No. 2





Health Hunters

Newsletter

A service of Riordan Clinic, cofounded in 1975 by Olive W. Garvey and Hugh D. Riordan. The Riordan Clinic is a not-for-profit 501(c)(3) corporation. Go to www.riordanclinic.org to make your tax deductible donation today or visit us at 3100 N. Hillside, Wichita, KS 67219.

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Riordan Clinic is a not-for-profit 501(c)(3), nutrition-based health facility in Wichita, Kansas. We have integrated lifestyle and nutrition to help you find the underlying causes of your illness. Since our inception in 1975, the mission has been clear and unwavering to "...stimulate an epidemic of health."

Heart Disease and Vitamin C:



How to Protect Yourself from Accelerated Aging

Vitamin C or ascorbic acid (AA) is essential for life in humans, as the capacity to synthesize it has been lost in the course of our evolution. Besides antioxidant properties and its role in collagen synthesis, vitamin C has been shown to boost the immune system, can markedly lower blood histamine concentrations and has antiviral activity. Vitamin C deficiency is associated with a decreased resistance to diseases. Large epidemiological studies have reported that intake of vitamin C and other antioxidants can protect you from developing hypertension. Vitamin C can also protect against the consequences of diabetes mellitus (like diabetic retinopathy), improve high-density lipoprotein cholesterol and enhance endothelial function.

When vitamin C is infused intravenously at doses of 10 grams or higher, it can reach 100 times higher concentrations in the blood compared to oral intake of vitamin C. At these concentrations, it shows cytotoxicity (toxicity to living cells) against some types of cancer cells.

Our recent study was designed to demonstrate that intravenous high dose vitamin C (IVC 15g) has potential effects in alleviating inflammatory status and improving defense status in subjects with metabolic syndrome. In addition, we showed that IVC can activate a factor that induces protection against cancer.

The results of our study allow us to develop public programs on IVC treatment for prevention of oxidative stress-related diseases and promotion of subsequent healthy aging. This program may be formulated for people with metabolic syndrome and chronic inflammation.



Metabolic syndrome (MS) or adiposity is defined as an accumulation of body fat. Metabolic syndrome is one of the major public health challenges worldwide that is characterized by a clustering of:

- · Increased waist circumference
- Elevated blood triglycerides
- Decreased HDL (high density lipoprotein) cholesterol, which is thought to be protective
- Elevated fasting glucose
- · Elevated blood pressure

Contact the Editor

Please send any comments or suggestions to newseditor@riordanclinic.org.

Thank you for reading,



Dr. Anne Zauderer Editor

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Health Hunters Newsletter

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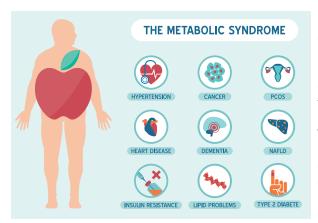
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"Heart Disease and Vitamin C" continued from page 1...

These symptoms, in turn, are associated with respiratory and cardiovascular disease, type two diabetes, fatty liver, visceral adiposis, early aging, cancer, and increased mortality.

The excess adipose tissue is associated with the state of chronic low-grade inflammation. Over time the adipose tissue turns into an endocrine organ that can mediate further levels of inflammation. The individuals with metabolic syndrome have moderate increases in circulating levels of inflammatory mediators which originate, in part, from the white adipose tissue in different storage locations. This explains the development of obesity-related pathologies.

Adiposity plays an important role in the development of insulin resistance. It triggers the associated comorbidities of metabolic syndrome, such as atherosclerosis, dyslipidemia, hypertension, prothrombotic state, and hyperglycemia.



Metabolic syndrome-mediated oxidative stress may also play a role in cancer development, as adiposity-linked changes in gene expression are strong markers for the long-term consequences of nutritionally-mediated inflammation. This results in epigenetic changes induced by oxidative stress, which can promote the progression of gene expression changes that have been associated with the development of cancer.

We decided to gain a better understanding of the effects of intravenous vitamin C on gene expression of messenger molecules (cytokines) involved in inflammation and immune response, and to determine if intravenous vitamin C provides a benefit in reducing inflammation and stimulating immune response at a genomic level.

