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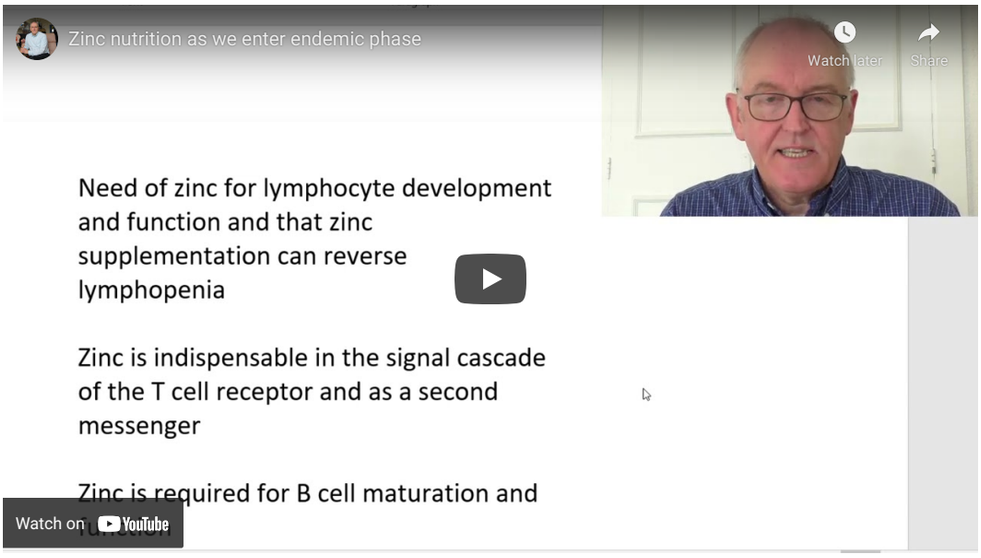
How Zinc Can Boost Your Immune Health

Analysis by Dr. Joseph Mercola Fact Checked

10/11/2021



STORY AT-A-GLANCE

- Zinc is essential for the normal development and function of your immune system as it protects against susceptibility to pathogens, mediates natural killer cells, activates T-lymphocytes, regulates macrophages and is central to DNA replication
- Evidence shows zinc helps protect the body from COVID-19 by impairing viral replication in the cell, supporting ciliary growth and function in the respiratory system and improving the respiratory epithelial barrier
- A zinc deficiency is associated with many of the comorbidities linked to COVID-19, including obesity, kidney disease, tobacco smoking, diabetes and autoimmune diseases
- Using a zinc ionophore helps move zinc into the cells where it can impair viral replication. Zinc ionophores include hydroxychloroquine, quercetin and EGCG found in green tea
- Zinc supplementation may trigger a zinc/copper imbalance. It is best to consistently get your zinc from food and use supplementation during an acute illness

In this short video by Dr. John Campbell, he reviews some of the science behind the association between zinc and the immune system. He believes it is one biological basis for an "altered resistance to infection."[1] But, beyond the immune functions I discuss below, it's important to know that zinc plays other important biological roles.

For example, you have at least 300 enzymes that require zinc to function normally.[2] The Centers for Disease Control and Prevention[3] has identified several common human coronaviruses that are responsible for upper respiratory tract illnesses, like the common cold. Although a cold is usually a minor condition, it is also responsible for most doctor's office visits every year.[4]

A cold can last as short as a week, but in children and the elderly it can last longer. Cold symptoms include stuffy head, runny nose, sore throat, headache and sometimes a fever.[5] These are some of the same symptoms of influenza, but the symptoms are often worse and include fever and body chills.

It wasn't until the work of Dr. Ananda Prasad in the 1970s that zinc was acknowledged as an essential mineral.[6] A decade earlier, Prasad was studying young men who had grown up in Egypt and never attained their normal height.

After supplementing with zinc, the men grew "significantly taller." In the 1970s, zinc was acknowledged by the National Academy of Sciences as a mineral fundamental to many aspects of health. Prasad collaborated with a scientist from the University of Michigan to demonstrate that zinc influences immunity.[7]

Research in the last decade has identified the crucial role that zinc plays in curtailing the length and severity of upper respiratory infections. A meta-analysis[8] published in 2017 found those who took a zinc supplement of 80 to 92 milligrams (mg) each day at the beginning of cold symptoms saw a reduction in the length of their cold by 33%.

