Dr. Jonathan V. Wright's

NUTRITION & HEALING

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Beat bacteria and infection the natural way: Replace your antibiotics with a few simple sugars!

By Jonathan V. Wright, M.D.

Medicine is filled with irony. The medical world created antibiotics to defeat diseases caused by bacteria. And what happened? The bacteria adapted, made our drugs less effective, and, in the process, learned how to make us sicker. Professional dentists (and many, many moms) said for years that sugar rots teeth. And what happened? Researchers discovered that there are exceptions to this rule.

Sugars—particular simple, natural sugars—are demonstrating abilities to protect us from tooth decay, ear infections, bladder infections, asthma, sinusitis, and a host of other diseases caused by bacteria. These sugars can replace antibiotics for some treatments. They may even help us break the vicious cycle that has seen the medical establishment create ever stronger drugs ...and ever stronger bacteria.

Diminishing returns from drug therapies

Since the 1940s, mainstream doctors have been prescribing antibiotics for most infections. But even the most conventional physicians have come to realize that the "golden days" of easy bacteria-killing with antibiotics are over.

Bacteria are fighting for their very survival. They are literally learning to save themselves from dying at the hands of antibiotics and steadily producing new strains of antibiotic-resistant bacteria. In essence, bacteria are getting smarter—and stronger. Consequently, they're having a much easier time making us sick and even killing us.

> *"Sugars—particular simple, natural sugars —are demonstrating abilities to protect us from tooth decay, ear infections, asthma, sinusitis, and a host of other diseases caused by bacteria."*

For example, 25 years ago the dose of amoxicillin used to treat an ear infection was 20 milligrams per kilogram of body weight per day. Now, statistics show that Americans suffer from nearly four times as many ear infections and that the average dose of amoxicillin required to eliminate a single infection is four times higher.

But finding new antibiotics is getting harder and harder, and when they are found, they're likely to be more toxic to us. The antibiotic approach to killing infections is obviously one of diminishing returns.

Prevention: a better way to deal with infection

Obviously, *preventing* infections is a much better strategy, and there are many ways to do this. (For a review of several approaches to preventing infection, see the April 2001 issue of *Nutrition & Healing*.) A reduction in infections would, of course, result in less antibiotic use and leave us contending with fewer drug-resistant strains. We know that many strains of bacteria lose their resistance if they are not exposed to antibiotics for some time. Some European countries, such as Norway, have significantly reduced their problem with antibiotic-resistant bacteria by restricting antibiotic use.

Unfortunately, the majority of us, including doctors, don't focus sufficiently on prevention, so the infection rate is likely to continue at or near its present level. Consequently, we'd best look for additional tools in the battle against bacterial infection.

Know your enemy

Many famous warriors have commented that one of the most important parts of warfare is intelligence—knowing your

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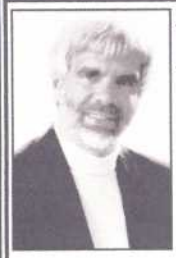

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Our mission:

Nutrition & Healing is dedicated to helping you keep yourself and your family healthy by the safest and most effective means possible. Every month, you'll get information about diet, vitamins, minerals, herbs, natural hormones, natural energies, and other substances and techniques to prevent and heal illness, while prolonging your healthy life span.

A graduate of Harvard University and the University of Michigan Medical School (1969), Dr. Jonathan V. Wright has been practicing natural and nutritional medicine at the Tahoma Clinic in Kent, Washington, since 1973. Based on enormous volumes of library and clinical research, along with tens of thousands of clinical consultations, he is exceptionally well-qualified to bring you a unique blending of the most up-to-date information and the best and still most effective natural therapies developed by preceding generations.

Nutrition & Healing cannot improve on these famous words:

"We hold these truths to be self-evident, that all men are created equal, that they are endowed by their creator with certain unalienable rights, that among these are life, liberty, and the pursuit of happiness."

The inalienable right to life must include the right to care for one's own life. The inalienable right to liberty must include the right to choose whatever means we wish to care for ourselves. In addition to publishing the best of information about natural health care, *Nutrition & Healing* urges its readers to remember their inalienable rights to life, liberty, and freedom of choice in health care. This information is published to help in the effort to exercise these inalienable rights, and to warn of ever-present attempts of both government and private organizations to restrict them.

