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Coming Soon to a Laboratory Near You


Dr. David G. Williams

One of the biggest new trends to hit the health care industry is genetic testing. Currently, there are genetic tests for more than 1,000 different diseases. And while the sales pitch to sell these tests might create the perception that a simple blood test can tell you whether you're going to develop Alzheimer's, diabetes, breast cancer, and so on, many people will learn that the picture is not always clear—or even beneficial.

For starters, a positive test generally indicates there's a flaw in a particular gene that *might* lead to a certain health condition. In reality, you may never develop the problem or, if you do, it might be very late in life or of minor consequence at the time. Or, armed with the information, maybe you can change your lifestyle or dietary habits, or start medical intervention to prevent the process. But then try explaining that to a potential employer or an insurance company when they check your medical records. We both know you'll probably be treated like you're carrying the plague.

Genetic Tests Mean Frenetic Sales

What will help fuel the rush into genetic testing is the fact that most health insurance companies will now pay for this testing when it has been recommended by a doctor. In addition, the US Food and Drug Administration (FDA) has been suggesting that pharmaceutical companies start using genetic tests to determine who can best benefit from their drugs. The obvious agenda will be to sell genetic testing as the initial step in a program of "high-tech prevention." It opens up an enormous untapped market where all sorts of drugs can be sold to, and surgical procedures performed on, otherwise healthy individuals, all in the name of prevention. It may sound far-fetched but it's already happening.

Doctors in the US are performing preventive surgery on young women genetically predisposed to breast cancer. Their breast tissue is removed before any signs of cancer appear, and it's replaced with implants. "Preventive drugs" are being recommended to help perfectly healthy individuals lower their cholesterol, allegedly to stave off a future heart attack. As I discussed last month, millions are now taking aspirin on a routine basis. And then we have those in the medical community and pharmaceutical industry promoting the PolyPill concept; this is the idea that everyone over 40 should take a combination of a statin drug, blood pressure medications, folic acid, and aspirin to prevent heart attacks later in life. The writing is on the wall: If those promoting pharmaceuticals and surgical intervention have their way, genetic testing and "medical prevention" will be the wave of the future. If only things were that simple. They're not.

Genetic testing can be a fantastic tool and a fascinating field of study. Through the genetic information passed from our parents, we each inherit as many as 3,500 different traits. In addition to the more obvious traits such as eye and hair color, the genes influence whether we have a dimple, go bald,

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

can roll our tongue, are right- or left-handed, have good eyesight, and so forth. And while genetic defects may be the direct cause of conditions such as cleft palate, in many cases the health problems we experience are not solely genetic. Rather, they are partially genetic and partially environmental. Genetic testing can indicate a stronger predisposition to develop a disease or problem, but keep in mind that other factors may be involved. Genetic predisposition is just one piece of the puzzle. Cancer is one such example.

There are definitely some cancers that appear to ride on the coattails of genetic abnormalities, most of which you've probably never heard of: increased rates of leukemia with Wiskott-Aldrich syndrome, Bloom's syndrome and Fanconi's aplastic anemia, or intestinal cancer and Werner's syndrome, to name a few.

The Proof Is in the Profile

For the most part, it appears that when families have a greater tendency to develop cancer, that cancer isn't generally site-specific. In other words, if colon cancer seems to run in the family, then you may be more susceptible to other forms of cancer as well. This strongly suggests that instead of inheriting the tendency to develop a particular cancer, you may have inherited a genetic factor that makes you more susceptible to environmental agents that can cause cancer such as certain chemicals, viruses, cigarette smoke, drugs, and so on. It may also be that you have inherited something as seemingly simple as a food allergy or other problem that makes it more difficult to digest or use the various nutrients that help protect against cancer.

