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A Very Good Place to Start


Dr. David G. Williams

Just like every year, there have been a lot of New Year's resolutions made to lose weight, eat better, and start an exercise program. I also know a lot of you may have a physical problem that limits what you can do. Even with the best of intentions, it's hard to start an exercise program when you have an arthritic shoulder, a bad knee, diabetic neuropathy, or one of a hundred other problems. Combine that with being house-bound because of the weather, inability to drive, or some other issue, and the very idea of starting an exercise routine can seem overwhelming—if not impossible. It's not.

There's a simple tool you can use to safely start at your own individualized pace and actually enjoy the process.

Easing the Burden of Rehab

I don't watch much television. When the set is on, it's mostly background noise while I'm doing something else. One evening, however, I overheard a short interview with one of Donny Osmond's sons. Donny was competing on the show *Dancing With the Stars*, and the announcer was commenting to the son how hard Donny had been training in an effort to win the competition, which eventually he did. The son made the comment that even with the most difficult, dreaded, and mundane chores, Donny had always taught them to make a game of it rather than think of it as a problem. This is reportedly how he trained for the competition: making it a game instead of a thing to dread. It reminded me of physical rehabilitation.

There are not many things that are more dreaded, repetitious, and mundane than undergoing physical rehabilitation while trying to recover from an injury.

A couple of months ago I severely injured my shoulder. It was very painful and I lost almost all of my range of motion. Very quickly I began to lose muscle mass. I immediately began to take Joint Advantage Gold, and I put together a rehab program that I turned into a game, much like Donny Osmond did with his training program. What made it even more interesting was that I utilized a technology that was unheard of just a couple of years ago. In record time, my shoulder has almost returned to normal.

A couple of months ago I reported on how the popular video game system Wii made by Nintendo had been used to help patients with Parkinson's disease regain some of their lost physical abilities. It was a small preliminary study, but the results were very promising.

Wii (pronounced like the pronoun "we") was introduced in 2006, and was the first interactive video game console of its kind. I have no doubt that Wii will quickly become one of the most beneficial physical rehabilitation tools ever developed. Sony and Microsoft see the potential and are apparently working on similar systems.

I wanted to update you and alert you to the almost endless possibilities of this $200 miracle. Even if it's not something that might currently help you, informing a disabled friend or family member of its benefits may quickly change their life. If you're a physical therapist or doctor, this is one tool you should be using or recommending to your patients.

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

Body Benefits

The Wii gaming console plugs into your television and comes with a handheld controller or "Wiimote" that's attached to a wristband. The Wii Sports software package is the only other item needed to get started. This software, along with the cordless, motion-detecting controller, allows you to virtually step onto a golf course, tennis court, boxing ring, bowling lane, or baseball field, and immediately begin playing.

You quickly create an individual character, based on your own physical characteristics, if you like. Using this character the system keeps track of your wins, losses, and achievements, and adapts to your level of skill. This provides a benchmark and encourages one to keep playing and improve their skill level.

Just since the brief article I wrote earlier, I now have reports of people successfully using the Wii to address a wide variety of problems.

The movements used in these games have a high correlation with common, everyday tasks we undertake. For example, the uppercut in boxing utilizes the same muscles and coordinated brain effort as feeding yourself and combing your hair. Rather than hours of monotonous and frustrating repetitions of trying to bring a fork to the mouth with typical rehabilitation, patients can perfect the movement through virtual boxing, which turns the process into an interesting game.

Patients with diabetic neuropathy have also been seeing enormous benefits. Those who have difficulty keeping their balance and walking have reported that the skiing game improves their lower body and core strength, and it helps them walk again.

"Wii-habilitation" after spinal surgery is helping individuals regain control of their arm and leg movements.

As I reported earlier, Parkinson's patients experience remarkable improvement in just a few weeks of use.

I've had several stroke patients call after the last article, telling me just how helpful and enjoyable the Wii has been in their recovery.

Some burn centers are starting to use the Wii in their rehab facilities. Burn patients frequently suffer from severe contractions and joint stiffness as the healing takes place. Oftentimes they must remain indoors in a more sterile environment and can require multiple surgeries over an extended period of time. Wii use allows them a distraction, and, at the same time, somewhat of an escape when they pick an outdoor sport to play.