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enemy. In our single-minded effort to find yet another patentable molecule to kill bacteria, we've fallen short in our efforts to understand the abilities of these microbes.

Elisabet Sahtouris, a biologist, points out that we have learned a great deal recently about the early bacteria that were the first life forms on this planet. First of all, they are persistent: 90 percent of the bacteria that scientists think existed about 600 million years ago (when the first nucleated cell appeared) are still around. On the other hand, 90 percent of the "higher" life forms that have existed since that time are now extinct! We need to remember these dismal odds when we engage in antibiotic warfare with these bacteria.

For the 2 billion years that bacteria were "the only show in town," they learned to free oxygen from minerals and use it for energy. They learned to move around, ferment organic material, and impart their knowledge and survival skills to other bacteria by sharing their DNA. Almost as soon as one bacterium learns how to deal with a threat (such as one of our antibiotics), they all know. Bacteria are a very tough enemy.

Fight bacteria with sugar

Fortunately, there are natural ways to combat bacteria. Biochemicals (such as sugars) and bacteria interact closely. Bacteria use sugars as a communications medium. Meanwhile, sugars can trigger changes in bacteria. And those interactions have spawned a scientific discipline. The study of sugars and their use in bacterial (and other) living communication systems is called glycobiology.

Dr. Nathan Sharon has been involved with glycobiology for almost 30 years, studying mannose, galactose, fucose, xylose, N-acetylglucosamine, N-acetylneuraminic acid, N-acetylgalactosamine, and other sugars.

Sugars comprise the "letters of the cellular alphabet," according to Dr. Sharon. They exist on cell surfaces and help communicate the needs of each cell to its general environment and to other nearby cells.

Molecules of bacteria, viruses, and toxins have receptor sites that are drawn to sugars on particular cells and can hang onto them. This allows bacteria to stick to the surface of cells. However, if bacteria (and viruses) cannot stick to our cells, our bodies' normal cleansing washes them out.

Boost your immune system with polysaccharide power

Simple sugars transmit information, particularly to immune system cells that defend us against infection. When these simple sugars combine in chains along with uronic acid, they're called "polysaccharides." Polysaccharides cause the immune cells to be much more active and vigilant against bacteria and other germs. They help in both the prevention and the treatment of infection. Echinacea, aloe vera, and many types of mushrooms are all rich sources of polysaccharides.

Now researchers have learned how to turn that relationship into a treatment for infections.

Cure infections naturally

Bladder and urinary tract infections. Glycobiology experts treat such infections by infusing soluble sugars into the urinary tract. Essentially, these free-floating sugars overwhelm the bacteria, attaching themselves to all the receptor sites on the bacteria molecules. Without any free receptors, the bacteria can't attach themselves to the body's cells and are flushed away in our urine. Some of the bacteria that has already attached to tissue is also washed away. The remaining bacteria are usually sufficiently handled by our immune systems.

We've been using this treatment at the Tahoma Clinic since the 1980s, giving patients **D-mannose** for *E. coli* bladder infections. Over 90 percent of bladder infections are caused by *E. coli* bacteria, which stick to mannose molecules present on the surfaces of the cells that line our bladders. If a person has an *E. coli* infection and takes D-mannose, the "loose" molecules of D-mannose surround and coat each *E. coli* bacterium, so they can't stick to the bladder. The next time the patient urinates, the D-mannose-coated *E. coli* are rinsed away—headed for their next happy home in a septic tank or sewage treatment plant. (For more information on treating bladder and urinary tract infections with D-mannose, see the June 1999 and October 2001 issues of *Nutrition & Healing*, as well as the new booklet *D-Mannose and Bladder Infection*, by Lane Lenard, Ph.D., and me. This booklet is available from the Tahoma Clinic Dispensary, 1-888-893-6878, www.tahomaclinic.com, with which I am affiliated.)

There is also some evidence that we can successfully deal with bacteria over longer time periods, without antibiotics, using strategies derived from glycobiology.

For example, a recent study with cranberry juice extract (which contains D-mannose as well as other natural bacteria-fighting substances) shows long-term benefits. A group of women with chronic urinary infections were given the extract every day for six months. The protection offered by the extract, however, lasted an entire year.

