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The following was reported by Gina Kolata in the New York Times, July 13, 2004:

EXPERTS SET A LOWER LOW FOR CHOLESTEROL LEVELS

In July, 2004, the New York Times reported that Federal health officials had lowered the optimal levels for low density liquid proteins (LDL's: the 'bad' cholesterol) for people at moderately high risk for heart disease. The report recommends that millions of Americans who previously thought their cholesterol levels were fine should now start drug therapy. The new recommendations call for those with high risk for heart disease to get their LDL's below 100, a drop of 30 points from the previous recommended level of 130. Those at moderately high risk should seriously consider lowering LDL's to below 100, using medication, the report said.

The recommendations were published today in the journal Circulation and endorsed by the National Heart, Lung and Blood Institute, the American Heart Association, and the American College of Cardiology. The authors said the change was prompted by data from five recent clinical trials indicating that the current cholesterol goals were not aggressive enough and that more intense drug treatment led to better results. The recommendations, which modify guidelines set by the government only two and a half years ago, will increase by a few million the number of Americans who meet the criteria for therapy with the powerful cholesterol-reducing drugs called statins, and many people who are already taking the medications will be advised to increase their doses . . .

Perhaps the report's most surprising recommendation concerns the goal that doctors might set for LDL levels in their patients at highest risk, those with established heart disease plus another condition like diabetes, smoking, high blood pressure, or a recent heart attack. For those patients, the report said, there is a therapeutic option to drive the LDL level to a breathtakingly low level - below 70 . . . It will not be an easy goal to achieve, heart disease experts said.

Dr. Scott M. Grundy of the University of Texas Southwestern Medical School at Dallas, the lead author of the new report, said, "A standard dose of statins gets most people close to 100." "If you are going to get from there down to 70, you have to take a high dose of statins," Dr. Grundy said, "which still might not get you there."

Dr. Valentin Fuster, director of the Cardiovascular Institute at the Mount Sinai School of Medicine in New York, predict that the optimal levels for LDL cholesterol will go lower still. Several clinical trials now under way are expected to provide even stronger evidence of the value of intense cholesterol lowering, Dr. Fuster and others said. Dr. Fuster added that in the future even LDL levels of 70 will seem too high for those at greatest risk. "I can predict that the guidelines will be modified to be more and more aggressive and it will happen in the next three years, if not earlier," Dr. Fuster said.

LOWERING CHOLESTEROL: DRUG FREE SOLUTIONS

Kath Bartlett MS, LAc

I am frequently asked if Traditional Chinese Medicine (TCM: acupuncture, Chinese herbs and dietary therapy) can lower blood lipid, or cholesterol, levels. This is tricky issue in Chinese medicine because high cholesterol is a silent disease, meaning there are no presenting symptoms. Western medicine insists on lowering cholesterol because the increased arterial plaque associated with high cholesterol causes heart disease and strokes.

However, there are studies that show high lipid (fat) levels are only fifty percent predictive of whether a person might get heart disease. A landmark, National Institutes of Health study, called the Women's Health Initiative (published in the February 8, 2006 issue of JAMA, the Journal of the American Medical Association) stunned the medical establishment by finding that a low-fat diet has no effect on reducing the risk of getting cancer or heart disease. The eight year study compared 49,000 women. Those assigned to a low-fat had the same rates of heart attacks, strokes, breast and colon cancer as those who did not.[1] Though one might expect those on the low-fat diet to lose weight, the study found that each group weighed about the same and had no difference in diabetes rates, insulin or blood sugar levels. Though LDL's were slightly higher in the higher-fat group, "the levels were not high enough to make a noticeable difference in their risk of heart disease."[2]

One might consider high cholesterol a symptom of how a person has led his/her life: Has s/he maintained a healthy lifestyle? It's difficult to make up for 50-60 years of poor dietary choices and lack of exercise.

Acupuncturists work with patients' diets to eliminate fried, greasy foods, dairy products, caffeine, refined sugar, alcohol and smoking. Improving digestive function with acupuncture and Chinese herbal therapy can improve biliary function to aid emulsification of fats. Many have successfully lowered cholesterol by using fermented, red rice (Hong Gu, in Chinese). Chinese red, yeasted rice is a component of statin drugs. A TCM herbalist can add it to a formula to aid biliary activity, which emulsifies fats. Chinese red, yeasted rice is available as a nutritional supplement. Take 600mg daily for three months, and then re-test lipid levels to assess effect.

"The Eight Week Cholesterol Cure, How to Lower Your Cholesterol by up to Forty Percent Without Drugs or Deprivation" by Robert Kowalski suggests a dietary plan for lowering cholesterol. Stay on the diet for three months, then re-test, followed by six months and then one year if cholesterol levels stay low.

