Cholesterol Management

February 2019

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This information has not been evaluated by the FDA and therefore is not intended for prevention, treatment or cure for any medical disease or condition.

Cholesterol is NEEDED for:

- Cell membranes
- Hormones
- Bile acids (for fat metabolism)
- Vitamin D
- 25% of the cholesterol in your body is in your brain and it contributes to the formation of your memories and is crucial for your neurological function.

Why do Cholesterol Levels Increase

1. A rise in cholesterol levels increase in response to damaged cells (and arteries). High cholesterol levels in your bloodstream may be because your body is repairing or creating new cells.
2. Damage to the lining of your arteries becomes the problem and the rise in cholesterol is the symptom.

Why do Cholesterol Levels Increase

1. As we get older, our hormone levels decrease. Most hormones are built from cholesterol.
2. When older people increase their hormone levels, many times ("bad") cholesterol levels decrease.

Why do Cholesterol Levels Increase

- Dietary cholesterol doesn't have much impact on blood levels of cholesterol.
- 75% of cholesterol is synthesized by the liver.
- This process is tightly regulated by several hormones, including **thyroid hormones**.

Why do Cholesterol Levels Increase

As early as 1934, it was recognized that “the concentration of blood **cholesterol is usually raised in hypothyroidism**, and **lowered slightly in hyperthyroidism**”.

Today, a PubMed search for thyroid and cholesterol yields more than 3,000 articles.

“GOOD” Cholesterol

HDL (high density lipoprotein)

“**good**” cholesterol helps keep “bad” cholesterol away from your arteries and removes any excess arterial plaque, thus helping to prevent heart disease.

“BAD” Cholesterol

LDL (low density lipoprotein) or “**ba**d” cholesterol builds up in your arteries and is a building block of plaque. Plaque narrows your arteries thus contributing to clogged arteries.

Heart Disease Risk

Your **total** cholesterol level is not an indicator of your risk of heart disease.

Heart Disease Risk

1. Ratio of HDL / Total cholesterol is a better indicator.
2. 24% and above is ideal %
3. 10% and below is significant heart disease risk indicator.

