

## Why Is There an Allergy Epidemic?

If you're familiar with Southwest Airlines, you're probably aware that they distinguished themselves as a low-cost, no-frills airline—and became immensely successful in the process. This airline was a true “disrupter” in commercial aviation and challenged the way air travelers were charged and treated. They originally called their low prices “peanut fares,” and to illustrate this, they served free peanuts on every flight.



Dr. David Williams

Last August, that all changed. Southwest announced they would no longer be serving peanuts on any of their flights. You still get the option of

free pretzels and other snacks, but due to the ever-increasing threat of allergies, peanuts are no longer available.

Peanut allergies are becoming more and more common. They are among the eight foods that are reportedly responsible for 90 percent of all food allergies.

1. Milk
2. Eggs
3. Fish (bass, flounder, cod)
4. Crustacean shellfish (crab, lobster, shrimp)

5. Tree nuts (almonds, walnuts, pecans)

6. Peanuts

7. Wheat

8. Soybeans

And the problem isn't just with food allergies. *All* types of allergies are on the rise.

Hay fever, caused by an allergy to pollen, was first described around 1870. It has been estimated that before 1970, only 10 percent of people in developed countries suffered from hay fever. Now, that number has grown to roughly 40 percent of children and 30 percent of adults. If you follow the health data coming out of China, a country undergoing rapid modernization, you see pretty much the same pattern developing there.

Other types of allergies and allergy-related problems were rare until the mid-1900s. Childhood asthma started to take off around 1960 through about 2000, when it somewhat stabilized. Then we saw an increase in food allergies among children. Asthma and/or food allergies are so prevalent today, they afflict at least 25 percent of the entire US population.

So what's happening? Scientists are baffled, to say the least.

Some studies suggest that an ever-growing obsession with cleanliness contributes to the rise in allergies. The “hygiene hypothesis” proposes that when urbanized children aren't allowed to play in the dirt or have adequate exposure to animals, their immune systems aren't challenged and trained to deal with certain microbes they become exposed to later in life.

To a certain degree, this makes sense. Studies have shown that, when peanuts are introduced into children's diets between the ages of 4 and 11 months, they are about 80 percent less likely to develop a peanut allergy by the time they turn 5. Similar research has found that when eggs are introduced into the diet between 4 and 6 months, children are far less likely to develop egg allergies.

### A Deeper Problem

While introducing certain foods early on in life certainly can help reduce allergies, I think there's a much deeper problem.

If you track the increased incidence of allergies, the trajectory roughly coincides with the ever-increasing use of prescription and over-the-counter drugs, drinking water additives (chlorination), and food preservatives.

Prescription and over-the-counter drugs were practically nonexistent until after the turn of the century. Since then, their use (or abuse) has rapidly increased in every country hand-in-hand with the degree of development a country achieves. Undoubtedly, as the disposable income of a society increases, pharmaceutical companies quickly seize the opportunity to develop a new market for their products.

If you're my age or older, you probably grew up with aspirin being the only real drug in your medicine cabinet. Today, legal drug use is often a daily routine for both young and old alike. Pain meds, headache remedies, blood pressure pills, antidepressants, statins, drugs for hyperactivity, and acne medication are just a short list of the things that are taken every day.

Last year, public health authorities celebrated the 110-year anniversary of chlorine's use to treat public water supplies in this country. (The first city to do so was Jersey City, New Jersey in 1908.) Water chlorination and improved sewage disposal were instrumental in practically eliminating the deadly threats of cholera and typhoid infections.

While I definitely believe this was a godsend to mankind in general, it's possible that repeatedly

consuming chlorine, fluoridation chemicals, along with countless chemical contaminants that now reside in our water supplies, may be a contributing factor to the rise in allergies.

The same holds true for the evergrowing list of preservatives, enhancers, modifiers, and other compounds added to our food.

Every new generation is being exposed to more of these elements earlier in life. And each of these elements results in the disruption of the body's overall microbiome (the microbes that reside in and on our bodies). We've disrupted the body's natural balance and placed an increased burden on our immune system.

When in harmony, the competition of microbes keeps the overall environment in check. Without this balance, our immune system can remain on high alert and its response amplified, resulting in allergic reactions.

