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Dr. David G. Williams

Make Yourself Immune to Disease

By the time you receive this issue the election madness will be well over (thank goodness) and the holiday season will be in full swing. And the new seasonal ritual, the push for flu shots, will also be in full swing.

Several places here in Texas were offering free flu vaccinations at the voting locations. It would have made just about as much sense to give away free lottery tickets—they'd give about the same amount of protection against the flu, without any of the dangerous side effects.

I've discussed the ineffectiveness of flu immunization before—and I still don't believe that it's the way to go, even with our current knowledge and technology. The immunization manufacturing process takes several months, so each spring researchers try to figure out which out of as many as a hundred strains of flu virus might rear its ugly head the following winter. Their three best guesses determine what's included in the next year's flu shot, and there's no guarantee they'll get it right. To make matters worse, even if they do get it right the various strains of these viruses are constantly mutating.

The whole situation is like trying to win at one of those carnival games. Sometimes you get really, really, close, but it's almost impossible to win. In the flu immunization game, the pharmaceutical companies are in even better shape than the owners of the carnival. As long as the public stays hoodwinked, they win. New laws make them immune from product liability lawsuits, even though adverse reactions have been shown to occur in as many as half of all users. The success of their product is based on fear, not effectiveness. It doesn't have to work…and it doesn't.

At a recent press conference, Dr. William Schaffner, the vice president of the National Foundation for Infectious Diseases, stated, "We're going to have more vaccine available this year than ever before…more than 100 million doses…and we hope this is not going to be an embarrassment of riches." He was apparently referring to the fact that less than half the public is even interested in getting a flu shot and less than a third of all health care workers—those who, after all, are working on the "front line"—get vaccinated. I don't know if the low rate stems from apathy or from awareness of studies showing that increased vaccination rates have no influence on flu-related death rates. Either way, the numbers obviously don't set well with the pharmaceutical companies. They'll need to step up their "fear of the flu" campaign.

Get Your All-Purpose Wonder Drug Here!

One of the slickest moves I've seen in a long time was the release of information suggesting that statins, the cholesterol-lowering medications, could decrease mortality due to pneumonia by anywhere from 40 to 60 percent and could be life-savers in episodes of influenza. Zocor, one of the most "successful" (in terms of sales, not efficacy obviously) had sales of $18 billion last year. Lipitor, another "successful" statin, had sales of $12.2 billion worldwide. Don't be surprised to see these drugs, or their spin-offs, being touted as another way to treat flu.

I know some of you will continue to receive an annual flu shot and swear it helps. If that's your choice, I would at least take a few steps to help minimize its ill effects.

In This Issue

You will observe with concern how long a useful truth may be known, and exist, before it is generally received and practiced on. — Benjamin Franklin

Keeping Flu at Bay

I would suggest that every day for a month before getting the shot you take 100 mg of standardized ginseng extract (Ginsana), 1,200 mcg of vitamin B12, and 25,000 IU of vitamin A. In one study, individuals given the ginseng extract for four weeks before the shot and eight weeks afterward exhibited twice the activity in their natural killer cells and 60 percent higher production of antibodies when compared to a group that didn't take ginseng. Additionally, only 15 out of 114 individuals taking the ginseng came down with the flu, compared to 42 of 113 individuals who didn't receive the ginseng. (*Drugs Exp Clin Res 96;22:65–72*)

Obviously, flu vaccinations are sold on the premise of prevention. The fact of the matter is that they don't work nearly as well as promised (and they can cause a lot of serious problems). The premise is right, though; preventing the flu in the first place *is* your best defense. Over the years I've described many techniques and supplements that help keep you from contracting the flu. I suggest you look at those past issues when you get time. These include such things as increasing glutathione levels with either glutathione supplements or amino acids like N-acetylcysteine and whey protein powder; getting additional vitamin D through supplements and sunlight exposure; and taking vitamin C, turmeric, garlic, and selenium.