As nice as it would be, we don't have one simple test, genetic or otherwise, that can account for all of these circumstances. That's why one of the most important tools a doctor has is your personal medical history *and the history of your family.* Unfortunately, very few doctors spend the time or effort to delve into a patient's medical history, much less that of their family. Technology, as well as efforts to reel in escalating medical costs, only seem to be widening the gap between patients and the doctors who treat them.

One of the emerging business issues today is the controversy over outsourcing, wherein companies cut costs by moving certain operations overseas. You might be surprised to learn that many hospitals and clinics have been doing this for years. Your local hospital or clinic may already employ radiologists in Australia or India to read and evaluate their x-rays, CAT scans, or MRIs. (A radiologist in India can be paid in the neighborhood of $30,000 annually, compared with $150,000 or more in the US.) The treatment you receive may well be determined by a doctor you'll never see, living on the other side of the planet.

It also seems fewer and fewer doctors perform their own examinations or histories on patients. These procedures have been delegated to physician assistants or other personnel, if they are performed at all. As a result, many of the innate and intuitive diagnostic skills once possessed by doctors are being lost. Competent doctors in the past personally performed full-blown, hands-on examinations, and after years of practice, many could, for example, accurately detect cancer and other problems based on subtleties such as the smell of the patient or the color and texture of the tongue. One of the most valuable tools at their disposal was the medical history of the patient and the patient's family. Properly used, it was like having a crystal ball. Unfortunately, although most doctors these days readily see the potential of genetic testing, they've completely overlooked the fact that a thorough medical history can provide many of the same benefits.

Tree of Health

By correctly evaluating the medical history of your family, not only can you predict and prevent future health problems, but *you will be armed with the information you need to eliminate or minimize practically any health problem you might have, even after conventional medical approaches have failed*. You can use it to dramatically change your own life, and it can be used to help prevent a lot of suffering by extending the lives and well-being of your children, grandchildren, and further offspring. In addition, you'll maintain a high degree of privacy in relation to potential health problems. It also doesn't cost a small fortune like genetic testing does. If there's any downside, it's that it may require a little detective-type work and effort to compile your family tree.

The family tree we're talking about is more than a listing of relatives. It needs to include as much medical information as possible about your parents, grandparents, uncles, aunts, cousins, and siblings. In addition to major illnesses and cause of

death, list any symptoms, pains, allergies, hormone disturbances, and mental problems, as well as anything related to pregnancy such as miscarriage, gestational diabetes, nausea/vomiting with pregnancy, and toxemia. The more information you can obtain, the more useful the family tree will be.

As you know, I've spent a great deal of time in Australia investigating native plants and remedies. I've also had the opportunity of testing many of these materials on race horses. It just so happens that in the race horse industry (and in the cattle and dog industries, as well), family trees have been used for decades to improve health, disposition, performance, stature, and other characteristics. Although most of our ancestors didn't consciously choose their mates based on pedigree, our looks, talents, likes, dislikes, and even our state of health have a direct link to our ancestors through our genes. If the latest breakthroughs in genetic mapping have done anything, they have conferred more legitimacy to doctors who have been successfully diagnosing and treating patients based on family history.

One of these doctors is Chris Reading, who practices and resides in Sydney. He has been analyzing and using family trees to treat patients for more than 20 years. The results he has achieved are remarkable.

Dr. Reading has written a book that not only explains exactly how to compile your family tree, but also describes which traits are passed on genetically and how. He further shows how this information can be used to successfully prevent and treat everything from schizophrenia and multiple sclerosis to heart disease and diabetes. The book provides numerous, real examples of family trees and how they saved patients' lives.

In most of the cases Dr. Reading has resolved, the treatment was as simple as eliminating a certain allergy-linked food or correcting a vitamin or mineral deficiency. And in each case, a close evaluation of the family tree revealed that the same problems had been passed from generation to generation without being correctly diagnosed or treated. After homing in on the true underlying cause, treating the condition is often quite simple. Dr. Reading's book, *Trace Your Genes To Health,* should be required reading for every health professional, and it's one you should have in your library.