Brain Benefits

One of the most interesting findings in the very limited work that has been done with the Wii is that it helps with the depression that very often accompanies these different injuries and disease. Dr. Ben Herz is the researcher at the Medical College of Georgia who used the Wii with Parkinson's patients. He found that in most of the patients their depression levels were reduced to zero. And, if that wasn't testament enough to the benefits these patients felt, he also reported that 60 percent of the participants decided to buy a Wii for themselves after the study was completed.

Additionally, improvements in balance, core body strength, rigidity, fine motor skills, and even energy levels are associated with using the Wii.

The potential for interactive, virtual game consoles like the Wii is enormous and mostly untapped.

The military has started using such games for training purposes. Some of the games are so realistic, they have taken steps to try and keep them out of the hands of the general public.

A group of surgeons were recently asked to play the Wii for an hour prior to performing laparoscopic surgery on a surgical simulator. When compared to the group that didn't play, those using the Wii scored 48 percent higher in proficiency. Keep in mind that in this study off-the-shelf games were utilized—not some specialized training system designed specifically for surgeons.

For rehab, the Wii truly is the wave of the future. It's relatively inexpensive (particularly when you compare it to the cost of a couple of physical therapy sessions), it's

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readily available, and you can safely use it in the privacy and comfort of your own home whenever you choose. And since it's actually fun, patients engage in more rehab sessions and for longer periods.

This is a fantastic technology, and it will be interesting to see the many new ways it will be utilized in the near future. If you have problems with mobility, nerves, or any other area I've talked about, do yourself a favor and invest in a Wii system. It can be a true godsend.

Over the next few years, this technology will become so popular, I think the term "Wii-habilitation" and phrase "going to Wii-hab" will be known by everyone.

Teenage Risks Lead to Lifelong Problems

As I'm writing this issue, the Tiger Woods story is in full swing (no pun intended). And while hundreds of jokes continue to be made, one can't help but feel sorry for all involved and the damage and problems that these incidents cause. One of the disturbing aspects that hasn't received much, if any, publicity was the reports of unprotected sex. I realize it's a sensitive and private area, but it illustrates the lack of education in this country about the dangers of this type of activity.

In December, researchers from the National Center for HIV released some very disturbing figures on just how widespread venereal disease has become in our younger population.

One out of every four American girls age 14 to 19 are infected with at least one of the five most common venereal diseases: chlamydia, gonorrhea, herpes type 2, human papilloma virus (HPV), or trichomoniasis. Amazingly, 21 percent of the girls who claimed they had had only one sexual partner were infected with a venereal disease. (*Pediatrics 09;124:1505–1512*)

Another recent study found almost identical percentages, except the age group of the girls was even younger. Researchers at Indiana University followed 386 girls ages 14 to 17 at the beginning of their study. Most of the study participants had their first intercourse between 13 and 15 years of age. By age 15, 25 percent of the girls had acquired a sexually transmitted disease (STD). The most common disease at that point was chlamydia. The average time between first intercourse and their first STD infection was two years. And even after treatment, a quarter of the women were re-infected with the same organism within four to six months. (*Arch Pediatr Adolesc Med 09;163:1106–1111*)

Tell Me What You Think

Although it's hard for me to believe, it was almost 25 years ago that I wrote the first issue of *Alternatives*. Times have changed since then, so I'd like to hear from you about what you'd like from *Alternatives* for the next 25 years.

Kindly fill out the online survey at *www.drdavidwilliams.com/update*, and I'll send you a $5 coupon good for any purchase made on the Web site. You can also send me your thoughts in an e-mail to *update@drdavidwilliams.com*, or on paper to my editor, Bill Todd, at the Maryland address on the second page. I'll consider them all as we move forward together with *Alternatives*.

While these studies focused on the five most prevalent STDs, numerous others may be involved. And, unfortunately, many of these diseases are difficult to diagnose and often go undetected for years. The delayed, long-term consequences can be devastating. During this time the disease can wreak havoc and cause all types of urinary tract and reproductive problems that don't respond to treatment. Severe discomfort and pain, along with increased susceptibility to HIV, AIDS, pelvic inflammatory disease, cervical cancer, infertility, ectopic pregnancy, and infant death are some possible outcomes.