If for some reason you do come down with the flu, you want to nip it in the bud to shorten its duration and effects. I've covered the use of products such as eucalyptus oil, xylitol spray, elderberry extract (Sambucol), and licorice extract to help fight a flu once it sets in.

Those Who Do Not Learn From History Are Doomed to Repeat It

For the last couple of years there's been a huge concern over the next pandemic flu. The "bird flu" was the most recent viral threat, but it appears that it didn't (not yet, anyway) mutate to the point where it can pass easily from human to human. I still think it's just a matter of "when"—not "if"—we see a new flu-type pandemic. I can't tell you when or which virus. I wish I could.

I don't want to cause any unnecessary grief or add additional stress to anyone's life, but it's always better to be safe than sorry. Thanks to the ease of worldwide travel, when this next flu pandemic comes it will spread fast. You need to know how to deal with it before it hits our shores. Unfortunately, most of the official suggestions being given haven't been tested—and probably won't be when the flu does arrive. The best we can do is learn from the past, look at what research is currently available, and stay up to date and ahead of the pack if possible.

There's a lot we can learn by looking back at the 1918 Spanish influenza pandemic. It was one of the deadliest pandemics in human history. Twenty percent of the global population was infected, and somewhere between 20 and 40 million people died worldwide. In the US, approximately 28 percent of the total population was infected and 657,000 people died.

Most people probably assume that the high death rate was a result of poor medical care, unsanitary conditions, et cetera. New research, however, has revealed there was another very important factor involved.

Back in 1997, a victim of the 1918 flu was exhumed from his burial site in permafrost. The cold preserved remnants of the virus in his body. Through genetic sequencing researchers have reconstructed the original virus (which hopefully will remain under lock and key) and found that it was very different from current flu strains. Most importantly, the 1918 flu strain triggers a far different reaction from the body's immune system than contemporary flu strains do.

The Makings of an Immune Response

To understand what happens, it's important to know that your immune system is basically composed of two parts. The part you hear the most about is called the "adaptive" branch. When your body is exposed to a bacteria or other pathogen for the first time, it produces specific antibodies and other compounds that will help it recognize that pathogen the next time around. You usually get sick at the first exposure, because your body hasn't adapted or learned how to handle the new danger.

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The part of the immune system that gets less attention is called the "innate" branch, referring to what you already have at birth—including the natural killer (NK) cells that make up about half of your white blood cells.

(I hope I don't confuse the issue by saying that the adaptive branch uses what's known as "humoral" immunity, and the innate branch uses "cell-mediated" immunity. That's a discussion for another time.)

I've talked quite a bit about NK cells in past newsletters. They are your first line of defense against any form of invasion to the body. NK cells are border guards. It's their job to detect and destroy all types of pathogens as soon as they enter. It doesn't matter if these pathogens are viruses, bacteria, fungi, or even your own cells that have turned cancerous. Unlike other parts of your immune system, NK cells don't require prior exposure to a virus or antigen before they can target and kill infected cells.

Each NK cell contains several small granules, which I guess you could equate to natural "grenades." Once the NK cell recognizes a cell as foreign and a threat to your health, it quickly attaches to that cell's outer membrane and injects these grenades into the interior of the cell. The grenades subsequently "explode," destroying the pathogenic or cancerous cell. Fortunately, the NK cells are undamaged during the process and can move to the next pathogen or cancer cell and repeat the process.

If the NK cells are able to "clear" the pathogen or cancer cells quickly enough, you can recover rapidly and avoid a more serious illness—or even death.

With other types of white blood cells, trouble comes when their numbers drop too low. That seldom happens with NK cells, though. Instead, the problem occurs when they become less active (run out of grenades). An increasing amount of research seems to point to the fact that NK activity is a strong determinant as to whether a person remains healthy or becomes sick. It plays such a critical role that NK activity can be the primary criterion for estimating the chances of survival in patients who have cancer or AIDS.