Ear and sinus infections. Another substance that has similar abilities is **xylitol** ("zye-lit-all"). Xylitol is a natural substance, like all of the sugars studied by glycobiology. It looks and tastes like the sugar we are most familiar with, sucrose (or table sugar). We make xylitol in our bodies every day, but it is also found in plums and can be made from wood and wheat grass.

One study found that a solution containing 5 percent xylitol blocks the ability of more than half of all harmful bacteria to "stick" to the tissues inside the back of the nose. As with D-mannose, the bacteria are prevented from infecting us without being actually killed.

Dr. Lon Jones, a physician in Texas, pioneered the use of intranasal xylitol in his medical practice. I've spoken to Dr. Jones, and he tells me that his experience has been a 93 percent reduction in ear and sinus infections when the inside of the nose is sprayed regularly with the xylitol solution. Not only does the xylitol appear to "unstick" the bacteria that adhere to the cells lining the nose and sinuses but also stimulates the body's normal defensive drainage in the back of the nose (where the bacteria causing these conditions usually live).

Dr. Jones points out that his patients' biggest problem with the success of the xylitol spray is that they experience such dramatic relief that they forget to continue using it! Unfortunately, this results in a recurrence of the original problems. Although it's too early to say for certain and more research needs to be done, Dr. Jones believes that regular, long-term, xylitol use will change the nature and behavior of the bacteria inside the nose and sinuses, resulting in significantly fewer infections in the long run. Current preliminary research on xylitol's ability to change oral bacteria gives us reason to beleive that Dr. Jones is correct.

Allergic reactions and asthma. In addition to stimulating nasal drainage, xylitol spray also removes other pollutants that trigger allergic reactions and consequent asthma attacks. (Asthma can be triggered by infection in the back of the nose and sinuses, other upper respiratory infection, chronic sinus problems, and allergies.)

Dr. Jones' patients control their asthma simply by rinsing away pollutants from the back of the nose on a regular basis. Dr. Jones says that for many of his patients no other asthma medications are needed. This unique nasal spray is available as a product called Xlear (pronounced Klear). Xlear may be available at your own natural food store or compounding pharmacy. It is also available from the Tahoma Clinic Dispensary. To read more from Dr. Jones, visit his web page at www.nasal-xylitol.com. He also writes a column for various newspapers called "Commonsense Medicine." You can read the archives of these columns by visiting www.commonsensemedicine.org.

Sink your teeth into this irony: A sugar prevents cavities!

I've grown rather annoyed with dentistry. Along with everyone else, I've brushed, flossed, and used

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Beat bacteria
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"water-pressure" devices for my teeth and gums. I haven't knowingly consumed *any* refined sugar or refined carbohydrates for nearly 30 years. Yet every so often the dentist has informed me it's time to have another filling or two. Furthermore, to this day, no dentist has informed me—or anyone else—of the existence of a simple, safe, good-tasting way to significantly reduce the incidence of dental cavities. Not only does this method exist, but it first appeared in dental and other journals in the 1970s—and there's now no question at all that it really works.

No, it's not that hazardous (but politically correct) toxic waste byproduct, fluoride. So what it is it? Believe it or not, it's a derivative of a natural, simple sugar.

Cavities are caused by the bacteria *Streptococcus mutans (S. mutans)*. Short and long term use of xylitol results in fewer cavities.

Xylitol has been widely used in Finland since the sugar shortages of World War II. In the early '70s, Finnish researchers discovered that xylitol prevents tooth decay, so they started making chewing gum containing it. They found that the S. mutans causing tooth decay fed on the xylitol but could not break it down or successfully metabolize it. Eventually, so much xylitol accumulates in these bacteria they get "indigestion" and can't process other food sugars into the acids that destroy tooth enamel. (See the box, above right).

According to Dr. Luc Trahan, part of the faculty of dental medicine at Laval University in Quebec, as xylitol is used over time in the mouth, strains of "xylitol-resistant" *S. mutans* start to emerge. Their numbers increase from a very few to 40 percent or more of the total *S. mutans* population. But curiously, these "new" resistant strains aren't as bothersome, and cause much less trouble with cavities.[1]

Dental researchers wanted to find the best time to start children chewing xylitol gum. In a school setting in Belize, they gave six groups of children six different types of gum to chew four times a day for two years —with enough on Friday to last through the weekend. At the end of the two years, the children chewing the xylitol gum had the best results in terms of incidents of tooth decay.