Although research has demonstrated the significantly positive effect zinc has on the immune system and on shortening upper respiratory infections caused by common cold viruses, further research in 2020 has demonstrated that zinc is crucial to immune system function and deficiency may be linked to individuals who have severe COVID-19 illness.[9]

Zinc Is Crucial for Normal Immune System Development

Since the 1970s, scientists have discovered several facts about zinc and how it plays a central role in the immune system. Your immune system is your body's first line of defense. Whether this is against infectious disease, wound infections or chronic disease, your immune system plays a crucial role.

Researchers have spent decades studying the different ways that you can support your immune system to improve function. Nutrients play a vital role in supporting your immune system, and one of those nutrients is zinc. Swiss Policy Research (SPR), formerly known as Swiss Propaganda Research, describes itself as:[10]

> *"… an independent, nonpartisan and nonprofit research group investigating geopolitical propaganda. SPR is composed of independent academics and receives no external funding other than retrospective reader donations."*

The group has gathered evidence and information throughout the COVID-19 pandemic. The investigators believe that those who are either at high risk of getting COVID or at high risk for exposure to it should receive early or prophylactic treatment.[11] They also propose that prophylaxis and treatment should contain zinc.[12]

Early and outpatient treatment from the Front Line COVID-19 Critical Care Alliance,[13] contains zinc, as does the protocol recommended and prescribed by Dr. Vladimir Zelenko.[14,15] Zelenko created a website to facilitate crowd-source medical data from frontline primary care doctors around the world.[16]

There are academics who also support Zelenko's efforts, including some at the University of Texas, which hosts a download page describing the history and citations behind the Zelenko Protocol.[17] Zelenko and the Front Line critical care doctors used their knowledge of the association between zinc and your immune system to develop their successful protocols. Data have shown:[18]

- People who are deficient in zinc have an increased susceptibility to pathogens, including through the skin barrier.
- Zinc mediates nonspecific immunity, including natural killer cells and neutrophils.
- Zinc deficiency prevents the activation of T-lymphocytes, production of Th1 cytokine, and the ability of B lymphocytes to help. During deficiency, B lymphocyte development is also compromised.
- Deficiency affects the function of macrophage cells, which can trigger cytokine production and dysregulated intracellular death.
- Zinc is central to DNA replication, RNA transcription and cell activation and division.

Evidence Zinc Helps Protect Against COVID-19

Campbell describes several functions by which zinc helps protect the body from COVID-19, including helping to stop viruses from entering the cells.[19] Another function that zinc performs is in supporting the growth and function of ciliary hairs in the respiratory system.

One study published in the American Journal of Rhinology and Allergy[20] showed that zinc helps to stimulate the ciliary beat frequency and may help improve mucociliary clearance, which is essential for clearing the lungs of mucous. Another group of scientists found that supplementing animals deficient in zinc affected the length of the cilia and number of epithelial cells in the bronchus.[21]

Zinc also functions to improve the respiratory epithelial barrier,[22] which past research also demonstrated.[23] Evidence has shown that zinc influences interferon-gamma (IFN-γ), which plays a significant role in defending against intracellular pathogens.[24] When there is a reduction in this cytokine it results in immunological impairment.

While the jury is still out on whether IFN-γ plays a role as an antitumor mechanism, some studies have shown that it does have a positive effect on patients' survival of certain cancers.[25]

As you've likely heard throughout 2020, zinc also has a direct effect on viral replication inside the cells. Campbell describes some of the effects that zinc has inside the cells,[26] including decreasing the effects of RNA-dependent RNA polymerase, often called replicase since it helps replicate the virus inside the cells.

Zinc Deficiency Linked to Multiple Health Conditions

As Campbell points out, a zinc deficiency can significantly impact your immune system, but it can also result in a hyper inflammatory response from proinflammatory cytokines.[27] Thus, with a deficiency in zinc, you not only get more viral infections, but these trigger an increase in the hyper inflammatory response.

