

How Statins, Pesticides, Wireless Radiation Affect Your Heart

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✓ Fact Checked

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STORY AT-A-GLANCE

- › One in 4 Americans over the age of 45 is on a statin drug to lower their cholesterol
- › While statins may decrease the frequency of mild heart attacks, they will not necessarily lower your risk of heart disease or death from a major heart attack because of the damage they cause to your muscles, including your heart muscle
- › Statins lower your cholesterol, which is an important precursor for many of your steroid hormones, including progesterone, testosterone, aldosterone, cortisol and vitamin D
- › Statin drugs deplete your body of CoQ10, vitamin K2, dolichol and selenium, and prevent the production of HMG co-enzyme A reductase (an enzyme your liver uses to make ketones)
- › Exposure to glyphosate and electromagnetic fields from wireless technologies also harm your health, especially your heart

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One in 4 Americans over the age of 45 is on a statin drug to lower their cholesterol. Are these drugs really as bad as some of the evidence suggests – or might they be even worse than suspected? Stephanie Seneff, Ph.D., is a senior research scientist at Massachusetts Institute of Technology (MIT) whom I've interviewed on a number of occasions.

She's an absolute treasure trove of valuable health information. Here, we discuss statin drugs, which are also featured in her fictional book, "[Cindy and Erica's Obsession to Solve the Healthcare Crisis in America](#)," for which I wrote the foreword. The story, while fictional, is based on Seneff's own life and passion for science, and delves into autism, Alzheimer's, statins, vaccines, glyphosate and more.

In this interview, we focus on another book, "The Dark Side of Statins: Plus, the Wonder of Cholesterol,"¹ the last one written by Dr. Duane Graveline, who himself was a victim of statin side effects and died from complications related to statin use. Seneff's husband was also severely affected by statins, which triggered her scientific exploration into these popular drugs.

"He really changed my career by getting sick," she says. "He was diagnosed with heart disease 10 years ago and put on a high-dose statin – four times the normal dosage. The doctor said, 'You have to take this for the rest of your life. If you don't, I will no longer be your doctor.' And he immediately started suffering from side effects – muscle pains and weakness; even the road rage and behavioral changes.

I just knew this drug wasn't working and I started researching statins ... In fact, I started doing it as part of my work at MIT. I started analyzing statin side effects and finding all kinds of horrible things. He got off them after a year. He slowly tapered it down and I'm happy to say he's statin free and doing great at this point, 10 years later. His doctors keep on reminding him [to go back on a statin] and he keeps on telling them no, politely."

How Studies Overestimate Statin Benefits

As noted by Seneff, it's pretty easy to overestimate the benefits of statins by confusing people with absolute and relative risk. This is a statistical trick used quite frequently to demonstrate drug effectiveness. Seneff explains:

“They do a study in which the absolute risk is very rare. Let's say 2 percent of the population is actually expected to have whatever it is they're monitoring, like, say, a heart attack. They then look over a period of time and find that 2 percent of the control group has the occurrence [they're looking for, in this case a heart attack] and the treatment group has, let's say, 1.5 percent instead of 2 percent.

That's a 0.5 percent decreased risk from [the individual's] standpoint, but from their standpoint, it's a 25 percent improved performance because it's 0.5 out of 2 – one-quarter of the relative risk has been taken away. Therefore, it's a 25 percent improvement, which sounds much better than 0.5 percent.”

Statins Offer Poor Defense Against Heart Disease

Unfortunately, while statins may decrease the frequency of mild heart attacks, they will not necessarily lower your risk of heart disease or death from a major heart attack because of the damage they do to your muscles, including your heart muscle. On a side note, statins' ability to lower the risk of minor heart attacks is likely related to their ability to lower C-reactive protein, far more so than the lowering of cholesterol.

However, according to Graveline, you only need one-tenth of the dosage, say 2 milligrams (mg) rather than 20 mg to get this anti-inflammatory benefit, and there are far safer and more effective ways to lower inflammation than taking a statin, even at a low dosage. As Seneff says, “You're trading heart attack for heart failure, and I think a heart attack is preferred over heart failure.” There are three primary reasons why statins fail to decrease the rate of death from heart disease:

1. Statins lower your cholesterol, which is an important precursor for many of your steroid hormones, including progesterone, testosterone, aldosterone, cortisol and vitamin D. Cholesterol sulfate (produced when you expose your skin to the sun) enters cell membranes and helps build structured water that protects against oxidative damage. Cholesterol is also needed to create DHEA sulfate.

