A Storm Is On the Horizon

As a general rule, in this country we are still very blessed to have near-constant access to a wide variety of healthy food choices. I’m of the generation that has never had to experience long-term food shortages. Most people in the US haven’t either. Other countries around the world aren’t so fortunate, and based on current worldwide events, I suspect we could be in for a rude awakening. It’s probably not a matter of “if” it happens, but “when.”

Food shortages and lack of food choices take a real toll on health. Not only do we routinely see this in many third-world countries, but also in more developed countries in people who make the wrong choices.

Every month for the past 30-plus years, I’ve been trying to educate and help people choose the right foods based on the latest research on nutrition and disease. But even with the best diet, these days you need “nutritional insurance” in the form of supplements.

Every day we hear or read about some new toxin that is showing up in our food, air, or water supply. With careful attention, some of these toxins are easy to avoid, but others aren’t.

Segments of society with the financial means are able to spend extra money to buy organic and avoid even the most minute trace of any pesticide or chemical. But even with the most diligent scrutiny, it’s easy to overlook the fact that some of the most pristine and nutritious foods still naturally contain toxic compounds that our bodies have to counteract and neutralize.

Thousands of Toxins

Years ago, I was introduced to the brilliant work of professor Bruce Ames. You may have heard of the “Ames test,” which Dr. Ames developed to determine if various chemicals mutate DNA and can be carcinogenic (cancer causing).

This was back in the 1970s, and it certainly caused a great deal of controversy. No one seemed shocked by the fact that several synthetic pesticides were found to be mutagenic and potentially cancer causing. The real heavy criticism came when his research revealed that the cancer risk from pesticide residue on fruits and vegetables was minuscule compared to the cancer-causing potential of some of the natural chemicals found in the plants themselves.

In Dr. Ames’ words, “We wrote a review pointing out that every plant has a hundred or so toxic chemicals—nature’s pesticides—to kill off insects, animals, and other predators, and that we are getting 10,000 times more of them than manmade pesticides. Still, everyone is buying expensive organic food.”

To say this set off a firestorm of controversy would be an understatement. He was accused of receiving money from and being a puppet of the pesticide industry. Of course none of this was true.
If anything, his research in this area appears to have only strengthened his conviction about the importance of taking nutritional supplements.

At the risk of oversimplification, I would say his research showed, and has continued to show, that even when given the most natural of diets, our bodies are still exposed to thousands of toxic compounds on a regular basis that need to be neutralized. This is obviously compounded by the fact that it’s almost impossible to eat a perfect diet, plus we’re faced with an ever-increasing amount of environmental toxins.

Bitter Is Better

It’s very important to mention that some of the natural toxins and “plant pesticides” to which Dr. Ames refers are phytochemicals. While our bodies need the resources to detoxify these compounds (as I’ll explain later on in this article), in limited amounts, phytochemicals are part of what makes fruits and vegetables so beneficial to our health. This involves the hormesis mechanism that I’ve talked about in the past—the idea that what doesn’t kill us makes us stronger.

 Phytochemicals are recognized for their bitterness. In the cruciferous vegetables like cabbage, cauliflower, kale, and Brussels sprouts, bitter glucosinolates give them their anticancer properties. In white grapefruit, the bitter phytochemical naringin has been shown to inhibit the growth of breast and cervical cancer cells, and it also exhibits anti-ulcer and anti-inflammatory properties. It’s the extremely bitter phytochemicals in raw cacao that prevent the buildup of arterial plaque, reduce inflammation, squash free radicals, improve gut bacteria, boost digestion, and enhance immune function. These are the reasons why I add a scoop of raw cacao powder to my morning protein shake every day. (I also like to chew on raw cacao nibs as a snack.)

Unfortunately, compared to just a few decades ago, the vegetables and fruits available today have far less of these beneficial bitter phytochemicals. In an effort to appease the sweet tooth of consumers, growers have selectively been breeding the bitterness out of these foods. When was the last time you saw a white grapefruit? It has practically been replaced with sweeter, less bitter pink and red varieties, which have only half the amount of phytochemicals. With citrus juices, manufacturers are using filtering techniques called “debittering” to remove phytochemicals such as naringenin, limonin, and naringin.

