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Riordan Clinic

# Health Hunters Newsletter



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## How to Unlock Your DNA to Live Longer and Feel Better!

by Anne Zauderer, DC



Nature versus nurture. What makes us who we are? This has been a long-standing debate in the scientific community: are we more influenced by our genetic predispositions (nature) or the environment that we grow up in (nurture)? In most circumstances, researchers agree that it is probably a combination of both. However, what if the two were intertwined?

## What if the lifestyle choices we make could influence our genetic expression?

Back in March 2000, the Human Genome Project successfully identified and sequenced the 25,000 genes that make up human DNA. This project was a huge leap forward in the field of genetic research. However, since that time, the research that has attempted to identify specific genes that are associated with chronic disease has fallen short.

The rate of increase in most chronic diseases is

astronomical: obesity, diabetes, heart disease, autism, cancer (and many more!) are all on the rise. We know that there is a familial connection with most of the chronic diseases; however, specific genes associated with each cannot be identified. In addition to that, how do you explain one of a pair of identical twins (who have the exact same DNA) who has cancer and the other does not?

When taking into account the Darwinian theory of evolution, it takes thousands of years to modify our genetic code. The changes we are seeing in our society are happening within a few generations.

### What is the connection? EPIGENETICS.

Epigenetics, quite literally, translates to "above" the genes. The field of epigenetics studies the reactions and factors that orchestrate different chemical reactions that turn on and off our genes at strategic times and locations.

The structure of our DNA consists of chains that are tightly coiled around proteins called histones. These histones provide the framework that gives our DNA shape. In addition, the histones contain binding sites for various molecules including acetyl groups and methyl groups (among others), which affect how tightly or loosely coiled the DNA is. The shape that the histones provide regulates the expression of our DNA, making it How to Unlock Your DNA to Live Longer and Feel Better! continues on page 2...





## Letter from the Editor:

### by Amanda Hawkinson

Have you ever wondered if you are destined for the ailments that have plagued your family for generations? Just because your mom has thyroid troubles, will you? In reality, how healthy are your genes; are there other causes that contribute to disease? Is there anything you can do? A variety of factors play a role in our gene health. Stress, diet, behavior, and environmental toxins are just a few that activate the chemical switches that regulate gene expression.

This issue of the *Health Hunters Newsletter* deciphers the code of epigenetics, allowing us a better understanding of how our lifestyle choices directly link with varying health aspects.

As you sit reading this, consider your family tree and your environment and see how you can make a change. Don't forget to take notes. ;-)

Thank you for reading!

Enjoy.

Amanda Hawkinson Editor newseditor@riordanclinic.org.

# Don't forget to "Like" us on Facebook

How to Unlock Your DNA to Live Longer and Feel Better! continued from page 1..

either available or unavailable for gene transcription. Through this mechanism, factors can affect our DNA expression without changing the actual DNA itself.

A great example of epigenetics at work is the queen honeybee. The larvae that differentiate into worker bees and queen bees are exactly the same. However, worker bees are sterile and the queen bee has functional ovaries and larger abdomen to accommodate egg laying. What gives the queen bee this advantage? The difference lies in the queen bee's diet. The



larva that is ordained as the queen bee is fed large quantities of royal jelly from her conception throughout her lifetime. This protein-rich substance is secreted from the glands of worker bees and plays an important role in the queen bee's genetic expression. There is a default "silencing" gene that is present in all of the larvae (Dnmt3). The royal jelly, given to the queen bee, turns off the Dnmt3 gene, allowing other genes that have been silenced to come into action and turn the lucky larva into a queen bee. So the royal jelly helped "bring to life" certain genes that stay dormant in the worker bees.

Just like the honeybee, our **diet and lifestyle are extremely important** when it comes to gene expression. We now have evidence that lifestyle choices, such as stress and over-eating, can affect what binds to your histones and change the conformation of your DNA allowing it to be expressed too strongly or weakly. This can result in the genes for longevity to be "turned off" and the genes for obesity to be "turned on" too strongly. Chemicals in our environment can also have an impact on the ability of our histones to bind and express DNA correctly.

