



# Health Hunters

Newsletter A service of the Riordan Clinic, cofounded in 1975 by Olive W. Garvey and Hugh D. Riordan.  
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## HOW TO AVOID ENVIRONMENTAL TOXINS: "THE TACKS LAWS"

By Charles Hinshaw, MD

The Tacks Laws sprang from the pen of Sidney Baker, MD. These laws furnish us a good introduction to the subject of environmental toxins; think of a tack as an environmental toxin.

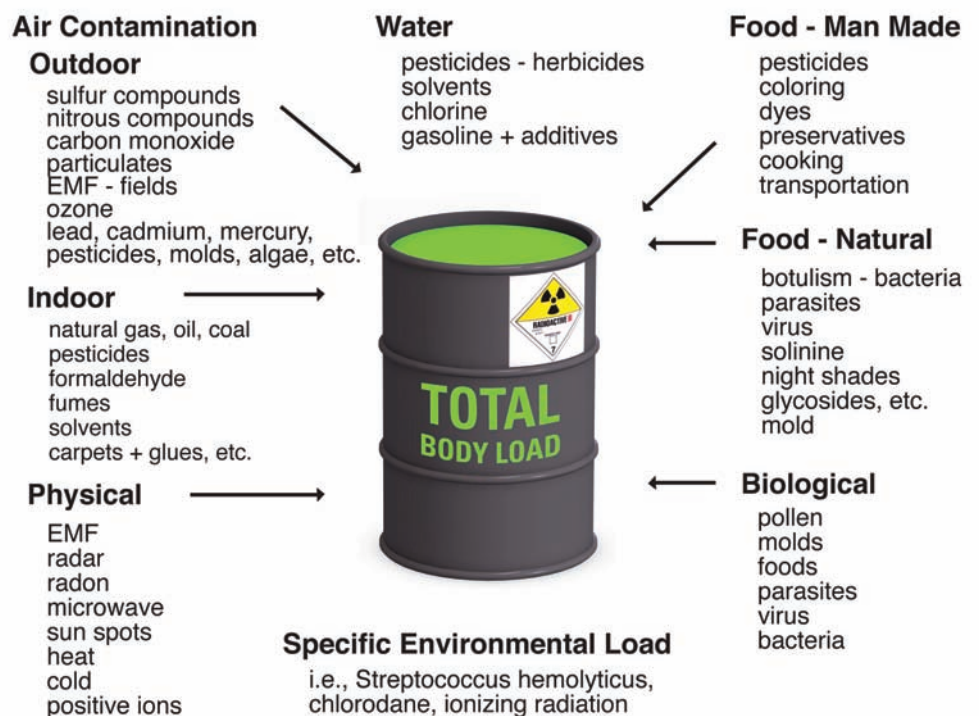
### THE TACKS LAWS

1. If you are sitting on a tack, it takes a lot of pain killers to make it feel good. The appropriate treatment for tack sitting is tack removal.
2. If you are sitting on two tacks, removing one does NOT produce a 50% improvement.

In this analogy a tack is an environmental toxin. Environmental toxins (tacks) are responsible for many of the chronic illnesses plaguing us. The essential questions are where do we encounter them and how do we avoid them?

Environmental toxins are found in air, food and water. The following illustration reveals the many types of toxins and where they are encountered. Note that the barrel represents the human body and as the barrel fills with toxins, overflow eventually may occur resulting in chronic illness. This is known as environmental overload.

### Total Environmental Load



## Inside This Issue

- How to Avoid Environmental Toxins **1**
- Letter from the Editor **2**
- Patient Profile **3**
- HCG Weight Loss SUCCESS **4**
- Chelation & Metal Intoxication **4**
- Summarizing Your Supplements **5**
- Did You Know? **6**
- Lunch and Lecture Series **7**





## Letter from the Editor:

by Amanda Hawkinson

Did you know that Earth Day is a relatively new holiday? It was first celebrated on April 22, 1970 in the United States and was observed by only 20 million people. From these humble beginnings, Earth Day has become an international event that includes more than 500 million people in 175 countries taking part in the celebration.

In honor of Earth Day, this issue of the *Health Hunters Newsletter* will focus on reducing and avoiding environmental toxins. Dr. Charles Hinshaw discusses where we encounter these toxins and how to avoid them in his article "How to Avoid Environmental Toxins." Toxic metals are found in the food we eat, the water we drink, and the air we breathe. Learn more about toxic metals in the article "Chelation and Metal Intoxication" by Nina Mikirova, PhD. Plan to join us for our April 14th Lunch and Lecture on the "Dangers of Food Additives," presented by the Riordan Clinic's newest addition, Dr. Jennifer Kaumeyer.

For over 40 years, Earth Day has inspired and mobilized individuals and organizations worldwide to demonstrate their commitment to environmental protection and sustainability. Our environment is precious. For more information about how you can help our environment take a look at [www.earthday.org](http://www.earthday.org).

For more information on upcoming events and Riordan Clinic specials, please take a look at our website [www.riordanclinic.org](http://www.riordanclinic.org) and don't forget to "Like" us on Facebook.

Thank you for reading!  
Amanda Hawkinson  
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## WAYS TO AVOID ENVIRONMENTAL TOXINS: TACKS AVOIDANCE

### FOODS



Once the sources of toxins are recognized, avoidance becomes easier. The best way to avoid toxins in foods is to eat only fresh, certified organic foods. These foods are not always readily available and are often expensive. Exterior surfaces of meats, fruits and vegetables can be cleaned of pesticide residues and color enhancers, etc. by gentle scrubbing and rinsing using mild detergents and warm water, or as with meats, by soaking for 30 minutes in a dilute solution of water and bleach, one quart of water per one ounce of bleach. Unfortunately, cleaning procedures cannot deal with the problem of pesticide spraying of immature plants, and injections or feeding of antibiotics and hormones to livestock and poultry. In the instance of aquatic animals, we have learned that the flesh of most large salt-water fish is contaminated by mercury and that most bottom feeders, e.g. shrimp and lobster, may contain toxic metals. All of these food toxins are bioaccumulative, meaning that over time numerous small exposures may eventually add up to toxic levels in humans, an environmental overload, which is a disadvantage of being at the top of the food chain.