Trace Your Genes To Health is available from Vital Health Publishing, phone 877-848-2665, or on the Internet at *www.vitalhealthbooks.com*. The publisher will give a 15-percent discount on the regular price of $15.95 and free shipping if, when you order, you mention the code ALT.

Even if you don't purchase Dr. Reading's book, providing a knowledgeable doctor with a detailed family health history will give him or her a powerful tool that can be used to better target treatment and prevention programs.

Addressing These Five Will Save Lives

When you look at Dr. Reading's findings and other similar research and compare that to the disease trends in the US and other Westernized countries, it appears that there are five "triggering" factors to be aware of. Simply by addressing these factors, you can probably address a majority of the subtle genetic weaknesses that can be linked to most of the increasingly common diseases. These genetic weaknesses have been passed from generation to generation, but the habits we've adopted in just the last two or three generations are what have caused an epidemic of certain diseases.

The whole situation has caused a windfall for pharmaceutical companies. They would love to convince the public these problems arise from drug deficiencies. Strangely, many people appear to be buying that story. But I guess there are a lot of people who buy stuff like Promise margarine without knowing what it's promising (a heart attack?).

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Author: Dr. David Williams; Publisher: Glynnis Mileikowsky, Editor: Meg de Guzman

Each year, the Centers for Disease Control publishes a National Vital Statistics Report. Although to most it's a pretty boring report, it does paint a clear picture of what people die from in this country. Other than those in the pharmaceutical and insurance industries, I suspect that I'm one of only a handful of individuals who read the document. (*National Vital Statistics Report Vol. 52, No. 3, Sept. 18, 2003*)

If you have absolutely nothing else to do and decide to read the report, you'll notice several key points. For one, the main causes and the number of deaths change as we age. The fact that the leading cause of death in those 65 and older is heart disease explains why pharmaceutical companies are pushing anti-cholesterol drugs, aspirin, and things like the PolyPill on everyone over 40. It also explains why the drug companies have recently begun promoting the use of antidepressants to the 15- to 24-year-old age group. They want to capitalize on the fact that suicide is one of the leading causes of death among this group.

What isn't apparent from the report, however, is the fact that many of the diseases experienced later in life are influenced by what happens during childhood or adolescence. For example, your height is determined by both genetics and the nutrition received during the first five years of life. Bone and tooth strength, and therefore your risk of later developing osteoporosis, is in large part determined by your calcium intake and the amount and type of exercise performed in adolescence. Research also seems to support the idea that the number of fat cells you have to deal with during your life is determined during childhood.

Ideally, we would have started our prevention campaigns by age 5. Since we can't roll back the clock, most of us have to play catch-up and get as specific as we can when it comes to prevention. This is why a medical family tree and the increased use of supplements can prove to be so important. And there are several other areas that make a huge difference, regardless of when changes in them are implemented.

1. Blood Sugar Control

If you were to ask me what was one of the most important actions you could take to slow the aging process and increase lifespan, I would say it would be stabilizing your blood sugar. Not everyone will agree, but let me share some supporting facts.

Years ago, I warned that diabetes would become one of Western civilization's most common diseases. Sugar consumption has increased dramatically with each passing decade. The consumption of white flour and highly-processed grain products is also higher now than at any other time in our history. When ingested, these simple carbohydrates are quickly absorbed, causing a rapid spike in blood glucose, or blood sugar. Your body tries to remedy the increase in blood glucose by producing more insulin. Insulin helps trigger the production of sugar (glucose) "receptors" within cells throughout the body. These receptors allow glucose to enter the cells, where it's metabolized for energy. In type 2 diabetes, your pancreas continues to produce enough insulin, but over time, cells become increasingly resistant to its effects. Fewer sugar receptors are produced, and blood sugar levels stay elevated.