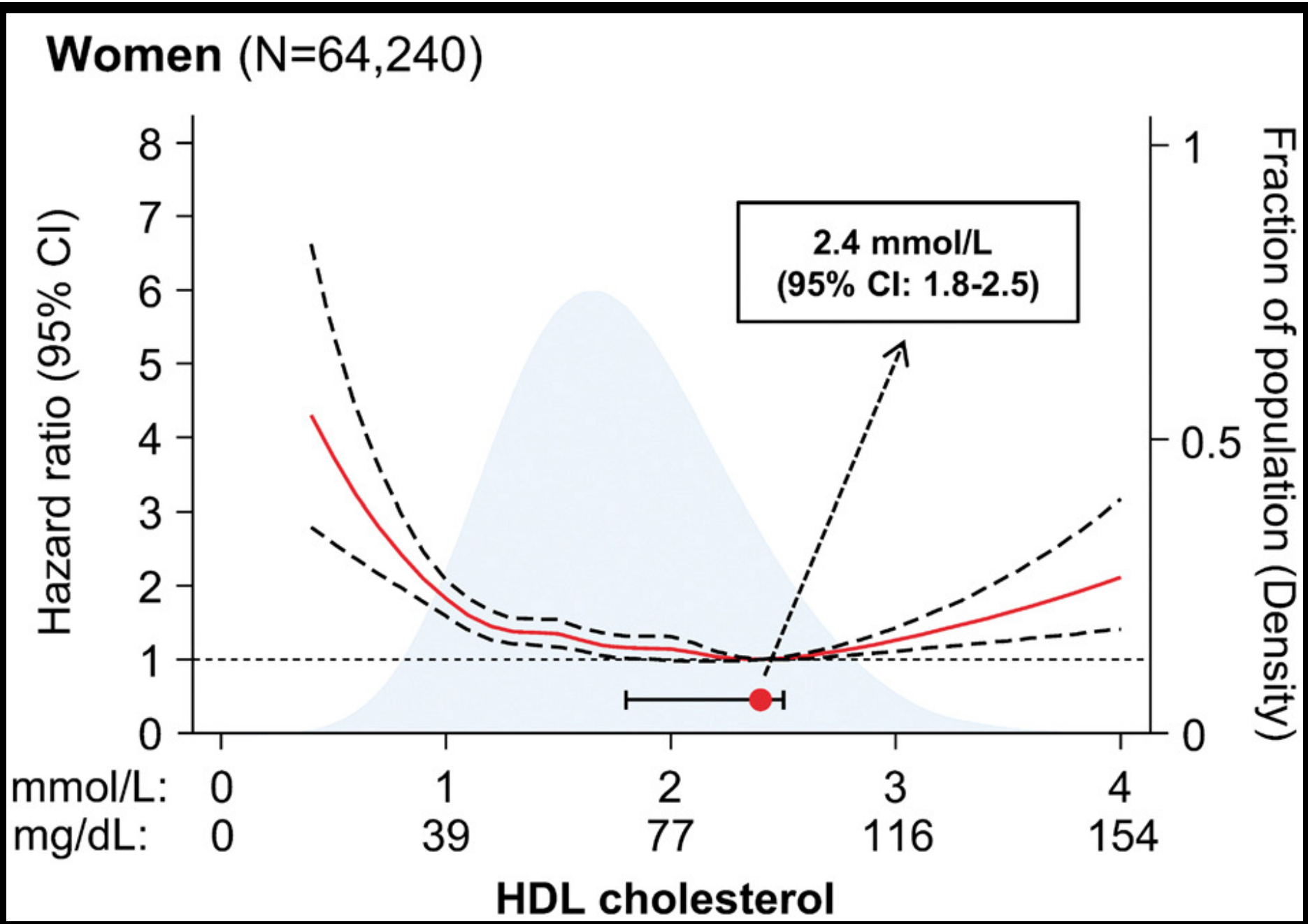
Heart Disease Risk

1. Elevated levels of triglycerides may lead to diabetes and heart disease.
2. Risk is when ratio of Triglyceride / HDL is above 2.
3. Ideal ratio is below 2.

Heart Disease Risk

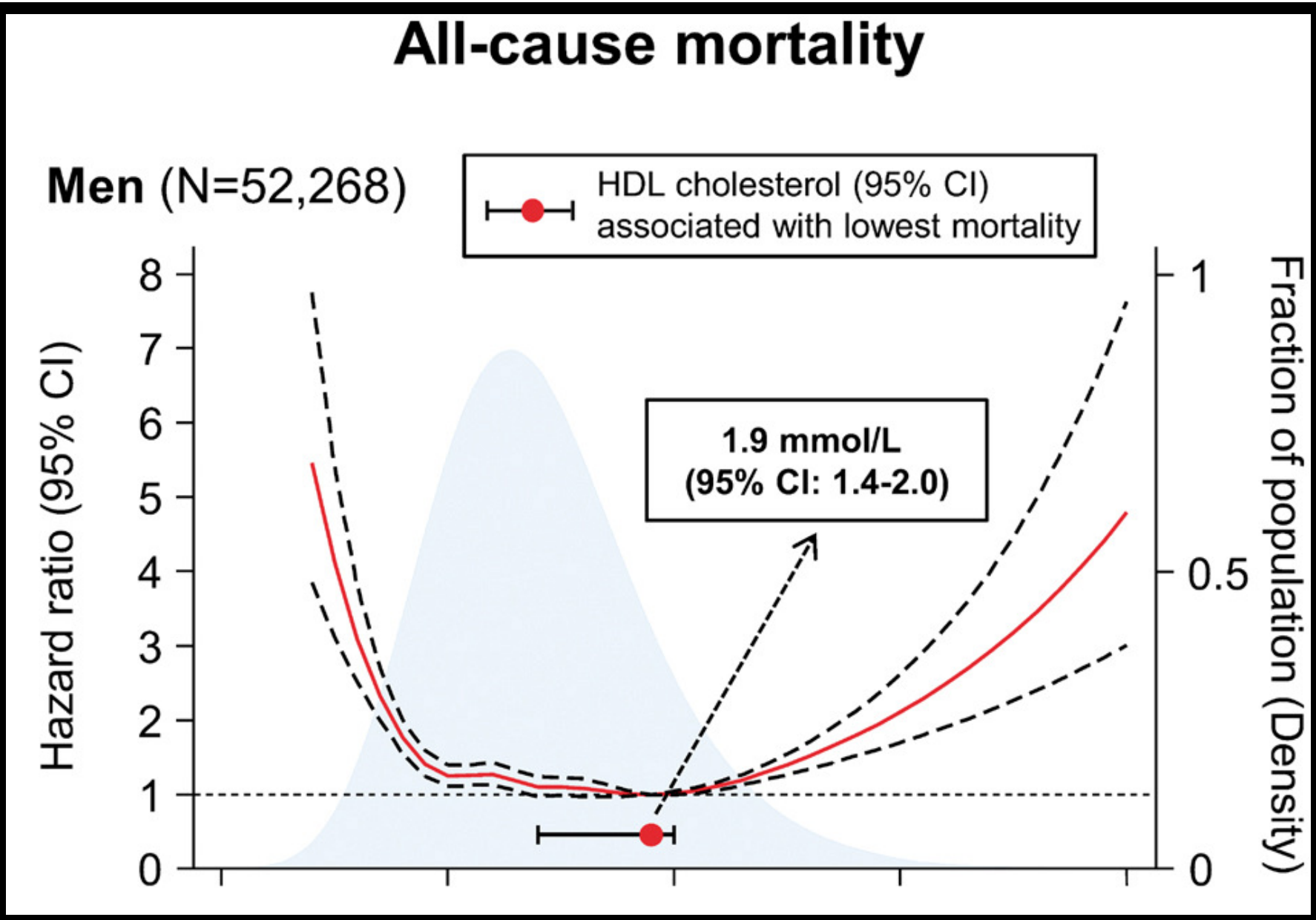
Danish researchers used data from two large prospective studies to analyze possible links between high levels of HDL cholesterol and risk of death from any cause. In particular, they were interested in learning if people with extremely high levels of HDL were at a greater risk of dying than people with lower levels. The data they used included over 52,000 men and over 64,000 women.