### WATER



Water pollution by industrial and agricultural chemicals, by microorganisms, and even by toxic elements found in soil and rock, is an ongoing world-wide problem. Fortunately, in Wichita (where the Riordan Clinic is based) and indeed throughout most areas in all 50 of the United States, we have readily available sources of fairly good water for drinking and cooking. This is not by accident and our Public Health officials, engineers, doctors, law-makers, scientists and technicians are to be commended. However, even though the water flowing into your home is of high quality, at the faucet it may contain unsafe levels of lead or copper leached into the water from your home's water pipes.

In Wichita, for example, our city water contains a number of organic chemicals that are industrial and agricultural in origin. Wichita's source of pure water, the Equus Water Beds, has been slowly depleted over several decades. This has caused encroachment of nearby ground water that contains notably higher levels of salt, which is not a good thing for those on a low salt diet. Our other source of water is from Lake Cheney, a body of water subject to surface run-off of agricultural chemicals and microbes. Indeed, analysis of Wichita water shows low levels of these chemicals and microbes that are believed to be safe. Beyond the safety of drinking water, we need to be wary of eating fresh-water fish caught in Kansas and other states. Many rivers and streams in Kansas have been found to be so contaminated that official warnings, that are issued annually, advise sports fishermen to not eat fish caught in those streams, including the Arkansas River as it flows through Wichita.

How can we avoid the environmental toxins that may be present in our drinking water? Home water filters, whether by or under the kitchen sink, or whole-house, offer a ready and affordable means to clean our homes' water. Most brands perform at acceptable levels; whole-house water filters have the advantage of removing chlorine from shower and bath water. The alert consumer is advised to compare one brand or type to another in order to best fulfill his needs.

Finally, be careful when purchasing water supplied in the popular small plastic bottles. Labeling of these products is often incomplete or misleading. Some of these brands do come from natural springs and some from tap water. Almost all, by one means or another, have been filtered to remove toxic chemicals and microbes from the water. Testing by The Environmental Working Group in 2009 revealed that of the ten brands tested, each contained an average of eight contaminants/toxins. A total of 38 different low-level contaminants were identified, including disinfectants, caffeine, Tylenol, nitrates, industrial chemicals, arsenic and bacteria. Also, the plastic bottles themselves are a recognized source of toxins, including cancer causing PFOAs (perfluorooctanoic acids), flame retardants (PBDEs), which may alter thyroid function, reproductive toxins (phthalates), and estrogen mimics (EPAs). This all leads to a final recommendation: drink and bathe in home-filtered tap water, it will be better for your health and your wallet.

# Patient Profile

By Nichole Kunkel, RN

In August 2010, a 56-year-old female came to the Riordan Clinic with multiple complaints. She continuously suffered from Irritable Bowel Syndrome (IBS), Fibromyalgia, Chronic Fatigue, anxiety, poor sleep, chemical sensitivities, joint and muscle pain, and hypertension. Although she has a very active lifestyle, simple smells such as perfumes, colognes, lotions, cleaners, paints and even medications triggered systemic reactions causing symptoms such as elevated blood pressures, headaches, anxiety and pain. Her hope was beginning to fade after many visits to multiple doctors and a diagnosis of heavy metal toxicity, until she found the Riordan Clinic.

After the initial consultation with her Riordan Clinic physician, several lab tests were performed including a female hormone health panel, thyroid panel, lipid profile, renin test, C-reactive protein, creatinine, and an Expanded NeuroAdrenal panel.

The tests results revealed low thyroid levels, high cholesterol and LDL, and varying cortisol levels. She had low serotonin, glycine and taurine as well as elevated DOPAC, GABA, glutamate, PEA and histamine. Low levels of progesterone and 2:16 $\alpha$ -hydroxyestrone as well as high levels of estrone and 16 $\alpha$ -hydroxyestrone were also evident.

Her treatment recommendations included iodoral to work synergistically with a thyroid replacement therapy and a hormone replacement regimen. Supplements including niacinamide, which is used for anxiety, L-glycine powder, L-glutamine and calcium D-glucanate to help rebuild neurotransmitters, and pantothenic acid (B5) to help rebuild adrenals were recommended. Intravenous chelation therapy was started to remove excess heavy metals.

A detoxification protocol using alpha-lipoic acid and glutathione intravenously has been added to her therapies as well as alternating intravenous chelation and intravenous vitamin C infusions to continue to build her immune system. We foresee many more improvements in her overall health and well-being as we continue to cleanse her body of toxins.

"Looking back a year ago from now, I would have never imagined being where I am today," says the patient. "I am completely pain free! I am in a completely different and happy state of mind now. I can play golf, exercise 6 days a week and socialize, not because I have to, but because I GET to and I CAN now."

If you have chronic health issues, make an appointment today by calling 316-682-3100. The help, hope and healing we provide can make a positive impact in your life, just as it did for this patient.

## AIR



Air pollution is a long-recognized problem in all industrialized societies. We tend to visualize industrial smokestacks belching clouds of particulate contaminants and not-so-obvious chemicals. We visualize crowded freeways choking in a haze of exhaust fumes. Our politicians are now wrestling with the idea of rising and arguably dangerous levels of invisible carbon dioxide in our atmosphere. These pollutants are overwhelmingly toxic to humans as well as many other life forms. Respiratory illnesses caused by air pollution are a major concern. Fortunately, the EPA (Environmental Protection

Agency) and other Federal agencies are working with these problems in the US and our levels of air pollutants are diminishing. Unfortunately, advances in the control of air pollution are off-set by air pollution in heavily industrialized nations in Europe and Asia, since prevailing winds often move pollution across continents and oceans.

A second type of air pollution that is much less recognized is indoor air pollution. Over forty years ago, Dr. Theron Randolph, the first environmental physician, testified in a Congressional hearing that the air in our homes is ten times more polluted than the outdoor air surrounding the house. His testimony, then scoffed at, has now been proven by numerous studies. The sources of indoor air pollution are easy to find and fortunately they are relatively easy to do something about.