At approximately minute 14 in the video above, Campbell shows a Venn diagram of the overlapping health conditions in which a zinc deficiency is commonly associated, and which are known comorbidities for COVID-19. These conditions include:

Arteriosclerosis	Autoimmune diseases	Bronchial asthma
Cancer	Chronic obstructive pulmonary disease (COPD)	Diabetes
Diuretics	Elderly	Immunosuppression
Kidney disease and liver cirrhosis/damage	Tobacco smoking	Obesity

Interestingly, a study published in the journal Mayo Clinic Proceedings[28] found that celiac disease, or a gluten sensitive enteropathy, is highly associated with a zinc deficiency. One in 141 people in the U.S. reportedly suffers from celiac disease[29] and the prevalence has increased in the last 60 years.[30]

In the study, 59.4% of those diagnosed with celiac disease were zinc deficient.[31] Dr. Adam Bledsoe, a gastroenterology fellow at Mayo Clinic's Rochester campus and lead author of the study, noted in a Mayo Clinic news release:[32]

> *"It was somewhat surprising to see the frequency of micronutrient deficiencies in this group of newly diagnosed patients, given that they were presenting fewer symptoms of malabsorption …*
>
> *Our study suggests that the presentation of celiac disease has changed from the classic weight loss, anemia and diarrhea, with increasing numbers of patients diagnosed with nonclassical symptoms."*

Zinc deficiency has also been associated with depression.[33] Studies show that low serum levels of zinc in individuals who are depressed could trigger a chronically poor mood. Researchers have also found that zinc plays a role in maintaining normal levels of thyroid stimulating hormone and T3.[34]

Zinc Ionophores Improve Effectiveness

In this short MedCram video, Dr. Roger Seheult reviews the compelling evidence that suggests how zinc ionophores improve zinc uptake into the cell. This is a crucial component of stopping viral replication. As Seheult explains, the zinc cannot easily penetrate the fatty walls of the cell but needs to be inside the cell to stop viral replication.

There are several zinc ionophores that can do the job. In this video, Seheult describes the role that hydroxychloroquine and chloroquine play. Hydroxychloroquine is the ionophore that Zelenko uses in his protocol to move zinc into the cells. In his peer-reviewed study the researchers compared 141 treated patients against 377 untreated patients from the same community.[35]

The data collection showed only four of the 141 treated patients were hospitalized and 58 of the untreated patients were hospitalized. One patient in the treatment group died and 13 patients in the untreated group died. However, there are also other natural compounds that may work, except for perhaps in the most serious cases. Two that have been studied include quercetin and epigallocatechin gallate (EGCG), which is found in green tea.[36]

In a comparative study, researchers evaluated quercetin and EGCG as zinc ionophores. They demonstrated ionophore action on a lipid membrane system and concluded that these polyphenols may raise zinc levels in the cells and have a significant impact on the biological action of zinc.

Interestingly, quercetin is also a potent antiviral and quercetin and EGCG have the added advantage of inhibiting the 3CL protease.[37] According to a 2020 study in the Journal of Enzyme Inhibition and Medicinal Chemistry,[38] the ability to inhibit SARS coronaviruses "is presumed to be directly linked to suppress the activity of SARS-CoV 3CLpro in some cases."

Zinc Supplementation May Trigger a Copper Imbalance

Zinc deficiency is not uncommon. Experts believe that about 17.3% of the global population are deficient[39] and it is estimated most people over 65 consume just 50% of the recommended amount zinc.[40]

The deficit may in part be the result of soil depletion of zinc due to conventional farming methods and may also simply be that not enough zinc-rich foods are included in the diet. There are four common signs that your body may need more zinc:[41]

- Lack of appetite
- Mental lethargy
- Impaired sense of taste or smell
- Frequent colds, flu or infections
- Hair loss[42]

Although more attention is being paid to zinc recently, Emily Ho, Ph.D., principal investigator with the Linus Pauling Institute at Oregon State University, has said,[43] "Zinc deficiencies have been somewhat under the radar because we just don't know that much about mechanisms that control its absorption, role or even how to test for it in people with any accuracy."

While some tests used to identify deficiency include hair analysis,[44] urine samples[45] or an oral taste test,[46] blood plasma tests are the most common.[47] The oral taste test can be done at home through mail-order labs. It involves holding 10 milliliters of liquid zinc in your mouth for 10 seconds. Because the liquid zinc has an intense taste, if your zinc levels are normal, you likely will not be able to tolerate the strong taste for long.

In fact, you may want to immediately spit it out. If you're deficient, you'll likely be able to hold it in your mouth without any difficulty because it will taste like water. The absence of sufficient zinc in your body will somewhat disable your sense of taste and smell, which means you're not affected by the intense taste.