Less bitter varieties of broccoli, Brussels sprouts, onions, and even tomatoes now fill most grocery shelves. A bitter yellow onion, for example, can contain as much as 500 times more quercetin that the white variety. A wild Peruvian tomato can contain up to 5,000 mg/kg of the bitter compound tomatoe compared to 30 mg/kg found in the modern sweet variety. And wild potato species have significantly higher phytochemicals than the modern cultivars.

This process of debittering is taking place across the board and it’s making the fruits and vegetables we buy far less beneficial. In many instances, the only way to get the healthy, bitter vegetables of the past is to grow your own “heritage” varieties. If you’re lucky to have a local farmer’s market, you may be able to find them there. However you can get them, I highly recommend including them in your diet. Keep in mind, you may need to eat them a few times to acclimate to the extra bitterness, but it’s well worth the effort.

These phytochemicals have been around since the beginning of mankind and are nothing new to our bodies. Under the right circumstances, we are fully able to handle and benefit from them.

Triage Theory

If you’ve been a reader of Alternatives for any length of time, you know how adamant I’ve been...
about the need for daily supplementation with a high-quality multivitamin/mineral. It has always been my belief that you never know when a cell or organ will come under assault or be placed under stress from free radicals, oxidized fat, pathogens, pesticides, herbicides, radiation, etc.

I feel it’s imperative that you have a reserve of protective fatty acids, proteins, minerals, and vitamins whenever possible. This can be particularly tricky when it comes to water-soluble nutrients that your body isn’t able to store or stockpile in very large amounts, such as the B vitamins. This has been one of the major underlying reasons why I believe a multivitamin/mineral supplement is crucial to preserving your health.

About 10 years ago, Dr. Ames first proposed his triage theory. Triage means “to sort, separate, or select.” It is a technique used extensively on the battlefield by military physicians to prioritize treatments in a large number of patients, depending on the degree of urgency. Triage is also used in hospital emergency departments. Those whose lives are in greater danger are treated first and those with less life-threatening conditions are seen afterward.

Dr. Ames’ theory hypothesized that our bodies work in much the same way. As a self-preservation mechanism, our bodies will allocate scarce micronutrients to ensure short-term survival without regard to the longer-term effects. When the need arises, it will “rob Peter to pay Paul.”

A great example would be magnesium. The heart needs magnesium to keep beating effectively.

Since heart function is essential to remain alive, your body will pull magnesium from bone and other areas to “feed” the immediate needs of the heart.

But magnesium is also a cofactor (an essential substance for the activity of an enzyme) in more than 300 different enzymes that regulate biochemical reactions in the body. Some of these reactions involve protein synthesis, nerve function, blood sugar control, blood pressure regulation, and cellular energy production.

As such, if magnesium levels are low and already scarce amounts are shifted to the heart, other areas of the body can suffer and degenerate over the long term. Episodic shortages of magnesium over years and decades can stifle the immune system and allow cancer cells to gain a foothold, or lead to dementia or dozens of other problems typically associated with aging or genetic changes.

In a nutshell, enzymes are molecules that make all of the chemical reactions in the cell possible. And enzymes require small molecules (cofactors) to function and do their job. Research shows there are dozens, if not hundreds, of diseases, many genetic, that result from an insufficient amount of cofactors. Some of the most common cofactors are the B vitamins and vitamins A, C, K, D, and E. Others include various minerals, hormones, and amino acids.

Dr. Ames’ research team studied more than 50 different genetic disorders that can be either remedied or significantly improved by administering high dosages of the vitamin cofactors that correspond to certain enzymes.

Eleven of the diseases responded to vitamin B6 (pyridoxine). We’re talking about diseases that lead to blindness, kidney failure, mental retardation, and physical developmental issues. Scientists have now shown that, in each of these diseases, there is difficulty in how an enzyme binds to a cofactor derived from vitamin B6. Of the 3,870 known enzymes in the human body, 22% use cofactors, and 112 of those use B6.