First, think about where indoor air comes from: outside air. This means that, for all intents and purposes, untreated indoor air cannot be less polluted than its source, outdoor air. Second, consider that in the name of energy efficiency we are making our homes airtight. This type of construction has led to the illness referred to as "Tight Building Syndrome". Add airtight construction to the many sources of indoor air pollutants/toxins and it soon becomes apparent why indoor air, on average, is many times more polluted and toxic than the outdoor air surrounding the house.

Sources of indoor air pollution include fumes from gas stoves and from improperly maintained gas furnaces and water heaters. Fresh wall paints outgas fumes from the solvents used in their manufacture. Plywood and particle board contain high levels of glues which again outgas fumes from solvents. Synthetic fabrics, especially those with polyester content, outgas petroleum-based fumes. Other air pollutants can include perfumes, fabric softeners, detergents, plastics and aerosols. The list goes on and on. By building and furnishing with natural materials; painting with low-solvent products, such as paints that are low in volatile organic compounds (VOCs); heating with electricity or making sure your gas furnace and water heater are well maintained; and considering the use of an indoor air cleaner/purifier, we can reduce indoor air pollution.

**RESULTING ILLNESSES.** Food sensitivities, for example, are linked to migraine headaches, arthritis, and even an irregular heartbeat. Food contaminants may include, but are not limited to mercury, as previously mentioned. Contaminated water can lead to anemia and gastric problems, cancer (nitrates), and infections caused by bacteria, viruses and parasites. Air pollution caused by Tight Building Syndrome can lead to Multiple Chemical Sensitivities, and conditions associated with exposure to solvents, including leukemia.

The Riordan Clinic emphasizes avoidance of these toxins whenever possible. With our specialized lab testing, we study levels of toxins in the body. If you believe your health issues could be caused by environmental toxins, schedule an appointment with a Riordan Clinic physician today. Remember, don't sit on tacks!

# HCG Weight Loss Intervention— Another SUCCESS Story!

A 25-year-old male contacted the clinic in January 2011. Tired of being overweight and not feeling good, he had started a diet on his own. Although the weight came off in the beginning, he had hit a plateau, had no energy, and needed help. After his mother read about the Riordan Clinic HCG Weight Loss Intervention, they decided to make the program a family endeavor.

The patient and his parents travel three hours one-way for their appointments and are determined to lose the weight and keep it off. While all three are doing amazingly well, we are thrilled to report that the 25-year-old started the HCG intervention on January 6, 2011 weighing in at 215 pounds and as of March 17, 2011 weighed 175 —that's a loss of 40 pounds! Now that is SUCCESS—and he is not done yet!

This patient is a great example of the weight-loss success that awaits you with the Riordan Clinic HCG Weight Loss Intervention. Go to [www.riordanclinic.org](http://www.riordanclinic.org) for additional information. If you are ready to improve your health and well-being call 316-682-3100 to get started today!

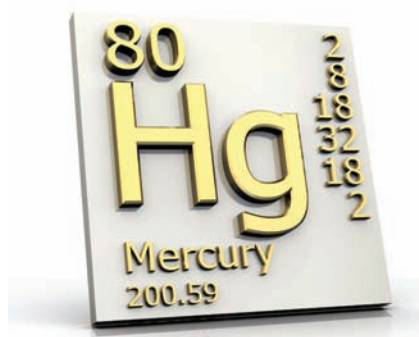
## Chelation and Metal Intoxication

By Dr. Nina Mikirova, Research Scientist

**In an industrialized society like ours**, a wide variety of contaminants are released into the environment every day. The sources of environmental contamination by toxic metals can be natural or man-made. Natural contamination may occur from erosion or seepage from metal-rich, superficial deposits or volcanic and thermal-spring activity. Human activities play an important part in man-made environmental pollution, including: mining, smelting, and the manufacturing of paper, cement, brick, fossil-fuel combustion, and inorganic fertilizers, among others. Although there are many intoxicating metals, lead, mercury, arsenic, and cadmium seem to be the most common.

The most familiar of these are lead and mercury. Lead toxicity most commonly occurs with prolonged exposure to old houses with lead paint, leaded gasoline, vehicle and machinery exhaust fumes, or by occupational exposure (soldering, welding, battery reclamation). Mercury exposure is the second most common cause of toxic metal poisoning. Mercury toxicity almost always occurs with high-risk occupational exposure, such as those experienced by dental workers and battery/thermometer manufacturers. Public health concern over mercury exposure often arises due to contamination of fish with methylmercury and the elemental mercury content of dental amalgams (fillings).

Arsenic and cadmium pose a threat as well. Arsenic poisoning usually occurs from exposure to insecticides, herbicides, rodent poisons, veterinary parasitic medications, and the presence of high levels of this metal in water. Cadmium occurs in paint, cigarette smoke (which arises from the cigarette paper and is especially common in second-hand smoke), car exhaust and car tires, solder, and old galvanized pipes. The exposure to other toxic metals, including cobalt, nickel, and aluminum, is not very common.



**Metal-induced toxicity is very well studied.** The human body cannot break down heavy metals, which can build up to toxic levels in the body and interfere with normal functioning. Heavy-metal toxicity can cause a wide range of problems, such as severe injury to the body's organs, including the brain. For example, lead is known to induce a wide range of physiological, biochemical and behavioral dysfunction. Lead can be a persistent environmental pollutant and cause pathologies in the central and peripheral nervous systems, hematopoietic system, cardiovascular system, gastrointestinal system and immunological system. Chronic exposure to cadmium results in renal dysfunction, anemia, hepatic dysfunction and even cancer. A number of studies found a correlation between aluminum and Alzheimer's disease. Chronic lead or aluminum intoxication can be associated with high blood pressure. Mercury salts are very toxic to the kidneys, causing acute tubular necrosis and nephrotic syndrome. Central neuropathy can also occur from mercury salt exposure.