When your cells can't absorb sugar from the bloodstream, they begin to metabolize fat and protein for energy. (This is one reason the Atkins-type diets promote weight loss. When carbohydrates are either eliminated or minimized, the cells are forced to break down fat and protein for energy.) Acidic byproducts called ketone bodies are produced when fats and proteins are broken down. (In diabetics, if these byproducts aren't compensated for, the individual can go into an acidic coma [diabetic ketoacidosis] and die.)

Diabetes affects more than 17 million Americans. Unfortunately, as much as half of the population in this country unknowingly has glucose-handling problems and could be labeled "prediabetic." Although current blood tests may indicate your fasting blood glucose levels are within the "high normal" range of 86–109 mg/dL, many authorities now say anything over 85 mg/dL is a serious threat to health. If you fall into this category and continue to consume sugar and refined-grain products, elevated blood sugar levels will put you at increased risk of heart disease, stroke, nerve and kidney damage, depression, circulation problems, blindness, and premature death.

Elevated blood glucose levels combined with insulin resistance is a deadly combination. The excess glucose in your bloodstream floods into, and creates havoc in, the cells that line your blood vessels and nerve cells. The excess glucose can't

be metabolized fast enough and triggers a chain reaction, leading to a process called glycation, which I discussed in depth in *Alternatives* June 1999, Vol. 7, No. 24. Glycation is a complex process wherein sugars transform proteins into useless cellular debris called advanced glycation end products (AGEs). Glycation is associated with the aging process, poor enzyme production, diseases such as Alzheimer's, and abnormal DNA formation (which may help further explain some of Dr. Reading's findings).

Everyone these days seems to be obsessed with finding a way to slow the aging process. Watch the progression of a diabetic patient, and you'll get an accelerated picture of this process. Research now indicates that the triggering factor appears to be a long history of elevated blood glucose levels.

The only proven method of increasing the maximum lifespan is severe caloric restriction, or, in simple terms, reducing the amount of food you eat. One reason this works is that it lowers your fasting glucose levels and your need for insulin. While you may not be willing to constantly under-eat in an effort to increase your lifespan (I'm not, either), you should make every effort to eliminate refined sugar from your diet and also minimize or eliminate refined-grain products such as wheat flour. In his studies involving genetic predisposition to various diseases, Dr. Reading has found that eliminating gluten-containing grains, including wheat, from the diet proved to be one of the pivotal tools in preventing the development of and treating many so-called autoimmune diseases and cancers.

Research has also shown that several nutrients can be helpful in reducing fasting blood glucose levels. These include chromium, magnesium, zinc, vanadyl sulfate, alpha lipoid acid, biotin, carnitine, and vitamin B1 (thiamine). I've written about the importance of each in the past. I feel so strongly about their importance that I've also made them an integral part of my supplement formulations. There are two additional items that can almost miraculously turn around the effects of elevated blood glucose levels.

The first item is nattokinase, which I discussed in detail in the November 2002 issue (Vol. 9, No. 17). Natto has the ability to break down fibrous clots that form in blood vessels and impede circulation, which is a serious complication of not only cardiovascular disease, but diabetes as well.

The second is a fat-soluble compound derived from vitamin B1 (thiamine). Until now few people were even aware of this compound. As I mentioned, when blood sugar levels are high, blood-vessel and nerve cells get flooded with glucose. Some of the most delicate nerves and vessels, such as those in the retina of the eye and the filtering units of the kidneys, begin to exhibit problems first. Scientists have known for some time that your body tries to block the absorption of excess glucose with specific enzymes. The production of these enzymes is dependent on vitamin B1. Because the vitamin is water-soluble, it's difficult for your body to build up any reserve, particularly if blood glucose levels are constantly elevated.

In 1962 Japanese researchers discovered a fat-soluble derivative of vitamin B1 called benfotiamine (pronounced ben-foe-tee-uh-meen). It is found naturally in very small quantities in crushed, roasted garlic, onions, and leeks. Being fat-soluble, it is better absorbed and retained by the body. For the last 12 or 13 years, benfotiamine has been used in Europe to help protect cells from excess glucose and the AGEs that result. Only recently has this amazing compound become available in the U.S. It can be a godsend if you know how to use it.

