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Inside this Issue

Can Intravenous Vitamin C Stop a Deadly Infection?	1-3
Upcoming Events	3
Research Shows: Oral Vitamin C Can Protect Against the Common Cold	4-5
How to Make Kombucha at Home	6-7
12 Months to a Healthier You!	8



Riordan Clinic is a not-for-profit 501(c)(3), nutrition-based health facility in Wichita, Kansas cofounded in 1975 by Olive W. Garvey and Hugh D. Riordan. 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."

Can Intravenous Vitamin C Stop a Deadly Infection?

Mainstream Medicine is Taking Notice



AUTHOR

Nia Stephanopoulos-Chichura, MD

Initially, I set out to write a completely different article in connection with my upcoming lecture in May, "Mysteries of the Gallbladder." However, I felt compelled to share this news on intravenous (IV) vitamin C with you as it has the potential to save your life or the life of your loved one.

On March 23, 2017, National Public Radio (NPR) reported on a story about an Intensive Care Unit (ICU) doctor who was bringing IV vitamin C research to the bedside in real time¹. Dr. Paul Marik, MBBCh, of Eastern Virginia Medical School, went out on a limb and gave a combination of IV vitamin C, a steroid called hydrocortisone, and vitamin B1 (thiamine) in an IV solution to hospital patients dying of life-threatening

THEY NOT ONLY LIVED, BUT THE DEATH RATE IN DR. MARIK'S HOSPITAL FROM SEPSIS FELL FROM 40% TO 8.5%².



response to infections called sepsis ... and...they lived! They not only lived, but the death rate in Dr. Marik's hospital from sepsis fell from 40% to 8.5%². His work builds on the work of Dr. Alpha Fowler and others showing survival benefits of giving IV vitamin C for sepsis infections³.

Sepsis used to be known to the public as "blood poisoning." According to Dr. Marik's research paper, "the global burden of sepsis is estimated as 15 to 19 million cases annually with a mortality rate approaching 60% in low income

countries²." According to the Centers for Disease Control (CDC), sepsis is considered a medical emergency and time can make the difference between life and death⁴. Sepsis is the body's overwhelming response to a life-threatening infection that can lead to tissue damage,

Continued on page 2

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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organ failure, and death⁵. The CDC also found that, “7 in 10 patients with sepsis had recently used healthcare services or had chronic diseases requiring frequent medical care⁶.”

What this means is that patients with chronic conditions like diabetes or weakened immune systems from chemotherapy and cancer are at higher risk. How many people do you know with diabetes or with weakened immune systems from chemotherapy and cancer? I know several.

Dr. Marik’s story is not the first story regarding IV vitamin C and survival from sepsis. In 2009, New Zealand dairy farmer Allan Smith contracted swine flu, developed pneumonia, and was quickly placed on multiple machines in the ICU keeping him alive while his body fought through sepsis. His condition worsened and the doctors came to his family to withdraw life support because he had been in a coma for 3 weeks. His family said that before taking him off of life support that IV vitamin C should be tried. The family was persistent, and Allan was given IV vitamin C.

On a Tuesday night he was given 25 grams of IV vitamin C and on Wednesday morning he was given 25 grams again. After two days on IV vitamin C his lungs began to clear. When Allan was continued on IV vitamin C, he was able to get off of life support. He is still alive and well today.

Another doctor who pioneered the use of IV vitamin C to fight infections was Fred Klenner, MD. Dr. Klenner used IV vitamin C in Reidsville, North Carolina, to successfully treat polio, diphtheria, herpes zoster (shingles), herpes simplex, chickenpox, influenza, measles, mumps, and viral pneumonia in the 1930’s and 1940’s. This was before the mass use of antibiotics, as Alexander Fleming discovered penicillin in 1928⁸. You can read more about the work of Dr. Klenner in the book *Injectable Vitamin C: Effective Treatment for Viral and Other Diseases*.

As patients, we need to keep asking the hard questions. I ended up in Integrative Medicine because I was asking questions and seeking the truth. Some of the following questions, I believe, need to be seriously considered. If IV Vitamin C is improving survival rates in sepsis, could the patients getting sepsis (the elderly, the people with chronic conditions like diabetes, the patients with weakened immune systems on chemotherapy with cancer)



have a deficiency in vitamin C? Could people with chronic illness be walking around in their daily life with a low grade scurvy? Furthermore, could they have other deficiencies we don’t even know about such as vitamin D? Could they be deficient in minerals, amino acids, healthy fats, B vitamins, etc.? Based on my years in practice I believe these are valid questions to

pose, and ones that can mean the difference between life and death for, not just sepsis, but all chronic conditions. As an example, Vitamin D deficiency has been documented in studies as an independent risk factor for mortality (risk of death) of ICU patients⁹.