**Chelation therapy is a mainstream medical treatment used to treat heavy-metal poisoning.** The term "chelation" comes from the Greek word "chele," which means "claw," referring to the way the chemical grabs onto metals. Chelation therapy involves the use of chemical compounds injected into the blood stream, muscle, or taken orally to bind metals that are present in toxic concentrations so they can be excreted from the body. As the result of



treatment, chelating drugs lower the levels of metals such as lead, mercury, or cadmium in the blood, by attaching to the heavy metal molecules, which helps the body to remove them through urination.

The metal selectivity of the chelating agent is very important because a high concentration of metals in the body, including essential metals, results in high excretion of useful metals. This is the reason that patients are advised to take supplements such as calcium, chromium, copper, iron, magnesium, manganese and zinc after chelation to replenish useful metals that can be depleted during this process.

# Summarizing your Supplements— Beyond Chelation Improved (BCI)

By Penny Lasater

Most people agree that our environment is more polluted than we would like it to be. In many cases, contaminants find their way into our bodies. In the case of heavy-metals toxicity, chelation is a form of treatment that may be recommended. Riordan Clinic research scientist Nina Mikarova, PhD does a great job of explaining chelation in her article "Chelation and Metal Intoxication" (page 4). The article also provides an overview of oral supplements that are used to facilitate chelation. The most frequently prescribed oral chelator at the Riordan Clinic is Beyond Chelation Improved (BCI).

Beyond Chelation Improved is a daily, nine pill regimen that can assist in: detoxifying the body, improving blood circulation, helping to control chronic inflammation, and facilitate the process of removing toxic metals from the body. This supplement assortment is comprised of many ingredients, most notably:

- A comprehensive multi-vitamin containing tocotrienols, resveratrol and Vitamin K2.
- Natural chelators such as alpha-lipoic acid and garlic, which Dr. Mikarova mentions in her chelation article.
- Omega-3 fatty acids that may reduce heart disease, high blood pressure and stroke.
- Ginkgo biloba, which has a regulating effect on the entire vascular system, including veins, arteries and capillaries.
- Primrose oil which contains naturally occurring gamma linolenic acid and cis-linoleic acid, which are essential polyunsaturated fatty acids.

Along with metal toxicity, chelation therapy has also been promoted as an alternative treatment for many unrelated conditions, such as gangrene, thyroid disorders, multiple sclerosis, muscular dystrophy, psoriasis, diabetes, arthritis, Alzheimer's disease, and the improvement of memory, sight, hearing and smell.

**Effective chelation treatment of metal poisoning requires a lot of study** to understand the physical and chemical characteristics of the chelators and toxic metals, effective administration routes and dosages of chelators, level of toxicity, and intra/extra cellular distributions. The leading chelation agent is a man-made amino acid, EDTA (ethylenediaminetetraacetic acid), and treatment consists of repeated intravenous infusions of sodium or calcium EDTA. Chelation therapy using EDTA has been approved by the U.S. Food and Drug Administration (FDA) as a treatment for lead poisoning for more than forty years. Calcium EDTA exchanges calcium for lead and other heavy metals. It is approved for the treatment of lead poisoning. Sodium EDTA exchanges sodium for calcium and is approved for hypercalcemia.

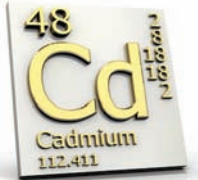
Chelation EDTA therapy is most often given into a vein, either as a short injection or over a period of two to four hours via an intravenous infusion. A typical treatment cycle may include twenty injections or infusions spread over ten to twelve weeks. Chelation therapy can also be given by mouth by several chelating antidotes: DMSA (dimercaptosuccinic acid), DMPS (dimercaptoproprane-l-sulfonic acid), and Penicillamine.

The first two chelating agents, DMSA and DMPS, have been most evaluated for the removal of mercury and can be administered orally. DMSA increases the urinary excretion of lead, copper, mercury, and, to a lesser degree, zinc. A study with DMPS chelation proved that about two-thirds of the mercury excreted by people with mercury-containing dental amalgams appears to be derived from mercury vapor released earlier from their amalgams. A highly significant positive correlation has been found between the number and size of amalgam fillings and urinary mercury excretion. Developing an effective chelation therapy for cadmium is difficult because cadmium is tightly bound to metallothionein in the liver and kidneys.

**Penicillamine has been used to chelate toxic metals** including copper as well as lead, mercury and arsenic. It has been approved by the FDA for treatment of Wilson's disease, cystinosis and rheumatoid arthritis, but not for lead poisoning. Nevertheless, a substantial body of experimental and clinical data exists regarding the pharmacology and utility of penicillamine in both adult and childhood lead poisoning. Experience at the Lead Clinic of the Boston Children's Hospital suggests that Penicillamine increases excretion of lead with a minimal risk to children with blood lead levels greater than 35 micrograms/dl.

Chelation therapy is safe. In *Bypassing Bypass*, the author declares that six million chelation treatments have been given safely over the last forty years. However, he warns of the seriousness of the possible side effects and advises that prospective patients be given a complete physical examination. Tests should be conducted to rule out hypocalcaemia, kidney impairment, allergic conditions, hypoglycemia, blood-clotting problems, congestive heart failure, liver impairment, and tuberculosis. Potential side effects of Penicillamine include hypersensitivity reactions, particularly in subjects allergic to penicillin.

In addition to synthetic antidotes, several natural substances can be used to remove toxic metals from the body. They include: alpha-lipoic acid, sulfur-bearing amino acids found in garlic and garlic extracts, alginates, pectin, the sulfur amino acids (methionine, cysteine, taurine), N-acetylcysteine and Cilantro.



If you believe heavy-metals toxicity could be the root-cause of your chronic health issues, call 316-682-3100 to schedule an evaluation with a Riordan Clinic doctor.

\*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.



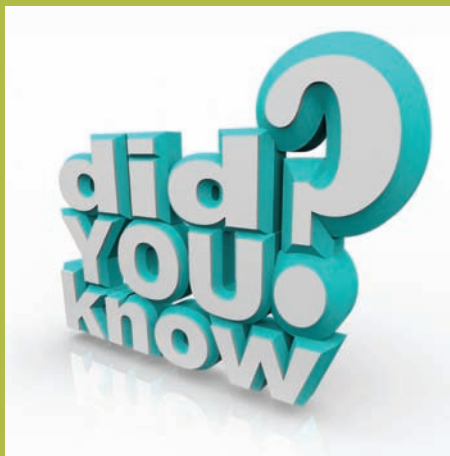
## VITAMIN SPECIAL!