The Root of the Problem

If, for some reason, the invasion of a pathogen is more than your NK cells can handle, the adaptive branch of your immune system is called into action. Under normal circumstances this backup plan should not be a problem. With the 1918 flu virus, however, it proved deadly.

When researchers reconstructed the 1918 flu virus and tested it in animals, they discovered that it triggered an unusually massive response from genes that are responsible for launching an immune attack—producing inflammation and triggering cell suicide. Unlike most of the flu viruses we've seen recently, the 1918 flu virus excited an immune system reaction in the victim that actually destroyed their lungs and in many cases resulted in rapid death. Lung tissue was flooded with immune cells such as neutrophils and macrophages, resulting in widespread inflammation and cell death and destruction. (For the more technically minded among my readers, this process is what's been called a "cytokine storm"—where the signalling mechanism goes haywire and the immune system loses its ability to regulate itself.)

We often see a very similar response in cases where the bird flu (strain H5N1) has infected humans. Flu symptoms appear, followed by physical deterioration, organ failure, and death.

What made the Spanish flu even more unusual was that, unlike today's contemporary influenza strains that are more deadly in the elderly and very young, the 1918 strain often struck and killed those between the ages of 20 and 40. This is probably because their immune systems typically produce an even more exaggerated response than those of younger or older people.

Trying to "tone down" the response of your immune system to an attack would be difficult—if not impossible. Sure, we have the ability to totally suppress the immune system with drugs like corticosteroids, but doing so while an infection is present can prove deadly. The reasonable solution would seem to be to increase the effectiveness of the NK cells. The quicker we stop the invasion, the less need we have to rely on backup from our adaptive immune system.

Power Up Your Immune System

Several years ago, I wrote about a hybridized mushroom extract (active hexose correlated compound, or AHCC) called ImmPower. My interest in ImmPower was spurred by the significant amount of research illustrating it could be a very effective tool in the treatment of cancer through its ability to increase the activity of NK cells. I wrote that article before the emergence of potential threats like SARS or bird flu, and before this recently released research on the 1918 influenza virus. With these new findings, it becomes apparent that ImmPower may turn out to be one of our best defenses against the next flu pandemic, adapted viruses in bioterrorism, or other powerful pathogens that are in the making.

Acting on this latest information about the 1918 flu virus, researchers at Drexel University recently tested ImmPower's effects on a flu virus called Puerto Rico 8 (H1N1, PR8) in laboratory animals. Two groups of mice

(*Immune Support continued on page 142*)

More News Through the Grapevine

BOSTON, MASSACHUSETTS—A couple of years ago I reported on the potential anti-aging benefits of resveratrol (a compound found in dark grape skins and red wine). The research at that time was performed on worms, and I caught a considerable amount of grief since many felt it was a stretch to think it would provide the same benefits in humans. I'm happy to report that we're now a step closer—but still not quite there yet.

One of the researchers whose work I've been following in this area is Professor David Sinclair of Harvard Medical School. He recently reported that resveratrol does enhance health and can help retard the effects of aging and even a high-fat diet in mice. The research has progressed from yeast cells to fruit flies to worms, and now to mammals. I have no doubt that resveratrol will have similar effects on humans. The problem, of course, stems from the fact that it can take decades to test longevity in humans. And during that time we'll have to continue to sort through mountains of propaganda, advertising fluff, and exaggerated claims.

Pharmaceutical companies are already teaming up with researchers like Sinclair to take resveratrol to the next level and turn it into a prescription drug. What happens with resveratrol over the next few years will be very interesting. As you see this story evolving and the public's interest in this compound grow, try to keep the total picture in the proper perspective.