https://www.acsh.org/news/2017/08/25/you-can-have-too-much-good-thing-%E2%80%94-even-hdl-cholesterol-11739



https://www.acsh.org/news/2017/08/25/you-can-have-too-much-good-thing-%E2%80%94-even-hdl-cholesterol-11739

All-cause mortality



https://www.acsh.org/news/2017/08/25/you-can-have-too-much-good-thing-%E2%80%94-even-hdl-cholesterol-11739

Mortality Risk

The lowest risk of death was associated with HDL levels of about 58 mg/dl for men and 77 mg/dl for women.

Mortality Risk

A 40-year-old previously unpublished trial shows that while replacing saturated fat with vegetable oil lowered **total** cholesterol by 14 percent, for every 30 point drop in **total** cholesterol there was a 22 percent increased chance of death.

https://www.bmj.com/content/353/bmj.i1246

Statins

1. Over 900 studies prove that statins can have adverse or deadly side effects.
2. If you take statins, you should take CoQ10.

CoQ10 (Ubiquinol)

1. Statin drugs deplete your body of CoQ10. (as does red yeast rice)
2. CoQ10 is essential for creation of ATP needed for cellular energy.
3. Depletion of CoQ10 leads to fatigue, muscle weakness, soreness, and heart failure.

Statins

In women without coronary heart disease (CHD), statins fail to lower both CHD and overall mortality, while in women with CHD, statins do lower CHD mortality but **increase** the risk of death from other causes, leaving overall mortality unchanged.

https://jamanetwork.com/journals/jama/fullarticle/198731

Statins

- The only statin study dealing exclusively with seniors, the PROSPER trial, found that pravastatin did reduce the incidence of coronary mortality (death from heart disease).
https://www.ncbi.nlm.nih.gov/pubmed/12457784?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_RVAbstractPlus
- However, this decrease was almost entirely negated by a corresponding increase in cancer deaths.
- As a result, overall mortality between the pravastatin and placebo groups after 3.2 years was nearly identical.

Statins

- The rate of heart disease in 65-year old men is ten times higher than it is in 45-year old men.
- The vast majority of people who die from heart disease are over 65, and there is no evidence that statins are effective in this population.

Statins frequently produce:

- muscle weakness
- Lethargy
- liver dysfunction
- cognitive disturbances

Are statins worth it?

- There is evidence showing that statins may actually make your heart health worse
- Statins deplete your body of CoQ10 and inhibit synthesis of vitamin K2
- Statins increase your risk of cancer, diabetes, neurodegenerative diseases, musculoskeletal disorders, cataracts, diabetes, and cancer

Do statins work?

Statin Drugs Found To Accelerate Arterial Calcification

http://www.greenmedinfo.com/blog/statin-drugs-found-accelerate-arterial-calcification

Statins Increase Artery Calcification

Published Aug. 8th, 2012 in the journal *Diabetes Care*, researchers studied patients with type 2 diabetes and advanced atherosclerosis and found that coronary artery calcification "was significantly higher in more frequent statin users than in less frequent users." https://www.ncbi.nlm.nih.gov/pubmed/22875226

Furthermore, in a subgroup of participants initially not receiving statins, "progression of both CAC [coronary artery calcification] and AAC [aortic artery calcification] was significantly increased in frequent statin users."