We should be testing the nutrients of our ICU patients, and quickly treating their deficiencies. One step further, perhaps we should be checking the nutrient status of everyone in our

Living Proof

When Allan was continued on IV vitamin C, he was able to get off of life support. He is still alive and well today. To watch the full video told by his family on New Zealand news you can go to the link below⁷:



<https://youtu.be/VrhkoFcOMII>

general population and addressing their deficiencies before they get sepsis or other illnesses? Food for thought.

Here at the Riordan Clinic, we have been checking nutrients and giving IV vitamin C for over 40 years. Over 40 years. I can tell you from my years in practice with checking hundreds of nutrient profiles in patients that I have yet to see a completely normal profile on anyone – even those coming to us for wellness checks with no current medical issues. The deficiency states and toxicity states of our citizens in this country continue to astound me.

EVEN WHEN PEOPLE THINK THEY ARE GETTING THE NUTRIENTS THEY NEED FROM THEIR FOOD, WHEN WE CHECK THEIR NUTRIENT LEVELS THEY ARE STILL LACKING.

In fact, the Nutrition Security Institute has data showing the decline in mineral and vitamin content of our food supply over the past 80 years. To give you some examples, the decrease in the mineral content of one medium apple from 1914 to 1992 is quite remarkable. Per apple the amount of magnesium has dropped 82%, phosphorous 84% and iron 96%¹⁰! Our bodies need these minerals for vital functions like carrying oxygen, giving us energy from metabolism, and getting rid of our waste products.

Knowledge is powerful. I present you with this information in hopes that you will continue to seek the truth and question the conventional standards so that, together, we can rise above!

➔ **To watch videos, read the full papers and view the Riordan Clinic IVC Protocol, visit:**

 riordanclinic.org/about-our-research

 [facebook.com/riordanclinic](https://www.facebook.com/riordanclinic)

I hope to see you at the end of May for our lecture unfolding many health mysteries and how they are connected to the gallbladder.

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Upcoming Events



Food as Medicine

A foundational nutrition course

FREE

May 3rd - 11:30am – 1:30pm

Monthly Class

This in-depth course will address some fundamental questions behind how our diet impacts our health and well-being 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

Thursdays, May 4th, 11th, & 18th

5:30 - 6:30pm

21-Day Detox, Group Program

Dr. Anne will walk participants through a detox program while also discussing important topics related to avoiding toxins in our environment. Class is limited to 15 participants. Cost is \$39 (price includes classes only).



May 26 - Noon – 1:00pm

Lunchtime Lecture

Mysteries of the Gallbladder

Dr. Nia Stephanopolous-Chichurra

Whether you have your gallbladder or had it taken out, come learn about the importance of the bile system and how it relates to memory, allergies, gut health, and how to support it through nutrition and supplementation. **FREE***



**Complimentary light refreshments will be served*

June 2 - 3:00pm - 4:00pm

Essential Oils: How to Upgrade Your Medicine Cabinet

Guest speaker, Dr. Carmen Meadows, will talk about how to use essential oils as a natural alternative for many of the common, over-the-counter medications we keep in our medicine cabinet. We will make an all-natural sunscreen with essential oils just in time for summer!

Cost: \$5

For more information or to register for any of these events, please call **316-682-3100** or email: reservations@riordanclinic.org.

Research Shows: Oral Vitamin C Can Protect Against the Common Cold



AUTHOR

Paul Taylor

A recently published study in the journal *Nutrients* entitled, “Vitamin C and Infections” by Harri Hemilä of the University of Helsinki in Finland, found a strong correlation between oral vitamin C dose and duration of the common cold. In this article, we will be taking a look at the results of this study and outlining the many ways the right dose of oral vitamin C can prevent and treat infections.