If that wasn't enough, through the destruction of various biomes, we've created conditions that encourage the development of superbugs. I'm not just talking about microbes like bacteria, viruses, etc., in our gut, but microbial and insect superbugs that

survive in our guts as well as soil, forests, hospitals, and waters.

So the obvious question is, "What can an adult do at this point to help overcome an allergy?"

As an adult, your immune system development has long since passed that point where exposure to a wide variety of microbes and foods can have a positive, lifelong influence. It's too late to pull up roots, move to a farm, and spend more time with animals.

To be honest, "allergen immunotherapy" also has a pretty low success rate for curing allergies. This is where you slowly increase your exposure to the allergen over time with the idea of desensitizing the immune system. While administering incrementally increased small doses of certain allergens over several years can be effective for some, it certainly doesn't work for most people. And it tends to work best for bee and wasp stings, cat (but not dog) allergies, peanut allergies in some children, and nasal inflammation from tree pollen, grass pollen, and dust mites.

### Overcoming Allergies

To overcome allergies as an adult, I think one of the first things you need to do is reestablish the healthy balance of microflora in your gut. New research

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has demonstrated just how instrumental gut bacteria can be in modulating and toning down an overactive immune system.

In one study, a heart from an unrelated mouse was placed in the belly of another mouse, while leaving that mouse's original heart in place. (The common method of testing new transplant drugs is to place a transplanted organ in the abdominal cavity of a living mouse without removing their own organ.)

Prior to the heart transplant, one group of mice received a fecal transplant from other pregnant animals. Another group received a fecal transplant from non-pregnant mice. (Fecal transplants have been shown to dramatically reduce rejection rates of transplanted organs.)

The second heart stayed alive for 40 days in all of the animals that received the fecal transplant from pregnant mice. Only one out of the five mice in the other group lasted that long.

We know that the immune system is naturally suppressed during pregnancy. This is a result of the

gut bacteria, which are responsible for tempering the inflammatory response of the immune system. The body innately doesn't want the immune system to perceive the fetus as an invading organism.

This new research illustrates just how crucial the composition of the gut's microbiome is to the behavior of our immune system. And it explains why focusing on correcting and balancing the microbiome in this area can have a positive impact on allergic responses.

When it comes to allergies, I don't necessarily think that a fecal transplant is the way to go. It's overkill and I don't know if it would even work. However, I have consistently seen how balancing the gut bacteria with a quality probiotic supplement, fermented foods, and gradually increasing prebiotic resistant starches has helped tremendously in this area.

In addition to these treatments, a digestive enzyme product can also be beneficial to those with food allergies. It's imperative that the body has the necessary acid

and enzymes needed to break down food compounds. Poor digestion and the incomplete digestion of protein and other compounds in food can wreak havoc throughout the intestinal tract. Improperly digested proteins can trigger an immune response and lead to inflammation, damage to the intestinal wall, and leaky gut syndrome, a condition where inflammatory compounds and proteins can enter the bloodstream and cause allergic-type reactions throughout the body. As we get older, we naturally produce less and less hydrochloric acid in the stomach and other necessary enzymes for digestion.

Reducing histamine is another tool that can be helpful. I have discussed this in previous issues.

There honestly isn't a magic bullet that will cure or eliminate allergies, but the importance of a balanced microbiome and the influence it has on the reactions of the immune system is one area that should never be overlooked. I hope this information helps as allergy season really ramps up in the coming weeks. ■



## Foods that Raise HDL

**Question:** *I recently had blood work done to renew a life insurance policy and learned my HDL cholesterol level is way below the normal level.*

*Everything I've read states that the higher the HDL, the better. It seems to be a predictive factor for future heart disease. I understand that dietary cholesterol isn't a factor in heart disease and this has been proven through research. And since my HDL level was the only glaring issue, that's what I've been focused on improving, but I haven't had much luck. Are there any ideas or suggestions you could share? —C.O., Woodridge, IL*

**Answer:** I'm glad you asked this question. I've been following some research being done in Italy that provides us a simple tool to not only dramatically raise HDL levels, but also reduce the formation of trimethylamine N-oxide (TMAO). You may recall the recent alarms that were sounded

about the dangers of eating meat and other proteins because it increased TMAO, which has been linked to all sorts of problems, including development of atherosclerotic plaque and cardiovascular disease.

I don't want to get off in the weeds too far on this topic, since your question is about how to raise HDL levels. However, a very short explanation is in order here.

