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Dr. David G. Williams
circa 2000

Legal Drugs Kill, Too

Over the years, I've warned of the dangers of taking any kind of drug—whether prescription or over-the-counter, legal or illegal. As a general rule, we simply don't know the multitude of effects drugs can have on various systems in the body. And,

to make matters worse, history has shown time and again that even when potential ill effects are uncovered they are often kept under wraps for decades. Hundreds of thousands of human guinea pigs suffer needlessly each year or, worse yet, have their lives cut short without ever having a clue that "legal" drugs were the cause.

I fully understand that some drugs can be life-savers and can even prolong life under certain circumstances. I am also convinced that, for the large majority of people, most drugs only mask symptoms and decrease the quality and/or length of life.

To make matters worse, though, the general public has been brainwashed by TV ads, the news media, and the FDA into believing that prescription drugs enrich their lives. Many also still believe that government agencies such as the FDA ensure that these drugs are safe and perform the way the pharmaceutical companies claim they do. Hogwash.

Last month, Scott Gottlieb, the FDA's deputy commissioner for medical and scientific affairs, revealed their latest policy for protecting drug companies: "We think that if your company complies with the FDA processes, if you bring forward the benefits and risks of your drug, and let your information be judged through a process with highly trained scientists, you should not be second-guessed by state courts that don't have the same scientific knowledge."

In simple terms, the FDA doesn't believe that anyone who has been injured by drugs they've approved should be allowed to sue drug companies. And if anyone is still naive enough to believe that the FDA "seal of approval" makes a drug safe, they need to re-think that position.

A good example (there are many) involves the FDA-approved arthritis painkiller Vioxx. It's estimated that during the five years Vioxx was on the market, somewhere between 88,000 and 139,000 heart attack and strokes were related to its use. I'm sure you're aware that the other COX-2-inhibiting painkiller drugs, Celebrex and Bextra, are also coming under scrutiny for causing the same problems.

And it appears that even the older nonsteroidal anti-inflammatory drugs (NSAIDs) can increase your risk of dying from cardiovascular problems. Many of these are the same ones being sold over the counter for pain relief. (*BMJ* 05;330(7504):1342-1343)

Unfortunately, there's an even bigger scandal that may never make the news.

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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

Glucose Control Out of Control

Conventional treatment for type 2 diabetes is yet another example of using drugs to manage symptoms instead of causes. In this case, the cause can be linked to such factors as poor diet, consuming far too much sugar and sweeteners, skipping meals, lack of exercise, obesity, et cetera. (Type 2 diabetes used to be called adult-onset diabetes, but that term has been dropped because the problem is now showing up in young children.)

Research data now indicate that some of the most commonly used drugs for treating type 2 diabetes raise the risk of death from cardiovascular disease. These diabetes drugs belong to a group known as sulfonylureas: tolbutamide, tolazamide, chlorpropamide, glyburide, glipizide (Glucotrol and Glucotrol XL), and glimepiride (Amaryl). Sulfonylurea drugs stimulate the beta cells of the pancreas to squeeze out more insulin. This same mechanism constricts arteries, increases blood pressure, and reduces blood flow to the heart—which can result in chest pain and sudden death.

The number of people who may have died over the last 35 or 40 years from using these drugs is sickening. The latest report indicates that the increased risk of cardiovascular death for those who take them is roughly 29 out of every 1,000 patients. (*CMAJ* 06;174:169–174) (*CMAJ* 06;174:185–186)

In the year 2001 alone (the most recent US sales figures I could find), there were over 32.5 million prescriptions written for these drugs. If you assume each prescription was for a month's supply, then 2,708,333 individuals in the US were taking these drugs. And if 29 out of every 1,000 died as a result, there would be 78,500 related deaths during that one year. (*Diabetes Care* 03;26:1852–1855)

The above figure would be from increased cardiovascular deaths only. A new study has found that these drugs also appear to increase the risk of dying from cancer. (*Diabetes Care* 06;29(2):254–258)

Pharmaceutical companies and the government obviously know that these yet-to-be-discovered adverse effects are a huge problem—which helps explain the FDA's push to absolve the drug makers of liability. The sad fact is that the uninformed public will suffer the consequences. The average citizen in this country still doesn't have the slightest inkling about the cronyism that exists between the FDA and the pharmaceutical companies. The facts could fill a book—and in fact they have: Marcia Angell's *The Truth About the Drug Companies*.