In one recent German study, researchers found that benfotiamine could block three of the four major pathways in which excess blood sugar damages blood vessels, making diabetes the leading cause of blindness, kidney failure, heart attacks, and leg amputations. (*Nat Med 03;9(3):294-9*)

Another German study, one from the United Kingdom, and another in Hungary all found that benfotiamine not only could help eliminate the pain and the loss of sensation in diabetic neuropathy, but it might also help reverse the condition. (*Exp Clin Endocrinol Diabetes 96;104(4):311-6*) (*Diabetes 03:52(8):2110-20*) (*Arzneimittelforschung 99;49(3):220-4*)

Another study found that benfotiamine inhibited the formation of AGEs. (*Diabetes 00:49(Suppl1):A143(P583*)

In an Italian study, it was also shown to be effective in the treatment of Tourette's syndrome. And there are indications that it may help in a long list of other neurological conditions, including

Bell's palsy, tic douloureux, herpes simplex, herpes zoster (shingles), and hypersensitive teeth. (*Neurology 97;48(2):381-3*)

Benfotiamine has been tested at varying dosages without any side effects. Generally, I would recommend starting with 300–450 mg daily for the first six weeks and then reducing it to 150 mg per day for maintenance. The proper maintenance dosage might vary, depending on factors such as body weight and severity of the problem. Just adjust the dosage so you are able to maintain any improvements you experience. There have been studies using initial doses of 600 mg a day, which were later tapered down after six to eight weeks. If you follow the suggestions above, you shouldn't have any problems.

You can order pharmaceutical-grade benfotiamine from Brentwood Health International by calling (toll-free) 866-796-3539. They sell 100 tablets (150 mg each) for $29.95, which includes s/h. It's even less expensive if you order three bottles at a time. Mention you're an *Alternatives* subscriber to get a $3 discount off your first bottle of benfotiamine. Visit their Web site, *www.emuhealthproducts.com*, and sign up for their e-letter to obtain this discount on an ongoing basis.

2. Essential Fatty Acids

A growing body of research supports the idea that a diet rich in essential fatty acids is another tool that can be used to keep certain genetic faults from expressing themselves.

In a very recent study, researchers found that certain individuals had a genetically-linked increase in the production of certain compounds called leukotrienes, which trigger inflammatory responses in blood vessels. The inflammation results in thickening of the arteries, which speeds up the clogging of the arteries. The researchers said having this genetic fault was as bad as having type 2 diabetes, which triples the risk of heart disease compared to someone without either of these problems. When these individuals were given omega-3 oil (fish oil), the chronic inflammation stopped, as did the arterial thickening. In other words, adding fish oil supplements to the diet kept the genetic fault from increasing the risk of heart disease. *(NEJM 04;350:29-37*)

Numerous studies and clinical work have demonstrated the benefits of fish oil, flax, and other nut and seed oils. As we learn more about their influence on genetic expression, I'm sure they will be seen as even more valuable tools for maintaining and restoring health.

3. Medication Use

I'm talking about both over-the-counter (OTC) and prescription medications. In the large majority of cases, drugs, at best, either mask the problem or treat the symptom while the true cause of the problem continues to wreak havoc behind the scenes. It is rare that a drug actually cures a disease. Instead, the drug usually allows the user to become more comfortably ill.

Side effects are another issue with drugs. Aside from the more obvious ones, the most overlooked and dangerous side effect is impairment of the absorption of various vitamins and minerals or the steady depletion of them. If you take any drugs on a regular basis, I urge you to check a source like the *Physician's Desk Reference* to see what deficiencies they may be creating. This book can be found at your doctor's office or in your local library. There are also numerous online sources for this type of information.