Younger women are the most susceptible to many of these diseases because that age group tends to engage in riskier behavior than adults, and they have more partners. From a physiological standpoint they also have fewer protective antibodies, and the immaturity of their cervix facilitates the transmission of an infection.

Misconceptions Are Part of the Problem

Ideally, our youth wouldn't be engaging in this type of activity—but the fact is they are. For some reason, with the exception of HIV, there is the misconception that all venereal diseases are easily diagnosed and can be treated successfully. Nothing could be further from the truth.

Thousands of women suffer from STD-induced urinary and reproductive tract problems that can't be diagnosed by current blood tests and cultures. And their problems can't be resolved with any of the conventional treatments in use today. The answer lies in educating our society about the seriousness and pervasiveness of the problem, changes in behavior, and the use of protection.

One would hope that high-profile sexual indiscretions that receive so much publicity could be used as reminders of the health risks involved. Unfortunately, that never seems to be the case. Hopefully, however, we can do our part by passing this information to the ones we love.

Support Our Troops—With Bacteria

This time of year is when I particularly enjoy making sauerkraut. With the cooler weather, it's easy for me to find a cool place in the house where the fermenting process will proceed at a slower pace. That way, if I'm a few days late checking on it, it's not a big deal.

Sauerkraut is probably one of the most healthful natural probiotics available. (Unpasteurized beer is definitely one of my other favorites, but it's not something I want to consume every day at lunch and dinner, as I do with sauerkraut, yogurt, or kefir.)

I was sitting here eating my crunchy, delicious 15 day–fermented sauerkraut and ran across a study showing that infectious gastrointestinal disorders are among the biggest risks to our military troops who are deployed overseas. Every month, about 30 percent get infectious diarrhea. Those who had experienced even just one incident had six times the risk for subsequent functional diarrhea and four times the risk of developing irritable bowel syndrome.

The medical records of personnel deployed in Operations Iraqi Freedom and Enduring Freedom indicate the fourth leading cause of their visits to Veterans Affairs medical centers was chronic gastrointestinal disorders. As many as 20 percent of these patients have conditions that have persisted for five years or longer after returning home.

It's not hard to understand the high incidence of this problem, considering the stress these soldiers are under and the less-than-sanitary conditions they're exposed to. What is hard to understand is the way these men and women are being treated.

Typical treatment focuses on the use of antibiotics to wipe out the offending bacteria. Patients are then switched to over-the-counter diarrhea medicine and bulking agents when the problem persists. Knowing what we know today, I'm amazed that probiotics aren't being used to correct and ultimately prevent such problems.

I don't have cost figures, but I'm certain that adding a daily probiotic supplement to their regimen would be an extremely cost-effective method to prevent many of these problems. And the fact that probiotics aren't used following every round of antibiotics is absurd.

What's Going On In Your Gut

Chronic diarrhea and/or irritable bowel syndrome eventually results in the erosion of the mucosal lining of the bowel wall. The damage then spreads into the muscle and tiny glands that secrete various digestive enzymes and protective mucus and fluids. Damage and infiltration also occurs to the congregations of lymphoid tissue in the walls of the intestine. This lymph tissue is the body's "second immune system" that helps in keeping local populations of bacteria in balance and in the production of natural antibodies. It's been estimated that 70 percent of your immune system resides in the lymphoid tissue within your gastrointestinal tract.

When you have a "break" in the mucosal barrier, toxins and undigested foods can more readily enter the blood stream. This is often the beginning of food allergies and systemic toxicity problems accompanied by symptoms like headaches, cramping, fatigue, hives, et cetera.

Slippery elm is an herb that can help heal a damaged bowel wall. Personally, I've had better results recommending that one drink several ounces of aloe vera gel on an empty stomach three or four times a day. And one of the best healers for ulcerations is cabbage juice. (*Calif Med 49;70:10–15*)

In this study, a press was used to extract the juice. It took about 2 pounds of cabbage to get roughly one quart of fresh juice, which was the amount consumed each day. After 10-1/2 days both gastric and peptic ulcers were cured. It was noted that the juice must not be heated, because heat can rapidly destroy the anti-ulcer factor.

I have had a stomach ulceration in the past and have utilized cabbage juice and aloe vera gel to resolve the problem successfully. I highly recommend them if you actually have an ulcer.