For years, the FDA has been like a revolving door at an employment agency. The top officials spend a couple years at the FDA and then get plush jobs within the pharmaceutical industry. It's well-known that many of the advisors at the FDA have served as consultants to the major drug companies and have obvious conflicts of interest when they vote to determine such things as drug approval, drug recall, warning statements on the label, study conduct, et cetera. The FDA's approval and handling of drug issues are geared toward pleasing the drug companies rather than satisfying the general public. The "Golden Rule" certainly applies here: "The one with the most gold makes the rules."

Sour Taste for Sweet Relief

As a side note before leaving the topic of diabetes, there has been some interesting research involving the use of vinegar that could help a lot of people with type 2 diabetes.

Carol Johnston of Arizona State University found that taking two tablespoons of vinegar before a meal dramatically reduces the spike in blood levels of glucose and insulin that typically occur following a meal, particularly a high-carbohydrate meal.

In her initial study of 29 individuals, about one-third had been diagnosed with type 2 diabetes, one-third had signs of being pre-diabetic, and one-third were healthy. Each individual was given two tablespoons of either vinegar or a placebo liq-



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Dr. Williams works closely with Mountain Home Nutritionals, a division of Doctors' Preferred, LLC and subsidiary of Healthy Directions, LLC, developing his unique formulations that supply many of the hard-to-find nutrients he recommends. Dr. Williams is compensated by Doctors' Preferred, LLC on the sales of these nutritional supplements and health products, which allows him to continue devoting his life to worldwide research and the development of innovative, effective health solutions.

uid prior to a high-carbohydrate meal of a bagel with butter and orange juice. All the participants who consumed the vinegar exhibited better blood sugar and insulin readings. Those whose blood profile improved the most were those who exhibited pre-diabetic signs and symptoms. The vinegar cut their post-meal blood glucose spike in half within the first hour (compared to the levels of those using the placebo). And those with diagnosed diabetes averaged a 25 percent drop in their blood sugar levels. Consuming the vinegar had an effect comparable to that of such anti-diabetes medications as metformin (sold as Glucophage). (*Diabetes Care* 04;27:281–282) (*ASU Research* 14, Fall 2004)

The only complaint from the participants was that they didn't like drinking the vinegar straight. Earlier research in Sweden found that pickles (cucumbers preserved in vinegar) when eaten with a meal also had a glucose-lowering effect. So pickles (or pickled okra, in my neck of the woods) might be an option, but I couldn't find anyone who could tell me how many pickles would be comparable to two tablespoons of vinegar.

I would also suggest making an olive oil and wine vinegar salad dressing to get the two-tablespoon dose. If the taste is too strong for you, then add a little balsamic vinegar to the mix.

Just what component of the vinegar promotes the drop in blood sugar hasn't been determined. However, the researchers think it might be linked to the acetic acid. Most white vinegar has an acetic acid content of about four percent (some go as high as seven percent), while apple cider and wine vinegars have a five to six percent acidity.

Last year, the US Secretary of Health and Human Services announced a plan to try to stop the rising incidence of type 2 diabetes in this country—which reportedly costs our country \$132 billion a year. There were several suggestions made on diet and the use of medication, but nowhere was the use of vinegar mentioned. And I doubt it will ever be mentioned, since vinegar is one natural therapy I'm sure the pharmaceutical companies will try to discredit. For them, the fewer people who know about vinegar—"the poor man's insulin"—the better.

(I guess I should mention that the limited amount of research on vinegar hasn't indicated whether it is actually correcting an underlying problem or simply improving the symptoms. Either way, it appears to be a very safe and inexpensive way to help control blood sugar levels.)