IVC treatments of the participants resulted in a significant increase of ascorbic acid concentrations and the ratio of reduced to oxidized ascorbic acid in blood. The higher ratio of different forms of ascorbic acid is more favorable, and it was considered as "healing factor" by Irwin Stone. This ratio was decreased in participants with high level of inflammation, which may be explained by increased level of oxidative stress in subjects with metabolic syndrome.

The result of our study demonstrated that inflammation score, defined by inflammatory and anti-inflammatory cytokines, was decreased after IVC treatment. IVC treatment yielded regulation of immunological genes in blood cells, suggesting potential benefits in regulating inflammation and redox potential. Several markers of the inflammation and anti-inflammation that have been studied in association with metabolic syndrome were improved, which indicated a decreased risk of chronic diseases.

This finding is very important since it proved that the treatment with IVC of a population with metabolic syndrome and low-grade inflammation results in the improvement of the inflammation markers, which can be protective against the development of the chronic disease.

In the second part of the study, we analyzed the expression of the factor responsible for the detoxification enzymes and proteins involved in defense and stress responses after IVC treatment.

The target factor that was analyzed was nuclear respiratory factor 2 (Nrf2). This transcription factor regulates the expression of numerous detoxifying and antioxidant genes. The products that are under the transcriptional control of Nrf2 include enzymes responsible for the production of antioxidants and detoxifying molecules. In addition, this factor enhances the expression of nuclear genes involved in biogenesis, such as the respiratory molecules, and may be important for human health and longevity. Nrf2

"Heart Disease and Vitamin C" continues on page 3...

How to Activate Nrf2 and Protect Yourself from Oxidative Stress

- 1. Consume more flavonoid-rich foods:
 - berries
 - red and purple grapes
 - red wine
 - green and white tea
 - coffee
 - chocolate
 - apples
 - citrus fruits
 - broccoli, alfalfa sprouts
 - onions
 - scallions
 - parsley, thyme, rosemary, garlic, ginger
 - celery
- 2. Supplement with the following antioxidants:
 - curcumin from turmeric
 - resveratrol from grapes
 - red ginsing
 - vitamin E
 - fish oil
 - lycopene
 - olive oil
- 3. 30 minutes of cardiovascular exercise (riding bike, running, walking, swimming. rowing...etc)
- 4. IV vitamin C
 - To prevent chronic disease: maintenance dose of 15-25 grams once per month
 - For people with chronic diseases: dose of 15-25 grams
 1-2 times per week



signaling is central to efficient detoxification of reactive metabolites and reactive oxygen species (ROS). It is well known that this factor also enhances toxin export.

The products of transcriptional factor Nrf2 enhance protection against molecular damage that induces cancer development. It has been shown in the research studies that the potential of Nrf2-regulated antioxidative response a has role in protecting against induced cancer in the animal model.

Moreover, the decline in levels of Nrf2 that promotes oxidative damage in aged organisms is well documented. During the last years, decline in the action of this factor has been suggested to be involved in many aged-related diseases. Age-related Nrf2 inhibition is observed in Parkinson, Alzheimer, Huntington's diseases and atherosclerosis models.

In many disease states, in addition to cancer, oxidative and/or inflammatory stress has a crucial role. Degenerative and immunological disorders – examples of which include atherosclerosis, inflammatory bowel disease, diabetes, rheumatoid arthritis, human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), neurological disorders, sepsis and many others – affect more than 45 million people worldwide. Though the illnesses are very different, the Nrf2 pathway plays a role in many of them.

Nrf2 is able to suppress oxidative stress and thus prevent disease, therefore the ability of natural or pharmacological agents to activate Nrf2 is an essential component of this process. Interventions that would offer the potential to activate this factor can promote longevity, healthy aging and lower cancer incidence.

Examination of in vitro and in vivo experimental results, and taking into account recent human clinical trial results, has led to the opinion that Nrf2-activating strategies – which can include drugs, foods, dietary supplements, and exercise – are likely best targeted at disease prevention, disease recurrence prevention, or slowing of disease progression in early stage illnesses.