2. They also deplete your body of Coenzyme Q10 (CoQ10), which is needed for muscle health, and lowers your levels of vitamin K2 and HMG co-enzyme A reductase, the latter of which is an enzyme your liver uses to make ketones. So, if you're on a statin drug, you have dramatically impaired ketone production, even if you're fasting.
3. Statins also lower dolichol, which Graveline believed is just as important as CoQ10. Not only does dolichol play an important role in mitochondrial function, it is also responsible for the process of putting sugar chains on top of glycosylated proteins. This is important because these so-called glycosaminoglycans help maintain the barrier function in the cell and regulate the uptake of nutrients.

In practical terms, this means that your muscle cells (including your heart cells), which require lots of energy, get heavily impacted by statins. One side effect from lack of dolichol is Type 2 diabetes, and statins have indeed been found to cause drug-induced diabetes. Dolichol also fixes DNA mistakes. CoQ10, a powerful antioxidant, also helps, and both of these DNA "repair masters" are depleted by statins.

Statins Make You Age Faster

Contrary to popular belief, high cholesterol is not a primary risk factor for heart disease. It's actually a vital nutrient needed for health that shouldn't be artificially and indiscriminately suppressed.

"That's absolutely true," Seneff says. "When my husband was prescribed a statin, I knew cholesterol was vitally important to the body and I knew there was high concentrations in the brain.

Two percent of the body's weight and 25 percent of the body's cholesterol in the brain. So, you don't want to mess with losing cholesterol in your brain. Of course, statin side effects include a lot of cognitive issues and that was one of the things that faced Graveline.

He suffered something called transient global amnesia after taking statins for about three months. The doctors said, 'No way the statin could be causing that,' but he wanted to [stop taking] it anyway ... A year later, the doctor said, 'Well, the statin didn't cause it, so you should go back on the statin because you still have high cholesterol.'

He went back on [the statin] and shortly thereafter he had another episode of transient global amnesia. From that point on, he stopped taking the statin.

Then he became obsessed and wrote several books on statins ... [H]e died of an ALS-like condition, which he suspected the statins had contributed toward ... [I]n the book he says, 'Statins make you grow older faster.' And I think that's a very good way to describe them.

They give you all the things you get when you get older, faster. And since you never got old before, you don't know how fast you're supposed to get old, so you just think, 'Well, I'm getting old. This is just the way it is.' And it's not. It should be much, much slower ... So, everyone gets duped. Each person individually gets old fast and doesn't realize that's happening to them because of the statin."

Protect Your Heart: Beware of Cellphone Radiation

Two factors that can have a significant impact on your heart health and risk of heart disease are exposure to glyphosate-containing pesticides and electromagnetic fields (EMFs). Seneff touches on both of these issues in this interview, noting that each also has a tendency to worsen the effects of the other. "I think glyphosate messes up your natural electrical system, which makes you much more susceptible to EMFs," she says.

Considering the evidence, I firmly believe excessive exposure to microwave radiation from cellphones and other wireless technologies are a hidden and completely ignored contributor to heart disease. While evaluating studies showing you can radically reduce biological microwave damage using calcium channel blockers, Martin Pall, Ph.D.,

discovered a previously unknown mechanism of biological harm from microwaves emitted by wireless technologies.²

Embedded in your cell membranes are voltage gated calcium channels (VGCCs), which are activated by microwaves. When that happens, they open up, allowing a massive influx of intracellular calcium, which in turn stimulates the release of nitric oxide (NO).

Inside your cell and mitochondria, this NO combines with superoxide to form peroxynitrite. Not only do peroxynitrites cause oxidative damage, they also create hydroxyl free radicals, which are profoundly destructive and cause mitochondrial dysfunction.

