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The Never-Ending Struggle


Dr. David G. Williams

Not long ago, many doctors were telling their patients on prescription medications to curtail consumption of grapefruit and grapefruit juice. I thought the idea was absurd at the time, and I still do. Instead, the focus should be on helping these patients curtail their drug use.

The problem is that eating grapefruit or drinking the juice increases the absorption of certain drugs by as much as 200 percent—particularly blood pressure–lowering medications and the popular (but dangerous) statin drugs used to lower cholesterol levels. Researchers have now discovered that the group of compounds called furanocoumarins is responsible for this increase in absorption.

Surely I'm not the only one who sees the irony in eliminating a nutritious food such as grapefruit—which could help reduce cholesterol oxidation, increase weight loss subsequently lowering blood pressure, and help prevent diabetes—so one can continue to utilize a pharmaceutical band-aid that, in the long term, may well increase one's risk of dying. I realize that eating a grapefruit with every meal won't solve all these health problems, but it can certainly be an integral part of an overall program that will address the underlying causes and not just mask symptoms with drugs.

At the Scripps Clinic in La Jolla, California, researchers recently studied the effects of grapefruit and grapefruit juice on body weight and metabolic syndrome.

(Metabolic syndrome is also called Syndrome X, which is loosely defined as having any three of the following: abdominal obesity, high triglycerides, high blood sugar, high blood pressure, or low HDL cholesterol. It is a precursor to diabetes.)

A total of 91 obese patients received one of the following three times a day before meals: half a grapefruit with a placebo capsule; 8 ounces of grapefruit juice and a placebo capsule; grapefruit capsules and 7 ounces of apple juice; or placebo capsules and 7 ounces of apple juice.

After 12 weeks the fresh grapefruit group lost a total of 3.52 pounds. The grapefruit juice group lost 3.3 pounds. The grapefruit capsule group lost 2.42 pounds and the placebo group lost 0.35 pounds.

Grapefruit is not only a delicious way to help lose excess weight, it also appears to be a diabetic's (or potential diabetic's) best friend. While the grapefruit users in the above study saw significant weight loss, they experienced an additional benefit: a substantial reduction in blood glucose (blood sugar) and insulin levels. *(J Med Food 06;9(1):49–54)*

We All Have a Drinking Problem

These days, just about anything you can do to lower your risk of developing diabetes is probably worthwhile. Clearly, a diet high in refined carbohydrates is one of the most common causes of diabetes. For most people this news isn't a surprise. They may not be aware, however, that certain common environmental pollutants can also increase the risk of developing diabetes.

I've long been a proponent of clean water. It's gotten to the point that unless you can routinely and thoroughly test your water for contaminants and know for certain it's clean and pure, the use of

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

distilled water is a must. I've been telling people to distill their own water for years—long before we began to discover just how serious the contamination problem is.

With the tens of thousands of chemicals, pesticides, and herbicides being released into the environment, along with all the hormones, medications, and other toxins being flushed down the toilet every day, it's almost impossible to adequately test most water supplies. Keep in mind that most municipal water suppliers test for 8 or 10 contaminants at most (lead, arsenic, nitrates, et cetera), and their main focus is still on pathogenic bacteria.

I could write volumes on various contaminants found in water and the resulting problems that occur. One of the more common contaminants is a substance called bisphenol A (BPA). What makes this chemical stand out is the fact that it is one of the components of many plastics, including those found in most baby bottles and *plastic water bottles*. It is also one of the components used in the lining of hundreds of millions of food cans and in dental sealants. Bisphenol A is one of the most commonly produced chemicals in the world, so I'm sure there are dozens of ways we're exposed to it.

Researchers in Spain discovered that bisphenol A can leach out of plastic bottles into the liquid they contain. The plastic from the bottles you purchase at the corner store and see everyone sipping from these days could leach into the drink and cause very serious problems.