One of the big health arguments against eating meat and eggs is the fact that they are rich sources of choline, which is a precursor to carnitine. Carnitine is then converted by gut bacteria into TMA (trimethylamine), and TMA is oxidized in the bloodstream into TMAO. However, there's a lot of conflicting research and certainly not enough data to support the idea that simply consuming high choline foods results in cardiovascular disease.

For example, eating fish has been shown to raise TMAO as much as 50 times higher than a meal of meat or eggs. However, fish consumption has been routinely shown to decrease the incidence of cardiovascular disease. (I suspect that fish contains other compounds, possibly the amino acid taurine, which promotes certain beneficial bacteria in the gut that help protect against arterial damage and plaque formation.)

Other studies have repeatedly shown that a very high intake of eggs doesn't typically cause these problems either.

Choline and carnitine are not the problem. It's the conversion of carnitine into TMAO that is ultimately linked to cardiovascular disease and plaque. In a nutshell, when you have the right balance of intestinal bacteria, dietary choline and carnitine aren't an issue.

These Italian researchers I've been following have recently demonstrated this. More importantly, they've uncovered a simple and effective tool we can use to increase beneficial HDL cholesterol and reduce TMAO at the same time. ([Nutrients 2019;11\(1\):122. doi:10.3390/Nu11010122](#))

They discovered that the presence of two forms of *Lactobacillus* bacteria—*L. plantarum* and *L. rhamnosus*—could dramatically reduce blood levels of TMAO, while very significantly increasing levels of HDL cholesterol particles.

They blended these two forms of bacteria with Annurca apples to form a fermented apple puree.

This homemade applesauce proved to be an amazing superfood.

There were 90 participants aged 18 to 70. They were divided into three groups of 30. The first group ate 125 grams (half a cup) of fermented apple puree with one meal each day. The second group ate 125 grams of apple puree that wasn't fermented and didn't contain the added *Lactobacillus* bacteria. The third group was given a single probiotic supplement that contained the same amount of *L. plantarum* and *L. rhamnosus* that was found in the fermented apple puree.

The study consisted of eight weeks of "treatment." However, at the end of only four weeks, researchers reported the following results:

- In the group that was eating the fermented apple puree, HDL cholesterol levels increased by 61.8 percent and TMAO levels decreased by a whopping 63.1 percent.
- In the group that was eating the non-fermented apple puree, HDL cholesterol increased by 48.4 percent and TMAO levels dropped 42.3 percent.
- In the group assigned to take a single probiotic pill, HDL cholesterol increased by 17.7 percent and TMAO levels dropped 25.8 percent.

There are other substances that have been shown to lower TMAO levels. Grape seed extract and green tea are two that come to mind. However, fermented apple puree is definitely one of the most powerful and tasty ones I've run across.

Since the research was performed in Italy, they used what has been called the "Queen of Apples"—the Annurca apple. I suspect the same or very similar results could be obtained using various apples more readily available in the US.

Unfortunately, many of the apples we have access to in this country are very high in sugar and low in phytonutrients. As such, both for general consumption and in making applesauce, I would strongly suggest using Granny Smith apples since they have been shown to contain the highest levels of phytonutrients.

The recipe used in the above study is outlined in their research paper, but sourcing specific strains of bacteria and following their directions would require a chemistry laboratory. I've come up with a far more "kitchen friendly" recipe that contains the same forms of *Lactobacillus* bacteria.

## How to Make Probiotic-Enhanced Fermented Applesauce

To make this applesauce, you will need:

- 7 or 8 medium-sized Granny Smith apples (You can also weigh the apples; to make a quart of applesauce, you'll need roughly 1 1/3 pounds of apples.)
- 2 tablespoons of water kefir (See next section on how to make this.)
- 1½ teaspoons of ground cinnamon

Clean and core the apples and blend in a food processor until you reach the desired consistency. (A smoother puree is preferred since it will allow more surface area and probably a higher degree of fermentation to take place.)

Blend in the cinnamon and water kefir. Then place the applesauce in a clean quart jar with 1 to 1½ inches of headspace.

Cover the jar with cheesecloth or a coffee filter and secure with a rubber band. If you have a fermenting air-lock lid, you can use that as well.

Place the jar on the counter and let it sit for one to three days at room temperature. It shouldn't be in direct sunlight and ideally the temperature should be somewhere between 60–70 degrees F.