The researchers found 22 other diseases were caused by defective binding to a cofactor derived from a B vitamin, including B1 (thiamine), B2 (riboflavin), B3 (niacin), B12 (cobalamin), and B7 (biotin). (Am J Clin Nutr 2002 Apr;75(4):616–58)

Hyperactive children have been shown to have significantly lower blood levels of serotonin compared to children who don’t have hyperactivity. Oral doses of vitamin B6 appreciably increase serotonin levels and can be effective in suppressing the symptoms of hyperactivity.

High doses of vitamins can also be used to treat many inheritable (genetic) diseases. By increasing the concentration of vitamins and cofactors, you increase the activity of normal enzymes available but may also activate defective enzymes. And since the body readily discards the excess, most vitamins have been proven to be safe at relatively high doses. This is particularly true with the B vitamins, which are routinely flushed from the body since they’re water soluble. Not only do the B vitamins make up one of the largest classes.
of cofactors, they are also some of the least expensive supplements available.

**Triage “Theory” Is Now a Reality**

When we think about diseases associated with vitamin deficiencies, we tend to think of continents and countries where food supplies are limited and starvation occurs.

In Southeast Asia and Africa, we still see blindness in children as a result of vitamin A deficiencies. Worldwide, it is the leading cause of preventable blindness in children. And the World Health Organization says that vitamin and mineral deficiencies still contribute to about one-third of all child deaths.

What we have failed to understand is that the dramatic shift toward poor health in this country is directly linked to nutritional deficiencies. Dr. Ames' triage theory is no longer a theory. We are watching it play out in real time right before our eyes.

We continue to see the consumption of large amounts of sugar found in sodas, sweets, and refined carbohydrates, which are devoid of vitamins and responsible for our obesity epidemic. The lack of micronutrients disrupts metabolic enzyme activity, encourages the growth of harmful gut bacteria, leads to more weight gain, fat storage, and blood sugar fluctuations, and raises the risk of diabetes, stroke, and heart disease.

Without the necessary vitamin and mineral cofactors, we’re experiencing an ever-increasing surge in neurological problems. They now start in childhood as either autism or hyperactivity syndromes and continue into adulthood, where depression, senility, and Alzheimer’s disease are more and more common.

It may be hard for most people to believe, since we have an abundant supply of food in this country, but the majority of our society is malnourished. The proof is staring us in the face.

The so-called “normal” diseases of aging can be treated or avoided with the use of vitamins and minerals that are the necessary cofactors for enzyme activity. For the last couple of decades, we’ve witnessed an uptick of diseases in children that were once only seen in the elderly. With genetic diseases that were once considered untreatable, we’re finding that micronutrients are often the “switch” that determines if these genetic traits are ultimately expressed or manifest as disease.

Of note, it’s not just the diet of the child. Research has shown that a mother’s diet before and during pregnancy very often determines diseases that manifest decades later in her child.

Anytime you are low on a vitamin or mineral, you pay a price. When one of these micronutrients becomes scarce, the body allocates that cofactor to proteins that are essential to short-term survival. Proteins required for long-term survival, like those that protect DNA, are unable to do their job and become disabled. The damage that occurs has a cumulative effect. Aging results from a lifetime of damage to our DNA.

In a way, it’s like the aging of a car. When you first drive a car off the lot, it’s in perfect working order. After 100,000 miles, things start to fall apart and it’s never the same. Its performance starts to suffer, it’s not as efficient, parts become worn and loose, and mechanically it has a greater tendency to break down.

Our DNA is damaged millions of times a day, but fortunately our body has the innate ability to protect and heal itself...if, at that time, it has the right materials to do so.

Some DNA damage is fairly harmless and only creates small errors on code. Other damage, such as breakage or mutations, can have far more serious ramifications. The inability to repair these mutations can create defective or uncontrollable cell growth, like what occurs in cancer and shortens your lifespan.

**The Takeaway**

I can’t help but believe that sometime in the near future, we will experience some degree of the food shortages and other calamities that the rest of the world has been going through. I hope I’m wrong, but I do think there is a storm on the horizon and I want you to be prepared.

Maintaining your health and the health of your loved ones should always be a top priority. Ensuring that your body always has a consistent supply of enzyme cofactors is one of the best ways to protect yourself.

Having a great diet is important, but it’s not enough. You must realize the necessity of regularly taking a quality daily multivitamin/mineral supplement.