It's difficult to know which bottles are experiencing this leaching. Heat, wear and tear, longer storage, and the use of harsh cleansers make the problem worse. In 2000, Consumers Union found BPA in 8 out of the 10 five-gallon water jugs they tested. Beverages packaged in glass bottles are safer. If you pack your own drink to take with you on the road, it's best not to reuse plastic bottles. Instead, use glass or stainless steel. One alternative is a water bottle from a company called New Wave. It's made from the same grade of stainless steel used in commercial cookware, and is practically indestructible. Even if you drop it, the worst that will happen is a small dent. To find a supplier get in touch with New Wave Enviro Products, *www.NewWaveEnviro.com* or 800-592-8371.

Among other problems these researchers discovered is the fact that bisphenol A mimics estrogen and can wreak all sorts of havoc in the body's endocrine system. In an animal study the researchers found that even a single low dose of BPA caused a rapid increase in blood insulin levels. And after only four days of treatment with the low dose of BPA, the animals developed a chronic state of hyperinsulinemia—resulting in insulin resistance, the tell-tale precursor of type 2 diabetes. *(Environ Health Perspect 06;114:106–112)*

Another study has now linked BPA to triggering the same chromosome error that causes miscarriages and birth defects in humans, such as Down syndrome. *(Curr Biol 03;(7):546–553)*

Additionally, low-level exposure to BPA has been implicated in prostate tumors, adverse effects on prostate and breast tissue development, decreased sperm count, the rate of sexual maturation, and even the development of excess fat formation—which leads to obesity.

I've never been a big fan of bottled drinking water—not for health reasons but because I remember the "good ol' days." When I was growing up, water wasn't a problem (or, more likely, we just didn't know it was a problem). Every gas station had a cold water fountain and every restaurant served a huge glass of ice water the minute you sat down. That was before bottled water came on the scene. Things have certainly changed.

There's Nowhere to Hide

You would think that if you pay more for a liter of bottled water than you do for a liter of gasoline it would be safe and pure. Unfortunately that's not the case. I would also like to think that some of us have escaped exposure to environment pollutants. The more I research the topic, however, the less likely that looks. One recent study collected the gonads (reproductive organs) of 55 male and 44 female polar bears that had been killed legally by subsistence hunters. They then tested fat from each bear for the presence of various pollutants known to affect sex hormones—everything from DDT and PCBs

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to PBDE (flame retardants) and chlordane (which was used to treat termite infestations before it was banned).

They found that the testes and the bone that supports the penis were smaller in male bears that had higher concentrations of the above chemicals. The researchers found similar problems in the female bears with high pollutant levels. *(Environ Sci Technol 06;40(18:5668–5674)*

Their findings revealed that polar bear reproduction is being impaired by chemicals used as flame retardants and termite poison. I don't think anyone would be using either of these types of chemicals, particularly termite poison, around polar bears living above the Arctic Circle. By the way, these same researchers also found mercury in polar bear hair and pollutants in Greenland sledge dogs. I thought I lived in a remote area, but if polar bears are being exposed to these chemicals I have no doubt that you and I are in the same boat….or maybe I should say soup. I guess the old saying, "you can run but you can't hide," is true when it comes to pollutants.

I'll continue to help you avoid as many of these problems as possible. In the future I'll also cover different methods you can use to help detoxify your body. I think the avoidance and elimination of contaminants will be one area that we need to seriously explore.

A Visceral Reaction

Going back to the subject of metabolic syndrome I mentioned earlier, you should be aware that in addition to an "early warning sign" of diabetes it can also be an indication of impending heart disease. In fact, many people discover they are diabetic only after they experience a heart attack.

One Swedish study revealed that as many as 40 percent of those patients who were admitted with acute myocardial infarction (heart attack) were diabetic but didn't know it. *(Lancet 02;359(9324):2140–2144)*

One of the signs of metabolic syndrome is the accumulation of abdominal fat. It's been well documented that having a pear-shaped body (smaller waist but larger hips) is healthier than having an apple-shaped body (more fat at the waist). But what complicates matters slightly is that not all abdominal fat is created equal.

Fat can develop in three different compartments of the abdominal region: abdominal (stored between the skin and the abdominal wall), visceral (in and around the internal organs), and retroperitoneal (the back and sides or what we commonly refer to as "love handles"). Fat in each of these areas has its own metabolic reaction, as well as its own contribution to disease.