A great example is vinclozolin, a fungicide commonly used on grape plants. In one study, pregnant rats were fed vinclozolin in their normal food diet. The offspring of these rats, as adults, had low sperm counts, poor fertility, and a number of diseases including prostate and kidney disease. Within one generation, this toxin had significant repercussions on the rats' health and well-being! Even more alarming was the fact that the great-grandsons of the exposed rats that were never fed the fungicide still had low sperm counts.

Most of us know that we should get to the gym more, eat less sugar, lose weight and overall make better lifestyle decisions. Whether we are consciously aware of it or not, we can rationalize our bad behavior because we assume that it only affects our own well-being. However, with more studies supporting the idea of "epigenetic inheritance," we now know that the genetic slate will NOT be wiped clean for our children and the choices we make are clues to our offspring of what type of world they will be encountering. The stress we put on our bodies gets communicated epigenetically to our children and can predispose them to disease and early death before they are even conceived!

Okay, so now for some good news: the epigenetic patterns you inherited from your parents are not inevitable ... and, in fact, are reversible! Just as easily as you can affect your gene expression in a negative way, you can also put actions into place to feed your genes correctly to reverse familial trends, live longer, and live healthier.

For more information, please join us Thursday, April 11 for "Epigenetics: Modern Day Lifestyle and Your DNA."



#### Sources: 1. http://learn.genetics.utah.edu/content/epigenetics/

### Hypothyroidism: One Family's Concern by Victoria Hamm, CMA

Our genes play a significant role in the diseases we may one day develop. By living a healthy lifestyle, we can hope to lessen our chances of suffering from the diseases that have been passed down to us.

Recently, a very young patient visited the Riordan Clinic presenting some concerning symptoms. After an appointment with one of our doctors, she was diagnosed with a thyroid disorder. The diagnosis was not surprising as her mother and two sisters have a thyroid disorder as well. She visited the Riordan Clinic in hopes to maintain her thyroid and increase its function.

Hypothyroidism can cause many different symptoms, such as exhaustion, weakness or depression, as well as dry skin, brittle nails, hair loss, anxiety, migraines, and even cold hands and feet. Having your thyroid tested (with lab work) can tell you if you have a decreased or an increased thyroid, so you can start a treatment plan.

While reviewing her results, her doctor noticed that she was also low in vitamin D and iron. Being low in iron can also cause symptoms such as hair loss, fatique, weakness, dizziness, and decreased attention. She now has started supplemental iron and vitamin D as well as thyroid medication. With supplementation her symptoms decreased and she has noticed increased energy. With continuous daily improvements, due to correcting her deficiencies, she has now adjusted her lifestyle from her genetics.

It is important to know and understand your family history of disease so that you might prevent the same symptoms by making lifestyle changes to stay healthy.

To find out more or to make an appointment, call 316-682-3100 to start your journey to a healthier you.

# **Herbal Support for Optimal DNA Health** by Laurie S Roth Donnell, Master Herbalist and Holistic Health Practitioner

Epigenetics is the science of tracking how a person's mental, emotional, and cellular experiences can change, alter, morph, and direct how the DNA is passed onto future generations! Perhaps you have noticed some people totally change for better or for worse, in the course of a decade. Darwin's theory of natural selection, portrays evolution of animals occurring over "geological time" and is part of the story, but the remaining part, the theory of epigenetics, puts opportunity and responsibility for genetic evolution on the shoulders of the individual. Destiny is not fated by our DNA, but chosen by our daily dietary and lifestyle choices as well as our thought patterns and emotions. By taking extra care to nurture what nature has given us, we each can significantly alter our wellness for better or for worse.

Perhaps we can alter the trajectory of our wellness enough to make a significant difference in the happiness and well-being of our community, our future generations, and ourselves. Several high-frequency, clarity-invoking metabolic herbs contribute to this genetic fortification and work to support and naturally enhance genetic wellbeing. The reduced expression of youthful metabolism-associated genes in aged individuals is largely based on epigenetic mechanisms. DNA hypermethylation and NFkB activation are fundamental mediators of metabolic degeneration (insulin resistance), aging, and inflammation.