When it comes to bowel problems, however, I think cabbage is an overlooked gem. Both the juice and fermented cabbage (sauerkraut) are loaded with beneficial bacteria. It can be made very easily for just pennies a serving. Trust me, if I can do it, anyone can. It's so easy and fool-proof that I try to keep a fresh batch going all the time. [*Editor's note: Full instructions for making sauerkraut at home can be found in the Subscriber Center of the* Alternatives *Web site,* www.drdavidwilliams.com.]

You may not have the time or inclination to make sauerkraut. And if I'm traveling, eating out, or just away from home I don't always get my daily fix of sauerkraut—which is why I still take a probiotic supplement every single day. I highly recommend you make sure everyone in your family does the same—and if you have a friend or loved one on overseas military duty, keep them supplied. New research continues to show that probiotics really are a gift that keeps on giving.

Feed Your Local Bacteria

While I'm on the subject of probiotics, it might be useful for you to know about a related topic: *prebiotics*. These are substances that bacteria feed on or ferment, and are necessary to maintain a healthy bacterial balance. Most prebiotics are oligosaccharides, or long-chain sugar molecules. They're considered to be indigestible fiber, and they mostly are, at least from our perspective. But from the perspective of the bacteria, they're quite digestible.

In the past I've mentioned that whey is an effective prebiotic because of the sugars it contains. (There's one more reason to start your day with a whey protein shake.) However, many other foods and compounds are also effective as probiotics. One that's gotten some exposure lately is inulin, from chicory root.

Another that's receiving increased attention is the kiwifruit. Studies from Hong Kong and elsewhere show that eating kiwifruit decreased constipation and laxative use in constipated patients by improving bowel transit time. (*World J Gastroenterol 07;13:4771–4775*)

Some of the benefit of kiwifruit comes from the fiber contained in each piece. The fruit also contains enzymes that aid in digestion and improve bowel motility, the pulsations that help move food through your GI tract. I know that kiwifruit isn't the cheapest variety of fruit available in your grocery, and it's a very seasonal item in most parts of the country. In addition, the participants in the studies I mentioned were eating around three pieces of the fruit a day.

For those reasons, I've been looking for substitutes for kiwifruit. It turns out that the best substitute is a concentrate of kiwifruit itself. This concentrate maintains all the enzyme activity of the whole fruit, while packing the prebiotics into a much more convenient form.

Prebiotics are often combined with probiotics to create what's called a *synbiotic*. Research in animals shows that synbiotics can help reduce the risk of colon cancer. (*Food Chem Toxicol 2009 Dec 21. E-pub ahead of print*)

Synbiotics also improve healing in patients who have undergone surgery or experienced significant injury. Trials in Greece with trauma patients showed that treatment with synbiotics reduced inflammation and the risk for pneumonia and blood infections, as well as length of stay in intensive care and the amount of time spent on mechanical ventilation. (*J Trauma 09;67:815–821*) (*World J Surg 06;30:1848–1855*)

If you find that you're currently taking a probiotic supplement, and you're not seeing the results you expected, it could be due to a lack of appropriate prebiotics.

Good Bugs Conquer Bad

Getting back to the probiotics themselves, the versatility and power of these microscopic soldiers was recently proven in a study that the mainstream media has completely ignored. With all the hype and concern about H1N1 influenza, it should have been headline news.

In a double-blind, placebo-controlled study, an international team of researchers evaluated the effects of using a daily probiotic supplement, added to milk, on cold and flu symptoms in 326 children. The children were 3 to 5 years of age and the study lasted 6 months.

One group of children received a placebo. Another group received *Lactobacillus acidophilus*, and a third group received a combination of *L. acidophilus* and *Bifidobacterium animalis*.

Relative to the placebo group, the single and combination probiotics reduced fever incidence by 53 and 72.7 percent, coughing by 41.4 and 62.1 percent, and runny nose by 28.2 and 58.8 percent, respectively. Antibiotic use was reduced by 68.4 and 84.2 percent, relative to the placebo. And compared to those getting the placebo, the single and combination probiotics users had reductions in days missed from school by 31.8 and 27.7 percent. (*Pediatrics 09;124:e172–e179*)

I would love to see a longer term follow-up study with these children to see what effect using the probiotics could have on preventing the development of food allergies—which now affect 4 percent of children 17 years old and younger in this country. The number of children diagnosed with food allergies has increased by 18 percent between 1997 and 2007. The true number is probably higher, since this figure is based only on visits that were *actually reported* to emergency and outpatient departments and physician offices. (*Pediatrics 09;124:1549-1555*)

At this rate, we're looking at a huge problem in the making—or, from the pharmaceutical industry's point of view, a huge marketing opportunity. Get your kids (and family) started on probiotics now to avoid trouble.