A number of studies in early literature examined a variety of infections such as pneumonia, viruses, bacteria, and protozoa. However, more recent studies failed to see any difference. The more recent studies only looked at doses of 3 to 4 grams or less, while this new study looked at dose responses up to 6 to 8 grams of vitamin C daily. Two controlled trials exhibited statistically significant dose-response reductions in common cold duration. Similarly, three studies showed prevention of common cold. Additionally, two studies found treatment benefits for pneumonia patients who took vitamin C. This indicates that vitamin C bears further investigation as prevention and treatment for infections.

The article looked at a number of resources dating back to as early as 1500s and found that in many cases early doctors and clinicians were concerned with scorbutic patients’ increased risk of infection, particularly pneumonia. In the early history before vitamin C was discovered, scurvy was often seen in times of crop failure and famine, even in more tropical areas where fresh fruits and vegetables tended to be available throughout the year. The typical outcome, when sources of vitamin C were limited or scarce, was increased infections especially upper respiratory such as pneumonia. Scurvy has been viewed primarily as a disease of connective tissues by mainstream medicine, which has failed to look at its properties in relationship to infection, as earlier literature indicated for decades if not centuries.

Hemilä looked at 148 animal studies and over half found significant benefit for at least one infectious disease outcome. Even in studies of rats and mice, which can synthesize their own vitamin C, more than half found benefits for these animals, which further indicates that these animals might not always synthesize sufficient vitamin C. Several studies in birds and fishes also indicated protection from infection. In 55 of the 97 studies involving bacteria or bacterial toxins, significant benefits from administration of vitamin C were seen. This is significant because toxins such as diphtheria toxin, tetanus toxin, and endotoxins are important in the pathogenesis of the infection.

IN STUDIES OF HUMANS, VITAMIN C HAS BEEN SHOWN TO REDUCE THE SEVERITY AND DURATION OF COLDS IN ADULTS BY 8% AND IN CHILDREN BY 18%, WHEN REGULAR SUPPLEMENTATION GREATER THE 0.2G PER DAY OCCURS.

In studies of therapeutic supplementation (starting after the first symptom), there has been little evidence that duration or severity is mitigated, particularly when supplementation is 1.5 g or less. Thus regular supplementation on a daily basis is important for benefit.

A common problem in vitamin C trials, when compared to drug trials, is that it is difficult to restrict vitamin C intake because individuals who eat vitamin C-rich sources of food are grouped with those who may not. While in drug trials, participants either get the drug or they do not, they cannot consume the drug through the foods that they eat.



Some of the studies that showed no benefit also gave low doses (0.05 to 0.07 g daily) of vitamin C. However the author of this study felt this was faulty as there are populations with dietary low intake or deficiency and this ruled out the potential for seeing benefit in those populations. Many studies of the common cold had dosages varying by as much as 240 fold between the lowest dose trials and the highest dose trials. Yet the dosage is often ignored. In a study by Chalmers, that was widely cited as evidence that vitamin C provided no benefit, there is no listed dosage; while a study by Karlowski administered up to 6g/day. Therefore, it is unclear whether these two studies can truly be compared, as the Chalmers study fails to indicate the dosage.

Karlowski and Anderson both show significant dose response to vitamin C administration for either 6 or 8 grams per day. The Karlowski study administered up to 6g/day while the Anderson study administered up to 8g/day. Both administered a lower dose of 3g or 4g daily and additional 3g or 4g daily on first symptoms of a cold. Both studies compared to a placebo group that received no supplemental vitamin C. Both studies indicated nearly a 20% reduction in cold duration in the group with the highest supplementation.

A variety of studies in the U.S., the U.K. and the Soviet Union evaluated the effects of vitamin C on pneumonia in humans. All showed benefit from administering vitamin C to those with pneumonia, some indicating as much as a 36% reduction in hospitalization time compared to those who did not receive vitamin C.

Tetanus, a disease caused by the toxins from *Clostridium tetani*, is a bacterium that can contaminate wounds and be deadly. A study in Bangladesh examined the use of intravenous vitamin C on children, not vaccinated for tetanus, ranging in age from 1 to 12 years old. It found that children with tetanus who were given 1g/day of intravenous vitamin C resulted in no deaths. However, in the control group of children who were not given vitamin C, 23 deaths resulted.