More Benefits From Vinegar

If vinegar's glucose-lowering ability doesn't excite you, then maybe the results of a follow-up study by the same researchers will. In their next study, they wanted to see if vinegar consumption (again at a two-tablespoon dose prior to each of two meals daily for four weeks) would reduce harmful cholesterol levels. It didn't, but those using the vinegar lost an average of two pounds during those four weeks (the weight of those on the placebo remained constant). None of those on the vinegar gained weight, and some lost as much as four pounds.

You may be familiar with a book by Dr. D.C. Jarvis called *Folk Medicine* that mentioned the benefits and uses of vinegar. Dr. Jarvis recommended drinking a tablespoon of apple cider vinegar mixed with water with each meal. He stated that it increased hydrochloric acid production and improved digestion. There are several other earlier texts that recommend it for weight loss. Vinegar's virtues have been known for some time, and I hope its "re-discovery" won't fall on deaf ears.

Germs Gone Wild

My goal here is not just to paint a grim picture about drugs, but also to help you understand what's actually happening and show you how to best protect yourself and your loved ones. Some drugs pass unchanged through our bodies and into the environment, and the overuse of antibiotics has created "superbugs" that are resistant to most known treatments. [See "The Test of Time" on page 71.] Even if you've taken the necessary steps to wean yourself from drug use by utilizing safe, natural alternatives, the majority of the population hasn't adopted this philosophy. Until they do, we are all at greater risk.

A perfect example of the increased risk is a bacterium called *Clostridium difficile*. In the next few years, it will become so widespread and common that you'll undoubtedly become familiar with its abbreviated name, "C-diff."

C-diff has been around for a long time, and it wasn't considered much of a danger even though it could cause bouts of diarrhea. In the past, the primary targets of C-diff were elderly people living in either nursing homes or health care facilities. All of that has changed now.

A couple years ago, I made several trips to the teaching hospital of McGill University in Montreal, (*C-diff* continued on page 69)



NEWS TO USE FROM AROUND THE WORLD

Carbs and Cataracts

BOSTON, MASSACHUSETTS—Researchers at the USDA Human Nutrition Research Center on Aging have found that increased simple carbohydrates in the diet increases the risk of developing cataracts.

In a recent issue, I gave information on how drops of N-acetylcarnosine could be used to eliminate cataracts. Of course, a better solution is to prevent them from forming in the first place.

The average daily intake of simple carbohydrates of 417 women aged 53 to 73 was studied for 14 years. Those whose average intake was between 200 and 268 grams per day were 2.5 times more likely to develop cataracts than those whose intakes averaged between 101 and 185 grams per day. (*Am J Clin Nutr* 05;81:1411–1416)

Shining a Light on Prostate Health

FREMONT, CALIFORNIA—In a study that involved 905 men aged 40 to 79 years in the San Francisco Bay area, researchers confirmed that higher amounts of sun exposure reduce the risk of developing advanced prostate cancer. (*Cancer Res* 05;65(12):5470–5479)

This research just adds more support to the fact that an increased amount of vitamin D from sun exposure is a very important factor in preventing prostate cancer (and other cancers as well).

Get out and enjoy the sun and its many benefits. Just use common sense and don't push it to the point of getting sunburned. Man wasn't meant to live in the dark.

Same Benefit From Less Effort

HAMILTON, ONTARIO, CANADA—A new study has found that short, intense bursts of exercise can be just as effective as longer cycles of exercise in increasing endurance capacity and oxygen utilization.

Researchers found that three two-minute bursts of intense activity a week can be just as effective as six hours a week of steady, less-intense exercise.

Twenty-three reasonably fit men and women first cycled 18 miles to get a baseline measure of their overall fitness. They were then divided into three groups.

One group cycled for two hours daily at a moderate pace. Another group cycled 10 minutes daily in one-minute bursts of high intensity. The last group cycled every other day at maximum intensity for two minutes, in 30-second bursts with four minutes of rest between.