Dietary interventions including specific tonic herbs may reduce age-related DNA methylation and associated degenerative disorders. As intelligent humans, we have the ability to control, to a significant degree, the factors that most affect our health process and healthy aging.

In Ayurvedic Medicine there are a few epigenetic "all-star" herbs such as: Tulsi, Ginger, Turmeric, Amalaki, Brahmi,

Atis, Jatamansi, Jyotishmati, Cinnamon and to some extent Ashwagandha, all utilized as epigenetic herbs. In the last decade, western science has confirmed Tulsi and Ginger can reach all the way into the chromatin of a cell's nucleus and up regulate the histone H3, a key player in epigenetics. Investigation into what dictates the direction and magnitude of the response of an individual, and the actual and hoped for molecular targets for the micronutrients available in herbs, are based on both genetic and epigenetic events and conditioning. In the case of the response of herbs being epigenetic events, note the fascinating fact that herbs themselves can turn these epigenetic events on or off. In other words, long-term use of one herb that can up regulate histone may change one's ability to be supported by another herb. Shilajit, Saffron, Honey, and Ghee are actually epigenetic medicines as well. Consult with your health care provider prior to incorporating these herbs into your daily health regime.



Herbal Support for Optimal DNA Health continues on page 4...



Indeed, the paradigm has shifted before our eyes. Genetics is no longer the stern ruler of our destiny (it never really has been). Our unity with nature, the harmony we share with one another, the spirit of our interactions with people, the environment and its creatures, and the way we live our lives determine who we are, who we will become, and our impact on the world we live in. Epigenetics is the physical mechanisms—a physical mechanism that manifests our spiritual power. Healthy optimal gene expression is

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Happy Spring

# Marie's Cafe And Bakery

**Cafe Hours** 9:00 am – 3:00 pm M–F **Bakery Hours** 9:00 am – 3:30 pm M–F (Located on the lower level of the Riordan Clinic Supplement Store)

Balancing hectic day-to-day business while trying to eat a nutritious diet can be difficult. However, a healthy lifestyle can be achieved with commitment and the desire to succeed. Marie's Café and Bakery is here to help!

Stop by today for a meal that is low in fat and calories while also warm, filling, and flavorful. It is the perfect complement to a beautiful spring day.

Presenting

### Marie's Delectable Turkey Burger and Soup Combo

Indulge in a delicious turkey burger topped with lettuce, tomato, and onion served with a healthy bowl of Marie's soup! What an appetizing way to keep the perfect balanced diet!

### Lunch Special \$6.55

Offer valid through April 30, 2013. Not valid with any other offer. Excludes tax and gratuity.

"Caring for the whole person has always been our focus."—Marie Hunt, Owner

Please visit our website for more information. www.mariescafeandbakery.com

3100 N. Hillside, Wichita, KS 67219 316-927-4780 office 316-927-4781 dining room



#### Herbal Support for Optimal DNA Health continued from page 3...

fundamental to wellness. In addition, as much as I am in awe of Tulsi, Ginger and other likeminded herbs to assist us here, truly we cannot shift the responsibility of our personal wellness to any outside party—no doctor, no priest, no herb, and no oasis. Rather, in the end, the depth of our wellness depends on the nature of our spirit and intentions to provide the body optimum nutrition and exercise to thrive and maintain healthy DNA at any age.



#### Sources:

- 1. Shim S, Kim S, Choi DS, Kwon YB, Kwon J.; Effects of [6]-shogaol: Potential roles of HDAC inhibition and HSP70 induction.; Food Chem Toxicol. 2011 Aug 16.
- 2. www.ronsblogworld.com/
- 3. Anway, M.D., A.S. Cupp, et al (2005)."Epigenetic Transgenerational Actions of Endocrine Disruptors and male fertility". Science 308:1466-9
- 4. Church, D. (2007). The Genie in Your Genes." Epigenetic medicine and the new biology of intention".