However, the test is not specific to zinc.[48] In other words, impaired taste for another reason will net the same result — you will not taste the zinc. Campbell list several groups of individuals who are at risk for zinc deficiency, including:[49]

- Those with malnutrition
- The elderly
- People with inflammatory or autoimmune diseases
- Vegetarians and vegans

Early zinc deficiency is largely subclinical — meaning you do not have clinical symptoms — yet it does impact the immune system. Zinc levels are impacted by copper. An imbalance in your zinc and copper levels can lead to other health conditions. For example, researchers postulate that the zinc deficiency associated with anxiety and depression may be the result of a zinc copper imbalance.[50]

Although you may be tempted to begin supplementing with zinc, it's important to realize that your body has an intricate method of maintaining balance of trace minerals such as copper, iron, chromium and zinc. The best way to readily achieve proper balance is to get your minerals from real food.

Although it may be necessary to supplement during illness when your body needs more zinc, I recommend trying to meet your daily requirement from foods. These are some of the best food sources of zinc:[51,52,53]

Alaskan King crab	Oysters	Almonds
Cashews	Kidney beans	Pastured chicken
Lamb	Chickpeas	Oatmeal
Grass fed beef	Cheddar or Swiss cheese	Yogurt
Mushrooms	Spinach	Pork chops
Pumpkin seeds		

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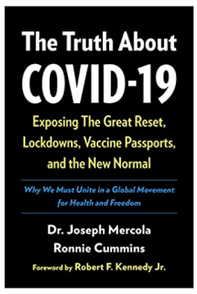
"The Truth About COVID-19" exposes the hidden agenda behind the pandemic, showing the countermeasures have nothing to do with public health and everything to do with ushering in a new social and economic system based on totalitarian, technocracy-led control. So, it's not misinformation they fear. It's the truth they want to prevent from spreading. Pick up a copy of this best-selling book today before it's too late.



The Truth About COVID-19

by Doctor Joseph Mercola

3,250 ratings

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Comments (32)

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Guillermou

Joined On 4/7/2015 8:47:48 AM

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Once again the science of Dr. Mercola masterfully expounded to promote health. The minimum daily dose of Zinc is about 10mg, which can be increased depending on the zinc content of the diet and personal characteristics. In obesity and chronic diseases, more zinc is needed. In the early treatment of first bond COVID-19, 50 to 100 mg of zinc and 500 to 1000 mg of quercetin are used. Vitamin C regenerates quercetin. Quercetin + Zinc + Niacin + Selenium May Be a Winning Combo.

The minimum daily dose of Zinc is about 10-15mg, which can be increased depending on the zinc content of the diet and personal characteristics. In obesity and chronic diseases, more zinc is needed. In the early treatment of first bond COVID-19, 50 to 100 mg of zinc and 500 to 1000 mg of quercetin are used. articles.mercola.com/sites/articles/archive/2020/08/20/swiss-protocol-.. ---- How to improve zinc uptake with quercetin. quercetin + zinc + niacin + selenium may be a winning combo. articles.mercola.com/sites/articles/archive/2020/04/20/zinc-dosage-for.. ~ lpi.oregonstate.edu/.../zinc ---

Quercetin and vitamin C: synergistic therapy for covid-19. articles.mercola.com/sites/articles/archive/2020/08/24/quercetin-and-v.. --- The effectiveness of the Zn supplement can also be improved with N. sativa, since its main bioactive component could function as an ionophore to allow Zn 2+ to enter pneumocytes and inhibit the replication of SARS-CoV-2 by stopping its system. replicase enzyme. www.sciencedirect.com/.../S2210803320300531 (2020) --- Hinokitiol reduced the bacterial load and suppressed the excessive immune response in pneumonia. journals.plos.org/plosone/article?id=10.1371/journal.pone.0240329 (2020)