After two weeks on the program, all the individuals repeated the 18-mile ride and their fitness levels were re-evaluated. All three groups showed essentially the same increase in fitness. (*J Appl Physiol* 05;98(6):1985–1990)

From a practical viewpoint, the results of this study mean you can achieve a great deal of fitness by spending as little as two minutes on intense exercise every other day. (If you exercise or cycle at maximum intensity for 30 seconds then rest for four minutes and repeat this four times, you'll only need to spend 18 minutes every other day to see the results obtained in this study.)

From a personal perspective, I wouldn't want this to be my only form of exercise—but if I were busy or short on time, this could be an excellent temporary routine. It's proof that even small amounts of intense, regular, routine exercise can have a profound effect on your overall health.

The Mask of Pregnancy

SAN LUIS POTOSI, MEXICO—Melasma (or pregnancy mask) is a very common skin disorder. Anyone can experience the problem, but it is most common in younger women with naturally darker skin tones. It is associated with fluctuations in estrogen and progesterone that occur during pregnancy (as well as in those taking hormone replacement therapy).

It used to be that bleaching creams were the treatment of choice, but it seems that laser therapy and peels have become more popular. A new study has found that topically applied vitamin C (ascorbic acid) cream can be just as effective as the bleaching creams (but with fewer side effects, particularly skin irritation).

Sixteen women with melasma were given a five percent ascorbic acid cream and a four percent hydroquinone (bleaching agent) cream and told to apply one to each side of their faces. After 16 weeks, their faces were checked for discoloration. Both sides of the face were greatly improved, and the tests showed no major difference between the two treatments. There was, however, a significant difference in the side effects. Skin irritation occurred in 68.7 percent of women on the side where the bleaching cream was applied, but in only 6.2 percent of the cases on the side where the ascorbic acid was applied. (*Int J Dermatol* 04;43(8):604–607)

There are numerous vitamin C creams on the market because it has become a popular item in the cosmetic field, and there's good research to back up its benefits. It appears to be particularly effective as a treatment for damage caused by chronic sun exposure. (*Exp Dermatol* 03;12:237–244)

Homemade solutions aren't really an option, because vitamin C breaks down quickly unless it's mixed correctly. For the best results, I would suggest trying a professionally made cream first. Even at \$25 an ounce, it's far less expensive than a face peel or laser therapy. If you discover a better method that works, let me know and I'll pass it along to other readers.

(C-diff continued from page 67)

Quebec, to investigate a new therapy. During my visits, doctors expressed a growing concern about the number and severity of C-diff infections. Before 2002, there were only three reported cases in the previous eight years. By 2003, they were seeing a full-blown epidemic, with over 7,000 cases of C-diff in Quebec hospitals—2.5 percent of all patients.

Not only were C-diff infections spreading in Canada, the bacterium crossed the border into the US and became more and more virulent. What was once an easily eliminated form of diarrhea-causing bacteria has transformed into a virulent, antibiotic-resistant strain that can kill. Worse, it is now being seen outside of hospitals and nursing homes, and can prove deadly to young, hardy individuals.

The change has come about because of the overuse of antibiotics—which not only contributes to the formation of superbugs, but also destroys the protective bacterial flora of the bowel.

“Fix” One Problem, Create a Host of Others

Researchers at McGill University recently told me that individuals who developed C-diff infections outside of hospitals were three times more likely to be using proton pump inhibitors (drugs such as Prilosec, Nexium, Losec, Prevacid, Aciphex, and Protonix) and twice as likely to be using H2 blockers (Tagamet, Pepcid, Axid, Zantac).

These are the drugs now being widely promoted in magazine, radio, and television advertisements as a cure for heartburn and acid reflux. They work by blocking acid production in the stomach. Unfortunately, stomach acid is one of the barriers your body uses to block or destroy pathogens.

It would be interesting to see if these drugs make an individual more susceptible to other types of infections as well, but I doubt we'll see this type of research anytime soon. I also doubt we'll ever see the research or admission connecting the death of these individuals to their use of drug therapies.

When I last spoke with doctors at McGill, they had been able to slow the epidemic's progress by implementing several steps—including such things as more thoroughly cleaning the rooms of infected patients, using bleach as a cleaner instead of milder agents, and having everyone wash their hands more frequently with regular soap rather than with alcohol rinses or antibacterial cleansers. These are

the same steps you should use at home in the midst of any type of infectious epidemic.