Numerous examples of the beneficial effects of activation of Nrf2 include protection from acute insults to the lung, kidney, brain, liver, eye and heart that are caused by diverse factors including chemical toxins.

Data have also been obtained for Nrf2-activating drugs that have a disease-preventive role in chronic diseases such as diabetes and obesity, and in multiple neurodegenerative diseases. Nrf2 activity reduces atherosclerosis development, liver inflammation, and fibrosis associated with obesity in an obese mouse model. The role of Nrf2 against oxidative stress in rheumatoid arthritis was demonstrated. Oxidative stress is significantly involved in cartilage degradation in arthritis; and the presence of a functional Nrf2 gene is a major requirement for limiting cartilage destruction.

[&]quot;Heart Disease and Vitamin C" continues on page 4...

Upcoming Events

February 1st 11:30am – 1:30pm FREE



Monthly Class – Food as Medicine

There are a lot of questions in today's world about what to eat, how to eat, and why. This in-depth course will connect the dots and address some fundamental questions behind how our diet impacts our health and wellbeing and how it contributes to the progression of chronic disease.

Please Note: This course is available in-person and online. For more information on how to watch online, please see:

riordanclinic.org/food-as-medicine/

February 8th Noon – 1:00pm FREE

Lunchtime Lecture –
Heart Disease and Dietary Fats:
How You Can Protect Yourself from
the #1 Cause of Death in the U.S.



Join us at the Riordan Clinic, Wichita campus, to discuss with Dr. Jennifer Jackson, guest lecturer from KU School of Medicine, how dietary

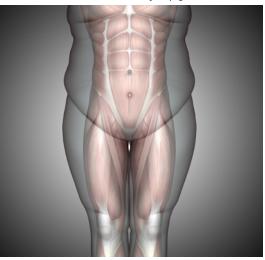
recommendations for heart disease have radically changed and what you need to do to protect yourself. She will discuss why fats are good for us and the foods we need to avoid.

Reservations can be made by calling 316-682-3100 or emailing: reservations@riordanclinic.org.

*Complimentary light refreshments will be served

Please see www.riordanclinic.org for more information

"Heart Disease and Vitamin C" continued from page 3...



In summary, the activation of the Nrf2 pathway has been widely accepted as offering chemoprevention benefit and has been proposed to be a promising target for anti-inflammation and cancer prevention.

Our preliminary study demonstrated that the activation of Nrf2, by intravenous high dose vitamin C treatment, can induce protection against age-related degenerative diseases and cancer. Further studies of the effects of high dose vitamin C on Nrf2 gene expression would offer the potential to develop treatment to promote longevity and healthy aging, and to lower cancer incidence.

In conclusion, our study demonstrated that high dose vitamin C has potential effects in inflammatory status and improving defense status in subjects with metabolic syndrome. We also demonstrated that the activation of translational factor Nrf2 by IVC treatment can induce protection against age-related degenerative diseases and cancer.

Nina Mikirova, PhD is director of research at the Riordan Clinic and graduated from Moscow State University in Russia with a PhD in physics and mathematics. She joined the Riordan Clinic in 1997. Dr. Mikirova has published numerous articles in peer-reviewed journals including more than 40 in the area of nutrients as biological response modifiers and 50 articles in the area of bio-medical aspects of solar radiation.

1. Mikirova N, Scimeca RC (2016) Intravenous high-dose ascorbic acid reduces the expression of inflammatory markers in peripheral mononuclear cells of subjects with metabolic syndrome. Journal of Translational Science. Volume 2(3):188-195.

February is Heart Health Month!

Give yourself the gift of health and test the key nutrients and foods you need for protection against developing chronic, inflammatory conditions such as heart disease.

The BioCenter Laboratory at the Riordan Clinic offers a comprehensive Inflammation Panel that evaluates these markers that are needed for optimal health.