## Riordan Clinic Announces Winners for Its Annual Health Is... Essay Contest

To promote enhanced health awareness in schools, the Riordan Clinic recently held its 3rd annual "Health Is..." essay contest for area 5th graders. Judging is complete and the winners have been announced.

The 2012–2013 "Health Is..." essay contest was held from late November through February and was open to any 5th grade student in Wichita and surrounding areas. Students were asked to write an essay communicating what health means to them. Essays were judged on originality, clarity, motivational impact, and emphasis on health (verses focus on disease). Monetary prizes totaling \$1700 have been awarded to the top 3 entries and their supervising teachers during classroom ceremonies. All three winning essays can be viewed on the Riordan Clinic's website. This contest was sponsored in part by Richard Guthrie, MD and Diana Guthrie, PhD.



**1st Prize**: Sarah Auld, Mrs. Sharon Goodwin at Benton Elementary in Wichita, KS



**2nd Prize:** Mimi Logan, Ms. Noelle Rogers/Ms. Paula Stanley at Isely Traditional Magnet Elementary in Wichita, KS



**3rd Prize:** Millie Birchfield, Ms. Andrea Piros at McCollom Elementary in Wichita, KS



Thank you to all who participated! Please enjoy our 1st place essay, on page 5

Health Is... Essay Contest continues on page 5...

## **Bio-Center** Laboratory at the Riordan Clinic

## Cytotoxic Food Sensitivity Testing

Based on results from a cytotoxic blood test, doctors at the Riordan Clinic provide a comprehensive assessment of your food sensitivities and create a therapeutic prescription for dealing with the results. A limited number of clinics in the world specialize in cytotoxic testing—the Riordan Clinic is one such facility.

Cytotoxic testing is a blood based test analyzed by our on-site laboratory. The test screens your blood for sensitivity based on a panel of up to 180 different foods, beverages and food-preservatives. People that benefit from cytotoxic testing and food sensitivity counseling, generally complain of the following symptoms: headache, fatigue, joint-muscle pain, gas, bloating, diarrhea and irritable bowel syndrome.

Patients often deal with unpleasant symptoms for years without a diagnosis. Cytotoxic testing, combined with food sensitivity counseling, has yielded life changing results in many patients. If you have experienced some of the symptoms listed above, a simple blood test may lead to an answer.

The test is done fasting, and it takes just minutes for one of our highly skilled phlebotomists to draw your blood. The analysis is performed at our on-site laboratory by a highly trained technician with over 25 years experience performing this test.

If food sensitivities could be interfering with your overall health and well-being, please contact the Riordan Clinic today at 316-682-3100 or visit our website www.riordanclinic.org.

Cost: \$315 / 90 specific food allergens

Cost: \$630 / 180 specific food allergens



Visit our website for a complete list of food allergens in our tests.



"Today we are watching a video about health!" Faye's teacher said way too enthusiastically. Half of the class moaned only to get scolded by the teacher. Then she popped a DVD into the computer and turned on the SmartBoard.

"Hi! I'm Sarah and I'm going to be your tour guide to health!" the woman that was being projected on the SmartBoard said. "You are probably watching because your teacher made you, but trust me, it will be worth it!" Faye looked at the teacher. Faye could tell her teacher was utterly confused.

Health is... appeared on the board and then went back to Sarah. "Health is not being a couch potato. If you exercise daily you keep your body in motion, get your heart rate up, and burn calories so you will be able to run more and maintain a healthy weight." Out of nowhere a sweatband appeared on the children's desks. "Keep those to remind you to exercise."

The kids were in awe. Mrs. Goodal on the other hand looked like she was going to faint.

"Health is fruits and veggies," Sarah announced. The kids looked up, interested. "Take a look at this triangle, it has the main food groups divided into sections. Oils, fats, and sweets are a smaller group. You should eat these sparingly. Milk, yogurt, and cheese is a medium sized group. You should eat three to five servings of this food group. Eat two to three servings of protein a day, two to four servings of fruit, three to five servings of veggies, and six to eight servings of grain." Another gift landed on the desks. "Take this triangle. It has all the information I just said written down on it."