The Centers for Disease Control and Prevention is concerned about the spread of this potent C-diff, which has now been documented in 16 different states. They've also been looking into forms of treatment other than antibiotics. They've discovered that when the colon contains a harmless strain of the same form of bacteria, the virulent strain isn't able to take hold and cause a problem. Their plan is to introduce these normal strains of bacteria into the gut to improve the body's defenses.

If this concept sounds similar to that of using probiotics to prevent disease, that's because it is. One of the best ways to protect yourself from other people's overuse of antibiotics and other drugs is to build your own defenses. Probiotics and fermented foods are essential in this regard. Probiotics will become the antibiotics of the future. If you want to be ahead of the game, you'll start using them now. They're more than just a way to improve your digestion. They can literally save your life.

More Reasons to Like Lycopene

Lycopene has a well-deserved reputation as a beneficial antioxidant for asthma and prostate health. Now, researchers at Juntendo University in Tokyo have found that lycopene may be a very effective and simple technique to completely prevent the development of yet another condition—emphysema from tobacco smoke. Although the study involved mice and not humans, I wouldn't be surprised if it provided at least some degree of protection in humans as well.

Two sets of mice were exposed to 1.5 percent tobacco smoke through the nose for 30 minutes a day, five days a week for eight weeks. During the experiment, half were given tomato juice mixed into their water. None of the mice that received tomato juice developed emphysema. However, all of those that did not receive the tomato juice developed the disease. (*Am J Physiol Lung Cell Mol Physiol* 06;290(2):L396–404)

The researchers suspect that the lycopene in the tomato juice is responsible for its protective effects but admit that there may be other components involved as well. Obviously, based on this very

(Lycopene continued on page 71)

GLANDS AND BONE HEALTH

Question: I have osteoporosis and my doctor has prescribed Miacalcin to treat the problem. I was wondering if you knew of a natural alternative.

—L. T., Fort Wayne, Indiana

Answer: Miacalcin (calcitonin) is commonly prescribed for bone loss. As an alternative, I've seen reports that both thymus extracts and thymus tissue can prevent bone loss. (*Int J Thymol* 96;4(Suppl 1):23-29)

The only commercial thymus-tissue products I'm aware of in this country are in the form of glandulars, which I've discussed numerous times in the past. When it comes to glandular products, I would recommend using those of Standard Process Laboratories. Your doctor can order them, or you can call The Village Green at 800-869-9159.

I would also suggest that you read some of my past articles on osteoporosis. [Editor's note: See Vol. 6 No. 5 and Vol. 9 No. 13 for more about bones.] The condition is complex, and it can rarely be controlled or reversed by simply taking one pill or another. Very often, there are hormonal and dietary issues. And keep in mind that bone growth is stimulated by the stress that is placed upon the bones. In other words, you need weight-related exercises to stimulate bone growth.

MAGNETIZE YOUR LEGS

Question: I have recurring leg ulcers that I'm sure stem from poor circulation and a lifetime of bad habits. Do you know of anything that might help these ulcerations from coming back? Thank you for all your help.

—Robert T., Mill Valley, California

Answer: I have been looking into a magnetic device that is currently being sold in England to treat leg ulcers. As far as I know, it isn't currently available in the US. There may be similar devices, but the one sold in England has a preliminary clinical study that I found significant (in addition to the feedback that I've received from individuals who've used it). Just last month, the National Health Service in England, which determines what types of treatment get approved and paid for under their health coverage, accepted the product for coverage. Apparently they were very impressed by its cost-effectiveness compared to conventional treatment and care.

The study involved 26 patients who had had chronic leg ulcers for an average of four years, and whose ulcers had failed to heal with standard treatment. Part of the group used the magnetic strap device, and the others received a sham non-magnetic device (as a placebo control).