Some research shows that increased vegetable consumption lowers risk of disease. For instance, olive oil has been credited with a lower instance of heart disease for Greeks. But this olive oil is consumed on high quantities of fresh vegetables. In countries like Scotland and the U.S. vegetable consumption is low, and the heart disease rate is high. Of course other factors, such as stress, play a part.

A 2006 Israeli study demonstrated that eating red grapefruit lowered cholesterol on those non-responsive to statin drugs. Nicholas Bakalar reported the following in the NY Times (February 21, 2006):

> Grapefruit, especially the deep red star ruby variety, can help reduce cholesterol in some patients who do not respond to statin drugs, researchers in Israel are reporting. The researchers tested 57 patients ages 39 to 72 who had undergone coronary bypass surgery and had found that Zocor, or simvastatin, was ineffective. They divided them randomly into three groups. Each group consumed the same diet, except that one ate one red grapefruit daily, the second ate one white grapefruit, and the third ate no grapefruit at all. None took lipid-lowering drugs during the test.
>
> After one month, there were no differences in the heart rate, blood pressure or weight of the three groups. Antioxidant activity in both white and red groups was increased compared with the group that ate no grapefruit. But the group that ate red grapefruit every day also had significantly decreased blood levels of triglycerides. The findings will be published in the March 22 issue of The Journal of Agriculture and Food Chemistry.
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> The star ruby grapefruit has a yellow peel with a red blush and an intensely red pulp. It is very sweet, and has few or no seeds. [3, 4]

An easy alternative to drugs for lowering cholesterol is Green tea and Essential Fatty Acids (EFA's). Drink 3-4 cups a day of green tea and 9-gel caps (or 3 tablespoons of liquid) daily of EFA's. Plant or fish oils will work. Personally, I prefer the high quality flax seed oil found in the refrigerated section of natural food stores. According to Jacqueline Bardini, Doctor of Pharmacy, "Flax oils do all the things omegas do . . . fish oils can has a fishy taste, and I am concerned about high mercury levels in some fish" (due to polluted oceans.) If triglycerides are high, add up to 1 gram a day of niacin.[5] Re-check blood lipid levels after 3 months of therapy.

I've seen favorable research (compiled by Glenn Smits, Licensed Acupuncturist) showing that Policosanol, a supplement derived from sugar cane, blocks the synthesis of cholesterol.[6] What follows is a summary of Smits research, *A Natural Anti-Cholesterol Dietary Supplement: Policosanol*:

> In studies on people with high cholesterol and at high risk for heart disease, 10mg daily dosages of policosanol lowered LDL's 20% in six to twelve weeks. Total cholesterol was reduced by 15%, and

protective HDL's increased 7-28%. At 20mg daily, LDL's were reduced 28%, total cholesterol was lowered 20%, and valuable HDL's were raised 7-10%. Policosanol has no effect on triglycerides.[7] However fish oils and red grapefruit may lower triglyceride levels.

Policosanol lowers LDL's as effectively as statin drugs and performs better at increasing HDL's, without the drugs' high cost or side effects, such as liver dysfunction, muscular atrophy and impotency. In a side by side comparison study, 10mg/day of policosanol reduced LDL's 24%, compared to 22% for 20mg daily of lovastatin (Mevacor), and 15% for 10mg daily of simvastatin (Zocor). Other studies show similar findings.[8]

Studies show that policosanol combined with drug therapy potentiates each other's cholesterol lowering effects. One study demonstrated that a combination of policosanol and gemfibrozil (Lopid) was more effective than either used alone.[9] In combination with bezafibrate a cholesterol and fibrinogen lowering drug, policosanol dramatically increased bezafibrate's ability to lower both LDL's and total cholesterol.[10]

As far as side-effects go, policosanol proves itself to be well tolerated. In a study of 3,000 people on policosanol, only 26 dropped out due to side effects. The side effect most often complained of was weight loss. In short-term, placebo-controlled trials, the placebo's side effects exceeded those of policosanol in every category except stomach pain, which was equal in both. Actually, policosanol seems to have beneficial side effects. One large study noted that the policosanol group had reduced rates of serious coronary events and significantly lower rates of hospitalizations in special care units, compared to the placebo control group.[11]

Policosanol is a combination of several long chain fatty alcohols. One of these is octacosanol, which comprises 55-70% of policosanol.[12] In studies going back to the 1960's, octacosanol has been shown to enhance endurance and oxygen utilization during exercise.[13] After three days of treatment, octacosanol begins to accumulate in the muscles, where its appears to be stored and converted into an energy source.[14] When people with heart disease are given 10mg daily dosages of policosanol, aerobic capacity and oxygen uptake increase, ischemia (inadequate blood flow to the heart, causing pain and heart attack) decreases, and they improve on treadmill exercise-ECG tests.[15]