Five years later, the researchers returned to do a follow-up study. The children who had chewed the xylitol gum had 90 percent fewer cavities than the other children—without any exposure to xylitol for the five years since the original study ended.

Xylitol's cavity-preventing effects are nothing short of amazing: A group of researchers led by Dr. Eva Soderling reported that when a "study group" of breast-feeding mothers chewed xylitol gum starting three months after giving birth, their children developed less growth of the S. mutans over time. The children themselves were never directly exposed to the xylitol.

Chewing gum containing xylitol is available through many natural food stores and compounding pharmacies, as well as through the Tahoma Clinic Dispensary or through Xlear co. (1-877-599-5327). For those whose dental work doesn't permit chewing gum, a variety of all-natural xylitol lozenges are also available.

Xylitol reduces tooth decay by 80 percent

Dr. John Peldyak, a dental researcher from the University of Michigan who has been involved in most of the dental research with xylitol in this country, has summed up the results of the past 25 years of clinical studies involving xylitol and tooth decay. Chewing xylitol gum once a day provides little protection. Twice a day reduces tooth decay by 40 percent. Three times a day, by 60 percent, and five times a day—80 percent.

Want a tax break for supplements? Call your senator!

Please call your senators and ask them to cosponsor the Dietary Supplement Tax Fairness Act of 2001 (or, more technically, S 1330 IS). This bill was introduced by Senators Orrin Hatch (R-Utah) and Tom Harkin (D-Iowa) on August 2. It would enable the IRS to assign tax-exempt status to dietary supplements, which would allow you to write them off just as you can write off prescription medications. Please call your senators today via the Capitol Switchboard at (202)225-3121. If you aren't sure of the names of your senators, the switchboard representatives can look them up using your zip code.

Botanical of the Month

by Kerry Bone, FNIMH, FNHAA

Check Economy Class Syndrome at the gate with herbal therapies

While the recent tragic events have certainly made air travel less attractive, for some of us (myself included) long-haul flights are a necessary part of life. Recent attention has focused on one of the health hazards of such flights, a condition known as Economy Class Syndrome (though this problem does occur in First-Class travelers as well). Economy Class Syndrome is characterized by blood clots in the legs that can break loose—often several days later—and lodge in the lungs, causing potentially fatal pulmonary embolism. The theory is that the inactivity and dehydration associated with air travel increases the tendency of the blood to clot in the deep veins of the legs (a medical condition known as deep vein thrombosis, or DVT).

The World Health Organization is about to undertake a two-year, $11 million study to determine whether the suggested link between air travel and blood clots is real. According to an article in *USA Today* in August 2001:

"About 5 million people suffer from blood clots each year in the USA, and about 800,000 are hospitalized. The WHO study may give doctors an idea of how many of these clots are linked to air travel.

"A panel of experts that reviewed existing medical studies on the disorder for WHO found reason enough to study the issue further:

- A study from London showed that at least 30 people died over three years from blood clots after arriving on long-distance flights at London's Heathrow Airport.
- A similar study by the clinic at Tokyo's Narita Airport found 25 deaths in the past eight years."

While the scientists may take their time framing out if the link between air travel and DVT really exists, I am convinced from personal experience that there is a connection.

Personal case histories are worth a thousand studies

Several years, ago, a friend of mine traveled from Australia to Europe—a flight that lasts about 24 hours. He was in his early 40s and had never had any trouble with DVT. By the time he arrived in Europe, however, one of his legs had become painful and swollen. At the time, he thought nothing of it, and attributed it to stiffness induced by the long inactivity on the plane.

"Economy Class Syndrome is characterized by blood clots in the legs that can break loose—often several days later—and lodge in the lungs, causing potentially fatal pulmonary embolism."