The researchers admitted that they were very skeptical of the treatment. But, after 12 weeks, they observed very significant decreases in the size of the ulcers. Thirty percent of the participants receiving the treatment experienced a complete healing of their ulcers. For the other 70 percent, the size of their ulcers decreased by an average of 91 percent. Additionally, the reports of the patients were very positive regarding the reduction in pain (ranging from 37 to 65 percent less pain) and a reduction in swelling (a 40 to 53 percent decrease).

It was also noted that there was significant reduction in discoloration and bruising where the magnetic device was used. The researchers commented that bruises of this type would normally take two to three weeks to resolve, but they resolved in 48 to 72 hours with this therapy. (*J Wound Care* 05;14(2):64-67)

The magnetic device is called the 4UlcerCare, and it's marketed by a company called Magnopulse. The apparatus is really very simple. It's a strap-like device that uses Velcro to attach just below the knee. Users that I've talked to normally used it while sleeping and for several hours during the day. I haven't found any cases where there were reports of side effects.

The 4UlcerCare product sells for 29 British pounds (which exchanges to about 51 US dollars) plus shipping. You'll need to measure the circumference of your leg just below your knee (in inches), to determine which size to order.

The company sent out a survey and found that the average age of their purchasers was 70.6 years. They also reported that their customers had averaged 2.4 recurrences of leg ulcers over the previous 4.4 years. The device was worn for about 15 hours a day, and it took an average of 3.57 months for complete healing.

After wearing the device for an average of 19.94 months, no one had a recurrence of leg ulcers, and no one had ulcers that failed to improve as long as they continued to wear it.

The only way the product can be ordered in this country is over the Internet, at the company's Web site: www.MagnoPulse.com. Their address is:

Magnopulse Ltd,
24 Emery Road,
Bristol BS4 5PF
UK

Their phone number is 0117-9710-710 and their fax is 0117-9720-720.



The Test of Time: *Antibiotic Resistance*

20th
Anniversary

Despite what we've been conditioned to believe, the human body was designed to deal with foreign bacteria. Every time your immune system overcomes an infection, it emerges stronger. Through the body's production of natural antibodies, it becomes better able to deal with future assaults on your health.

If, however, antibiotics are given at the first sign of infection, several serious events can occur. First, the body's own immune system becomes suppressed. Fewer natural antibodies are produced, and studies have shown that the body's white blood cells are less active in attacking bacteria that have been treated with antibiotics (*Acta Pathol Microbiol Immunol Scand* 80;88:103–106). This suppression of the immune system explains why many seemingly minor infections recur, requiring multiple courses of treatment.

Second, bacteria begin to mutate as they are repeatedly exposed to antibiotics. Through a series of mutations they can quickly become immune to a drug's effect. Our inability to stop the spreading infection of these mutant bacteria costs thousands of people their lives each year. Drug-resistant bacteria have become especially dangerous in the fertile breeding grounds of hospitals. Many times, a hospital is the worst possible place a sick person should be.

Hundreds of thousands of hospital patients die each year from infections caused by these

drug-resistant bacteria. We all know someone who was admitted to the hospital for one condition, but, while there, developed a fatal or near-fatal case of drug-resistant pneumonia.

Estimates are that over 20 percent of those who enter hospitals leave sicker than when they entered—if they're able to leave at all. About two million patients acquire what are called nosocomial infections (from microorganisms that reside in hospitals). In approximately three to five percent of these cases, the infection will be the cause of death. Pneumonia is the most common hospital-acquired infection. It now appears to be responsible for as many as 15 percent of all hospital-associated deaths.

Before discussing any alternatives to antibiotic therapy, you should know of the safeguards that can be taken when antibiotics must be used.

First, make sure there's really a need for antibiotics. Have your doctor take a culture of the area involved to establish whether you actually have an infection, and to identify the specific organisms involved—allowing the proper antibiotic to be prescribed.

Next, always supplement your diet with cultured foods such as yogurt, or tablets of *Lactobacillus acidophilus* or lactic acid yeast, or a quality probiotic product.

Tip from Vol 4, May 1992

(Lycopene continued from page 69)

preliminary work no one can claim that tomato juice or lycopene can completely eliminate the threat of developing emphysema from exposure to tobacco smoke in humans.