Beyond Chelation Improved

# 15% Savings

Regular Price: \$54.55  
**SALE PRICE: \$46.37**

Expires: 4/30/2011



Earth day was started in the United States in **1970**, and Wisconsin was the first state to celebrate it.



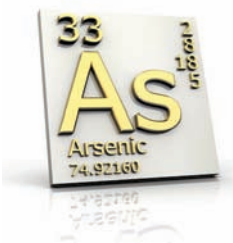
Recycling one aluminum can will save enough energy to watch a TV for **three hours** —energetically, it is the equivalent of a **half-gallon** of gasoline.



Never underestimate the importance of recycling: if every newspaper was recycled, we could save about **250,000,000** trees each year. Unfortunately, only **27%** of all American newspapers are recycled.



More than **20,000,000** Hershey's Kisses are wrapped each day, using **133 square miles** of aluminum foil. All that foil is recyclable, but not many people realize it.



Lipoic Acid (LA) is an antioxidant, which possesses a powerful potential to quench reactive oxygen species, regenerate glutathione and chelate metals such as iron, copper, mercury and cadmium. Garlic contains methionine and cysteine, two amino acids known to act as chelators for arsenic, lead, mercury and cadmium. Other natural sulfur-bearing components of garlic have the ability to reduce the tissue burden of toxic metals.

N-acetylcysteine (NAC) is the antioxidant that also has metal-chelating properties. In addition, treatment by NAC could supply cellular stores of glutathione, and it is effective against oxidative stress developed during toxic-metal exposure. Pectin, prepared from citrus peels, apples, and alginate widely distributed in the cell walls of brown algae, are natural absorbents of heavy metals.

It is important to remember that, if you are in good health, your body has its own, very efficient detoxification system (made up of the kidneys, liver, intestinal tract and skin) which is designed to eliminate these kinds of toxins. The best way to strengthen your body's immune system, so that it can resist metal toxins, is through diet and the correction of any nutritional deficiencies.

Results of our research study indicate that accumulation of toxic metals in the body is most severe when other essential minerals are deficient. The toxic effects of these metals may be mitigated by enhancing the nutritionally essential metals. Dietary deficiencies of calcium, iron, and zinc enhance the effects of lead on cognitive and behavioral development. Iron and zinc deficiencies are associated with increased gastrointestinal toxic-metal absorption.

**Dietary habits have an important influence on susceptibility to chemical toxicity**, mostly because adequate nutrition is essential for the functioning of the body's chemical defence system in maintaining good health. Adequate intake of essential metals and proteins, especially the sulphur-containing amino acids, is necessary for the biosynthesis of various detoxifying enzymes. Lipids, especially phospholipids, are necessary for the synthesis of biological membranes. Carbohydrates provide the energy required for various detoxification processes. Selenium, glutathione, and vitamins have an important role as antioxidants (e.g., in controlling lipid peroxidation and maintaining integrity of cellular membranes) and free-radical scavengers for protection against toxic chemicals.

To detoxify your body, eat more vegetables (especially dark green, leafy vegetables), that contain the greatest amounts of antioxidants. Include foods such as garlic, onions, beans, fresh fruits and juice in your diet. These will begin to help cleanse metals from your system. A water-soluble fiber supplement will help cleanse your colon, for swifter elimination of the metals. Also, begin taking a good, high-potency multivitamin/mineral capsule. The nutrients that are known to help eliminate toxic metals in the system are selenium, calcium, magnesium, zinc, iron, copper chromium, B-complex vitamins, vitamin C, vitamin E and vitamin A. Drink 8 to 10 glasses of pure water each day and make sure you get enough rest. The nutrient quality of your diet is a significant factor in modifying the response to toxic-element exposure.



At the Riordan Clinic, we perform diagnostic testing to detect the presence of heavy metals in your body. Based on the results, our physicians are able to design a plan that may include specialized testing, chelation, and dietary recommendations to decrease the toxic burden of these substances in your body. Follow-up testing is done after the treatments to confirm that the intoxication has been reduced. If you believe heavy metal intoxication could be the root-cause of your chronic health issues, **call 316-682-3100 to schedule an evaluation today.**

# Laboratory Testing Offers

## Cytotoxic Food-Sensitivity Analysis

The Riordan Clinic offers a highly specialized test that identifies food sensitivities. Food sensitivity differs from a food allergy in that an allergy has potential fatal consequences in the form of anaphylactic shock. Food sensitivity, on the other hand, is not fatal but can cause debilitating health issues such as headaches, fatigue and gastrointestinal issues.

Our Cytotoxic Food Sensitivity analysis measures 180 different foods, spices and preservatives. The results will create a road map of foods to avoid via the implementation of an elimination diet.

If you believe your health issues could be related to food sensitivities call **316 684-7784** to schedule a Cytotoxic Food Sensitivity test.

special  
**\$600**

## Hair Tissue Analysis

Hair Tissue Analysis measures 17 different toxic minerals and nutritional elements for deficiency and excess. Mineral imbalances revealed through hair analysis can serve as a screening test for metabolic dysfunction before any symptoms are manifested.

Hair analysis is noninvasive, inexpensive and accurate. The Riordan Clinic Hair Tissue Analysis measures:

### NUTRIENT MINERALS

Calcium (Ca)	Sodium (Na)
Chromium (Cr)	Zinc (Zn)
Copper (Cu)	Toxic Minerals
Iron (Fe)	Aluminum (Al)
Manganese (Mn)	Arsenic (Ar)
Magnesium (Mg)	Cadmium (Cd)
Molybdenum (Mo)	Lead (Pb)
Potassium (K)	Mercury (Hg)
Selenium (Se)	

To schedule your Hair Tissue Analysis call **316-684-7784** today.