Upon his return to Australia about two weeks later, he developed a chronic cough. It was only after another week that he was diagnosed with DVT and life-threatening lung damage. After three weeks in the hospital, he managed to pull through. His lungs appeared to fully recover, but he was left with a slight permanent disability in one leg due to the internal scarring that formed around those blood clots that had not dislodged to the lungs. Since then, he has not undertaken any long flights. And he hasn't had any subsequent bouts with DVT. This fairly clear and graphic connection has convinced me.

DVT can be a warning sign of other conditions—and vice versa!

According to an article in *The Times* of London, as many as one in 10 people who suffer from DVT develop cancer. On the flip side of the same coin, cancer patients are highly likely to develop DVT. Some cancers release chemicals that greatly increase the chance of a blood clot. Those chemicals, commonly associated with tumors of the ovaries, pancreas, brain, lymph, liver, stomach and colon, thicken the blood and make clots more likely.

Nearly half of all people who have cancer or who have overcome the disease within the previous two years are likely to develop deep vein thrombosis.

Preventing Economy Class Syndrome

More than a century ago, German researcher Rudolf Virchow, the father of blood clotting science, proposed that three factors create a predisposition to DVT (known as Virchow's triad). They are:

(1) stasis (stagnant circulation)
(2) damage or poor integrity of the blood vessel walls
(3) increased tendency of the blood to coagulate

Anyone who travels on flights of more than a few hours duration

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Clinical Tip 97

Another benefit of natural hormone replacement therapy: Transdermal estrogen lowers blood pressure

Menopause is understandably stressful. It raises a whole host of concerns: hot flashes, osteoporosis, heart disease, and loss of mental function. It's no wonder that during and after menopause, many women notice an increase in general anxiety and nervousness.

Some of this is caused by an increase in the activity of the sympathetic nervous system. It releases noradrenaline, the neurotransmitter that prepares the body physically for emergencies. It evokes the "fight or flight" response. Part of this physical response, however, involves blood vessel constriction. This, in turn, leads to raised blood pressure—a situation that can prove very dangerous if left untreated.

Fortunately, new research shows that the treatment of choice for general menopausal symptoms—*natural* hormone replacement therapy—may also keep blood pressure levels in check.

In a double-blind, placebo-controlled, crossover trial involving 12 postmenopausal women with normal blood pressure, researchers at the University of Texas Southwestern Medical Center found that eight weeks of transdermal (skin) applications of estradiol (the most potent natural estrogen) significantly reduced blood pressure.

It's important to note that the researchers used natural estradiol, not conjugated (horse) estrogen. Participants in the study taking horse estrogen by mouth for eight weeks showed no reduction in blood pressure levels.

Estradiol (used transdermally) is *not at all the same* as conjugated (horse) estrogen. The study unaccountably compared similar but molecularly different substances to each other. It's quite possible that using estradiol orally would also lower blood pressure, but this study doesn't tell us one way or another.

Although this study was done with women with normal blood pressure, it's equally likely—if not even more so—that transdermal estrogen will also reduce blood pressure for women with elevated levels.

The benefits of a complete bio-identical hormone replacement program keep piling up: protection against osteoporosis, heart disease, loss of mental function, anxiety, and now blood pressure problems.

For an extensive discussion on this topic, pick up *Natural Hormone Replacement for Women Over 45*, which I wrote along with John Morgenthaler. This book is published by Smart Publications and is available in most bookstores, as well as through online sources like amazon.com. For a much shorter version, see the August 1998 issue of *Nutrition & Healing*.

To locate a physician in your area who can assist you with this therapy, contact the American College for Advancement in Medicine (1-800-532-3688 or www.acam.org) or The American Association of Naturopathic Physicians (1-703-610-9037 or http://www.naturopathic.org).

Economy Class Syndrome
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needs to take precautions. Depending on your medical history (taking into consideration things like recent history of cancer, history of DVT, circulatory problems, blood clotting disorders, and so on), you may need to take much more precaution than the average traveler.

The first step in avoiding DVT is to walk and exercise regularly. Most airlines now provide passengers with a card or a video detailing specific exercises you can do on the plane and how often to do them.

It's also very important to avoid dehydration. Both alcohol and coffee are diuretics and tend to dehydrate the body, so your intake of these should be modest. Instead, drink plenty of water. If the airline does not supply bottled water, bring a large bottle of your own. Avoid overeating, especially of fatty foods.