Having said that, watching someone suffer from progressive emphysema is a horrible event and there's really no successful way to treat the disease. The ultimate solution is to not smoke, but that's easier said than done. In reality, anything that can be done to help prevent the problem should be considered—especially something as inexpensive and healthy as tomato juice.

Even though this study involved mice, I have never seen anything come close to these results in preventing emphysema. Future studies are worth pursuing. And if you or someone you know still

smokes, I wouldn't hesitate to recommend copious amounts of tomato juice—either straight or diluted with water. Lycopene supplements may work as well, but those studies haven't been done yet, so I'd stick to tomato juice.

Studies released over the last few years have started to show tomatoes in a whole new light. In addition to lycopene, there are several beneficial components.

Japanese researchers recently revealed that the bioflavonoid content (particularly rutin) in tomato paste has the ability to stop the formation of advanced glycation end-products (AGEs)—compounds formed from proteins and sugars that contribute to the aging process and many age-related diseases. (*Biosci Biotechnol Biochem* 04;68(1):200–205)

Extremely large numbers of AGEs are created when blood sugar levels are high, and they are responsible for many of the problems associated with diabetes. They accumulate in the body and cause stiffened blood vessels, cataracts, high blood pressure, and cardiovascular disease. Additionally, AGEs are possibly linked to Alzheimer's. Who would have thought that tomatoes would ever be part of an anti-aging program?

Other studies with lycopene have shown that daily intakes as low as 10 mg can have profound effects in the prevention and treatment of numerous conditions. These include cancers of the prostate, breast, pancreas, and intestines.

The Long and Short on Lycopene

Research has shown that the lycopene in tomatoes is best absorbed when the fruit is cooked (most juice is pasteurized, which equates to a cooking process). From the chart at the right, you can see there are other ways to increase your lycopene intake if you don't like tomato juice.

It's been almost four years now since I wrote about research concerning the high lycopene content in watermelons, yet most people aren't aware that watermelon is an excellent source of the compound. Since that report, there's been a lot of interest in the lycopene from watermelons—particularly in my neck of the woods. South Texas is a major producer of watermelons, and Texas A&M University (as well as the scientists from the federal Agriculture Research Laboratories) are saying that watermelons can now be classified as a functional food—one that can help prevent certain diseases.

The earlier research compared the bio-availability of the lycopene in watermelons to that of tomatoes. In those studies, researchers used watermelon juice that had been frozen immediately without pasteurization and then defrosted immediately before being consumed, and compared that to pasteurized tomato juice. Although the investigators expected the

| FOOD | SERVING SIZE | LYCOPENE |
|--------------------------|---------------|----------|
| Tomato juice | 1 cup | 22.9 mg |
| Spaghetti sauce | ½ cup | 20 mg |
| Tomato soup (condensed) | 1 cup | 13.1 mg |
| Watermelon | 1½ cup | 9–13 mg |
| Tomato sauce | ¼ cup | 9.6 mg |
| Tomato paste | 2 tablespoons | 8.8 mg |
| Seafood sauce (cocktail) | ¼ cup | 7.3 mg |
| Guava | 3.5 ounces | 6.5 mg |
| Raw tomato | 1 medium | 4.5 mg |
| Tomato ketchup | 1 tablespoon | 2.9 mg |
| Pink grapefruit | ½ medium | 2.3 mg |
| Salsa | 1 tablespoon | 2.2 mg |

lycopene availability to be greater from the tomato juice, both juices provided equal benefit.

When various types of watermelons were compared for lycopene content, it was found that the seedless varieties had the highest content. Overall, watermelon had about 40 percent more lycopene than raw tomatoes.

You can see in the chart above that guava is also a good source for lycopene. In Brazil, they sell a product called Guatchup that is marketed as an alternative to ketchup. It's thick and red like ketchup, but is made with guavas instead of tomatoes. I haven't seen it in this country, but I have tried it elsewhere and didn't really care for the somewhat spicy, sweet, and sour taste. I'll stick with my cold, South Texas watermelon this summer.

Take Care,

Dr. David Williams

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.

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