Modern Diseases, Age-Old Medicine

We've known for centuries that wine, particularly red wine, provides some measure of health benefits. Resveratrol itself wasn't discovered until the mid-1970s, but there were biblical references to the benefits of wine. The Romans used it for wound healing, and even Ben Franklin has been credited with asking why winos live longer than their physicians. (I'm not certain he actually did ask that question, since he's been erroneously credited with hundreds of other witty and insightful comments. He's also credited with the statement, "Beer is proof that God loves us and wants us to be happy"—which endears him to me even more.)

In the 1960s the immigrant male Italians in Roseto, Pennsylvania, were practically immune from heart disease, while males in neighboring communities suffered the same cardiovascular mortality as their counterparts in other parts of the US. Scientists couldn't determine the cause at the time, but we now believe it was the fact that the men partook freely of Italian red wine.

Practically everybody is now aware of the "French Paradox" that CBS's *60 Minutes* reported on in 1991. The French have the highest concentration of individuals over 100 years of age, and in the wine-growing areas of the country citizens live anywhere from 25 to 45 percent longer than citizens elsewhere—a difference thought to be due to their consumption of red wine. Not only do they experience greater longevity, but they also have far less heart disease—while still consuming more calories and more dietary fat than people in other Western countries do.

A Little Goes a Long Way

The point to keep in mind is that the benefits of resveratrol (and other compounds such as quercetin, also found in red wine) can be obtained from natural sources and from small doses. It's been working like this for hundreds if not thousands of years, so it doesn't require some new FDA-approved pharmaceutical product to obtain the necessary effects.

The key appears to be consistency, with regular and frequent doses on a long-term basis. I'll be the first to admit that resveratrol in a supplement form makes it easier for most of us to achieve these goals. And I suspect that additional research will reveal that doses greater than those received from a glass or two of red wine each day might be even more effective. Just don't lose sight of the fact that tremendous results can still be achieved with just a couple of glasses of red wine daily. Grape juice is really not a good source, but certain foods—such as raw or boiled peanuts, peanut butter, red grapes, blueberries, bilberries, and cranberries—do contain small amounts of resveratrol.

Two areas of the world, France and the island of Sardinia in the heart of the Mediterranean, are well known for their high concentration of centenarians (individuals over 100 years of age) and their connection to red wine consumption. Another area with an unusual concentration of centenarians is the Southern Island of Okinawa, Japan. Their longevity there, however, has always been linked to a low-calorie diet instead of red wine. The residents of Okinawa consume 20 percent fewer calories than other Japanese adults, who already consume roughly 1,000 calories less per day than the typical US adult. Research has just revealed that resveratrol may also be a strong contributing factor as well. As I've explained in past articles, the positive anti-aging effects of resveratrol mimic those associated with very low-calorie diets.

Comparing 138 foods commonly consumed on Okinawa with other foods common in Japan, researchers from Kyoto University recently discovered that Okinawan food such as wild turmeric had stronger antioxidant properties. Additionally, shell ginger, whose leaves are used to wrap rice cakes, contains resveratrol-like molecules. (*Asian Pac J Cancer Prev 05;6(4):437–448*)

Shell ginger (*Alpinia zerumbet*) is part of the ginger family of plants whose leaves have not only a desirable aroma, but also exhibit germicidal and antifungal properties. It makes the ideal food wrap for rice cakes (mochi). This is another instance where the level of resveratrol in a particular food may not be that high, but its consumption on a regular and frequent basis makes a significant difference in an individual's overall health and longevity.

You're going to be hearing a lot more about resveratrol in the future. From what I've seen and reported so far, I'm honestly a little confused as to why its use hasn't become more widespread already. I've been taking it consistently for a couple of years now (and am also diligently trying to include a little more red wine in my diet). I'm currently working to have it included as one of the components in my multinutrient in the very near future.

At the time I first wrote about resveratrol a couple years ago, it wasn't readily available in supplement form. Since that time several high-quality supplements have become available from several sources. I recommend that you take 10 to 20 mg a day.