One of the tissues with the highest density of VGCCs is the pacemaker in your heart. What the research tells us is that excessive microwave exposure can be a direct contributor to conditions such as cardiac arrhythmias.³ According to Seneff, EMFs also contribute to arterial calcification (blocked arteries). So, if you care about your heart health, and/or already struggle with heart problems, you'll want to make sure you:

- Avoid carrying your cellphone in a pocket near your heart
- Avoid using portable computers and tablets
- Turn off your cellphone at night, as even if you are not talking it can damage you up to 30 feet away unless it's in airplane mode with Bluetooth and location services turned off
- Turn off your Wi-Fi at night (ideally in the day also)
- Most importantly, turn off the electricity to your bedroom at the circuit breaker each night. This typically works for most bedrooms unless you have a room or rooms adjacent to your bedroom, in which case you might need to shut that off too. This will radically lower electric and magnetic fields while you sleep. If you need a clock you can use a battery-operated one and even better a talking clock with no light that can be picked up on Amazon

Shocking Glyphosate Statistics

Both glyphosate and EMF exposure have dramatically increased in recent decades. Between 1974 (the year glyphosate entered the U.S. market and just over two decades before GE crops were introduced) and 2014, glyphosate use in the U.S. increased more than 250-fold. Globally, glyphosate use rose nearly fifteenfold since 1996, two years after the first GE crops hit the market.⁴

Recent research shows that while few individuals had detectable levels of glyphosate in their urine in 1993, by 2016, 70% of them had it.⁵ Overall, the prevalence of human exposure to glyphosate increased by 500% during the study period (1993 to 2016), while actual levels of the chemical in people's bodies increased by an astounding 1,208%.

Glyphosate Increases Allergenic Potential of Proteins

Seneff has done a lot of research on glyphosate, teasing out a number of mechanisms by which it causes biological harm. Much of this was discussed in "Roundup Herbicide May Be Most Important Factor in Development of Chronic Disease."

More recently, Seneff and her research partner, Anthony Samsel, a research scientist and environmental and public health consultant, have found a significant amount of circumstantial evidence suggesting the chemical takes the place of glycine (an amino acid) in proteins, thereby impairing trypsin's function, which is to digest proteins.

This increases the proteins' allergenic potential. Glyphosate also causes leaky gut, allowing undigested proteins access to your general blood circulation. The end result is autoimmune disease, as your immune cells go into overdrive. "We have an epidemic in all kinds of different autoimmune diseases and food allergies, and I think all of that traces back to glyphosate," she says.

The "gly" in glyphosate actually stands for "glycine," which is one of the most common and also the smallest amino acid. So, glyphosate is basically a glycine molecule with a side chain attached to the nitrogen atom, and even though it's a modified glycine molecule, it's still glycine. This is why it can replace the regular amino acid glycine in your system. Unfortunately, it's now toxic. Seneff explains:

“Certain proteins have certain glycines that absolutely have to be glycine in order for them to work properly. A good example is myosin. Myosin in the muscles [allow for] muscle contraction. It's a really important protein in the muscles for movement. It has a glycine at position 699 in the amino acid sequence. If you change that glycine into alanine, which is to say you add one extra methyl group, it ruins the protein.

It only has 1 percent capacity to contract. It loses 99 percent of its capacity to contract. Really amazing. So, if you put glyphosate instead of glycine, you're going to have at least as bad an effect as you would with alanine, and probably worse. It will cripple the protein and maybe that's how you get chronic fatigue syndrome.”

Other Adverse Health Effects of Glyphosate

Collagen also contains large amounts of glycine, and we have an epidemic of joint pain, back pain, knee and hip pain. These too may well be the result of glyphosate exposure. Glyphosate also impairs health by causing imbalance in your gut microbiome, and by weakening your immune system. Seneff explains:

“The neutrophils are unable to do their job and then the tryptophan gets squirreled away inside the macrophages as kynurenine, [which] then gets taken over to the brain, causing all kinds of trouble in the brain.

So, there's this whole complicated thing that's going on between the brain and the gut – the gut-brain axis communication system – with the microbes being messed up by the glyphosate, the gut being leaky, and the leaky gut barrier introducing a leaky brain barrier.

So, the barriers are all leaky. The placental barrier is leaky too, so the placenta gets in trouble during pregnancy. All this stuff that's happening because of glyphosate. It's such a cascade.”

Glyphosate also depletes food of tryptophan by impairing the shikimate pathway in the plant. As a result, food is becoming increasingly tryptophan depleted, leading to widespread deficiency. Eventually, you can get into a situation where the tryptophan gets totally depleted, and when your liver doesn't get enough, it cannot make enough N-arachidonoyl dopamine (NADA) – one of the most important signaling molecules in your body – because NADA depends on tryptophan.

Downstream, you may also end up with serotonin and melatonin deficiency in the brain, which can lead to sleep disorders, depression and violent or suicidal behavior. Aside from tryptophan, disruption of the shikimate pathway also decreases all of the other aromatic amino acids, including tyrosine and phenylalanine, along with all of their derivatives, which include dopamine and melanin and folate.