You might have noticed that love-handle fat is often the hardest to get rid of—even after intense exercising and successful weight loss. That's because it's the least active metabolically.

The abdominal fat is often used as an indicator of metabolic syndrome. You've probably heard the "pinch an inch" phrase. It refers to the idea that if you can pinch more than an inch of abdominal fat you're at an increased risk of developing diabetes and heart disease due to metabolic syndrome. Using this criteria among the general population, it's easy to see why diabetes and heart disease are so common.

Researchers, however, have recently discovered that the amount of visceral fat is probably the best indicator of your risk for these diseases. The relationship makes sense when you consider that the veins of the internal organs drain into the liver and visceral fat is the only type that shares this circulation. The liver connection is what makes excess visceral fat so dangerous.

Obviously, much of the fat accumulation problem originates in the diet (i.e., too much highly refined sugar and carbohydrates and too little fiber).

When you eat sugar, flour, or other refined carbohydrates, some of the digested sugars are used for your immediate energy needs. Any excess is converted to fat or fatty molecules called triglycerides, which are stored in fat cells for later use. Excess triglycerides in the blood are transported by the "good" cholesterol, the HDL form. HDL "attaches" to the triglycerides and tries to lower blood levels by taking them back to the liver. If you have low levels of HDL cholesterol, if your diet is high in refined carbohydrates, or if you're diabetic, you may experience abnormally high triglyceride levels. While normal amounts of triglycerides are essential for good health, elevated triglycerides and other blood fats are associated with higher risk for diabetes and heart disease.

As I've mentioned many times before, there are good fats and bad fats. In simple terms, the most harmful types of fat are the tiny droplets that can accumulate in the liver, organs, and other tissues in the abdominal area. They are responsible for creating a condition called insulin resistance (which is when cells in the body become resistant to the effects of insulin). In other words, insulin's effect is reduced and higher levels are required for it to have any effect.

Resisting the Call

Insulin plays a key role in the metabolism of carbohydrates, fats, and proteins. It even helps regulate cell growth in the body. One of insulin's many jobs is

NEWS TO USE FROM AROUND THE WORLD

Being a Fathead Is a Good Thing

ROTTERDAM, NETHERLANDS—For years I've been saying that cholesterol is not really the problem when it comes to heart disease—the trouble comes when the cholesterol oxidizes and accumulates in arterial walls. In fact, cholesterol is necessary for proper functioning of many body systems, from skin health to sex hormones.

Now a study at the Erasmus Medical Center here has uncovered a relationship between cholesterol and brain health. Researchers followed over 6,000 people for an average of 9.4 years, and found that roughly a 15 percent increase in cholesterol levels decreased the risk of Parkinson's disease by about a fourth—but only in women. *(Am J Epidemiol 06;PMID 16905642 [epub ahead of print])*

The investigators aren't sure about the mechanism involved. Their first thought was that Parkinson's is somehow related to cholesterol and its metabolism, but the blood-brain barrier keeps out most of the lipoproteins (the "L" at the end of LDL and HDL) that carry cholesterol through the bloodstream. (Most of the large amount of cholesterol found in brain tissue is made there instead of being brought in by the blood.) As a result, it's unlikely that simple changes in the amount of cholesterol in the rest of your body could affect what's happening in your brain.

The other possibility is that the cholesterol level is only an indicator of something else going on. Cholesterol is created in the same biological pathway that creates coenzyme Q10 (which is why the statin drugs that block cholesterol production also reduce your body's levels of CoQ10). People who are taking excessive steps to lower their cholesterol may also be lowering their production of CoQ10. (The association between cholesterol levels and CoQ10 production is stronger in women than in men, which may help explain why the cholesterol-Parkinson's link was seen only in women.)

Parkinson's arises when an area of the brain called the *substantia nigra* stops producing enough dopamine. A lack of dopamine affects your ability to walk or speak, and eventually even your ability to think or feel emotions can fall. A high blood level of CoQ10 protects the cells that generate dopamine. *(Biofactors 99;9:267–272)*

I wouldn't say that you should ignore your cholesterol level completely. It *is* possible to have too much of a good thing. It's also possible for you (or more likely your doctor) to go overboard in addressing it. If your cholesterol level is in the 300s or higher, you should certainly address it. The more total cholesterol you have, the more there is to become oxidized and collect in your arteries. Levels at or around 200 or so shouldn't cause you concern, though. A healthy diet and adequate physical activity will keep your blood lipid levels in check without interfering with your CoQ10 production.