Kick Off Your Shoes and Live a Little

CHICAGO, ILLINOIS—Walking barefoot may provide benefits beyond just a feeling of relaxation, according to a recent study conducted at Rush Medical College in Chicago. Researchers there measured movement and pressure at the knee and hip in 75 men and women who had already been diagnosed with arthritis in their knees. Walking barefoot reduced the load on the knees by nearly 12 percent compared to walking in ordinary street shoes. (*Arthritis Rheum 06;54(9):2923–2927*)

Your knee is one of the most complex joints in your body. The lower part of your thighbone (femur) ends in two rounded sections. Each of these sections fits into a flattened space at the top of your shinbone (tibia). Between your femur and your tibia is a pair of cushioning disks called *menisci*. Everything is held in place by ligaments and muscles that should prevent excessive movement in any one direction. Finally, your kneecap (patella) protects the joint and provides additional stability.

In addition to the normal back-and-forth motion, the knee also has to handle some side-to-side movement. During normal walking, your knees tend to flex a bit toward the outside. This movement puts most of the load on the inside of the knee, called the medial side. Not surprisingly, this is the site most commonly affected by knee arthritis.

Various attempts have been made over the years to correct the problem in people who have arthritis in a knee. The most radical solution, obviously, is to replace the entire structure with a metal-and-plastic joint. Another possibility is to shave down the end of the shinbone on the medial side, which shifts some of the pressure onto the outside of the joint.

A less extreme solution is the use of orthopedic wedge inserts. An insert that lifts the outside edge of the foot by as little as four degrees has been shown to reduce the lateral pressure on arthritic knees, and consequently reduce the pain of walking, climbing stairs, et cetera. (*Arch Phys Med Rehabil 02;83(7):889–893*) (*J Rehab Res Dev 06;43(4):427–434*)

Treat Your Feet Carefully

The researchers in the Chicago study had the idea that perhaps the simple act of wearing street shoes could cause knee problems. The dangers of high-heeled shoes were already well-known. Women who habitually wear heels are at higher risk of wrenched ankles and lower back pain, and earlier studies showed heels as low as 1-1/2 inches could cause increased knee pressure as well. (The researchers in the *Lancet* study thought that high heels might be part of the reason that women are twice as likely as men to have arthritis in the knee.) (*Lancet 98;351:1399–1401*) (*Arch Phys Med Rehabil 05;86(5):871–875*)

Our distant ancestors went barefoot all the time, of course. I wouldn't recommend walking barefoot on city sidewalks, but for around the house and yard it should be fine. My family and I try to remember to take our shoes off as soon as we get inside the house to avoid tracking in dirt, pesticides, and other toxins picked up on the soles of our shoes. I've written before about how dangerous these can be, particularly if you have a youngster or two crawling over the floor.

Walking barefoot outside has other benefits as well. It helps keep you "grounded" by maintaining contact with the earth's electrical field. You'll also notice that it's natural for your toes to contract with each step when you don't have shoes. This action not only works the calf muscles, but also increases circulation and lymphatic flow, which can be a major benefit—particularly as we get older. This "gripping" action of the toes is really noticeable when you walk in sand.

One caution: People who have neuropathy in their feet should use extra care when walking barefoot. There are numerous cases of people who have stepped on an object such as a tack and not been aware of the injury because they had no sensation in their feet. Diabetes is a leading cause of neuropathy; just one more reason to watch your blood sugar levels and get adequate amounts of exercise—like walking on the beach.

(*Immune Support continued from page 139*)
were studied. One group received ImmPower in water for a week before their exposure to the flu virus and for 10 days afterward. The other group received only water with no ImmPower.

Several common problems seem to occur rapidly when a severe influenza virus takes hold, one of which can be a dramatic loss of body weight. Not only does one lose their appetite, but the body also uses an enormous amount of energy to fight the infection. Weight loss was a very prominent finding in this animal study.