While it can be difficult to study the effects of vitamin C, it is clear from the review of historical research, observations and Hemilä's own recent work, that there is renewed evidence for the use of vitamin C in treating and preventing infections of a variety of origins. Certainly some important early literature and research was ignored in the late 1970s through mid 1980s that might have had a profound impact on the use of vitamin C both then and now. However, in light of the new findings and revisiting historical findings, vitamin C should be considered for its ability to help fight and prevent infection in humans and animals.

Reference:

Harri Hemilä. Vitamin C and Infections. *Nutrients*, 2017; 9 (4): 339 DOI: 10.3390/nu9040339



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**THURSDAYS, MAY
4TH, 11TH, & 18TH**

**21-DAY
DETOX
PROGRAM**

5:30 - 6:30PM

Dr. Anne will lead classes in a group setting discussing how to properly do a detox program. She will walk participants through a detox program while also discussing important topics related to avoiding toxins in our environment.

Class is limited to 15 participants.

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

How to Make Kombucha at Home

AUTHOR

*Anita Goossen
Riordan Clinic Co-Learner*

It was Dr. Anne who first suggested I drink kombucha. I was looking for a good source of probiotics other than supplements. So I bought a bottle at the health food store, but didn't really like the taste. She also told me I could make it at home. I went online and found a recipe. My husband Lloyd was very skeptical about the whole thing and teased me about setting up a brewery. That was then. Now he likes it so much he doesn't want to run out, and he helps make it.

My daughter-in-law got a starter kit from me and began making it too. They are a family of seven and go through a lot of it. Her husband has been able to quit taking antacids since he's been drinking kombucha. Overall, I'd say we're all healthier because of it. Even when we get sick it doesn't last long.

Kombucha is a fermented tea drink that was first used in China around 221 BC. It was known as the "Tea of Immortality." To make it you place a SCOBY, which stands for symbiotic culture of bacteria and yeast, in a sweetened black or green tea. The culture turns the tea into a mixture of good bacteria, enzymes, vitamins, minerals and organic acids. The finished product tastes like sparkling cider.



The Benefits of Kombucha

Donna Schwenk, in her book *Cultured Food for Health*, outlines the many benefits of drinking kombucha. Some of them are:

1. It contains acetic acid, which helps stabilize blood sugar.
2. It contains an analgesic (pain reliever) and anti-arthritis compounds that help remove the accumulation of toxins in the joints, which can cause pain and inflammation.
3. It assists the liver in removing toxins, which helps detoxify the body.
4. It can help you lose excess water weight.
5. It contains the beneficial yeast *Saccharomyces boulardii*, which is resistant to stomach acid and cannot be killed by antibiotics.

This makes it incredibly useful for maintaining a healthy gut when treating an illness with antibiotics. However, *S. boulardii* doesn't stay in the body indefinitely. It lasts only two or three days, it must be replenished regularly.

When starting to drink kombucha you want to take it slowly at first. Drink about ¼ cup the first day and see how you feel. If you feel okay have some more; if not, wait a day or two before trying again.

Once you get the hang of it, kombucha is easy and fun to make, besides tasting wonderful, and you won't want to be without it.

Equipment you will need:

- 4 or 5 quart pot or kettle
- 1 gallon jar (glass iced tea containers are good for this)
- Coffee filter
- Rubber band to fit around neck of jar
- Starter (SCOBY, symbiotic culture of bacteria and yeast)
- 1 cup of fermented kombucha tea. *The SCOBY and fermented tea can be bought online.
- Glass bottles used for brewing. (I have 1 pint jars with clamp down lids and 1 quart growlers which I like best. The bottles need to be strong enough so they don't explode from the pressure of fermenting.)
- 2 quart wide mouth Mason jar with lid for the SCOBY hotel (see #13 in recipe notes)

Ingredients:

- 4 quarts filtered water (not distilled)
- 1-1/3 cup Sucanat, white sugar or coconut sugar
- 8 small tea bags (I use organic green tea but black or herbal tea works too.)
- 1 SCOBY
- 1 cup fermented kombucha tea (saved from your previous batch)
- 2 cups 100%, no sugar added fruit juice, if second fermenting (see #15 in recipe notes). Grape is our favorite.