If you don’t take a multi, at the very least I suggest taking a B

*(continued on page 7)*
Light Therapy for Depression

VANCOUVER, BRITISH COLUMBIA—Researchers at the University of British Columbia have found that bright light therapy can be almost twice as effective as Prozac in alleviating major depression.

Researchers gave 122 patients aged 19 to 60 either standard doses of Prozac, a placebo, or daily light therapy, which involved 30 minutes of exposure to a fluorescent light box soon after waking up. The therapies continued for eight weeks, after which the patients were evaluated for changes in their symptoms. Based on a 60-point depression scale, those using the light therapy reported a 13.4-point reduction in their depression, compared to only an 8.8-point decrease experienced by those taking Prozac. (JAMA Psychiatry 2016 Jan;73(1):56–63)

The placebo was just as effective as the Prozac, but this isn’t unusual. Clinical trial data repeatedly show that patients treated with placebos generally improve about 75% as much as those treated with antidepressants, which suggests that probably only 25% actually respond to the drugs and the rest is attributable to a placebo effect.

Bright light therapy, however, has more than just a placebo effect. Among other things, it works to reset the natural circadian rhythm, which helps normalize melatonin levels throughout the 24-hour cycle. If you recall, melatonin in the brain is synthesized by the pineal gland from serotonin in response to certain light frequencies that enter the eye.

(For an in-depth look into the mysterious workings of the pineal gland and how to protect this vital, overlooked organ, re-read the November 2014 issue.)

As our government gets more involved in our health care, it’s only reasonable to assume that prescription drug use will continue to increase. The US population represents only 5% of the total world population, but we take 50% of all the drugs produced worldwide. Many people think this is an indication that we are much healthier than the rest of the world, but that’s far from the truth. We rank 30th in life expectancy and first when it comes to diabetes, cardiovascular disease, and obesity.

Health agencies in this country have become marketing arms of the pharmaceutical industry. And there’s a well-documented incestuous relationship among regulatory agencies, such as the FDA, and the pharmaceutical industry.

Recently, the US Preventive Services Task Force, a group supported, created, staffed, appointed, and funded by the government, recommended that all adults be screened for depression. The screening would involve a simple questionnaire given out when you visit your family doctor. Based on the questionnaire, anyone deemed to be depressed would be treated with pharmaceuticals.

There’s been a little kickback from some professionals who have questioned the ability to differentiate normal emotional distress or sadness from clinical depression based on a questionnaire. If (read...when) these “preventive” recommendations are implemented, antidepressant use will become even more commonplace (along with a corresponding increase of names on the government’s medical records database).

As I’ve discussed in the past, antidepressants are effective in maybe one-third of cases at best, and their efficacy decreases over time, requiring the constant changing of dosages and medications in an effort to keep treating the problem. The side effects of these drugs can be horrendous and in many cases lead to bizarre, destructive behavior and even death.

As this study indicates, there is a proven and totally safe therapy that works almost twice as well as medication. You can find 10,000-lux therapy lights like those used in the study at Amazon for $75–200.
Statin Hoax

GAINESVILLE, FLORIDA—The following headline comes from a recently published study conducted by a University of Florida professor and an international team of experts: “How statistical deception created the appearance that statins are safe and effective in primary and secondary prevention of cardiovascular disease.”


It’s certainly not a study that you’ll be reading about in your doctor’s waiting room, and one that the pharmaceutical companies hope remains buried in the dark corners of medical libraries.

Based on the fact that there has never been a correlation between higher cholesterol levels and cardiovascular disease with advancing age, researchers analyzed past cholesterol/statin studies involving 68,094 participants over 60 years of age. Their evaluations focused on what has been labeled the “bad” form of cholesterol—LDL-C. The studies were aimed at reducing LDL-C levels as a way to prevent cardiovascular disease.

A closer examination of the data revealed either a lack of association or an inverse relationship between LDL-C and cardiovascular deaths. In other words, a higher LDL-C level among the elderly was associated with a longer life and not an increase in cardiovascular deaths.