The group of mice not given ImmPower lost more than three times as much body weight as those on the product (an average loss of 23 percent vs. 7 percent). (Those losing over 30 percent generally didn't survive.) Those in the ImmPower group also recovered the lost weight more quickly than the other group.

The mice given the ImmPower experienced a 95 percent survival rate, compared to a 75 percent survival rate among those not given the product, measured at ten days following the infection. (*J Nutr 06;136(11):2868–2873*)

Those on ImmPower also experienced milder symptoms and far less damage to their lung tissue. In fact, the virus generally cleared from their lungs in seven days. The lung tissue in those without the product exhibited increased infiltration into the lungs during the infection, a direct indication that there was far more adaptive immune system activity. The affected lungs suffered severe damage from the increased inflammation and cell death. This is the same type of immune over-activity that occurred with the 1918 influenza virus and bird flu. It's what makes them so dangerous.

AHCC + NK = A-OK

The obvious key here is to improve NK cell response and knock out the infection before the adaptive immune system has to come into play. That's exactly what ImmPower was shown to do.

The use of ImmPower significantly increased both the activity and the numbers of NK cells, in both the lungs and the spleen. One of the researchers, immunologist Barry Ritz, probably expressed it best in his assessment of the findings:

"In our study, the mice that got AHCC (ImmPower) had less damage to lung tissue because there were fewer macrophages, which cause inflammation, at the site of infection—the lung....We found that AHCC (ImmPower) boosts NK cell activity in flu substantially, increasing survival, decreasing the severity of the disease, and speeding recovery, and results in less 'collateral damage' to the lung." He went on to say that the increased NK cell activity appeared to clear the inflammation quickly enough that the mice didn't need to recruit their adaptive immune systems—and avoided the cascade of detrimental effects that come with immune over-activity.

Contemporary flu strains are hardest on those who are over age 65, under age 2, or have a medical condition that puts them at an increased risk from flu. This includes transplant patients, anyone taking steroid drugs, and those who have a suppressed immune system or any kind of respiratory compromise.

In each of these instances, increasing NK activity may hold the key to survival. (And, as I said above, it may also be useful in cases of the more virulent pathogens and/or adapted viruses associated with bioterrorism.) Flu shots don't work. And when, or if, we could develop effective vaccinations, stockpile them properly, and have them available in time of need, it's always a crapshoot whether the side effects are more dangerous than any possible protective benefit. I'll put my money (and health) on products like ImmPower when the time comes.

Getting to the Details

Although AHCC's exact mechanism of action is still not fully understood, it has been shown to increase NK activity as much as 300 percent. (It increases the number of "grenades" in the NK cells, allowing them to destroy more pathogens.) It also increases activity in other immune cells such as T cells (200 percent) and B cells (250 percent). (*Anticancer Drugs 98;9(4):343–350*)

ImmPower has been used for years to safely prevent and fight problems such as cancer, autoimmune diseases, inflammatory conditions, and heart disease. Now we learn that it can help ward off severe strains of flu and probably even bioterrorist-created pathogens.

The doses used in the influenza mouse study were very large, 1 gram per kilogram of body weight. That works out to nearly 67 grams a day for a 150-pound person. And while AHCC is completely safe at that dosage, it would be cost-prohibitive. When I asked the researchers why they used such a high dose, they said that first they just wanted to see if it worked against these virulent strains of influenza. More work will need to be done to determine proper doses.

Other studies indicate that as little as 1 gram (2 capsules) a day will increase NK cell activity significantly in about four weeks. At 3 grams a day the effects become noticeable within a week or two. The good news is that once NK activity begins to rise it will generally continue

Aspirin Revisited

Question: In the September issue you once again trashed the regular use of aspirin. This time you cited studies that somewhere between 5 and 60 percent of those taking aspirin are actually "aspirin resistant" and not only do they not benefit from aspirin's anti-clotting effects but it also increases their risk of problems like stroke and heart attack by threefold.