Reply | Mark as Spam | Posted On 10/11/2021 3:42:47 AM

Like Dislike

Guillermou

Joined On 4/7/2015 8:47:48 AM

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Polyphenols could reduce SARS-CoV-2 viral infection by binding to the ACE2 receptor, preventing viral entry, and (2) modulating the severity of COVID-19-associated lung injury by regulating ACE2 expression. Resveratrol, a polyphenol, could modulate the severity of SARS-CoV-2 disease by regulating the expression and function of ACE2. Eriodictyol, a flavanone found in yerba santa, had one of the highest binding affinities for the part of the human ACE2 receptor. Another computational study showed that the flavonoids curcumin and catechin establish hydrogen bonds, carbon-hydrogen bonds, and interactions with ACE2. A short list of polyphenols that reduced pro-inflammatory cytokines in vitro and in vivo includes curcumin, resveratrol, epigallocatechin gallate, emodin, naringenin, apigenin, and kaempferol. In the link there is also a chapter on Polyphenols that inhibit SARS-CoV-2 viral proteases and inhibiting SARS-CoV-2 RdRp.

Immunomodulatory effects can be achieved with melatonin, nitric oxide (preventive exercise, nitrates from vegetables, arginine), aloe vera, turmeric, curcumin, propolis, echinacea, astaxanthin, quercetin, resveratrol, epigallocatechin-3-gallate (green tea), ginseng and flavonoids, inhibit the activation of NFKB and the subsequent expression of various inflammatory molecules such as IL-6 and TNFα and reduce the NLRP3 inflammasome, which causes the cytokine storm that can lead to the death of the patient. www.ncbi.nlm.nih.gov/.../PMC7480644 (2020) ~ www.researchgate.net/profile/Brenda_Silva4/publication/310824770_Natur.. (2017) ~ europepmc.org/.../6333939 (2018)

Mark as Spam | Posted On 10/11/2021 3:43:07 AM

Like Dislike

Guillermou

Joined On 4/7/2015 8:47:48 AM

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Adequate zinc intake is essential to maintain the integrity of the immune system, specifically for the normal development and function of cells that promote innate and adaptive immune responses. Another opposite mechanism is to intoxicate intracellular microbes within macrophages with excess zinc. Zinc deficiency has been associated with decreased vitamin A release, which is essential for the immune system. The bioavailability of dietary folate is increased by the action of a zinc-dependent enzyme.

Diabetes and older people are more at risk of death from covid-19 infection. Zinc is involved in insulin synthesis and storage in secretory vesicles. Higher serum copper concentrations and lower serum zinc concentrations in people with Alzheimer's disease. Zinc supplementation fights neonatal sepsis leading to decreased inflammation and better neurological development. 1. Factors that affect or inhibit zinc absorption:

1.1. Iron: High-dose iron supplements (greater than 25 mg) can decrease zinc absorption. This does not happen with iron from the diet. Taking supplements between meals is not recommended. 1.2. Calcium: Calcium in combination with phytic acid inhibits zinc as it forms insoluble complexes for the intestine. 1.3. Phytates: present in whole grains, corn and rice. Phytates bind to the mineral, blocking its absorption. The mechanism by which phytate inhibits zinc absorption is because it is a powerful mineral chelator. Diets with a phytate / zinc molar ratio> 15-20 have been suggested to be associated with poor zinc absorption 1.4. Fiber: present in foods that also contain phytates. 1.5. Cadmium: Toxic levels of cadmium can inhibit zinc absorption. 1.6. Casein: Protein present in milk shows to have a negative effect on zinc absorption. 1.7. Medications: antibiotics (tetracyclines and quinolones), anticonvulsants (sodium valproate), diuretics, contraceptives, and corticosteroids. -cont-

Mark as Spam | Posted On 10/11/2021 3:43:28 AM

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Guillermou

Joined On 4/7/2015 8:47:48 AM

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2. Factors that facilitate absorption: 2.1. Animal proteins: the amount of protein present in a food leads to an increase in zinc intake and has a positive effect on zinc absorption. 2.2. Histidine and methionine (amino acids). 2.3. Organic acids: the addition of citric acid to certain foods can stimulate zinc absorption. In the first link zinc sources: lpi.oregonstate.edu/.../zinc ----- naldc.nal.usda.gov/.../PDF

Mark as Spam | Posted On 10/11/2021 3:43:42 AM

Like Dislike

Pete.Smith

Joined On 10/11/2013 8:19:55 AM

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Good posting Gui. Thanks for your input. But please ad this to your "1. Factors that affect or inhibit zinc absorption: and I will delete my post. Ad Glyphosate, which is also a powerful chelator of zinc. I am afraid that people are not aware how much glyphosate they consume. It is everywhere, in grains for example, so when you eat bread or drink beer that are not organic.