- Vitamin A
- Vitamin C
- Vitamin E
- Essential Fatty Acids (Omega 3 & Omega 6 fatty acids, plus more!)
- C-Reactive Protein
- Hemoglobin A1c
- Basic Cytotoxic Food Allergens
- Urine Vitamin C
- Potassium/Sodium Ratio

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Take Back Your Health by Eating 'Real Food'



AUTHOR

Jennifer Jackson, MD

I would estimate that over 80% of disease processes I see every day are directly linked to diet. A traditionally neglected area of discussion, nutrition is paramount to both disease prevention and treatment but much of the current advice about diet can be confusing and is weighted down with conflicts of interest and advice that seems insurmountable with limited budgets of both money and time.

If there is one single rule that sums up the mainstay of dietary advice that I believe is good for everyone, it is simply "eat real food." A phase made famous by author Michael Pollan, and seemingly so simple, this advice pierces the root of the current food crisis defining the standard American diet.

In only one generation, Americans have obliterated centuries of common wisdom and advice on how to prepare and preserve nutrient dense foods swapping kitchen prep for drive through windows and prepared "meals" that come to us packaged and ready to serve. Believing the hype that food planning and preparation is expensive (it's not), takes too much time (it doesn't) or is simply obsolete in this postmodern era (it's not) we have traded our culinary skills for goldfish crackers and Wonder Bread.

It is these prepared, highly processed, nutrient-poor edible items that now predominate the grocery carts of most American families. Even schools encourage "snacks" of small package convenient items in the name of safety. But there is nothing safe about the ingredients they contain.

If you want to take back your health, then take back your pantry:

- Eliminate highly processed grains including crackers, cookies, cakes, chips, pretzels, breads and pastas. Carrots, apples, grapes, melon, berries, celery, cucumbers, peppers, dried fruit, nuts and seeds are grab and go, take no prep work, pair well with dips and spreads and are packed with nutrition.
- Concerned about spoilage or cost of fresh foods? Plant anything, buy from a neighbor with a garden, eat in season, buy surplus and preserve (can, dehydrate, freeze).
- Yes soda is worthless in so many ways. But so are fruit juices and sports drinks. Not only are they loaded with sugar but they are full of artificial colors too. No, playing outdoors does not require Gatorade.
- Need to save a buck? Pack your lunch. It is definitely less expensive, is a great way to use leftovers and makes it so easy to control the quality of your food. A salad at McDonalds is \$4.79 and takes far more time to obtain then the one you put together in less than 5 minutes last night while cleaning up after dinner.
- Short on time? Crockpots are wonderful. Good for just about anything and the food always gets better with time. Make a bunch and you have a lunch.

This article was originally published in the Wichita Eagle on December 5, 2016. It was reprinted with permission from the author.

Jennifer Jackson MD, FACP serves as the medical director for the Via Christi Transitional Care Programs. She also dedicates time training future doctors for the state of Kansas as the Associate Program Director for KU Internal Medicine Residency in Wichita. She is board certified in internal medicine and hospice and palliative care.

Her passion is research and teaching about a whole foods diet and sustainable agricultural practices as it relates to human health and environmental issues. In summer 2013, she and her family relocated to a 40 acre farm implementing a grass finished cattle and pastured poultry business using local distribution and "beyond organic" farming practices as modeled by Joel Salatin's Polyface Farm. You can find more information about her family's farm on Facebook at "Jackson Family Farms."



Join Dr. Jackson **February 8th, Noon—1:00pm** at the Wichita Campus, for a **FREE** Lunchtime Lecture – Heart Disease and Dietary Fats: How You Can Protect Yourself from the #1 Cause of Death in the U.S.

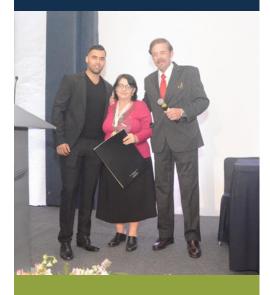
Reservations can be made by calling 316-682-3100 or emailing reservations@riordanclinic.org.

International Awards

Dr. Nina Mikirova, Director of
Research at the Riordan Clinic,
received a medal for Medical
Excellency at the XI International
Conference on Nutrition, Anti-aging
and Regenerative Medicine held in
Cuernavaca, Mexico. The conference
was organized by Dr. Federico von
Son, the general director of the ISIENA
(Medical Institute of the Nutrition, AntiAging and Regenerative Medicine).