Regular \$108  
**18% SAVINGS**

special  
**\$89**

# Lunch and Lecture Series 2011

## The Danger of Food Additives



Dr. Jennifer Kaumeyer

**Presenter: Dr. Jennifer Kaumeyer**

Thursday, April 14, 2011

12:00 p.m. to 1:00 p.m.

Cost: \$15—Lunch is included.

Thousands of synthetic chemicals are added to food for a variety of reasons, including taste and appearance. Although well-intentioned, additives can have serious health consequences. The human body is not meant to process synthetic food additives, thus it can lead to chronic health problems. What can we do?

Dr. Jennifer Kaumeyer, a naturopathic doctor at the Riordan Clinic, will discuss this important topic at our April 14<sup>th</sup> Lunch & Lecture. Join us to learn more about making every meal safer for you and your family.

For reservations: call 316-927-4723 or email us at [reservations@riordanclinic.org](mailto:reservations@riordanclinic.org)

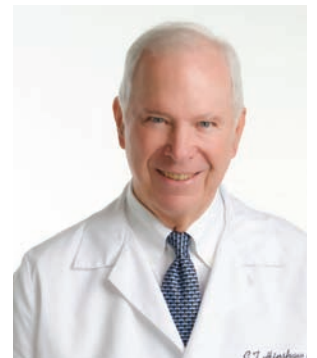
## Check Your Health—Results

**Presenters: Dr. Charles Hinshaw and Dr. Jennifer Kaumeyer**

Thursday, April 28, 2011

12:00 p.m. to 1:00 p.m.

Cost: \$15—Lunch is included.

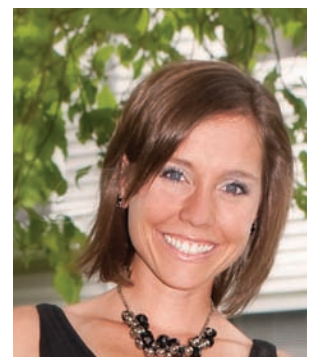


Dr. Charles Hinshaw

On April 28, Riordan Clinic doctors will discuss laboratory results from the March "Check Your Health" (formerly known as Health Hunter Beat the Odds) event. You can participate in the Lunch and Lecture in two ways:

- 1.) Bring your "Check Your Health" test results to the Lunch and Lecture and follow along as the doctors offer an explanation for some of the key measurements.
- 2.) Want to learn more? We will provide you a sample test result to use as a learning tool during the Lunch and Lecture. Follow along with the doctors' comments.

"Check Your Health" test results help create a customized road-map to addressing your specific biochemical needs. Come to this Lunch & Lecture to learn how you can benefit.



Dr. Jennifer Kaumeyer

For reservations: call 316-927-4723 or email us at [reservations@riordanclinic.org](mailto:reservations@riordanclinic.org)



# The Nutrition Reporter™

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The independent newsletter that reports vitamin, mineral, and food therapies

## To Slow Down Your Aging Process, Watch Out for AGEs in Your Food

One of the hidden dangers in foods is a class of substances known as advanced glycation end products (AGEs), sometimes referred to as glycotoxins. In large amounts, AGEs can literally age the body.

To be fair, we make some of our own AGEs as a normal byproduct of metabolism. And AGEs have some positive attributes – they give a roast turkey and many other baked or grilled foods a rich taste. The problem, as you might imagine, is when we make or consume too many AGEs.

AGEs result from a particular type of chemical reaction between sugars and proteins, as well as between sugars and fats. The reaction permanently changes the protein so it cannot be used to make tissue or hormones. High blood and tissue levels of AGEs promote the free-radical damage of tissues and inflammation, accelerate the aging process, and have been linked to a greater risk of type 2 diabetes and cardiovascular diseases.

Cooked food is the major source of dietary AGEs. But some methods of cooking lead to very high levels of AGEs, while others produce relatively few AGEs.

Just recently, Helen Vlassara, MD, of the Mount Sinai School of Medicine, New York City, and her colleagues reviewed the scientific evidence on AGEs and provided new research on the amounts of AGEs in different foods.

“Animal-derived foods that are high in fat and protein are generally AGE-rich and prone to new AGE formation during cooking,” Vlassara wrote. However, vegetables, fruits, dairy products, and whole grains contain relatively small amounts of AGEs, even after cooking.

Cooking with dry heat – e.g., baking, grilling, broiling, and searing – generally increases the amount of AGEs. So does frying foods. And so does cooking with dry heat or frying for long periods.

Based on Vlassara’s article in the *Journal of the*

*American Dietetic Association*, the formation of AGEs can be significantly reduced by using moist heat (e.g., boiling), cooking for shorter times, and cooking at lower temperatures. Using acidic ingredients, such as sprinkling lemon juice on cooking foods or marinating foods with vinegar, can also reduce AGEs.

Some of the highest AGEs were found in broiled beef frankfurters, baked chicken, roasted or barbecued chicken skin, fried bacon, broiled beef steak, and microwaved beef steak. Some of the lowest AGEs were found in scrambled eggs (in olive oil, butter, or other cooking oils), soups, stews, salmon steamed in foil, and chicken poached in water.

Vlassara concluded by writing that “how we prepare and process food may be equally important as nutrient composition.”

Reference: Uribarri J, Woodruff S, Goodman S, et al. Advanced glycation end products in foods and a practical guide to their reduction in the diet. *Journal of the American Dietetic Association*, 2010;110:911-916. □

### Perspectives

#### Water – Drink It to Your Health

It’s the middle of summer – and a good time to have a glass of water. Not a soft drink or coffee, but water. Right now, not later.

Most of your body is water, and suboptimal hydration over many years leads to smaller organ sizes and reduced biochemical activity. Brain shrinkage, which is usually a factor in dementia, appears strongly related to the inadequate consumption of fluids over many years.

An associate recently drew my attention to an study published several years ago in the *American Journal of Epidemiology*. Jacqueline Chan, PhD, and her colleagues investigated the relationship between water consumption and the risk of fatal heart attacks in 20,000 men and women. Men who consumed the

More research summaries on next page



least amount of water over a six-year period were almost 50 percent more likely to die from a heart attack. Women who drank the least amount of water were two and one-half times more likely to have a fatal heart attack. Chan pointed out that hydration influences the viscosity, or thickness, of blood – meaning that you could think of water as nature’s original blood thinner.