If your medical history puts you at higher risk, you might want to consider wearing compression stockings. Or you might consider taking **horse chestnut**—an herb that works just like a compression stocking, as we discussed last month. Horse chestnut extract has been found to be as effective as compression therapy in patients with circulatory problems associated with varicose veins.[1]

Intravenous horse chestnut extract also has a good track record in preventing DVT. Over a three-year period, a controlled trial of 4,176 at-risk patients investigated preventive treatment for thrombosis and embolism arising from surgery. Patients received either an intravenous injection of a nutrient solution containing horse chestnut extract or a similar injection without the horse chestnut extract for four days prior to surgery and continuing for seven days after the operation. Those patients receiving the horse chestnut had significantly fewer incidents of deep vein thrombosis following surgery compared to the control group.[2]

DVT-preventing herbs take flight

One of my colleagues once had a 53-year-old female patient who dreaded air travel because even short flights resulted in severe foot and leg edema. Overseas flights had caused two different episodes of thrombophlebitis (inflammation of the veins resulting from DVT). This was a rather serious problem for her, not only for the obvious health reasons but also because she enjoyed traveling and frequently accompanied her husband on business trips.

My colleague recommended that she try a tablet that combined horse chestnut, **butcher's broom** (another key herb for the veins), and **Ginkgo** (for circulation). He instructed her to take two tablets twice a day starting one week before departure. While away from home and for one week after her return, she was to continue at a dose of one tablet twice a day.

She was thrilled to find that she didn't experience any symptoms of edema, and she has since used this regimen several times for both short- and long-haul flights with great success.

Other blood-thinning herbal treatments can also be very helpful. **Garlic** and **ginger** provide safe alternatives to aspirin. (While aspirin is an effective blood thinner, it can cause stomach upset in some people.) In a randomized, placebo-controlled, double-blind, crossover study of 10 healthy volunteers, a single dose of 600 milligrams of dried garlic powder significantly thinned the blood and reduced the tendency to clotting. [3]

If all else fails—go suck a lemon

A research team at Tokai Gakuen University in Japan claims that two substances in **lemon juice**—citric acid and lemon polyphenol—can help prevent DVT by improving blood circulation during long-haul flights.[4] The researchers first measured the speed of the blood in the veins of 13 volunteers. Then, they gave them a drink containing the juice of one large lemon. After consuming the juice, researchers measured blood speed again and found that it traveled 19 percent faster.

Citric acid and lemon polyphenol lower the chance of blood clotting and help to regulate blood circulation. The Japanese researchers advise passengers to drink lemon juice at least once every five hours to cut the risk of DVT. For information on cod-liver oil for Economy Class Syndrome, see Clinical Tip 87 in the March 2001 issue of *Nutrition & Healing*.

CLINICAL TIP 98

Remedy abnormal scars (keloids) with iodine

Scars aren't something we like to acknowledge, but just about everybody has them. Whether they came from falling out of a tree as a kid, accidentally slicing more than the salad tomato in the kitchen, or undergoing a surgical procedure, it seems as if scars are an inevitable part of life. Generally, scars are relatively flat to the skin surface. Occasionally, however, an unusual scarring response occurs in which the scar tissue "piles up." These sorts of scars are called keloids.

Usually, keloids are elevated only slightly above the skin surface, but sometimes they rise as much as half an inch or even more. There's no patent medicine that effectively prevents or treats keloids. Trying to remove a keloid surgically is rarely effective and usually results in another one just as bad as before—if not worse.

Fortunately, natural medicine offers a safe and permanent treatment for keloids: potassium iodide (SSKI). SSKI must be rubbed into the keloid at least twice daily (more applications offer even better results) for several months to more than a year, depending on the severity of the keloid. Be patient, because progress often isn't obvious for two to three months.

Despite the somewhat lengthy treatment period, persistence pays off. Eventually, SSKI will diminish a keloid scar until it's "just an ordinary scar," flat to the skin surface again. When this has been achieved, the SSKI applications can be discontinued. The keloid won't re-establish itself.

Since the passage of the Dietary Supplements Health and Education Act of 1995, SSKI has been available over-the-counter in a few locations. If you can't find it in a natural food store near you, contact the Tahoma Clinic Dispensary (with which I am affiliated) at (888)893-6878 or www.tahoma-clinic.com.