Long-Distance Focus on Sight

Joni Mitchell had a song called "Big Yellow Taxi" that included the lyrics, "You don't know what you've got till it's gone." The lyric is a pretty descriptive reflection of how most of us feel as we get older. I think it's human nature to take a lot of things for granted, particularly when we're younger. But age can bring the importance of health back into perspective quicker than a heartbeat. And oftentimes it's not the lack of health that

(Myopia *continued on page 63*)

NEWS TO USE FROM AROUND THE WORLD

Who's Looking Out for You?

WASHINGTON, DC—The swine flu or H1N1 flu didn't turn out to be the pandemic government authorities had predicted. The entire incident, however, has provided an inside glimpse into practices that should make us all a little more leery of the connection between certain agencies of the government and the pharmaceutical industry.

One of the biggest supporters and promoters of the H1N1 swine flu vaccine has been the US Centers for Disease Control (CDC). In fact, they've also been pushing the controversial vaccine that is being sold for cervical cancer, Gardasil.

After learning the facts and potential dangers of the H1N1 vaccine, and that the swine flu was no more dangerous than the regular seasonal flu virus, fewer people opted to get vaccinated. Health workers were particularly hesitant about getting vaccinated. As a result, there are millions of doses of the vaccine available that now need to be sold. You may have noticed the recent publicity campaigns encouraging the public to participate in the immunization program and saying that it's not too late to get the vaccine.

Now we've learned that the former head of the CDC from 2002 through 2009, Dr. Julie Gerberding, has taken a job with Merck as president of their $5 billion vaccine division. This is the division that just so happens to sell Gardasil and the H1N1 vaccine.

It's pretty obvious something is amiss with this picture. It's well known that achieving a top position at the FDA, CDC, and other governmental agencies that regulate, provide guidelines, make drug-use recommendations, et cetera, is a stepping stone to high-paying employment opportunities in the pharmaceutical industry. If one plays the game right, makes the "right" recommendations, and supports the "right" regulations, these government jobs are a fast track to the top drug industry positions. I find the whole thing sickening and morally corrupt.

This type of activity isn't new. It's been going on for decades. It should serve as a reminder that, when it comes to your health, not everyone is looking out for your best interests.

How Soda Makes Your Blood Boil

SAN DIEGO, CALIFORNIA—Hardly a week goes by that I don't receive a call or e-mail from someone asking me how they can get off their high blood pressure medication. Weight loss and exercise are always at the top of the list, but when I also mention the need to cut back or eliminate the sweets in their diet, particularly those that contain high fructose corn syrup (HFCS), they seem puzzled. By now, most people know that HFCS consumption is one of the primary factors involved with our society's obesity epidemic. And they've read my reports that link it to the dramatic rise in diabetes. The link to hypertension isn't as well known.

Researchers with the University of Colorado Denver Health Sciences Center examined 4,528 adults 18 years of age and older. Based on dietary surveys, they determined participants' HFCS intake from foods such as juices, soft drinks, baked goods, and candy. The individuals who ate or drank more than 74 grams of HFCS per day (equivalent to 2.5 soft drinks) significantly increased their risk of developing high blood pressure. A diet containing more than 74 grams of HFCS per day resulted in a 28 percent, 36 percent, and 87 percent higher risk for blood pressure levels of 135/85, 140/90, and 160/100 mm Hg. Normal blood pressure is considered to be 120/80 mm Hg or lower. (*Paper presented at the 42nd Annual Meeting of the American Society of Nephrology, San Diego, CA, October 29, 2009*)

One of the quickest and easiest things you can do to address your high blood pressure problem is to cut out the sweets and high-glycemic foods from your diet, particularly the HFCS.