The bottom line on Statins

1. Statin drugs do not reduce the risk of death in **95%** of the population, including healthy men with no pre-existing heart disease, women of any age, and the elderly.
2. Statin drugs do reduce mortality for young and middle-aged men with pre-existing heart disease, but the **benefit is small** and not without significant adverse effects, risks and costs.
3. Aspirin works just as well as statins do for preventing heart disease, and is **20 times** more cost effective. https://www.bmj.com/content/327/7426/1264.full

Recommended Ranges

Total cholesterol

Below 200 mg/dL	Desirable
200-239 mg/dL	Borderline high
240 mg/dL and above	High

Recommended Ranges

LDL cholesterol

Below 70 mg/dL	Ideal for people at very high risk of heart disease
Below 100 mg/dL	Ideal for people at risk of heart disease
100-129 mg/dL	Near ideal
130-159 mg/dL	Borderline high
160-189 mg/dL	High
190 mg/dL and above	Very high

Recommended Ranges

HDL cholesterol

Below 40 mg/dL (men), Below 50 mg/dL (women)	Poor
50-59 mg/dL	Better
Above 60 and below 95 mg/dL	Best

Recommended Ranges

Triglycerides

Below 100 mg/dL	Optimal
Below 150 mg/dL	Normal
150-199 mg/dL	Borderline high
200-499 mg/dL	High
500 mg/dL and above	Very high

How to Increase HDL "Good" and Lower LDL "Bad" Cholesterol Naturally

1. Extra-virgin olive oil
2. More Vegetables
3. Healthy nuts
4. Flaxseeds
5. Omega 3 fatty acids (like mercury free salmon)
6. Curcumin from Turmeric
7. Garlic lowers
8. Okra
9. Beans and Legumes
10. Sweet Potatoes
11. Green Tea
12. Persimmon
13. Avocados
14. Gluten-Free Whole Grains

Foods to Avoid

1. Trans Fats
2. Sugar and Refined Carbohydrates
3. Alcohol

What Will Lower Cholesterol (part 1)

- 16 studies showed that **Plant Sterols** lowered overall cholesterol by 10% and LDL by 13%.
- As we get older and thus have lower hormone levels, cholesterol goes up. **Raising hormone levels** will lower cholesterol.
- If your **thyroid** is low, the optimizing thyroid levels will improve cholesterol levels.
- **Aged Garlic extract** made by Kyolic caused a 12 to 31% reduction in cholesterol levels in the majority of test subjects after 6 months.

What Will Lower Cholesterol (part 2)

- **Policosanol** has been shown to normalize cholesterol as well or better than cholesterol-lowering drugs.
- High intake of **soluble fiber** is a very effective way of lowering serum cholesterol.
- **Niacin (vitamin B3)** improves cholesterol profiles when given in doses well above the vitamin requirement. Nicotinic acid LDL-cholesterol, and triglyceride levels, while raising HDL-cholesterol levels (start with 500 mg three times a day with meals). If you have a peptic ulcer, gout, or liver disease, use niacin with caution. (This is not Nicotinamide or Niacinamide)

What Will Lower Cholesterol (part 3)

- A study of 125 patients receiving **gugulipid** showed an 11% decrease in total serum cholesterol, a drop of 16.8% in triglycerides, and a 60% increase in HDL cholesterol within 3 to 4 weeks (140 mg - 1 to 2 times a day).
- **Fish oil** has been shown to reduce high levels of triglycerides by an average of 35%. Fish oil does not appear to reduce overall cholesterol to a great extent, but it does raise HDL (good cholesterol).
- **Chromium** (1 - 2 mg per day) may reduce total serum cholesterol levels by 15%
- **Cinnamon** has been shown to lower triglycerides, LDL cholesterol, and raises HDL cholesterol.

Red Yeast Rice

R**ed yeast rice** was effective at decreasing both triglycerides and LDL cholesterol and raising HDL.

The starting *dose* is 600 mg twice a day, and the *maximum dose* is 1,200 mg twice a day.

Side effects of red yeast rice are **rare** but can include

1. Headache
2. Stomachache or bloating
3. Gas
4. Dizziness
5. Heartburn
6. Muscle aches and weakness

Need to take CoQ10

Red Yeast Rice

Red rice yeast (Monascus purpureus) is a natural source of statins, but unlike a pharmaceutical, it provides a mix of these compounds rather than a single one. The complex mixture interacts with the body more smoothly and is less likely to cause toxicity.

Need to take CoQ10