In addition to lowering cholesterol, policosanol has other actions that prevent heart disease. Like statin drugs, policosanol prevents the formation of arterial legions, and inhibits the oxidation of LDL.[16] LDL oxidation increases the destruction of blood cells, partly by interfering with HDL's protective effects.[17] Walls of diseased arteries become thick and overgrown with cells, slowing or even completely blocking blood flow. Policosanol is able to reduce the proliferation of cells as effectively as other lipid-lowering drugs, like most of the statins.[18]

And yet another benefit of policosanol is that it inhibits formation of blood clots, and appears to have a synergist effect with aspirin in this regard. A study comparing the effects of aspirin and policosanol on clot formation showed that they each inhibit a different type of blood cell clumping (platelet aggregation), and potentiate each others action when used together.[19,20] In addition, policosanol significantly reduces thromboxane, a biochemical (eicosanoid) produced by blood platelets that causes blood vessel constriction.[21]

In studies on people with intermittent claudication (blockage of the arteries, generally affecting the lower extremities) 20mg daily dosages of policosanol reduced lameness and increased walking distance abilities. The percentage of serious complications in the policosanol group was 9.7% compared to 38.7% in the group getting a placebo.[22]

Policosanol does not appear to interfere with other heart medications. No adverse reactions have been found with policosanol's use in conjunction with blood thinners or beta-blockers. In fact, one animal study found that policosanol may increase the blood pressure lowering effect of propranolol.[23] In clinical trials policosanol has been given to people taking calcium antagonists, diuretics, vasodilators, NSAIDs, meprobamate, thyroid hormones, digoxin, anticoagulants, ulcer drugs, neuroleptics, antidepressants and anxiolytics (anti-anxiety drugs) with no findings of adverse effects.[24]

CHOLESTEROL RISK CALCULATOR

available on the heart, lung and blood institute's Web site:
http://hin.nhlbi.nih.gov/atpiii/calculator.asp?usertype=prof.

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[1] Kolata G, *Low-Fat Diet Does not Cut health Risks, Study Finds.* NY Times 8Feb, 2006.

[2] Kolata G, *Maybe You're* Not *What You Eat.* NY Times 14Feb, 2006.

[3] Bakalar N**,** *Vital Signs: Nutrition; Red Grapefruit Earns a Star on Cholesterol Test*. NY Times, 21Feb, 2006.

[4] Please note that eating red grapefruit while taking many cholesterol lowering drugs will cause the drug to have less effect. The affected drugs should have warning labels contraindicating grapefruit. If you are on cholesterol lowering drug therapy, check with your doctor or pharmacist before adding red grapefruit to your diet.

[5] One should take caution when supplementing with niacin. Jacqueline Bardini, Doctor of Pharmacy notes that "Even at 1-2 grams per day, hepatotoxicity can occur."

[6] "There has been a multitude of studies investigating the beneficial effects of policosanol. The majority of these studies, conducted in Cuba, used the patented Cuban policosanol sourced from sugar cane wax. As a result, this highly researched form of policosanol is considered the gold standard of policosanol products. This Cuban material is a blend of natural concentrated fatty alcohols, the predominant one being octacosanol, which makes up roughly 60 % of the mixture. [However, many of the policosanol products available in the US are derived from beeswax or rice bran.] The fatty alcohol compositions of the beeswax and rice bran derived policosanol products fail to measure up to the Cuban material. In fact, most of these products have completely different fatty alcohol profiles than the Cuban version, with most of the fatty alcohols falling outside of the Cuban material specification ranges.

Pure Encapsulations policosanol is LESSTANOL® brand policosanol from Garuda International, Inc. It is derived from sugar cane wax and contains a minimum of 95% policosanols, 60% of which is octacosanol. Furthermore, all of the fatty alcohols fall within the Cuban specification ranges with the exception of one. The utilization of a slightly different extraction technique leaves the heptacosanol content in the Garuda policosanol somewhat lower. Additionally, the processing and purification of the raw sugar cane wax may vary slightly from that of the Cuban product.

A recent, unpublished pilot study was conducted at the University of California, San Diego. Subjects were given 10 mg of LESSTANOL® twice a day for sixty days. Results indicated that LESSTANOL® helped support healthy lipid metabolism. Based on the encouraging results of this pilot study, two larger studies will be conducted by early next year. Below is a table comparing the content of Garuda LESSTANOL® brand policosanol used in Pure Encapsulations Policosanol 10 mg and Policosanol 20mg and the patented Cuban policosanol." Joy Devins, Certified Nutritionist. Pure Encapsulations

Fatty Alcohol	Garuda Specifications	Cuban Patent Ranges
1-Tetracosanol	0 - 10%	0.5 - 1.0%
1-Hexacosanol	2 - 15%	5.5 - 8.5%
1-Heptacosanol	0 - 0.5%	2 - 3.5%
1-Octacosanol	55 - 70%	60 - 70%
1-Triacontanol	5 - 20%	10 - 15%

[7] Smits G, 2004. *A Natural Anti-Cholesterol Dietary Supplement: Policosanol*.