It was also pointed out that related studies have shown high cholesterol can be protective against numerous conditions that are becoming more common in the elderly, particularly neurological diseases like Parkinson’s and Alzheimer’s. And if that’s not enough to keep statin purveyors awake at night, additional studies indicate higher LDL-C levels can be protective against cancer and fatal infectious diseases.

Last time I wrote about the dangers of statin use, I received a barrage of complaints from readers who take these drugs. Those people were obviously sold on the idea that cholesterol is the cause of cardiovascular disease and statin use is the tried-and-true way to prevent it. It’s not.

I’ll be the first to admit that statin drugs can lower cholesterol levels, but they don’t reduce the death rate. And it’s not just my or anyone else’s biased opinion. The research bears this out. These latest findings are in contradiction to the cholesterol hypothesis, which is based on the idea that cardiovascular disease starts in middle age because of high LDL-C cholesterol, worsens with age, and eventually leads to cardiovascular death. If that were the case, then why do individuals over the age of 60 with the highest LDL-C levels live the longest? An even more important question might be, why shouldn’t anyone over the age of 60 try to lower LDL-C levels?

You have to wonder, where’s the outrage? How many people have developed cancer or fatal infectious diseases due to lower LDL-C levels brought on by statin drugs? What percentage of Parkinson’s and Alzheimer’s cases are a direct result of statin use?

If you’re under the impression that lowering your cholesterol is the way to avoid an early death from cardiovascular disease, I urge you to reconsider. The research doesn’t support that theory and frankly, it never has. If you’re over 60, the research is even more compelling that lowering your cholesterol will lead to an early death. Studies actually point to other causative factors such as sugar consumption, an imbalance of omega-6/omega-3 fatty acids, lack of exercise, an imbalance of intestinal bacteria, insufficient protective antioxidants, excessive stress-related cortisol levels, chronic inflammation, and hormone imbalances.

While the causative list seems extensive, most people could reduce their risk of cardiovascular disease very significantly by taking a few simple steps. These include eliminating sugar, exercising (even a little), and regularly taking supplements like a quality multivitamin/mineral product, a probiotic, and fish oil (or eating fatty fish).

Most people don’t realize that in the early 1900s, heart disease was so rare it was practically unheard of. Heart problems were limited to structural issues such as valve defects. Cardiovascular disease showed up later, after we started consuming more and more processed foods, beginning in the 1930s and 1940s. Heart attacks and blockages began to be seen in the 1950s and 1960s, when processed items and oils had been dominating the food supply for a few decades.

Sadly, instead of returning to a wholesome diet of vegetables and unprocessed foods closer to their natural state, many Americans have decided to have their cake (processed, of course) and eat it too. It seems many believe that popping a pill is easier than changing a habit. If only it really worked that way.
One of the biggest new items in the past month was the “Brexit” vote, where citizens of the United Kingdom voted to exit the European Union (EU).

In this country, we mostly heard about the dissatisfaction citizens were experiencing regarding major issues like immigration policy. But much of the discontent stemmed from a continuous stream of over-reaching mandates and regulations from the EU governing body. A good example involved olive oil.

In 2013, the EU’s Commissioner of Agriculture in Brussels put forth a regulation that would ban the serving of olive oil in open, refillable cruets and containers on restaurant tables. The regulation was deemed necessary to “protect” the unenlightened masses from the dangers of olive oil. It didn’t matter that study after study has shown olive oil to be one of the healthiest fats on Earth; some bureaucrat felt the age-old tradition of dipping crusty bread in olive oil needed to be regulated. This is just one of hundreds of petty rules handed down that intrudes into the daily lives of those in the EU.

In this country, we mostly heard about the dissatisfaction citizens were experiencing regarding major issues like immigration policy. But much of the discontent stemmed from a continuous stream of over-reaching mandates and regulations from the EU governing body. A good example involved olive oil.

In 2013, the EU’s Commissioner of Agriculture in Brussels put forth a regulation that would ban the serving of olive oil in open, refillable cruets and containers on restaurant tables. The regulation was deemed necessary to “protect” the unenlightened masses from the dangers of olive oil. It didn’t matter that study after study has shown olive oil to be one of the healthiest fats on Earth; some bureaucrat felt the age-old tradition of dipping crusty bread in olive oil needed to be regulated. This is just one of hundreds of petty rules handed down that intrudes into the daily lives of those in the EU.