Don't be surprised to find that dropping these "empty calories" can also help you: lower the most damaging form of cholesterol (the small LDL particles or very-low-density lipoproteins—VLDLs); lose weight; and improve your energy level.

Just recently, researchers demonstrated in animal studies how the consumption of realistic, moderate amounts of HFCS, paralleling the average human intake, is directly linked to liver disease. And if that wasn't bad enough, they found it also promotes the development of metabolic syndrome—or Syndrome X, as it's often called. (*Physiol Behav 09;98:618–624*)

Metabolic syndrome is characterized in part by obesity, improper insulin metabolism, and high blood pressure—which ultimately result in the individual developing type 2 diabetes and cardiovascular problems. In Europe, it's estimated that 15 percent of adults are affected by metabolic syndrome. In the US, 32 percent have the problem.

I can't list all the foods that now contain HFCS; it would fill volumes. The prudent thing is to avoid soft drinks and minimize or eliminate sweets in general. It's the easiest way. HFCS is so widely used in food products these days, I honestly don't think you could completely avoid it unless you produced all your own food and never ate a meal out. I suggest avoiding it when at all possible and also minimizing its effects by taking coenzyme Q10 (CoQ10) on a daily basis. Thirty to 100 mg of a bioavailable formulation of CoQ10 appears

NEWS TO USE *(CONTINUED)*

to be enough to do the job. (*Biochem Pharmacol 09;78:1391–1400*)

If you have to sweeten something, use stevia extract or xylitol. The above study compared HFCS to stevia and found that stevia demonstrated no negative effects.

Stevia has a glycemic index of zero and is safe for diabetics. Xylitol has a low glycemic index of just 7 and can also be used safely by diabetics. [*Editor's note: For more about the glycemic index and how to put it to use, visit the Subscriber Center of the* Alternatives *Web site,* www.drdavidwilliams.com.]

Xylitol has the added benefit of neutralizing harmful bacteria in the mouth, which helps reduce plaque and cavities, re-mineralize tooth enamel, and help prevent ear and sinus infections. You can find xylitol products, including crystals, gum, mints, and toothpaste, in many grocery stores these days, or on the Web from NOW Foods at *www.nowfoods.com*.

A Green Social Policy

INDONESIA—With all the focus on environmental awareness, I received the following report. It doesn't really have anything to do with health, but it does make one think and I found it interesting.

In the Sragen district of Indonesia, the local government makes newlyweds participate in their compulsory tree-planting campaign by requiring them to donate 5 tree seedlings to get married. Even more interesting was the cost of divorce: 25 donated seedlings.

(Myopia *continued from page 61*)

scares us, but rather losing the ability to function well enough to remain independent.

As a subscriber, you know that once again I'm preaching to the choir. You already take responsibility for your health. But for the "short-sighted" younger generations that haven't yet gotten the message, maybe you could help enlighten them with the following bits of wisdom.

There's a growing problem of near-sightedness (myopia, or short-sightedness) occurring in children worldwide. The extent of the problem is staggering.

Myopia is where one is able to see close objects but has trouble seeing at a distance without corrective lenses. The problem occurs when the eyeball itself elongates. This growth increases the distance between the lens in the front and the retina, where the images need to be focused, at the back of the eye.

Myopia has been increasing dramatically in every country of the world. In the United Kingdom, 50 percent of undergraduate students are myopic. Those in the United States aren't far behind, at somewhere between 30 and 40 percent. In the overall US population, the percentage is somewhere around 20 to 25 percent. In China, India, and Malaysia, upwards of 40 percent of all the adults are myopic. Around 66 percent of Japanese teenagers are myopic. And in Hong Kong and Taiwan, 80 percent of all young adults are myopic—compared to only 25 percent a couple of decades ago.

For years, researchers have tried to determine the reason for the increase in myopia.

I'm sure you're aware of one of the most popular theories. It sounds reasonable. Since myopia is more common among highly educated individuals, it was thought that reading and close detailed work contributed to the problem. Studies, however, have failed to find any convincing link between the two.