"Health is nap time. By getting eight to ten hours of sleep, you are able to do anything from walking to climbing!" A pillow landed on Faye's head. "Whoops! Sorry Faye!" Faye tried to figure out why Sarah knew her name, but her mind was blank.

When Sarah's projection became 3-D and was actually taking up space in the classroom, Mrs. Goodal fainted. Sarah ignored it and went on.

"Health is soap and water," she yelled over the class. "By washing your hands you kill germs and prevent sicknesses!" A bar of soap landed on each desk, right on top of the pillows. "Keep that too."

"Health is rubber ducks," said Sarah, she lowered her voice causing the kids to quiet down, because now they wanted to hear more than ever. "By showering and bathing daily, we keep ourselves clean and healthy. Always gotta have good hygiene!" She winked. "Oh, and I'll tell your nurse about this." Faye looked where she was pointing. She was pointing at Mrs. Goodal. Then she threw everyone a rubber duck, took the DVD out of the computer, waved, and left.

Five minutes later the nurse ran in and helped the teacher. She didn't ask what happened, so no one told her. Everyone was just staring at the SmartBoard and the gifts in amazement.

"Heath is my favorite subject," Tom whispered finally.

Everyone in earshot nodded in agreement.

## **Know Your** Nutrients: Alpha-lipoic Acid

#### What is it?

Alpha-lipoic acid is an antioxidant that helps the body turn glucose into energy. It is made by the body and found in every cell. In general, antioxidants attack "free radicals," which cause harmful chemical reactions that can damage cells in the body, making it harder for the body to fight off infections. While most antioxidants work only in water, like vitamin C, or fatty tissues, like vitamin E, alpha-lipoic acid is both fat- and water-soluble. This ability allows it to work throughout the body.

#### Why take it?

As an antioxidant, alpha-lipoic acid's ability to kill free radicals seems to help diabetic peripheral neuropathy symptoms such as pain, burning, itching, tingling, and numbness in arms and legs, as well as lower blood sugar. It also seems to help another diabetes-related condition called autonomic neuropathy, which affects the nerves to internal organs.

Alpha–lipoic acid has been shown to prevent organ dysfunction, reduce endothelial dysfunction and improve albuminauria, to treat or prevent cardiovascular disease, and to accelerate chronic wound healing. Additional benefits of alpha-lipoic acid are the reduction of iron overload, to treat metabolic syndrome, to improve or prevent age-related cognitive dysfunction, prevent migraines, treat multiple sclerosis, prevent or slow the progression of Alzheimer's disease, reduce inflammation, and treat chronic diseases associated with oxidative stress to name a few.

#### Where can you get it?

Depending on your health, the body may supply enough alpha-lipoic acid. It can also be found in red meat, organ meats (like liver), spinach, broccoli, and yeast, particularly brewer's yeast. If additional supplementation is needed, alpha-lipoic acid supplements are available as capsules and some health care providers offer injections.

As with all medication and supplementation it is important to discuss any changes to your diet and supplement regimen with your physician.

# **April Supplement Special** SAVE 25% off

these select supplements



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Alpha Lipoic Acid (300mg) Reg \$39.69 **SALE \$29.77** 

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**L-Carnitine Caps** Reg \$34.60 **SALE \$25.95** 







B Complex "50"—Reg \$27.03 **SALE \$20.27** 



**MAP** (Master Amino Parttern Protein—Reg \$52.50 **SALE \$39.38** 

It is important to know the purpose of your supplements. Before starting any supplement regimen consult your physician.



To place your order, visit our website at www.riordanclinic.org or call 1-800-447-7276

"Alpha-lipoic acid is an antioxidant that helps the body turn glucose into energy."

# In Gratitude...

As a not-for-profit organization, we rely on many to make our vision a reality. So many come together to provide our patients with a place of hope, health and healing. Here are just a few we'd like to thank.