I've read your past articles on how aspirin increases bleeding in the stomach, increases the risk of macular degeneration, etc., etc. My doctor hasn't heard about "aspirin resistance" and feels the benefits of aspirin outweigh the risk of developing these other problems. I don't know what to believe.

— Robert K.
San Antonio, Texas

Answer: I know it gets confusing. Obviously, it's a decision you'll have to make on your own. Just base the decision on facts and not propaganda and advertising. There are risks, serious risks, involved with long-term aspirin use, as I've mentioned. And there are legitimate safe alternatives, such as bromelain and nattokinase—which I've covered extensively in the past.

As far as aspirin resistance, it is real but not very well publicized. Unfortunately, it seems like those with the greatest risk of experiencing cardiovascular problems just happen to be the group with the highest resistance problems. I'm sure your doctor will be hearing more about it in the near future. I only hope he/she will start testing patients and informing them of the dangers rather than just recommending routine aspirin use for everyone with cardiovascular problems.

One of the latest studies reported that the failure of aspirin to suppress blood clotting was directly responsible for up to 20 percent of serious heart attacks and strokes. That failure rate is pretty high in my book, and other studies have found it to be even higher.

Aspirin resistance was found in 26 percent of high-risk cardiovascular patients under the age of 60 and 45 percent of those over the age of 60. It's obviously an unrecognized problem that needs to be addressed.

Dr. Zoltan Ungvari, with the New York Medical College, recently took blood samples from 50 high-risk cardiovascular patients and tested the blood-clotting activity. He found that resveratrol was very effective at inhibiting blood clotting, particularly in aspirin-resistant individuals. We'll have to wait on more studies for dosage and other details, but it looks like resveratrol now has another use. (*J Cardiovasc Pharmacol 06;48(2):1-5*).

to do so even after you cut back to 1 gram daily. However, if you wait until you see the first signs of a flu or other infection I would suggest starting at a higher dosage like 5 to 10 grams daily for a week, and then tapering down to 1 or 2 grams. You can bet that if we get any prior warning of either a spreading flu pandemic or biological terror threat my family and I will start using a higher dosage of the product immediately. That's one reason I keep several bottles on hand at all times. (You can use AHCC for all of your family members, young and old. I'd start with half the adult dose in children under age 12, however.)

ImmPower can be purchased from the Harmony Co. Their address is PO Box 93, Northvale, New Jersey 07447 and they can be reached at 888-809-1241. More information is available at their Web site, *www.TheHarmonyCo.com*. Mention that you're a reader of *Alternatives* and they'll give you a 10 percent discount on your first order.

During every severe influenza epidemic, there will be those who remain well while others are dropping like flies around them. I'm sure the same thing is happening with the bird flu. Many cases of bird flu aren't being reported because they don't result in severe symptoms. Not everyone died of the 1918 flu pandemic. This contrast obviously stems from varying degrees of NK cell activity. The higher your NK cell activity, the greater your odds of survival. That's true in the case of cancer, as well as in viral and bacterial infections. [*Editor's note: See Vol. 10, No. 15 on the use of AHCC for treatment of cancer.*]

How to Know When You Need Help

Most doctors don't ever check for NK cell activity for any condition—not even in severe infections or life-threatening conditions such as cancer. Rather than "customizing" a treatment program by insuring that each therapy actually boosts the body's own natural defenses, physicians tend to focus on therapies or chemicals that destroy the pathogens or cancer cells directly. As such, you probably are never given any idea as to the level of activity of your NK cells.

There may be subtle indications that your NK cell activity is low, however, and that the cells could use some help before you're confronted with more serious problems. Chronic allergies, recurring infections, and longer-than-normal healing times for wounds, trauma, ulcerations, or other tissue damage are all indicators of reduced activity.

If you suffer from a long-standing sinus or respiratory infection, there's a good chance that boosting your NK cell activity for a month or two would help eliminate the problem. Decreased NK cell activity is not uncommon in individuals suffering from chronic gum and periodontal infections. If you have heart disease that is associated with inflammation, boosting NK cell activity is certainly something to consider.