Mark as Spam | Posted On 10/11/2021 4:06:36 AM

Like Dislike

Guillermou

Joined On 4/7/2015 8:47:48 AM

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Thanks, Pete.Smith, good reference. Scientists say that Roundup significantly disrupts the functioning of beneficial bacteria in the intestine and contributes to the permeability of the intestinal wall and the consequent expression of the symptoms of autoimmune disease. The damaged villi associated with celiac disease are impaired in their ability to absorb a number of important nutrients, including vitamins B6, B12 (cobalamin), and folic acid, as well as iron, zinc, calcium, and vitamins D and K Therefore, long-term celiac disease leads to significant deficiencies in these micronutrients, vital against COVID-19. In addition to multiple chronic and degenerative diseases. www.ncbi.nlm.nih.gov/.../PMC3945755 (2013) ~ www.ncbi.nlm.nih.gov/.../PMC4392553 (2015)

Mark as Spam | Posted On 10/11/2021 9:11:18 AM

Like Dislike

SilentTroubador

Joined On 2/6/2021 11:34:59 AM

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Shadow side potential and implications for arthritis, inguinal hernias, etc.? Matrix Metalloproteinases: Inflammatory Regulators of Cell Behaviors in Vascular Formation and Remodeling Volume 2013 |Article ID 928315 | doi.org/.../928315 ~ www.hindawi.com/.../928315 "... Matrix metalloproteinases (MMPs), well-known inflammatory mediators are a family of zinc-dependent proteolytic enzymes that degrade various components of ECM and non-ECM molecules mediating tissue remodeling in both physiological and pathological processes."

Mark as Spam | Posted On 10/11/2021 12:07:32 PM

Like Dislike

Guillermou

Joined On 4/7/2015 8:47:48 AM

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Thanks SilentTroudador. Zinc for wounds. Wound care is a major healthcare expenditure. Treatment of burns, surgical and trauma wounds, diabetic lower limb ulcers and skin wounds is a major medical challenge with current therapies largely focused on supportive care measures. Successful wound repair requires a series of tightly coordinated steps including coagulation, inflammation, angiogenesis, new tissue formation and extracellular matrix remodeling. Zinc is an essential trace element (micronutrient) which plays important roles in human physiology. Zinc is a cofactor for many metalloenzymes required for cell membrane repair, cell proliferation, growth and immune system function. The pathological effects of zinc deficiency include the occurrence of skin lesions, growth retardation, impaired immune function and compromised would healing. www.mdpi.com/.../htm (2018)

Mark as Spam | Posted On 10/11/2021 1:13:35 PM

Like Dislike

SilentTroubador

Joined On 2/6/2021 11:34:59 AM

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Guillermou, thank you so much for this excellent article! I never cease to be fascinated by the world around us and the human body in particular... I especially enjoyed reading, "Zinc is an essential micronutrient, present at less than 50 mg/kg, in the human body. It is important for human health and disease due to its critical roles in growth and development, bone metabolism, the central nervous system, immune function and wound healing [2]. Zinc is a vital cofactor for the function of more than 10% of proteins encoded by the human genome (~3000 proteins/enzymes) [3,4]. Zinc-dependent proteins play numerous indispensable roles within cells, such as transcriptional regulation, DNA repair, apoptosis [5,6], metabolic processing [7], extracellular matrix (ECM) regulation [8] and antioxidant defence [9]."

Mark as Spam | Posted On 10/11/2021 4:12:09 PM

Like Dislike

Aguila4

Joined On 5/5/2021 5:56:25 AM

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If you are short of zinc you will have white spots on your nails. If you have pyroluria you'll also be short of vitamin B6. A sign of B6

deficiency is not being able to remember your dreams.

Reply | Mark as Spam | Posted On 10/11/2021 5:12:31 AM

Like Dislike

BiomedMom1

Joined On 8/30/2012 7:19:31 AM

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So true. My son was diagnosed w/pyroluria as a teen; he was extremely deficient in zinc. Once we worked with a naturopath to work on his nutritional deficiencies, everything about the condition corrected itself ... all in about a month's time with zero side effects whatsoever. Mainstream docs know NOTHING re: this.