Water is a key ingredient in the chemistry of life. Each molecule of water consists of two hydrogen atoms and one oxygen atom, and both elements play important roles in energy production. When we tamper too much with the water we consume, we alter the chemistry of the body. For example, thirst reminds us that we need water, but many people attempt to quench their thirst with a soft drink, juice, or beer – the body is asking for water, but we give it a calorie-packed liquid.

Enjoy that cold glass of water. –JC

## Fish Oil Capsules May Protect Against Colorectal Cancers

A study of patients with a genetic risk for colorectal cancer has found that supplements of eicosapentaenoic acid (EPA) reduce both the number and size of precancerous polyps.

Mark A. Hull, PhD, of St. James’s University Hospital, Leeds, England, and his colleagues studied 55 patients with familial adenomatous polyposis (FAP). The inherited condition is often treated with prophylactic removal of the colon to prevent colorectal cancer. The drug celecoxib (Celebrex) has been shown to reduce the size of polyps, but it increases the risk of heart disease, and Hull wrote that a safer form of chemoprevention was needed.

Twenty-eight of the patients received four proprietary EPA capsules daily, adding up to 2,000 mg of EPA daily for six months. Meanwhile, 27 patients received placebos.

By the end of the study, patients taking the EPA capsules had an average 22 percent decrease in the number of polyps and an average 30 percent decrease in polyp diameter. In contrast, the number and size of polyps in the placebo group increased during the study.

Hull and his colleagues wrote that “the observed antineoplastic activity is almost certainly a combination of regression of existing adenomas and prevention of de novo tumor growth.”

Reference: West NJ, Clark SK, Phillips RK, et al. Eicosapentaenoic acid reduces rectal polyp number and size in familial adenomatous polyposis. *Gut*, 2010; doi 10.1136/gut.2009.200642. □

## Ginger Supplements Ease Muscle Pain from Repetitive Exercise

Ginger is widely regarded as an anti-inflammatory herb and is commonly used to treat aches and pains. In a new study, researchers have found that both raw and heat-treated ginger can ease muscle pain from repetitive exercise.

Christopher D. Black, PhD, of Georgia College and State University, Milledgeville, Georgia, and his colleagues conducted two studies with a total of 74 participants. Some received 2 grams of raw ginger in capsules for 11 days, while others were given heat-treated ginger or placebos.

The subjects then used hand weights (5 to 15 pounds each) to do 18 flexes with their weaker arms – enough to induce pain and inflammation in their elbows. The raw ginger resulted in a 25 percent reduction in post-exercise muscle pain after 24 hours, and the heat-treated ginger was almost as effective in reducing pain.

Other research cited by Black has found that ginger blocks the activity of numerous pro-inflammatory molecules, including interleukins, tumor necrosis factor alpha, and COX-1 and COX-2 enzymes.

Reference: Black CD, Herring MP, Hurley DJ, et al. Ginger (*Zingiber officinale*) reduces muscle pain caused by eccentric exercise. *Journal of Pain*, 2010; doi 10.1016/j.pain.2009.12.013. □

## Vitamin D May Protect Against Pelvic Disorders in Woman

One in every four American women experience pelvic floor disorders, including urinary or fecal incontinence and pelvic organ prolapse. A new study suggests that these disorders may be related to low vitamin D levels – and that higher levels of the vitamin might be protective.

Samuel S. Badalian, MD, PhD, and Paula F. Rosenbaum, PhD, of the SUNY Upstate Medical University, in Syracuse, New York, analyzed data from 1,881 women participating in the latest National Health and Nutrition Examination Survey (NHANES).

Blood tests showed that 82 percent of the women, age 20 and older, were either deficient in or had a borderline deficiency (“insufficiency”) in vitamin D. Higher levels of vitamin D were associated with a lower risk of any type of pelvic floor disorders in all women and especially in those who were age 50 or older – significant because the risk of pelvic floor disorders increases with age.

According to Badalian and Rosenbaum, each 5 ng/ml increase in vitamin D levels was related to a 6 percent decrease in pelvic floor disorders. In other words, a woman with a vitamin D level of 50 ng/ml was 24 percent less likely to experience pelvic floor disorders, compared with a woman who had a vitamin D level of 30 ng/ml.

The protective effect of vitamin D appeared greater among postmenopausal women. Among women age 50 and older, each 5 ng/ml increase in vitamin D was associated with a 8 percent lower risk of pelvic floor disorders.

The researchers noted that vitamin D is required for normal muscle synthesis, and that stronger pelvic muscles might reduce the risk of pelvic floor disorders.

They concluded by writing that the “treatment of vitamin D insufficiency and deficiency in both premenopausal and postmenopausal women could improve pelvic muscle strength, with a possible reduction in the pelvic floor disorders including urinary incontinence.”

Reference: Badalian SS, Rosenbaum PF. Vitamin D and pelvic floor disorders in women. *Obstetrics and Gynecology*, 2010;115:795-803. □

## Blood-Sugar Drug Can Cause Vitamin B12 Deficiency

Metformin is the most common drug prescribed to lower blood sugar and insulin levels in people with type 2 diabetes. Doctors have long known that it can reduce blood levels of vitamin B12, but a new study has found that the longer people take the drug, the lower their vitamin B12 levels.

Coen D.A. Stehouwer, MD, PhD, of Maastricht University Medical Centre, Netherlands, and his colleagues tracked 390 patients with type 2 diabetes. All of the patients were receiving insulin.

Stehouwer and his colleagues asked the patients to also take either 850 mg of metformin or placebos three times daily for a little over four years.

The researchers found that the long-term use of metformin led to significant and persistent decreases in vitamin B12 levels. By the end of the study, people taking metformin had an average 19 percent decrease in vitamin B12 levels. In contrast, people taking the placebos had no change in their vitamin B12 levels.

Patients who ended up with vitamin B12 deficiencies also had high levels of homocysteine, a risk factor for heart attack and stroke. Some people also had decreased levels of folic acid, a B vitamin.

