cholesterol to below 150 mg/dL, then consider the addition of psyllium husk fiber (10 gm per day) and/or ground flaxseed (50 gm per day), as well as two natural cholesterol lowering supplements (gum guggul and artichoke leaf extract). These natural agents increase LDL clearance from bloodstream by the liver and artichoke enhances bile acid excretion via the fecal route, which in turn, increases greater LDL clearance by the liver to synthesize more bile acids. *(Agarwal RC, et al, Indian J Med Res 84, 1986; Englisch W, Arzneimittelforschung,2000;50:260–265).*

If these natural interventions do not achieve the intended outcome for blood cholesterol after a 6-month trial (diet and exercise – three months, followed by the addition of psyllium husk fiber, ground flaxseed, plus gum guggul and artichoke – three months), then the addition of a bile acid sequestrant drug for the ensuing three months deserves consideration as the safest next step to lower cholesterol.

If all of these interventions fail to result in a fasting blood cholesterol level below 180 mg/dL (in non smokers, non diabetics, and non hypertensive patients) then a statin drug may be considered at this point.

Unfortunately, many physicians currently use statin drugs as the first resort in cases of hypercholesterolemia not the last resort. This appears to be contrary to benefit-to-risk analysis in the majority of cases. As such, alternative health care practitioners and their patients should be aware of the efficacy and risks pertaining to cholesterol-lowering interventions, as a means to provide hypercholesterolemic patients with accurate information regarding the use of appropriate dietary modifications, supplements and medications.

Unfortunately, many physicians currently use statin drugs as the first resort in cases of hypercholesterolemia not the last resort. This appears to be contrary to benefit-to-risk analysis in the majority of cases.

My suggestion is that you speak to your health practitioner about the appropriateness of these strategies in your individual case and seek his/her guidance as to how to access supplements that meet the requirements outlined in this review.

For more information on this or other related topics, visit Dr. Meschino's website at:
http://www.meschinohealth.com/

Additional Readings

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   http://www.meschinohealth.com/ArticleDirectory/Cholesterol-Lowering_Diet_Reduces_Blood_Cholesterol_To_Similar_Degree_As_Prescription_Statin_Drugs_%28Lovastatin%29_In_Head_To_Head_Clinical_Trial

2. ***Flaxseed Supplementation: An Intregal Aspect of Vibrant Health and Anti-Aging***
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3. ***Prevention of Heart Disease in Women: Folic Acid and Homocysteine***
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4. ***Gugulipid (Gum Guggul): Nature`s Safe and Effective Cholesterol-Lowering Supplement***
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5. ***Cholesterol-Lowering Diet Reduces Blood Cholesterol to Similar Degree as Prescription Statin Drug (Lovastatin) in Head-to-Head Clinical Trial***
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6. ***Helping Patients Achieve a Cholesterol Level Below 150 Mg/Dl: An Important Objective in the Prevention of Cardiovascular Disease***
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7. ***Helping Your Patients Acquire Sufficient Soy Isoflavones to Match the Traditional Asian Diet***
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10. ***Understanding Cholesterol and Heart Disease***
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12. ***The Truth About Cholesterol***
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