[8] Prat H, et al. 1999. *Comparative effects of policosanol and two HMG-CoA reductase inhibitors on type II hypercholesterolemia.* Published in Spanish. Rev Med Chile 127:286-94.

[9] Castaño G, et al. 1998. *Comparative study of policosanol, gemfibrozil and policosanol-gemfibrozil combination therapy in the treatment of type II hypercholesterolemia.* Rev CENIC Cien Biol 29:17-23.

[10] Smits G, 2004. *A Natural Anti-Cholesterol Dietary Supplement: Policosanol*.

[11] Ibid

[12] Octa: eight, cosanol refers to alcohol. Poli: many, hence policosanol: many alcohols.

[13] Kabir Y, et al. 1994. *Distribution of radioactive octacosanol in response to exercise in rats*. Nahrung 38:373-7.

[14] Kabir Y, et al. 1995. *Tissue distribution of (8-14C)-octacosanol in liver and muscle of rats after serial administration.* Ann Nutr Metab 39:279-84.

[15] Smits G, 2004. *A Natural Anti-Cholesterol Dietary Supplement: Policosanol*.

[16] Menendez R, et al. 1999. *Oral administration of policosanol inhibits in vitro copper ion-induced rat lipoprotein peroxidation.* Physiol Behav 67:1-7.

[17] Xu XP, et al. 1999. *Oxidized low-density lipoprotein regulates matrix metalloproteinase-9 and its tissue inhibitor in human monocyte-derive macrophages.* Circulation 99:993-8.

[18] Negre-Aminou P, et al. 1996. *Antiproliferative potencies of 6 vastatins in cultured human cells: involvement of the ras-mediated signalling pathway.*66th Cong Eur Atheroscler Soc (July 13-17, Florence): 120.

[19] Arruzazabala ML, et al. 1997. *Comparative study of policosanol, aspirin and the combination therapy policosanol-aspirin on platelet aggregation in healthy volunteers.* Pharmacol Res 36:293-7.

[20] Stusser R, et al. 1998. *Long-term therapy with policosanol improves treadmill exercise-ECG testing performance of coronary heart disease patients.* Int J Clin Pharmacol Ther 36:469-73.

[21] Carbajal D, et al. 1998. *Effect of policosanol on platelet aggregation and serum levels of arachidonic acid metabolites in healthy volunteers.* Prost Leuk Essen Fatty Acids 58:61-4.

[22] Castano G, et al. 1999. *A double-blind, placebo-controlled study of the effects of policosanol in patients with intermittent claudication.* Angiology 50:123-30.

[23] Molina V, et al. 1998. *Effect of policosanol on arterial blood pressure in rats. Study of the pharmacological interaction with nifedipine and propranolol.* Arch Med Res 29:21-4.

[24] Carbajal D. 1998. *Interaction policosanol-warfarin on bleeding time and thrombosis in rats.* Pharmacol Res 38:89-91.

Experienced, Dedicated, Effective

Kath Bartlett, MS, LAc is the owner of the Asheville Center for Chinese Medicine. Bartlett practices in a traditional Chinese style incorporating acupuncture, Chinese herbal medicine, Tui Na massage, dietary and lifestyle counseling to treat a wide variety of health problems. She achieves effective clinical results treating digestive complaints, such as stomach pain, ulcers, acid regurgitation, constipation, diarrhea, IBS and hemorrhoids, in addition to many other conditions.

Bartlett is a contributing writer for many Asheville publications, such as: Rapid River Magazine, Whole Health News and New Life Journal, in addition to the Pacific College of Oriental Medicine Newsletter and The Pulse of Oriental Medicine web magazine. She frequently lectures about Chinese medicine at various colleges and civic organizations, including the MAHEC Residency Program, A&B Technical College and UNCA's College for Seniors. Bartlett has appeared as a featured guest on the "Health Watch" segment of KUSI News in San Diego.

Bartlett relocated to Asheville from San Diego, California. There, she externed at several University of California, San Diego Medical School sites, including the Owen's Clinic for HIV+ at Mercy Hospital. Bartlett earned her Masters of Science degree in Traditional Oriental Medicine from the respected Pacific College of Oriental Medicine, San Diego. She is Board Certified in Oriental Medicine by the National Certification Commission of Acupuncture and Oriental Medicine (NCCAOM). Bartlett completed advance studies of the classics texts of Chinese medical theory with Dr. Min Fan, formally of Bei Jing University. Bartlett received her Bachelor of Arts degree from UCLA.

Bartlett is a member of the Board of Directors of the North Carolina Association of Acupuncture and Oriental Medicine (NCAAOM) and is a member at large of the American Association of Oriental Medicine (AAOM).