Dr. Mikirova presented on the topics of "High dose Intravenous administration of ascorbic acid in cancer" and "Endothelial progenitor cells: a new approach to anti-aging medicine."

Congratulations, Dr. Nina!



If you are interested in donating to the cutting edge research being done at the Riordan Clinic, please visit:

riordanclinic.org/ giving-options/

Research Spotlight

Probiotic Reduces Visceral Fat in Overweight and Mildly Obese Adults

In a 2016 study, Bifidobacterium animalis subsp. lactis reduces abdominal visceral fat, which is the bad fat that packs around our organs, in overweight and mildly obese adults. Abdominal visceral fat accumulation plays an important role in the development of metabolic syndrome.

This randomized, double-blind, placebo-controlled, 12-week study included 137 healthy Japanese subjects. These subjects had a body mass index that ranged from 23 to 30 kg/m2. The World Health Organization (WHO) considers these individuals overweight or obese for Asian populations. The subjects consumed fermented milk containing Bifidobacterium lactis or a placebo daily. Researchers measured visceral and subcutaneous abdominal fat areas as well as the amount of bifidobacteria in their fecal matter.

The group consuming Bifidobacterium lactis experienced a significant decline in visceral fat, but not subcutaneous fat, compared to the placebo group. Furthermore, there was a significant increase in the total number of fecal bifidobacteria in the probiotic group.

The study authors concluded, "These results indicate that B. lactis GCL2505 reduces abdominal visceral fat, a key factor associated with metabolic disorders. This finding suggests that this probiotic strain can potentially serve as a specific functional food to achieve visceral fat reduction in overweight or mildly obese individuals."

Reference:

Takahashi S, et al. Biosci Microbiota Food Health. 2016;35:163-71.

Source:

https://www.protherainc.com/



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Patient Profile: Check Your Oil



AUTHOR

Carol Reynolds

When I went to my update appointment at Riordan Clinic in March of 2016, I was so happy about keeping cancer in check. Any other health annoyances seemed small by comparison and inevitable, due to my age and genetic blueprint. I was wrong. Even though I had read about epigenetics, I figured that I was destined for osteoarthritis, allergies, and a general acceleration of system breakdown. Did Dr. Ron have any suggestions? You bet.

Since 2009 and the cancer issue that brought me to Riordan Clinic, I have been blessed with regular adjustments to my health regimen. I rely on intravenous ascorbic acid, a healthy diet, exercise, supplements, and the constant efforts by the brilliant staff at Riordan to uncover better ways.



The new yet ancient practice I adopted in March has made a huge difference in the quality of my every day and night; it is oil pulling. It sounds weird but it works. Once a day, or more if needed, I swish a teaspoonful of coconut oil in my mouth for fifteen minutes, then I spit it into a napkin and discard (rather than clog the drains). This works best first thing in the morning or last thing at night. It actually pulls the toxins from the body.

Within four days of beginning oil pulling, as championed by Dr. Bruce Fife, I felt relief from joint pain in knee, shoulder and hips, and from degenerative disc pain in lower back, and arthritis in hands and feet. Amazing! I also noticed improvement with skin issues (blemishes, dry skin, fungal toes), digestion, regularity, sleep, allergies, healthy mouth, and increased immunity when colds and flu were prevalent. I no longer need supplements for pain and sleep.

My husband has adopted this good habit as well, and we both find a meditative benefit in having to be quiet for fifteen minutes. We will do this always and happily spread the word.

Does all disease begin in the mouth? It did for us, and we are grateful to know how to remedy problems and avoid additional ones. This is an easy and inexpensive investment in health. It is so safe and universally helpful that we are telling everyone, not only fellow geezers, but also young folks suffering prematurely.

Check your oil. You'll be glad.