You can sample a small amount each day to determine if it has the texture and flavor you like. Keep in mind that fermenting a little longer will increase the beneficial bacteria; just don't go over three days.

Once fermented, place a normal lid on the jar and store it in the refrigerator. It should easily last up to two months, possibly three. However, if you consume ½ cup per day, one quart will only last eight days. If you like the applesauce and are using it to raise HDL levels and/or decrease TMAO levels, then you may want to double the recipe and make at least two quarts at a time. For a one-month supply, you'll need four quarts.

## How to Make Water Kefir

While you can start the fermentation process with a number of different cultures, in this particular case, the culture needs to have the specific forms of beneficial bacteria I mentioned.

Granted it would be easier to just buy some whey kefir at the grocery store and add a few tablespoons to get things started, but whey culture doesn't

contain the two specific forms of bacteria that were shown to raise HDL levels and lower TMAO levels. Water kefir does, but you need to make it. Fortunately, it is very easy to do if you use the powder kefir starter from Cultures for Health. ([www.culturesforhealth.com](http://www.culturesforhealth.com))

You have two options. The least expensive option is to purchase their powdered kefir starter for about \$7 and then make water kefir. Several subsequent batches (two to seven, typically) can be made each time using a little of the cultured water to start a new batch.

If this is something you plan on doing long term, for just under \$20 you can get their Water Kefir Grains and, with a little care to maintain these grains, you can have an endless supply of water kefir.

For details, recipes, products, and directions on exactly how to use them, I suggest going to their website for more information. Making water kefir and other fermented products is really very easy to do and actually quite fun.

## Two Other Foods that Raise HDL

With some additional research, I found there are at least two other foods that specifically contain the forms of bacteria found to raise HDL levels and lower TMAO levels.

One is coalho cheese from Northern Brazil. Unfortunately, you'd probably have to go to Brazil to get any that still contains the beneficial live bacteria. There, like most of Europe and other parts of the world, cheese is made with raw milk.

Here in the US, rather than focus on cleaning up our dairy industry, the FDA has banned the sale of almost all cheese made from raw milk. (There are a few exceptions, like if the cheese has been aged to the point that all the organisms are dead...which doesn't help us.)

The other food is sauerkraut, but again it needs to be "live" and not pasteurized, which means you'll probably have to make it yourself. This is also an easy process, which I've described many times in the past.

I'll admit there's a little effort involved here to make these foods, but if you want one of the quickest methods of raising your HDL levels, this may be it. A 61 percent increase in four weeks is nothing short of amazing. ■

**NEWS TO USE** *from around the world*

## Yerba Santa for Cognition

SIERRA NEVADA MOUNTAINS, CA—A plant used by early Native Americans appears to hold the key for treating Alzheimer’s disease.

Years ago, when I was first looking for this evergreen shrub, I was told to follow the bees to the dry mountain slopes and ridges throughout the coastal ranges and up into the foothills of the Sierra Nevada mountain range. Sure enough, that was where I found the mountain balm I was searching for. It is more commonly known as consumptive’s weed, tarweed, gum bush, and bear’s weed. When the Spanish learned of its medicinal properties from native Indians, they gave it the name “Yerba santa.”

Yerba santa (*Eriodictyon californicum*) has traditionally been used for respiratory issues like colds, coughs, sore throat, and catarrh (a buildup of mucus). It can also help with stomachaches, vomiting, and diarrhea. Applied topically, it helps to temporarily relieve arthritic joint pain.

I’ve found it particularly helpful when it comes to asthma, bronchitis, sinus infections, and seasonal allergies that are accompanied by excessive mucus. (It is called consumptive’s weed because it can be helpful dealing with coughing associated with tuberculosis.)

Although I don’t recommend outright eating Yerba santa leaves, it does have a very interesting taste profile. It starts out very bitter and then becomes sweet. It reminded me of how many life events also tend to be “bittersweet.”

Scientists have now isolated a particular flavonoid called sterubin

as one of the plant’s most active components. However, when they were screening the plant, along with 400 other plant extracts, they weren’t focused on its ability to treat respiratory problems. They were trying to find plant extracts that exhibited a positive effect on nerve cells, particularly those of the brain. Sterubin proved to have one of the most potent anti-inflammatory impacts on brain cells known as microglia.