Mark as Spam | Posted On 10/11/2021 5:29:52 AM

Like Dislike

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brodiebrock12

Joined On 9/18/2008 1:31:51 PM

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Biomedmom...mainstream docs are controlled by what Big Pharma wants them to know. Very few MD's can actually impart what they "wish to say" about natural alternatives to their patients. This control and or suppression of information obviously was exposed in the scamdemic era, but has existed for 50 + years or more...

Mark as Spam | Posted On 10/11/2021 9:44:29 AM

Like Dislike

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forbiddenhealing

Joined On 2/21/2011 9:51:43 AM

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No shortage of zinc here, but Wow, nebulized NAC really made my mucus flow! One of many benefits of NAC; precursor of glutathione/antioxidant protection, aids metal detoxification and scrubs Xcess copper which promotes angiogenesis as part of HIF1 hypoxic reaction to Vit C deficiency. www.ncbi.nlm.nih.gov/.../PMC7649937

Reply | Mark as Spam | Posted On 10/11/2021 6:51:06 AM

Like Dislike

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vafricati

Joined On 8/16/2015 5:47:09 AM

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Hi Forbiddenhealing, where do you get the liquid form of NAC to nebulize? Can I dissolve the powder from a tablet with NACL? Would that work? Thank you

Mark as Spam | Posted On 10/11/2021 1:00:59 PM

Like Dislike

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forbiddenhealing

Joined On 2/21/2011 9:51:43 AM

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Vafricati, I simply dissolved about half a 750mg cap in 20-ml water in a shot glass to fill nebulizer cup...just a guess more or less...made me cough a few times then continue for 5min..amazing results followed/mucus flowing...use apart fr H2O2/Iodine.

Mark as Spam | Posted On 10/11/2021 1:48:17 PM

Like Dislike

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bchristine

Joined On 7/1/2012 6:58:01 AM

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There are different types of ZINC, but I did not see them mentioned .... I currently take ZINC Glycinate made by NOW Foods. I also have Zinc CHELATE on hand, and I know there is a ZINC PICOLINATE out there too .... what is best to supplement with for immunity protection?

Reply | Mark as Spam | Posted On 10/11/2021 3:04:45 PM

Like Dislike

MMaster

Joined On 8/14/2021 1:37:23 AM

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I'd like to see more on copper. By the way, if you put copper fixtures in hospitals, such as faucets, railings, etc., you can cut the incidence of MRSA and other nasty pathogens way back. So it is reasonable to suppose that having adequate copper would also help the immune system.

Reply | Mark as Spam | Posted On 10/12/2021 1:12:36 AM

Like Dislike

Esther M. Cook

Joined On 5/11/2007 2:27:27 AM

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I took an Emergen-C today, and examined its label for zinc. There was 2 mg in it and the same amount in 2 copycat brands. Decades ago, I discovered the astonishing effectiveness of Emergen-C, and my own word of mouth contributed to its increased usage so now you find it everywhere. I wonder if zinc is a major reason it heals things so much faster than other forms of vitamin C.

Reply | Mark as Spam | Posted On 10/11/2021 8:45:05 PM

Like Dislike

Almond

Joined On 2/26/2008 4:23:33 PM

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Sign of the times... It's been a long time since I heard some good new Country and Western. This from a boy born in MA, no less...
www.bing.com/search?q=buddy+brown+youtube&cvid=34ca9bf13f844f3aa6c..

Reply | Mark as Spam | Posted On 10/11/2021 3:13:17 PM

Like Dislike

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fromseatoshiningsea

Joined On 3/7/2021 2:40:06 PM

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As far as the zinc-copper relationship, to the best of my knowledge, if you take zinc (as with other minerals) in its chelated form, this competition for absorption in the intestine (& subsequent deficiency of copper) is far less likely to occur. A copper deficiency can lead to anemia, as in order to make hemoglobin, the body requires both copper & iron.

Reply | Mark as Spam | Posted On 10/11/2021 1:26:02 PM

Like Dislike

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grigsbyt

Joined On 6/24/2011 10:48:46 PM

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What about Zinc supplements developed from food, regarding the copper imbalance? e.g Megafoods, etc...

Reply | Mark as Spam | Posted On 10/11/2021 1:06:14 PM

Like Dislike

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v_gamick

Joined On 1/5/2010 6:16:26 PM

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Thank you for this article. I will be certain to save as a PDF to reference in the future. As I mentioned during our brief conversation together at the Biohacking conference near the tech hall, I continue to be very grateful for all of the knowledge that you share.