Keep in mind that the EU encompasses areas of the world where some of the highest quality olive oils are produced. And while there’s a perception that olive oil is unstable and oxidizes rapidly, that’s not really the case.

Olive oil’s stability depends primarily on the amount of natural antioxidants and phenolic compounds it contains. Extra virgin olive oil, made from the first pressing of the olives, contains at least 30 phenolic compounds—the major ones being oleuropein, hydroxytyrosol, and tyrosol.

These phenolic compounds are strong antioxidants and free radical scavengers. They also exhibit antimicrobial activity against strains of bacteria that lead to intestinal and respiratory infections. And certain monounsaturated fatty acids, such as oleic acid and squalene, have anticancer effects, reduce blood pressure, and protect against heart disease. ([Altern Med Rev 2007 Dec;12(4):331–42](#))

One antioxidant in olive oil called oleocanthal is an effective anti-inflammatory compound. Researchers have estimated that 50 milliliters (about 3.4 tablespoons) of olive oil has anti-inflammatory effects equal to about 10% of the adult ibuprofen dose recommended for pain relief. Both compounds block the production of specific prostaglandins linked to pain. Much like the benefits of taking a daily multivitamin/mineral, the regular use of olive oil begins to shift the body chemistry in a way that reduces inflammation. As I’ve discussed previously, chronic, low-level inflammation causes many of the health problems we associate with aging.

While the content of oleocanthal in olive oil might not be adequate to stop a headache, it can provide some of the long-term benefits linked to the repeated use of ibuprofen, like Alzheimer’s...
prevention. One study actually found that oleocanthal enhanced the clearance of beta-amyloid and tau proteins that accumulate in the brains of those with Alzheimer’s disease. And it does so without any of the side effects associated with ibuprofen, such as kidney damage. (Nature doi:10.1038/news050829-11) (ACS Chem Neurosci 2013;4(6):973–82)

Different oils will have varying levels of oleocanthal. High-quality Greek oils tend to have greater amounts, but there’s an easy way to tell oleocanthal content by simply tasting the oil. Oleocanthal is responsible for the peppery stinging sensation in the throat that you experience from olive oil. The greater the sting, the greater the oleocanthal content.

Like other edible oils, the oxidation of olive oil depends on its exposure to heat, light, and oxygen. The better the quality of the oil, the higher its phenol content and the more resistant it is to oxidizing into potentially toxic compounds. In simple terms, extra virgin olive oil—the dark green, robust-flavored oil that stings the throat—is the most stable. For the longest shelf life, store the oil away from heat and bright light, and keep the bottle sealed.

The Frying Factor

Most people think olive oil can’t be used for frying, but research shows that it’s actually very safe, even at fairly high temperatures. (For the record, I’m not a proponent of deep frying. While I do use olive oil for cooking, I mostly consume it at room temperature. I love the taste.)

In one test, when olive oil was heated to 365°F for a 36-hour period, there was very minimal degradation or loss of phenolic compounds. In another study, olive oil was used for deep frying at a temperature of 410°F, and it took 24–27 hours before the oil was damaged to the point of being considered harmful. (J Agric Food Chem 2007 Nov;55(23):9646–54) (Food Chem Toxic 2010 Oct;48(10):2972–9)

In addition, a study from the University of Granada revealed that frying vegetables in extra virgin olive oil actually increased the amount of phenols in the vegetables when they transferred from the oil to the produce. In fact, frying vegetables in extra virgin olive oil turned out to be more nutritious than boiling them. (Food Chem 2015 Dec;188:430–8)

Believe it or not, I even use olive oil to cook popcorn. When I first started doing this, I found that the oil imparted a distinct flavor, which was undesirable to say the least. But I discovered that I can neutralize the taste by melting a tab of butter in the oil while it’s warming, just before adding the popcorn. This same technique can be used with pan frying, as well, if you find the taste of olive oil too overpowering.

Any way you look at it, extra virgin olive oil is one of the healthiest foods on the planet, so be sure to enjoy it regularly.

Until next month,

Dr. David Williams