Microglia inflammation has been linked to many of the age-related problems associated with the brain like memory loss, cognition issues, and Alzheimer’s disease. Sterubin is also an effective “iron remover.” This is beneficial since excess iron can contribute to nerve cell damage—part of the cascade of events leading to many neurodegenerative diseases. ([Redox Biol 2019 Feb;21:101089. doi: 10.1016/j.redox.2018.101089](https://doi.org/10.1016/j.redox.2018.101089))

Like most research involving plant extracts, the goal is to isolate specific compounds so they can be synthesized, patented, and marketed as drugs. Naturally-occurring compounds can’t be patented.

However, isolated, synthetic compounds normally have a long list of side effects. This typically isn’t the case with most plants and their extracts since nature seems to have “balanced” the various components. In the case of Yerba santa, it has been used safely for centuries without any serious side effects.

There are several ways you can buy and/or use Yerba santa.

A quick search of the Internet will show that you can buy seeds to grow your own Yerba santa, maintain a potted Yerba santa plant, and buy dried leaves and/

or liquid extracts. For best results, I would recommend using Yerba santa either as an alcohol extract or brewed in tea. Since it’s the sticky resin of Yerba santa that contains the most active compounds, it requires either steeping in hot water or extraction with alcohol.

You can make hot tea simply by adding a level teaspoon of crushed leaves (roughly three leaves) to 8 ounces of hot water and letting it steep for 15 to 20 minutes.

Making your own extract or tincture is pretty simple and you’ll save a considerable amount of money over purchasing a commercial extract. Crush roughly 10 dried leaves and place in a glass Mason jar. (Dried leaves work best since the resin in fresh leaves makes them clump together.) Then add one cup of pure grain drinking alcohol such as Everclear to the leaves (do NOT use rubbing alcohol). Seal it with a lid. Shake the mixture a couple of times a day and let it steep for at least one month. Then strain it and pour the extract into dropper bottles. The dose is one dropper full, two or three times daily as needed.

## Weight Training in Older Adults

JYVÄSKYLÄ, FINLAND—I’ve talked repeatedly about the benefits of weight training. One common reason I hear for why people never do it is the lack of time. New research from the University of Jyväskylä, however, has shown that as little as once weekly resistance training has enormous benefits for older adults.

People over 65 that trained once a week during a nine-month program experienced significant improvements in their blood

**NEWS TO USE** *from around the world (continued...)*

pressure, cholesterol, blood glucose management, and overall inflammation.

Although it took training three times a week to see major changes in strength, muscle growth, and fat loss, just once a week was enough to see changes that are vitally important for older adults. These included the ability to perform daily activities like carrying shopping bags, going up and down stairs, getting up and down from chairs, etc. In fact, training more than once a week really didn't make any difference in the ability to perform these activities. (*Front Physiol* 2019;10:32)

Many of the mobility problems we experience as we get older are directly linked to inactivity. Weight-bearing or resistance exercises can help prevent or reverse these mobility issues. And it doesn't take much. It just needs to be done on a regular and continuing basis. No one is so busy that they can't take a few minutes to exercise once a week. Use it or lose it.

## Walk Backward for Better Recall

LONDON, ENGLAND—Right up front, I want to say I'm not sure how effective this tip is, but I do find it interesting.

Researchers at the University of Roehampton report that you can improve your recall of events by walking backward.

They had 114 volunteers watch a video of a woman getting her purse stolen. They were split into three groups and 10 minutes later, one group walked backward for 10 meters, one walked forward for 10 meters, and the last group stood in one place. Then each group had

to answer 20 questions about what occurred in the video.

On average, those who walked backward were able to answer two more questions correctly than the other groups. While this is a small difference, the difference persisted throughout five variations of the experiment, so they considered it significant. (*Cognition* 2019 Jan;(182):242-50)

## Boost Your Glutathione

FLANDERS, BELGIUM—Glutathione is the most powerful and protective antioxidant in the body. It neutralizes free radicals, boosts the immune system, and protects the liver.

Glutathione levels determine whether or not someone experiences liver failure from an overdose of acetaminophen. In fact, practically everything the liver has to detoxify involves glutathione. In today's toxic, fast food, over-medicated society, it's understandable why most people have depleted glutathione.