Research continues to show that simple nutritional deficiencies very often determine whether you will actually develop a genetically-related disease. A recent Swedish study revealed the connection between a genetic predisposition for developing Alzheimer's disease and deficiencies of vitamin B12 and folic acid. The study found that in a group of 167 healthy older individuals (average age 83), 28 carried a gene mutation found to increase the risk of dementia, and 54 did not. Researchers were unable to determine the status of the other 85. (Further examination revealed that previously-undiagnosed deficiencies of vitamin B12 and folic acid had a far more detrimental effect in those with the genetic fault and significantly increased their risk of developing Alzheimer's disease. (*Neuropsychology April 2004*)

Numerous medications deplete vitamin B12, folic acid, or both. Some of the more common culprits include anti-inflammatory drugs (NSAIDs), anti-diabetic agents, anti-cholesterol medications, and diuretics. This is only one of many studies that have demonstrated how genetic factors and non-genetic factors, such as vitamin deficiencies, interact and significantly increase your risk of developing various diseases.

I have no doubt whatsoever that chronic nutritional deficiencies, often triggered by widespread legal drug use, are a major contributor to

the leading causes of death in this country. *If you take any medication without supplementing for the nutritional deficiencies they create, you can predict with almost 100-percent certainty that you will experience far more serious health problems in the future.*

Adding the proper supplements to your diet is only part of the equation. I've found that for many individuals, digesting and absorbing various vitamins and minerals has become a major problem. In his book, Dr. Reading says he feels that much of the difficulty stems from an inherited sensitivity to glutens, or grain allergy. I also feel that recent changes in our eating habits have compromised our digestive systems and hampered our ability to properly assimilate our foods. In previous issues, I've covered the need for more raw foods, fermented foods, probiotics, and digestive enzymes, so I won't go into those here. However, grain allergy is a serious problem with strong genetic links you should know about.

4. Food Allergies

Dr. Reading believes that allergies to gluten-containing grains, a condition called celiac disease, are a primary factor that leads genetic predispositions to develop into health problems. I couldn't agree more.

For some reason, there's a misconception in this country that celiac disease is a rare condition. Nothing could be further from the truth. Numerous studies have shown it to be a very common yet under-diagnosed problem. In the general population, celiac disease affects one in every 130 to 300 individuals. As Dr. Reading has found, it is far more common among those with relatives having the disease. It is associated with a 95 percent genetic predisposition. If one of your second-degree relatives (aunt, uncle, grandparent) has celiac disease, you have a 1 in 39 chance of also having the problem. If one of your first-degree relatives (mother, father, sister, brother) has celiac disease, your risk increases to a 1 in 22 chance. This is another area where a detailed family health tree can prove to be a lifesaver. (*Arch Internal Med 03;163(3):286-92*)

Celiac disease is actually an allergy to certain storage proteins found in grains, called glutens. If you have celiac disease, the allergies to the glutens in wheat, rye, and barley are so severe that many tissues throughout the body can be destroyed. And although they definitely result in the destruction of the mucosa of the small intestine, you may not experience outright intestinal problems. Instead, you may exhibit symptoms such as generally poor health, fatigue, depression, weakness, joint pain, osteoporosis, and nighttime bone pain associated with the loss of calcium. Since these symptoms can result from other problems, the diagnosis of celiac disease might not be made for years, if ever. And during that time you could needlessly suffer from skin problems, cancer, or dozens of other serious diseases.

Other conditions often associated with adult celiac disease include thyroid disease, type 1 diabetes, lactose intolerance, arthritis, bowel and stomach cancer, eczema, and allergies, any of which should send up a red flag when you review your family health history.

Often, the problem begins in childhood. And though no two children (or adults) seem to have the exact same symptom profile, you can expect to see one or more of the more common symptoms: abdominal pain, diarrhea, no appetite, skin rashes (often itchy and blistery), anemia, stunted growth. If the condition isn't addressed, eventually the classic signs of malnutrition will appear, including the large tummy, thin thigh muscles, and flat buttocks.