Researchers have also looked at a genetic connection. While sometimes there is a genetic weakness, it doesn't account for the types of increases that are being seen. (*Epidemiol Rev 96;18:175–187*)

Out of all the research data, what has stood out most prominently, in terms of causative factors, seems to be the amount of time a child spends outdoors. This probably helps explain why myopia isn't as common in most of Africa, and the incidence of myopia is only around 17 percent in Australia. Children in these areas tend to spend more time outdoors than do children in other parts of the world. (*eMedicine.com May 16, 2008*) (*Arch Ophthalmol 99;117:658–663*)

One English study found myopia in 25 percent of Oxford students but in only 0.2 percent of military school students. A closer look would probably reveal military students spend a greater amount of time outside.

A Vision of the Great Outdoors

Being outdoors seems to reduce myopia in two ways.

First, exposure to brightness plays a significant role. (*Invest Ophthalmol Vis Sci 09;50:5348–5354*) (*Invest Ophthalmol Vis Sci 07;48:3524–3532*)

Although I wasn't able to locate any significant amount of research focusing on this aspect, I suspect the increased exposure to various beneficial wavelengths of light would also be a major factor.

Each year, we discover more ways in which the exposure to various wavelengths of light has a beneficial, healing, and restorative effect on the body. Lasers of various frequencies are now routinely used in cosmetic surgeons' offices. And recently, I explained the positive effects you can obtain through exposure to far infrared rays emitted by certain clays and from saunas. This is one field where we'll certainly be seeing a lot more research soon.

Second, being outdoors changes one's focus…literally. Only when we look out over large open spaces are all objects far enough away that the entire image on the retina is completely in focus. At all other times, the image at the center of the retina might be in focus but the objects in our peripheral vision, on the edges of the retina, are blurred. This is why the current corrective lenses we utilize may actually be accelerating the problem.

One study found that, on average, children in Sydney, Australia, spend about 14 hours a week outside and only 3 percent developed myopia. Compare this to Singapore, where children spend about 3 hours a week outside and 30 percent developed myopia. (*Br J Ophthalmol 09;93:997–1000*) (*Arch Ophthalmol 08;126:527–530*)

Researchers have observed and documented that just living in an urban environment increases the incidence of myopia. Not having the ability to view the wide-open spaces on a regular basis becomes a major factor. (*Invest Ophthalmol Vis Sci 08;49:3858–3863*)

Another contributing factor to the increase in worldwide myopia is the consumption of sugar (refined carbohydrates). High-carbohydrate diets increase insulin levels. Insulin stimulates eye growth and elongation—which results in myopia.

Numerous studies confirm that individuals with high blood-sugar levels have a significantly higher incidence of myopia. Production of the hormone IGF-1 (insulin-like growth factor 1) is normally triggered by growth hormone. Studies have demonstrated that higher blood sugar levels also appear to be a triggering mechanism. IGF-1 can stimulate eye growth, which leads to myopia. (*Acta Ophthalmol Scand 02;80:125–135*)

Currently the consensus is that myopia is untreatable, and that may be the case. Eye exercises in themselves may offer some improvement, but for most people they only provide a means to better cope with the problem. And the corrective contact lenses that I've reported on in the past will definitely slow the process—but not cure the problem. The eyeglasses many of us currently use are another "crutch." I wouldn't want to do without mine at times, but, as most of us have always suspected, it seems like the more we use them, the more the problem progresses. In my discussions with makers of contact lenses and eyeglasses, it became apparent they are all aware of the problem and are trying to develop lenses that allow images, both far away and in our periphery, to focus across the entire retina. Maybe one day eyeglasses will actually be a cure to the problem, but they aren't helping the matter now.

Based on what we currently know, there are some easy steps that can be taken to prevent myopia.

Both children and grownups should be working to limit or eliminate refined carbohydrates in their diet.

There's no need to reduce your studies or reading, but I would strongly suggest stopping at least every 30 minutes and stepping outside and focusing on distant objects. Remember, to be effective, everything in your central visual field *and* your peripheral visual field has to be far enough away that it's in focus on your retina. For example, if you were standing on a mountaintop and had a 360-degree view, everything would be far enough away to work. Obviously, we don't all have a mountain in our back yard. But the research shows that the more time we spend outdoors in the natural light and more frequently we take the time to view our sunsets, sunrises, and distant vistas, the better our vision will be. Until they can come up with eyeglasses and contacts that actually cure myopia, this sounds like a great solution to me.

Take care,

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.**

E-mail us at: feedback@drdavidwilliams.com to ask a question or comment on this month's issue.