In the meantime, it wouldn't hurt to add some CoQ10 to your daily routine. It's well absorbed into brain tissue, even in people who already have Parkinson's. (However, there's no evidence to suggest that it will reverse existing disease.) It's cheap protection—just the kind I like.

to "open" the walls of muscle and fat cells and cause them to remove glucose from the blood. This process is one of the ways your body controls blood sugar levels. Insulin acts sort of like the policemen you see on the television show *COPS*. To lower blood sugar levels, it knocks on the door of muscle and fat cells. When the cells become more resistant to insulin, the body requires that the pancreas send out more insulin to get the job done.

As resistance continues to build, more and more insulin is needed to knock down the door. Eventually, when the pancreas can't produce enough insulin, the blood sugar levels begin to rise. At first this increase in glucose happens just after meals. Later, it stays high even during the fasting state—which is when you have a diagnosis of diabetes. You can generally see the signs of insulin resistance long before someone actually develops diabetes.

Some of these signs and symptoms include:

- **Heart or vascular disease**—This occurs due to the inability of your body to properly deal with lipids or fats, resulting in high blood pressure, heart attack, stroke, angina, coronary artery disease, and peripheral vascular disease.
- **Fatty liver**—The liver begins to accumulate fat, most likely from the dysfunctional visceral abdominal fat stores that have accumulated. (As a side note, a study that examined the autopsied livers of 742 children in the San Diego area found that more than 13 percent of them had fatty livers. Even after adjusting for ethnic differences between the sample and the general population, that's still nearly ten percent of all children ages 2 to 19. Remember that veins from visceral fat feed directly into the liver. The authors noted that the primary cause of fatty liver in children was obesity.) (*Pediatrics 06;118:1388–1393*)

- **Skin lesions**—The connection isn't totally understood, but a couple of different types of skin problems are commonly related to insulin resistance.
  - **Skin tags:** These can vary greatly in size, shape and color, but they consist of a bit of skin that projects out from the surrounding skin. They can be smooth, rough, irregular, flesh colored, or darkly pigmented. They can be a simple elevation or attached with a stalk-like structure.
  - **Acanthosis nigricans:** This is a condition where the skin darkens in the creases of areas like the neck or armpits.
- **Reproductive problems in women**—Infertility, as well as menstrual abnormality, irregularity, or complete cessation.
- **Polycystic ovary disease**
- **Overproduction of male hormones in women**

The increase in insulin also triggers the constriction of blood vessels and promotes clotting, leading to higher blood pressures and restriction of blood flow to the heart, which can trigger a heart attack. Basically, anything you can do to increase the efficiency of insulin and/or decrease your body's need for the hormone will improve your health and extend your life. That's why simple things such as eating grapefruit and/or drinking grapefruit juice can become so important.

Turn Up the Heat for Health

I've also discussed at length in previous articles how cinnamon increases the efficiency of insulin and can help prevent pancreatic and diabetes problems. Another inexpensive "poor man's insulin" might be cayenne pepper.

Researchers in Tasmania, Australia recently sent me details of their work in which they tested the effects of combining cayenne pepper with meals. The study revealed that even one meal with the pepper had an immediate effect, but it only lasted for a short period. They compared several different scenarios, but the most effective program by far at mitigating an insulin surge following meals involved taking about 4 grams of cayenne pepper with each meal. Individuals who followed this program produced about one-third less insulin. The greatest benefits were seen in the obese participants. *(Am J Clin Nutr 06;84(1):63–69)*

I don't know how practical it is to take 4 grams of cayenne pepper with each meal. Obviously, most people would need to take this in capsules (except for those meals of boiled crawfish where the pepper flows rather freely over the "bugs"). However, by using cayenne pepper occasionally, and cinnamon or grapefruit at other times, you might be able to help prevent diabetes or even keep a mild diabetes problem under control. We continue to discover that the best results for any health problem seem to come from a varied diet—and that appears to be the case with spices as well as with foods.