There are a couple of reasons the symptoms and other diseases caused by celiac disease are so varied; one is the body's severe allergic reaction to the glutens. Second, the damage to the small intestine impedes the absorption of essential vitamins, minerals, and nutrients. Deficiencies in the B vitamins can lead to depression, mental problems, and the expression of neurological diseases, such as the Alzheimer's discussed earlier. Deficiencies of essential fatty acids lead to skin disorders, cancer, etc. Inadequate calcium absorption results in osteoporosis, joint deterioration, muscle weakness and wasting, heart disease, etc. The list related to various deficiencies goes on and on. In addition to deficiency problems, the damaged intestinal wall allows undigested proteins to enter the bloodstream, triggering additional allergic reactions throughout the body.

Based on the variety of related, complex symptoms, it's easy to see why the diagnosis of celiac disease is often overlooked. That's why a family health tree can be of such great help. Once it is determined that celiac disease could be a factor, there are very specific antibody blood tests

your doctor can order. The presence of certain antibodies provides a definitive diagnosis, and the antibodies will rapidly decline once the problem is treated.

The treatment for celiac disease is quite simple and can be followed even if there's just a strong suspicion of the disease. Generally, it involves the elimination of the offending glutens, found in wheat, rye, barley, and any products made from these grains. (Oats are often eliminated because they can be contaminated with wheat residue during processing.)

I'll be the first to admit that eliminating all wheat products, much less trying to determine which products contain wheat, can be a staggering task. Aside from the obvious wheat-containing foods such as bread, pasta, cookies, and crackers, wheat flour is often a hidden ingredient in many processed foods, including frozen french fries, soy sauce, and rice cereal, just to name a few. However, there are dozens of books, charts, and resources to facilitate the elimination process. A good starting place for lists of gluten-free foods and other information is the Celiac Sprue Association. They can be reached toll-free at 877-272-4272 or through their Web site at *www.csaceliacs.org*.

If you have health problems that have been difficult to resolve, I would certainly suggest looking into a connection to grain allergies. And there's no downside to going on a gluten-free diet. If possible, find a doctor who is familiar with celiac disease and can help monitor your particular situation. Often, even after eliminating glutens, it is necessary to increase certain nutrients to compensate for past deficiencies, the continued inability to absorb them, or both.

5. Environmental Factors

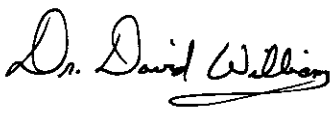
It would be difficult to list all of the possible environmental factors that could trigger the expression of a genetic flaw. I feel certain that individuals often react differently to various chemical pesticides, herbicides, or pollutants in part because of their genetic makeup. And, of course, factors such as proper diet, exercise, weight control, pure water, and clean air and foods can help your body compensate for genetic weaknesses. I certainly don't want you to discount those, but instead of beating that horse to death, I've focused on areas that might be less familiar.

A Little Low-Tech Investigation Is Your Best Investment

While genetic testing can be a fantastic tool in helping to assess the potential risk of things like birth defects, relying on the current technology for predicting one's future health has some serious shortcomings. One is the very serious privacy issue. The results of a single unfavorable test could ruin an individual's employment opportunities for a lifetime, and any possibility of obtaining health insurance would vanish. Cost is another obvious issue. And, such information would be used to promote or sell "preventive" surgery or the lifelong use of drugs, particularly when simple dietary changes, the avoidance of certain environmental factors, or both would suffice.

Knowing and documenting your family health tree is a method of enjoying many of the positive aspects of genetic testing while sidestepping its shortcomings. Not only will it prove to be invaluable to future generations, but Dr. Reading has shown how it can help reveal the underlying causes of any health problems and be an effective tool for correcting them. And in this era, when diagnosis seems to be a dying art, this is no small feat.

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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