

## Nutraceuticals (Part 1)

As a cardiothoracic surgeon, the Cholesterol Medical Expert on WebMD, and medical director for the Los Angeles based Center for Cholesterol Management, patients often ask me if they have to take prescription medicines to control cholesterol or can they go to the health food store and buy supplements advertised to do the same thing? Recent data released from various sources suggest that many over-the-counter remedies have lipid-lowering effects. Much of the time, however, these claims are based on poorly conducted clinical trials or no trials at all. Below, I will talk about four different supplements including Guggulipids, Policosanol, Cinnamon, and Red Yeast Rice Extract and discuss the latest evidence based literature regarding their true impact on lipid lowering. I will call this:

### Nutraceuticals- Are They Safe and Do They Really Lower Cholesterol? (Part 1)

Guggulipids are found in the arid regions of India and Pakistan, and believed to be the active ingredients in the resin of the Commiphora Mukul "Guggul" tree. This substance is marketed in the US under the name "Guggulipids" as a dietary supplement and is promoted to control cholesterol. The gum resin of the Guggul tree has been used in Ayurveda for more than 2,000 years and is believed to have many health benefits including treating obesity. Though there have been numerous studies evaluating the impact of guggul on lipids, these studies have concentrated on the Eastern Indian population. Of the two placebo controlled trials, the study performed in the Indian population found that guggulipids lowered LDL cholesterol by 12%. On the strength of this study, guggul was approved for use in India. A single study reported in the US was a carefully designed 8-week, double blind randomized, placebo-controlled trial using a parallel design. During this carefully controlled clinical trial, the Guggulipids did not lower LDL cholesterol and in fact actually increased LDL cholesterol in the majority of treated patients. Of some concern was the high rate of hypersensitivity rashes (9% of the participants). Interestingly, in both Indian and Western studies, there does appear to be some patients who did respond to Guggulipids. The percentage of people responding favorably in the Indian trials suggests that perhaps the Indian population may differ in some basic ways (genetically or environmentally) from the primarily Caucasian population.

Policosanol is a mixture of long-chain primary aliphatic alcohols isolated from sugarcane wax. Policosanol products can also be derived from wheat germ, rice bran and beeswax. The most widely available Policosanol product comes from Cuba and is sold as a lipid-lowering product in over 40 countries. Until recently, a single Cuban research group performed nearly all studies conducted on Policosanol. These Cuban studies show promise, however, with the recent publication of a number of negative studies outside of Cuba, the beneficial effects of Policosanol have been called into question. Overall, recent placebo-controlled trials examining the lipid altering effects of sugarcane-derived Policosanol failed to find any significant lipid-altering effects. At the present time, Policosanol cannot be recommended for the treatment of hyperlipidemia.

Is Cinnamon safe? In 2003 an in-vivo study was concluded on 60 diabetic candidates in Pakistan. The results of this study were released to the Western media and a frenzy of cinnamon capsules were sold in the US and other countries promoting Cinnamon's lipid lowering effects. Since that time, numerous studies in Germany and in the Netherlands have been published. The result of these studies differs significantly from the original Pakistani study. Based on the data from these studies, it would appear that the early enthusiasm for cinnamon supplementation might have been premature.

Red Yeast Rice is the fermented product of rice on which red yeast has been grown . The active ingredient in red yeast rice is believed to be Monacolin K, an agent reported to be identical to lovastatin (a commonly prescribed statin). Like statins, red yeast has been found to directly reduce lipids. There is little doubt that the proprietary preparation of red yeast rice, known as Cholestin favorably alters lipids. However, due to legal issues, this preparation is no longer commercially available in the US. In 1998, the FDA determined that red yeast rice did not conform to the definition of a dietary supplement under the 1994 Diet supplement and Health Education Act (DSHEA). This act states that marketed dietary supplements cannot contain a compound already approved as a drug (in this case, lovastatin) unless the substance was available commercially before the drug's approval. At present, Cholestin is still available in Canada, Europe and Asia – however, great caution should be exercised because Cholestin has been reformulated and no longer contains the important Red Yeast Rice extract, but rather polymethoxylated flavones extracted from citrus fruits, geraniol and marine fish oils and it is unclear if this or other proprietary preparations of red yeast extract will provide the same lipid effects.. The FDA has issued a warning to consumers regarding three brands of red yeast rice. Follow this link for more information. [www.fda.gov](http://www.fda.gov) and type in red yeast rice in the search box.

When taking any supplement, caution should always be exercised. There are many drug interactions between over-the-counter supplements, vitamins, nutraceuticals, and prescription drugs and a medical professional well-versed in lipid management should be consulted before considering using any type of medicine to lower cholesterol.