Getting Rid of the Gut

When you understand the connection between insulin's effects and body fat, it's much easier to understand how losing just a few pounds of visceral fat can have such a profound effect on diabetes. A few pounds may be just a small percentage of total body weight but it could be a large percentage of visceral fat.

Researchers have discovered that dieting alone isn't an effective way to get rid of visceral fat. It will reduce the subcutaneous fat (the fat between the skin and the abdominal wall), but that fat is less harmful than the fat within and surrounding the internal organs. To remove visceral fat, exercise is more important than dieting.

While weight loss by any means is beneficial in these cases, "high-intensity exercise seems to preferentially reduce visceral fat." *(J Clin Endocrinol Metab 04;89(11):55517–55522) (J Clin Endocrinol Metab 04;89(4):1739–1746)*

Also keep in mind that research has shown that eating at night causes an increase in the production and release of insulin—which makes glucose intake more efficient, resulting in the accumulation of intra-abdominal fat. In other words, it really is true that the later you eat, the more likely you are to gain fat in the abdominal area. *(Briefing to the British Society for Neuroendocrinology June 09, 2006)*

Cleansing the Passage

There's another very effective method of reducing abdominal fat build-up that's fallen out of favor during the last couple of decades—fiber.

Increasing the fiber in your diet is one of the least expensive, yet most successful, tools you can utilize to help combat obesity and address most of the problems associated with metabolic syndrome.

High-fiber foods are harder for your body to break down and are digested much more slowly than low-fiber foods. As such, they move out of the stomach more slowly, and since they have more bulk they also convey a sense of fullness and satiety. Nutrients are absorbed into the blood stream more slowly, naturally regulating blood sugar levels. This lower need for insulin reduces the possibility of developing insulin resistance and diabetes.

Fiber, which is sometimes referred to as roughage, is the indigestible part of the plant that provides its structure. Fiber acts like a sponge, absorbing many times its own weight in water, which aids in the removal of toxins and waste material.

Common Foods That Are Relatively High in Fiber	
Whole grains (barley), 1 cup	6.5 grams
Bran cereals (All-Bran, Oat Bran), ½ cup	4–10 grams
Berries (blueberry, blackberry, strawberry), 1 cup	4–5 grams
Nuts (almonds, hazelnuts, macadamias, pecans), 1 oz.	2.5–4 grams
Beans and legumes, cooked (chick peas, lentils, navy beans), 1 cup	7–11 grams
Fruits, dried (apricots, figs, prunes, raisins), ½ cup	4–6 grams
Fruits, whole (apple or pear with skin, kiwi, orange)	3–5 grams
Vegetables, raw (broccoli, carrots) 1 cup	3–4 grams
Vegetables, cooked (beets, cabbage, peas), 1 cup	4–6 grams

As it passes through the digestive system, fiber "scrubs" the intestinal walls. It also stretches the intestinal walls, which then stimulates peristaltic muscle movements within the bowel to decrease bowel transit time. In lay terms, fiber promotes easier, more frequent bowel movements and helps correct constipation problems.

It's the cumulative effect of all these benefits that makes a high-fiber diet one of the best ways to correct the problems associated with metabolic syndrome. As a result, you can dramatically reduce your risk of cardiovascular disease and diabetes—as well as correct or prevent constipation, hemorrhoids, irritable bowel syndrome, diverticulosis, colon polyps, and colon cancer.

A hundred years ago individuals in this country ate an average of 28 grams of fiber a day. It's estimated that we now consume only between 12 and 17 grams a day. Considering that a high-fiber diet is probably one of the very best ways to lose excess weight, I find it interesting that the four most popular diets—Atkins, Weight Watchers, Zone, and Ornish—provide only an average of 15 grams per day. *(JAMA 05;293(1):43–53)*

At the very least, you should be getting around 25 grams of fiber in your diet each day. This is best obtained through whole grains (bran cereals are excellent fiber sources), berries, nuts, legumes, fruits with the skin and pulp, raw vegetables, et cetera.