Any of these problems I've just mentioned or other chronic healing or inflammation conditions should be considered warning signs. Increasing NK cell activity will not only help get rid of these conditions, but, maybe even more importantly, it will put your immune system in a strong position to handle what could be a deadly assault from something like influenza or even cancer.

An Amino Acid Crystal Ball

The only other marker I can think of that is an accurate predictor of survival and longevity is your glutathione level. Glutathione is the amino acid that can be increased through the consumption of properly processed whey powder. (Are you having your protein shake each morning?) It's also found in the cruciferous vegetables such as cabbage, cauliflower, broccoli, kale, et cetera. You can also take N-acetylcysteine (500 mg to 1 gram a day) or a glutathione supplement like Ultrathione-500.

(For years I've recommended that people take glutathione's precursor, N-acetylcysteine, because glutathione is poorly absorbed when you take it orally. I still think that's a fine solution. Ultrathione adds vitamin C to the glutathione, which seems to increase the bioavailability. Ultrathione-500 is available from Health Maintenance Programs, Inc., at 800-362-8673 or *www.HMPScience.com*.)

Glutathione is probably your body's most important antioxidant. It's also involved in the recycling of other antioxidants such as vitamins A, C, and E. Glutathione is the key component that enables your body to detoxify waste products, drugs, and environmental toxins. It's also needed for the production of white blood cells, including NK cells. When glutathione levels are low, the activity of NK cells will be lower.

Just as a reduction in the activity of NK cells is a dire warning signal, low glutathione levels can predict an impending heart attack and even death. I've called glutathione the "biochemical marker for aging." The lower your levels, the quicker you're aging. And I've discussed how standard doses of common over-the-counter drugs such as acetaminophen (and probably dozens of others) have been shown to drop glutathione levels as much as 70 to 80 percent in just four hours. I would be shocked if your NK cell activity weren't adversely affected as well. (*Drug Chem Toxicol 81;4(1):37–48*) [*Editor's note: See Vol. 6, No. 11 for more about the benefits of glutathione.*]

I would love to see a study combining the effects of a product like ImmPower and a product that increases glutathione levels, or at least research where glutathione levels are checked before the use of ImmPower. I think we'd see even more amazing results from ImmPower when glutathione levels were at their optimal levels. Up to this point research on the immune system has been focused primarily on the adaptive branch, and most researchers have never investigated agents that might be able to increase NK activity—particularly natural products such as AHCC.

Take care,

Editor's Note

Many wintertime issues of *Alternatives* contain ideas for preventing or combating the flu. See especially Vol. 10, No. 19. If you don't have those issues at hand, or you're new to *Alternatives*, you may want to visit the Alternatives Subscriber Center at *www.DrDavidWilliams.com*, where his top recommendations are gathered in one place. You'll also discover how to decode the flu names, such as H5N1. Use your e-mail address as the login name. The current password is found at the bottom right of the last page in each month's issue.

If you have questions or comments for Dr. Williams, please send them to the mail or e-mail addresses listed to the right. Of course, practical and ethical constraints prevent him from answering personal medical questions by mail or e-mail, but he'll answer as many as he can in the Mailbox section of *Alternatives*. For our part, we'll do our best to direct you to his issues, reports, and products related to the subject of your interest.

Here's how you can reach us:

- For Customer Service matters such as address changes, call **800-527-3044** or write to **custsvc@drdavidwilliams.com.**
- If you are a licensed health professional and would like to learn how to begin reselling MHN supplements to your patients, please e-mail practitionerinquiries@davidwilliamsmail.com.
- For back issues or reports, call **800-718-8293.**
- To sign a friend up for *Alternatives*, call **800-219-8591.**

Visit the *Alternatives* Subscriber Center at drdavidwilliams.com

Your password this month is Service Code 73981E