Age plays a factor, too. Starting around 45, glutathione levels begin to decline. Past that, it's not uncommon to see glutathione drop to 50 percent below optimal levels and be completely depleted in critically ill patients.

In every study I've seen, individuals with good health and lower biological aging markers had higher levels of glutathione compared to those who were ill or aging rapidly. For example, among patients with heart disease, those with the lowest levels of glutathione had a 30 percent greater risk of heart

attack compared to those with the highest level.

One way to increase glutathione is by eating foods rich in this antioxidant such as asparagus, spinach, squash, avocados, melons, grapefruit, and peaches.

Cysteine and sulfur are building blocks for glutathione. Increasing your consumption of food rich in these compounds can also make a huge difference in glutathione levels. These include eggs, garlic, whey protein (undenatured), and the cruciferous family of vegetables (arugula, bok choy, broccoli, Brussel's sprouts, cabbage, cauliflower, collard greens, daikon, garden cress, horseradish, kale, kohlrabi, komatsuna, land cress, maca, mizuna, mustard seeds and greens, pak choi, radishes, rutabaga, tatsoi, turnip root and greens, wasabi, and watercress).

Cruciferous vegetables contain several unique compounds like indole-3 carbinol (I3C) and various carotenoids that have been proven to help prevent cancer, cardiovascular disease, and other health problems. They also contain higher levels of cysteine, which gives glutathione the ability to stick to toxic molecules and carry them out of the body.

The sulfur component and an indigestible sugar called raffinose are what keep many people from consuming these vegetables.

Indigestible fibers and sugars like raffinose are essential "foods" for beneficial bacteria in the intestine. The bacteria "digest" these fibers and sugars through the process of fermentation, which creates gas. It's not hard to get the picture here...mixing intestinal gas with sulfur can be

**NEWS TO USE** *from around the world (continued...)*

highly entertaining among a group of teenage boys, but not in most other social settings.

Regrettably, there's really no solution to this issue. But when you consider the amazing benefits associated with robust glutathione levels, a little intestinal discomfort is really a small price to pay.

In addition to eating cruciferous vegetables, you can also increase glutathione either by taking a glutathione supplement or its precursor, N-acetyl cysteine (NAC). Glutathione is very expensive, so taking NAC is the preferred option. (I think glutathione is so crucial to overall health that I've included a little NAC in every nutritional supplement I've formulated.)

Researchers at Katholieke Universiteit Leuven have just discovered another reason why increasing glutathione levels through cruciferous vegetables or with a NAC supplement might be a good idea. They found that in both human and animal cases of osteoarthritis, there are depleted levels of a protein called ANP32A. This protein is responsible for the production of an enzyme that counteracts the destructive effects of oxidative stress on joint cartilage.

When researchers bred mice that were unable to make ANP32A, the animals quickly developed osteoarthritis. However, when NAC was added to the animals' water supply, the joint damage stopped and even started to reverse to the level seen in healthy mice. ([Sci Translational Med 2018 Sep;10\(458\) eaar8426](#))

The researchers also noticed a couple of other benefits associated

with the addition of NAC in these animals.

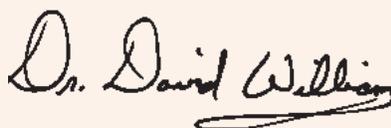
Glutathione's antioxidant activity not only lessened the severity of the osteoarthritis, it reduced additional bone loss (osteopenia) and decreased ataxia problems, such as poor muscle control, abnormal gait, and lack of balance stemming from damage to the brain.

Once again, rather than recommend the use of a natural product to increase glutathione levels, the research team plans to focus on other methods to increase the levels of the protein ANP32A...pharmaceutical methods, I would guess, since NAC is already available, inexpensive, and not patentable.

Based on the study, I couldn't tell what an appropriate human dose would be that is comparable to the one given to these animals. However, the generally recommended dose of NAC is typically 600–1,800 mg per day. It is available in 600 mg tablets, which makes it easy to adjust the dosage depending on the results you're getting. You can easily find 250-capsule (600 mg each) bottles of NAC for less than \$20.

NAC is one supplement I don't recommend buying as a bulk powder. The sulfur smell is very strong and difficult to overcome. You'll probably have to hold your nose even when you open a bottle of capsules. But again, it's a small price to pay for raising your levels of a critically important antioxidant.

Until next month,



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