You can see from the information in the chart to the left that it doesn't have to be a chore to get your full daily dose of fiber. A bowl of high-fiber cereal in the morning, some beans for dinner, and a couple pieces of fruit through the day will give you most of what you need.

As I mentioned earlier, one of the best things about a high fiber diet is the constant feeling of satiety. You go about your day feeling full and satisfied. If you're someone who's hungry all the time, it's a pretty good bet you're eating a low-fiber, high-carbohydrate diet that subjects you to the spikes and dips of fluctuating blood sugar and the associated cravings.

Some Last Ideas

Another tool that helps target visceral abdominal fat is CLA or conjugated linoleic acid. I've recommended this product in the past as a way to reduce body fat and add lean muscle. Based on its extensive research data, I recommend 3 grams daily of Tonalin CLA.

The hormonal supplement DHEA at 50 mg daily has been also shown to help reduce abdominal fat. This hormone is naturally created in your body by the adrenal glands. Personally, I prefer to improve adrenal gland function and let the body increase DHEA production rather than supplement with the hormone. DHEA has been shown to increase estrogen in men and women and

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testosterone in men. It is thought that estrogen may be the protecting factor in women that helps prevent a buildup of abdominal fat—which helps explain why the buildup will often occur following menopause or in women with hormonal imbalances. *(JAMA 04;292:2243-2248)*

Green tea and green tea extracts may also be of help. There are several so-called thermogenic compounds now available, with green tea extracts being one. The difference, however, seems to be that components of green tea specifically target abdominal fat.

I know that sometimes it sounds like I'm devoting an excessive amount of time to writing about diabetes, but I truly believe that it's going to be the number-one killer of Americans in the not-too-distant future.

It's never too early to start paying at least some attention to your blood sugar. As I've said many times, diabetes is showing up in pre-teens. And it's never too late to start doing something about your blood sugar levels.

The Family That Takes Pills Together…

Apparently, attention deficit hyperactivity disorder (ADHD) is becoming a family affair. One pharmacy benefit manager, Medco Health Solutions, tracked the 2005 records of more than 100,000 children and then looked at the prescribing history for the parents and siblings of each child.

In 25 percent of twins and in 11 percent of sibling pairs, both children were taking a drug for ADHD. Additionally, parents of children who were taking these medications were about nine times more likely to be taking similar medications than were the parents of children who didn't take drugs for ADHD.

I can't say that I'm really surprised by these numbers. It figures that people who are willing to drug their own kids are more likely to turn to a pharmaceutical solution themselves. There seemed to be a mix of motivations for the adult usage. Some parents wanted to try the drugs themselves before accepting any use in their children. Other parents saw the drugs' effects on their children and thought they might benefit, too.

Some researchers claim that there's a genetic cause for ADHD. There's strong evidence that the identifying behaviors run in families, but it's just as likely that the cause is rooted in a family's lifestyle. The inability to focus, lapses in concentration, impulsivity, and general "brain fog" are classic signs of other causes—particularly food allergies and problems regulating blood sugar.

Intolerance of certain foods such as wheat or dairy *does* have a genetic basis, so it isn't a surprise that family members who all eat the same foods display ADHD-like behaviors that are actually caused by food allergies. Likewise, if everyone is eating a diet high in simple carbs and low in fiber, they may all display some degree of brain fog as they lose control over their blood sugar levels.

Ditch the Pill, Cure the Ill

ADHD used to be considered a "disease" of healthy, active boys, but that trend is beginning to change. Other data from the same pharmacy management group showed that use of the drugs is greater among boys by a margin of three to one but that the rate of use is climbing faster among females of all ages than it is for males. The group with the highest rate of increase was women in the 20–44 age group, with a growth of 164 percent between 2000 and 2005.

A study currently underway at the University of Maryland is investigating the effects of medication for ADHD on the mothers of children who also have ADHD. (Not coincidentally, the funding for this research is coming from the makers of the studied drug—one of the more popular ones for ADHD.) Fifty-eight percent of the parents of kids taking ADHD drugs and who were taking similar drugs themselves were mothers.