Supplements Recommended for Statin Users

As mentioned, statin drugs deplete your body of a number of important nutrients. For this reason, Graveline recommends taking the following supplements if you're on a statin drug:

Ubiquinol, the reduced version of CoQ10.

Folate – Avoid folic acid, the synthetic version of folate, as it is oxidized and will use up a lot of antioxidant capacity in your liver to turn it into folate. Moreover, if you have been exposed to glyphosate, your body's ability to do this will be impaired. A good supplement form is 5-methyltetrahydrofolate (5-MTHF).

Vitamin C – Your best bet here is to simply eat vitamin C-rich foods, and only take a vitamin C supplement if you're feeling ill. The liposomal version of vitamin C is very effective. I typically recommend taking it every hour until you feel better. Liposomal vitamin C may also help abort an allergic reaction when taken in high amounts.

Selenium — Statins wreak havoc with selenoproteins, so a selenium supplement is advisable. In fact, most people need to take supplemental selenium.

Lecithin — I'm not a big fan of lecithin and I would suggest simply eating one whole organic, pastured egg per day instead. Lecithin is phosphatidylcholine, which eggs contain plenty of. If opting for a supplement, I recommend using a liposomal form. Also make sure it's not made from genetically engineered soy. A safer alternative is organic sunflower lecithin.

Animal-based omega-3 fats — Ideal sources include small fatty fish such as sardines and anchovies and salmon roe. Ideally, check your omega-3 index to make sure you're in a healthy range.

D-Ribose, as statins interfere with D-Ribose processing.

Magnesium — Most people are deficient in magnesium, but if you're on a statin, you may be at even greater risk. Having low magnesium also raises your risk of suffering adverse effects from EMF, as magnesium is a natural calcium channel blocker. When you take high enough doses of magnesium, you actually lower your risk for developing damage from EMFs.

Alpha lipoic acid — This is a sulfur-containing molecule which may be part of its benefit.

Vitamin K2 — Statins block the K2 pathway and impair vitamin K2 absorption, and K2 is important for the prevention of arterial calcification, as it helps shuttle calcium out of soft tissues into your teeth and bones, where it belongs.

Pyrroloquinoline quinone, more commonly known as PQQ. Similar to CoQ10, PQQ helps improve mitochondrial function.

Chances Are You Don't Need a Statin

That statins have proliferated the way they have is a testimony to the power of marketing, corruption and corporate greed, because the odds are very high – greater than 100 to 1 – that if you're taking a statin, you don't really need it. The only subgroup of people I believe might benefit from it are those born with a genetic defect called familial hypercholesterolemia, as this makes them resistant to traditional measures of normalizing cholesterol.

Even more importantly, cholesterol is not the cause of heart disease. Heart disease is largely caused by inflammation, as several experts have explained in detail, including Dr. Ron Rosedale, Dr. Uffe Ravnskov, Dr. Stephen Sinatra and Stephanie Seneff. Increased cholesterol is your body's natural response to inflammation. It is wrongly blamed because it's found at the "scene of the crime," but it's not the criminal.

If your physician is urging you to check your total cholesterol, then you should know that this test will tell you virtually nothing about your risk of heart disease unless it is 330 or higher. HDL percentage is a far more potent indicator for heart disease risk. Here are the two ratios you should pay attention to:

- HDL/Total Cholesterol Ratio – Should ideally be above 24%. If below 10%, you have a significantly elevated risk for heart disease.
- Triglyceride/HDL Ratio – Should be below 2%.

Remember, your body needs cholesterol. It is important in the production of cell membranes, hormones, vitamin D and bile acids that help you to digest fat. Cholesterol also helps your brain form memories and is vital to your neurological function. There is also strong evidence that having **too little cholesterol** actually increases your risk for cancer, memory loss, Parkinson's disease, hormonal imbalances, stroke, depression, suicide and violent behavior.

So, please, think long and hard before filling a prescription for a statin drug, and begin by implementing healthy lifestyle strategies instead. You can find a long list of articles detailing heart healthy strategies here.

Sources and References

- ¹ The Dark Side of Statins by Dr. Duan Graveline
- ² Rev Environ Health. 2015;30(2):99-116
- ³ Safe Space Protection, Male Fertility Impacted by EMFs
- ⁴ Environmental Sciences Europe 2016; 28: 3
- ⁵ GM Watch October 24, 2017