Directions for Making Kombucha at Home

1. Make sure all utensils are clean and well rinsed.
2. Bring water to a boil in kettle.
3. Add sugar and boil 5 minutes.
4. Remove kettle from heat and add tea bags. Cover and let steep for 15 minutes.
5. Remove tea bags and let tea cool to room temperature. Heat will kill the SCOBY, so do not place it in the hot tea. I make the tea in the morning and it is cooled down by evening. Or I make it in the evening and by morning it is ready to use.
6. Pour cooled tea into gallon jar.
7. Add 1 cup of fermented kombucha tea. Stir.
8. Add the SCOBY, smooth side up.
9. Cover jar with coffee filter and secure with rubber band.
10. Place the jar in an undisturbed, well-ventilated and dark place with a temperature between 65° and 90° for 6 to 10 days. (If your house is about 74° it takes about 7-8 days, possibly less time for warmer rooms and more time for cooler rooms.) You can buy a brew belt online to keep the temperature stable. I had a heating mat for starting seedlings and that has worked fine. Winter has been the only time I have needed to use it. I let my kombucha ferment approximately 1 week or more. You can taste it with a straw after 4 days. It needs to be tart not sweet, but not overly sour either. It should taste like sparkling apple cider.
11. Move jar to kitchen counter.
12. Remove SCOBY or SCOBYs and 1 cup fermented kombucha tea. (A new SCOBY usually forms during the fermenting, which you can share with your friends.)
13. Place SCOBY and fermented tea in a 2 quart jar to begin your SCOBY hotel, which is where your SCOBYs will live when they aren't making kombucha. Next time you start a new batch of kombucha, take 1 cup kombucha tea from the hotel and add 1 cup just brewed sweet tea to the hotel to feed the SCOBYs. Use the kombucha tea from the hotel and a SCOBY as starter for the new batch of kombucha. If not using your SCOBYs regularly, feed them with a cooled tea brew: 2 cups water, 2-2/3 T. sugar and 1 tea bag.
14. Store the hotel in a dark, room temperature cupboard.
15. To make your kombucha more carbonated, a second ferment is needed.
16. To every quart add 1/2 c. juice.
17. Cap bottles and let sit in a dark cupboard for several days. After 2 or 3 days check to see if the carbonation is to your liking. When it is, place the bottles in the refrigerator. Kombucha can be stored in the refrigerator for one year or longer, but will eventually turn to vinegar.

New in the Riordan Clinic Store: CBD Hemp Oil



Restore Calm Chocolate Mint Flavor

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12 Months to a Healthier You!

Month 5: Go Organic!



AUTHOR

Anne Zauderer, DC

There are so many health trends these days that sometimes it's hard to determine what will make the most impact. I'm here to tell you that eating organic foods will give you one of the best returns for the investment in your health.

New research suggests that glyphosate, which is one of the active ingredients in the Monsanto's herbicide Roundup, could be connected with the rising rates of chronic diseases in the United States. More than **1 billion pounds** are sprayed in the U.S. alone every year. This herbicide is regularly used on crops that have been genetically modified to be resistant to this chemical. These crops are known as "Roundup ready." Some of the biggest sources of these genetically modified foods are in processed food including: wheat, soy, corn, and sugar. I don't think it's a coincidence that we are seeing skyrocketing rates of allergies and sensitivities to these foods. Not to mention that glyphosate is particularly damaging to the good bacteria that reside in the gut. This contributes to dysbiosis, or overgrowth of the harmful bacteria, and leaky gut.

Some of the conditions¹ that have been connected with the increased use of glyphosate use are:

Autism	Gastrointestinal diseases (IBS, Crohn's disease, colitis)	Multiple sclerosis
Allergies	Obesity	Alzheimer's disease
Cancer	Infertility	ALS
Parkinson's disease	Depression	
Cardiovascular disease		

I understand how expensive it can be to eat all organic foods. However, consider some food for thought: what you invest in your health now will decrease what you have to invest in the future. Eating organic now is much less expensive than paying for the chronic diseases listed above. In addition, research shows that organic foods have more nutrients in them². Therefore, nutritionally you are getting more for your money by eating organic.



If your budget doesn't allow you to eat all organic, follow the guide³ put out by the Environmental Working Group called The Dirty Dozen. This list includes the twelve foods with the highest residue of pesticides. If you eat only these twelve foods organic, you will cut out a significant amount of pesticides that you are exposed to on a regular basis.

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 3. https://www.ewg.org/foodnews/dirty_dozen_list.php

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

Email me at newseditor@riordanclinic.org to let me know about your progress, and to get your name entered in our monthly random giveaways for those participating in the challenge.