5 Easy Steps for Oil Pulling:

- 1. Oil pull first thing in the morning, before brushing your teeth
- 2. Use 1 -2 tablespoons of coconut oil. (You can start with a smaller amount and work your way up).
- 3. Swish coconut oil in your mouth for 10 20 minutes. (If coconut oil is hard, it will soften as you go).
- Spit out coconut oil (discard in a trashcan as to not clog your pipes) and rinse mouth with warm water.
- 5. Brush your teeth.



Did You Know?



You can watch
all of your favorite Riordan
Clinic lectures on YouTube!

You can "subscribe" to our channel and get notified every time a new video is posted.

Some recent lectures to check out are:

Correcting the Molecular Basis of Depression and Anxiety

Dr. Ron Hunninghake & Dr. Anne Zauderer

Tired? Could it be your Thyroid?

Dr. Ron Hunninghake

Paindemic: A Holistic Look at How to Manage Chronic Pain

Dr. Melissa Cady

Weight Loss:
An Individualized Approach

Dr. Ola Buhr, Dr. Jennifer Mead, & Dr. Anne Zauderer

Conquer Stress! Renew Your Adrenals

Dr. Anne Zauderer

Exploring Bioidentical Hormone Replacement Therapy

Dr. Jennifer Mead







I am all about efficiency and value. I like to get the most "bang for my buck" in all that I do. If you are like me then you are going to be excited about month #2! This month, the challenge I give you is exercise. Before you stop reading, please hear me out. I understand that we all know we should exercise on a regular basis, yet, only 20% of people actually do it. Why is that? Most of us, when we think about exercise, conjure up an image of "sweating it out" at the gym. Exercise seems like it requires a lot of effort. However, I'm here to prove that wrong.

Month 2: Exercise

What if I told you that there was a medicine out there that could accomplish all of the following:

- Reduction of pain/disability from arthritis by 47%
- Reduced progression of dementia and Alzheimer's by 50%
- Reduced progression from pre-diabetes to type 2 diabetes by 58%
- Decreased risk of hip fracture in post-menopausal women by 41%
- Reduced anxiety by 48%
- 30% decrease in depression, 47% decrease with more exercise
- 23% lower risk of death
- Alleviation of fatigue and quality of life improvement!



What is this "magic treatment"? EXERCISE! It gets better. Most of the exercise used to prove the above statistics was no more than 30 minutes per day of walking. Even better, the 30 minutes per day didn't have to be continuous exercise! So you could take three 10-minute walks and get the benefits outlined above.

If you are already exercising on a regular basis (great job!), here's a way to take your exercise routine to the next level. Incorporate what is known as High Intensity Interval Training (or HIIT). You can use this program with whatever form of exercise you enjoy (biking, running, elliptical, rowing and even walking). Do a warm-up for 2 minutes and then go through 8 cycles of the following: 30 seconds as hard as you can (goal is to increase your heart rate to a max level for your age*) and then 1 minute and 30 seconds slow. Repeat that 8 times followed by a 2 minute cool-down. The whole program takes 20 minutes. Incorporate this 3 times per week and you will see an increase in muscle tone and fitness!

*to find your max heart rate, subtract your age from 180 beats per minute

Source: 23 and 1/2 hours: What is the single best thing we can do for our health? http://www.evanshealthlab.com/ I know we are all busy, so here are a few tips to help you get 30 minutes of walking in per day:

- 1. Start and end your lunch break with a 10-minute walk. If you pack your lunch, you have enough time to take a walk or two. This will also increase your metabolism and help you more efficiently burn off the calories you are eating.
- If you have children who play sports, walk around the field or court while they are practicing. You can easily get 30-60 minutes of walking.
- Get a dog. Furry friends are a great motivation to get out twice a day and take a walk.
- 4. Park in the farthest row at the grocery store. Those extra few minutes of walking can add up!
- Find a podcast or music you enjoy and use that as motivation to get out and walk while you listen.
- 6. Cold outside? Just stand up and march in place while you are watching your favorite TV show. Any movement is going to be better than nothing.

I want to hear from you on how your results are going with the monthly challenge!

Email me at newseditor@ riordanclinic.org. We will be doing random giveaways each month for those who are participating in the challenges.



Email me to get your name entered into the drawing!