- All individuals and groups who have donated to our cause through financial support
- Moostash Joe Tours (Fremont, NE), Southwestern College nursing program tour group (Winfield, KS), and GoWichita Destination Exchange attendees for your interest in learning more about the Riordan Clinic
- Our patients and co-learners who spread the good word about the clinic:

"I finished reading the book [Pyramid on the Prairie] last week and found it extremely fascinating. I became a colearner with Dr. Hugh in January, 1986 but didn't have a clue about the difficult time he was having in being accepted in the medical community. He was exactly what I wanted in my doctor. Just as interesting was what I learned about Olive Garvey. I really like one of Dr. Riordan's favorite sayings from Ben Franklin, "if everyone is thinking the same, then no one is thinking.""

Pyramid on the Prairie is available in our supplement store and on our website.



## **Invest in the Vision**

### **Matching Gift Received**

This past January, Garvey Kansas Foundation and John and Jinny Garvey came forward with a \$25,000 matching challenge. Through the generosity of Riordan Clinic staff, board and community friends, commitments for the matching funds were received by the March 15 deadline and exceeded the goal.

These tax-deductible contributions will enable the Riordan Clinic to upgrade our current laboratory equipment. We were recently informed that parts and service would no longer be available for our amino acid analyzer in the Bio-Center Laboratory. Next to the complete blood count (CBC) instrument, the amino acid analyzer is the most critical instrument in the laboratory for assessing the root causes of illness. It analyzes 25 amino acids, ten of which are not produced by the body and must be obtained through diet. Amino acids are the building blocks of proteins, essential for neurotransmitters in the brain as well as for hormone production and healthy muscle.

If you are interested in making a tax deductible gift to the Riordan Clinic and being a partner in the mission to stimulate an epidemic of health, contact:

Paula Smith, Director of Development, at (316) 682-3100 or by e-mail at psmith@riordanclinic.org. You can also make an online contribution at www.riordanclinic.org Click on Make a Donation.





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get to 1,000!



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### **Health Hunters** Newsletter

Join our mailing list to receive this monthly newsletter FREE. To sign up, go to www.riordanclinic.org or email us at information@riordanclinic.org





# Lunch & Lecture Series 2013

## **Epigenetics:** Modern Day Lifestyle and Your DNA



**Dr. Anne Zauderer** 

Presenters: Anne Zauderer, DC and Ron Hunninghake, MD Date: Thursday, April 11, 2013 Time: 12:00 p.m. to 1:00 p.m. **Cost:** \$10—Lunch is included.

We are now offering a soup and salad bar for lunch. Please come a few minutes early to dish up before the lecture begins.

Can we make lifestyle choices that will influence our genetic code - and that of our children? YES! Environmental factors can alter the way our genes are expressed. Join Dr. Ron Hunninghake and Dr. Anne Zauderer as they discuss this emerging field of scientific research that shows how our environment and dietary choices can affect our biological legacy.

If you are unable to attend in person check out this lecture on our live webcast.

### **Reservations REOUIRED**

Call 316-927-4723 or email us at reservations@riordanclinic.org



## **Check Your Health:** Review Your Lab Test Results

Charles Hinshaw, Jr., MD

Date: Thursday, April 25, 2013 Time: 12:00 pm to 1:00 pm

**Cost:** FREE—Lunch is not included.

Presenters: Jennifer Kaumeyer, ND and



Dr. Jennifer Kaumeyer Dr. Charles Hinshaw

### Meet Our Doctors. Ask Questions. Review Your Laboratory Test Results.

Riordan Clinic doctors will discuss laboratory results from the March Check Your Health event. You can participate in the lecture in two ways:

- 1) Bring your Check Your Health test results to the lecture and follow along as the doctors offer an explanation for some of the key measurements.
- 2) If you didn't take part in the event but want to learn more, we will provide you sample test results to use as a learning tool during the lecture. Follow along with the doctor's comments.

### **Reservations REQUIRED**

Call 316-927-4723 or email us at reservations@riordanclinic.org

Check Your Health laboratory tests results provide a guide to supplementation and dietary nutrition to optimize your health. Come to this lecture to learn how you can benefit.

This lecture will not be available via the internet live webcast.