Using SSKI on the skin surface, as in the treatment of keloids, is very safe unless you have an iodine allergy. Please DO NOT swallow SSKI or any other form of iodine unless you're certain of the safety of the dose you're using and of the length of time it's safe to take it! If there's any doubt at all, work with a physician-member of the American College for Advancement in Medicine (1-800-532-3688 or www.acam.org) or the American Association of Naturopathic Physicians (1-703-610-9037 or www.naturopathic.org).

Citations available upon request.

Let your vet treat your dog's depression—but here's what you can do to help yourself

Q: I recently obtained pharmaceutical grade L-tryptophan for my dog because he just seemed a little depressed to me. He's been better since one week after I started to give it to him. I read something you wrote years ago that said that 3 grams a day (not at the same time as other amino acids or proteins) is about right for the average size human, and since he weighs about 75 pounds, I gave him 1-1/2 grams a day. Is that the correct amount?

----J.F., Tulsa, Oklahoma

A: You did get my recommendation correct for the average human, but for dogs, please check with your veterinarian! However, I'm glad you found a pharmaceutical grade. I don't think I'd use a lesser grade, even for a dog.

With winter upon us, and hours of sunlight at a minimum, seasonal depression is quite common (and not just in dogs but in humans as well). Fortunately, there are a number of natural alternatives to pharmaceutical antidepressants.

As you pointed out in your letter, I have recommended L-tryptophan as a natural antidepressant. L-tryptophan is an amino acid, and amino acids are usually quite reliable in helping to relieve depression as effectively as prescription drugs. Prescription drugs work because they alter levels of various neurotransmitters (the molecules that transmit messages between nerve cells). However, nearly all neurotransmitters are made from amino acids. Nature's way of increasing neurotransmitters without drugs (and their harmful side effects) is simple—they can be synthesized from dietary amino acids. There are eight essential amino acids, so individualized testing is necessary to determine which ones are required and in what proportions.

Although L-tryptophan often provides significant help on its own, it is not available in the United States at this time. (However, it is available by prescription in virtually every other country in the medically-free world.)

Other natural antidepressants include:

Vitamin B_{12} (1,000 micrograms) and **folic acid** (5 milligrams), given by injection two times a week.

Hypericum (300 milligrams), also called St. John's Wort, taken once a day. St. John's wort can also help alleviate insomnia.

Ginkgo (40 milligrams of a standardized extract), taken three times a day. Ginkgo can also enhance memory.

Siberian ginseng (100 to 200 milligrams), taken three times a day. This herb also improves performance under stress.

If you've been depressed, there's no need to stay that way. Even if you're currently taking prescription antidepressants, it may be possible to taper off drugs and relieve depression using all or some combination of the therapies listed above. Of course, you should always work with a health care professional skilled in natural therapies. To locate one in your area, please contact the American Association of Naturopathic Physicians (1-703-610-9037) or the American College for Advancement in Medicine (1-800-532-3688 or www.acam.org).

Getting the specifics on the GITT

Q: In the July and August issues of Nutrition & Healing, *you referenced the importance of the GITT test [glucose-insulin tolerance test]. However, before I can use it in my practice I do need to know the reference values of such a test, i.e. "normal, border-line, and danger" values. A graph would of course make it easier. Something like we have been drawing for the usual GTT test for years. Thank you very much for your attention. Looking forward to your reply*

----C.R.V., Wallisellen, Switzerland

A: An abnormal GITT can predict the potential onset of type 2 diabetes as much as two decades in advance, giving the patient plenty of time to prevent it from happening. However, there is more than one pattern of abnormality in the GITT (such as overall excess of insulin, delayed secretion of insulin, etc.). A discussion of all abnormal patterns, with graphics, would be very technical and too lengthy for this newsletter. Please contact Meridian Valley Laboratory (1-253-859-8700, www.meridianvalleylab.com) for the information you need.

The following warning signs of potential type 2 diabetes warrant having a GITT done: family history of diabetes, excess weight, the presence of skin tags (most frequently found under the arms, on the neck, or around the groin), hypoglycemia (low blood sugar), and the combination of high blood pressure plus high triglycerides and/or high cholesterol.