Metformin is believed to cause malabsorption of vitamin B12 by interfering with the “intrinsic factor,”

a protein needed to absorb the vitamin in the digestive tract. Some research suggests the negative effect of metformin can be reversed by increasing calcium intake.

“Our data provide a strong case for routine assessment of vitamin B12 levels during long term treatment with metformin,” wrote the authors.

Reference: de Jager J, Kooy A, Lehert P, et al. Long term treatment with metformin in patients with type 2 diabetes and risk of vitamin B12 deficiency: randomised placebo controlled trial. *BMJ*, 2010;340:c2181. □

## Adopting a Low-Glycemic Diet Helpful for Women with PCOS

Polycystic ovary syndrome (PCOS) affects up to 10 percent of women of child-bearing age and is a major cause of infertility. Insulin resistance is part of the syndrome, which also includes ovarian cysts, excess male hormones, and a lack of ovulation.

Weight loss is known to help reduce PCOS symptoms, but the optimal type of diet for women with this condition has not been clear, according to researcher Jennie C. Brand-Miller, PhD, of the University of Sydney, Australia.

So Brand-Miller and her colleagues asked 96 overweight and obese women with PCOS to follow one of two diets without any particular type of calorie restriction. One diet consisted of low-glycemic foods, and the other was a conventional “healthy” diet with similar levels of vitamins and minerals. The women were asked to stay on these diets for either 12 months or until they lost 7 percent of their body weight.

About half of the women dropped out of the study, leaving 29 on the low-glycemic diet and 20 on the conventional healthy diet. Among women who remained in the study, those following the low-glycemic diet had greater improvements in their blood sugar levels (based on an oral glucose-tolerance test). Women who also took metformin had a greater benefit in blood sugar levels.

Seventy-six percent of the women had irregular menstrual cycles when they began the study. The regularity of menstrual cycles improved in 95 percent of women eating a low-glycemic diet, compared with 63 percent on the conventional diet.

In addition, fibrinogen levels decreased in women eating the low-glycemic diet, indicating an anti-coagulant effect of the diet. Fibrinogen levels increased in the other women.

Reference: Marsh KA, Steinbeck KS, Atkinson FS, et al. Effect of a low glycemic index compared with a conventional healthy diet on polycystic ovary syndrome. *American Journal of Clinical Nutrition*, 2010: doi 10.3945/ajcn.2010.29261. □

Continues on next page

## Quick Reviews of Recent Research

- Vitamin D has heart-healthy benefits

Endothelial progenitor cells (EPCs) are needed to repair blood vessel walls. Several studies have found that low levels of EPCs are associated with an increased risk of type 2 diabetes and cardiovascular disease. EPCs may be dependent on vitamin D levels. Researchers at the Center for the Improvement of Human Functioning International, Wichita, Kansas, found that levels of EPCs correlated with vitamin D levels – the higher the vitamin D levels in a group of 41 healthy adults, the more EPCs they had. Blood levels of vitamin D above 40 ng/ml of blood showed a positive effect on blood pressure. Higher levels of vitamin D were also associated with a healthier lipid profile.

Mikirova NA. *Panminerva Medica*, 2010;52 (Suppl 1 & 2): 1-7.

- Lignans may protect against breast cancer

Plant estrogens may help protect against breast cancer by blocking some of the activity of hormonal estrogens. Research on soy isoflavones has yielded conflicting results, but another family of plant estrogens called lignans may have protective effects. Researchers from the German Cancer Research Center, Heidelberg, analyzed 21 studies focusing on lignans and breast cancer risk. Overall, lignans did not have a protective effect. However, high lignan intake was associated with a 14-16 percent lower risk of breast cancer among postmenopausal women. The highest lignan levels are found in flax seeds and sesame seeds, but appreciable amounts are also found in sprouts, fruits, berries, vegetables, green tea, and whole grains, according to the researchers.

Buck K. *American Journal of Clinical Nutrition*, 2010; doi 10.3945/ajcn.2009.28573.

- Fish oils protect against heart failure

Researchers analyzed the eating habits and tracked the health of 36,234 middle-age and elderly women in Sweden. Women who each week consumed one or two servings of fish rich in omega-3 fats had a significantly lower risk of hospitalization for or death from heart failure. Women consuming the most fish had a 25 percent lower risk of heart failure.

Levitan EB. *European Journal of Clinical Nutrition*, 2010; doi 10.1038/ejcn.2010.50

- Television commercials offer bad diets

Eating the foods advertised in television commercials would lead to a very unhealthy diet, according to a study by researchers at Atlantic State University, Savannah, Georgia. The researchers analyzed 800 foods promoted in 3,000 commercials aired over 28 days. Assuming the people ate only

2,000 calories of the advertised foods each day, they would end up consuming 20 times the amount of fat and 25 times the amount of sugar they need. At the same time, they would eat only 40 percent of the recommended amount of vegetables, 32 percent of recommended dairy products, and 27 percent of the recommended fruits.

Mink M. *Journal of the American Dietetic Association*, 2010;110:904-910.

- Fructose complicates liver disease

Researchers at Duke University Medical Center, Durham, North Carolina, investigated the relationship between fructose consumption and fatty liver disease. They focused on 427 adults who completed a dietary questionnaire within three months of having a liver biopsy. Higher fructose consumption was associated with men, younger ages, +6elevated triglyceride levels, and increased calorie intake. Daily consumption of fructose was associated with less severe fatty liver but with more serious fibrosis (excess fibrous tissue or scarring), as well as liver inflammation.

Abdelmalek MF. *Hepatology*, 2010;51:1961-1971.

- Supplements reduce eye pressure

A combination of the herb bilberry and Pycnogenol®, an antioxidant extract of French maritime pine trees, can reduce high blood pressure in the eyes, a condition known as ocular hypertension. Researchers at the University of Chieti-Pescara, San Valentino, Italy, treated 79 men and women with the bilberry-Pycnogenol combination, the drug Latanoprost, or a combination of the supplements and drug. The supplements and drug were comparable in benefits, but the most effective regimen combined the supplements with the drug.

Steigerwalt RD. *Clinical Ophthalmology*, 2010;4:471-476.

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