If ADHD actually exists at all, prescription drugs are not the way for anyone to manage it. Some of the symptoms of the "condition"—memory problems, compulsive actions, et cetera—sound like the typical life of stressed-out young parents. A more suitable solution would be some form of stress relief.

As I can attest, being a parent is a never-ending concern. It's easy to get so caught up in the daily worries of providing for your children that you forget to provide for yourself. If you're starting to see signs in your children or grandchildren of what teachers or doctors call ADHD, then it may be time to get your own life in order.

Good mental health requires that you occasionally get away from your problems and cares. Physical exercise is one reliable way to shift your focus (and it provides plenty of other benefits as well), but some people prefer more mental activities. Meditation, a good massage, or simply sitting alone with a good book for a bit can be enough to keep you on track.

It can also be useful to pay attention to your nutrition. Stress burns up B vitamins, and a B vitamin deficiency can lead directly to behavioral problems—causing more stress, further vitamin depletion, et cetera. The solution

can be as straightforward as a good multinutrient program that includes plenty of B vitamins.

As I mentioned earlier, diet can play a part in behavioral problems. Numerous studies over the years have shown that even the worst behavior—what in earlier days would have been called "juvenile delinquency"—can be reversed through dietary changes. All of us get benefits from a diet that's high in fiber and good-quality protein but low in refined carbohydrates. However, the changes can be most dramatic in children. As their blood sugar levels normalize, their self-control and their ability to concentrate improves.

If further help seems in order, then you can begin a food-elimination diet to check for the presence of food allergies. A bland diet of chicken and lamb, carrots and cabbage, apricots and dates, and mineral water doesn't sound very appetizing, but it can be a good way to start looking for food allergens. As you slowly add foods back to the diet at a rate of one food a week, pay close attention for the return of any of the previous behaviors. If you identify a particular food as a troublemaker, then you can pull it back out of the diet and move on. Restrictions like this may seem a bit dire, but if the alternative is poor behavior, social troubles, and constant stress, then many people will find the tradeoff worthwhile.

Show How Much You Care

There's no stronger reminder of how rapidly you're aging than watching how quickly your children grow up. Our youngest son will soon be turning three, and even though he matures a little more each day he will always be one of our "babies." As parents we always feel the need to protect our babies. This sense particularly hits home every time I strap him into his car seat and wonder if I've done everything possible to protect him. Results of a new study have eased the stress somewhat by confirming that the middle back seat is the safest seat in the car.

University of Buffalo researchers studied all car crashes involving a fatality in the US between 2000 and 2003 in which there was an occupant in the rear middle seat. They discovered that the occupants in the back seat are 56 percent to 86 percent safer than the passengers in the front seat. And, the person in the middle back seat is 25 percent safer than the other back seat passengers.

When all factors were considered, the middle back seat was by far the safest seat in the car. First, this position has a larger "crush zone," the area of the car designed to help absorb the impact—which is particularly true with side impact crashes. Second, in rollover crashes there is less rotational force on the middle passenger than on passengers near the window. While the middle seat is usually the least comfortable and the least desirable among both children and adults, it is definitely the safest.

While we're on the subject, I should mention some earlier findings from these same researchers on seat belt use among rear passengers. It should be a "no-brainer" that survival rates from crashes increase dramatically when everyone wears a seat belt, regardless of where they sit. But most state laws address only front passengers and seat belts. Keep in mind that even if you're in the front with your seat belt on, your chance of surviving a head-on crash drops dramatically if the rear passengers are unbuckled. In effect, they become "back seat bullets."

An earlier study analyzed information from every fatal crash in the US between 1995 and 2001. It was found that the odds of death for a belted driver seated directly in front of an unrestrained passenger was 2.27 times higher than if seated in front of a restrained passenger. Side impact crashes didn't result in an increased risk. *(Acad Emerg Med 05;12(2):130–134)*

I guess the lesson to be learned is that it's safest to sit in the middle (with your seat belt on, of course) if you ride in the back seat. (It's also the best place to put the car seat for children.) And, next time you're in the front and buckle up, do yourself and the passengers behind you a favor by asking them to buckle their seat belts as well.

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.

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