Reply | Mark as Spam | Posted On 10/11/2021 1:22:51 AM

Like Dislike

louisstark
Joined On 7/23/2019 8:50:37 AM
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What are symptoms of too much zinc?

Reply | Mark as Spam | Posted On 10/11/2021 5:50:03 AM

Like Dislike

dividingcricker
Joined On 2/25/2012 10:40:20 AM
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Copper deficiency

Mark as Spam | Posted On 10/11/2021 10:39:24 AM

Like Dislike

Legoge47
Joined On 8/13/2021 6:40:53 AM
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Lack of appetite; Mental lethargy; Impaired sense of taste or smell; Frequent colds, flu or infections; Hair loss. Some of the above are also symptoms of Covid or so I've been led to understand.

Reply | Mark as Spam | Posted On 10/11/2021 4:45:34 AM

Like Dislike

zon9850
Joined On 9/25/2018 3:08:02 AM
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I never bought with Amazon for obvious reasons, is there another way to buy the book?

Reply | Mark as Spam | Posted On 10/11/2021 1:34:04 AM

Like Dislike

ChrisColes
Joined On 5/3/2009 2:40:01 AM
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OnederWoman

Joined On 8/27/2021 1:30:12 AM

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Nice article. Simple truth. Personally, I am coming through the inward wall to manifest the Holy Spirit publicly. We are all, through fall, inwardly shattered & imploded. As if the sea of glass in the throneroom of God is also in our souls... And the glass is shattered. That is what it feels like in my soul. Because I am quickening my spiritual gifts to arise whole out of the fall, my spiritual feelings heighten.

I can feel the pain of the shattering inwardly in the implosion of the force & power of the prince of darkness who has broken my ❤. He has broken my ❤. He has broken the power of my ❤ to be one with the ❤ of the Lord inwardly in the full manifest power and glory of the Love of God. I am re-gathering my inward spiritual strength to re-unite my ❤ inwardly with the Lord's ❤ to manifest the Lord's Glory. Labor pains. Spiritual labor pains.

I will arise against the prince of darkness inwardly. The Lord shall arise within me. He binds up my broken ❤. He restores my ❤ union with Him. God's enemies shall be scattered. I will go through the process of feeling the pain of fall. I am stronger in my spirit than the prince of darkness. I remember the Lord's face in Heaven. I know the feeling of His Divine Love. I will come out of the fall. I will bring the Lord.

I made my decision. It is irreversible & irretractable. I am going through the spiritual birthing process to bring the Lord. The NWO has gone far enough that I will endure the spiritual labor pangs. I will bring the Kingdom Now. It's just relaxing & going through the process. Very similar to natural contractions. People do see visible glory when I minister. They get amazed. Don't realize I am a woman experiencing spiritual labor and tend to want me to bear the weight of their own pain and struggles. I can't. I am in labor process moving to transfigure myself. Only the Lord can take away our pain & struggles through ❤ union with Him. I am literally going to plan now for public ministry. Come out against the NWO.

Reply | Mark as Spam | Posted On 10/11/2021 8:26:21 AM

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Deblee96

Joined On 9/24/2021 10:39:00 AM

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Onederwoman- Satan preaches/teaches individualism, while God preaches/teaches community. There is strength in numbers. "Two are better than one; ...For if they fall, the one will lift up his fellow: but woe to him that is alone when he falleth; for he hath not another to help him up." Ecc.4:9-10 .. "And if one prevail against him, two shall withstand him; and a threefold cord is not quickly broken." Ecc.4:12 .. Satan would have you go it alone, for it is much easier to pick off lambs that have strayed from the fold. Word count in your comment: "I"-20 .. "my"-12 .. "we"-1 .. "our"-2 --- Nuff said.

Mark as Spam | Posted On 10/11/2021 4:51:01 PM

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fundamentalassumptions

Joined On 4/1/2009 12:17:58 PM

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The only birth pangs the Bible talks about is that of the coming tribulation when men unite in fornicating union with a false christ & system all the world will receive due to rejecting the faith once delivered the saints, faith coming of hearing & hearing of the word of God. 1 Thess 4&5; Romans 10:17; Jude KJB. When they shall say, peace and safety, then sudden destruction cometh upon them, as travail upon a woman, & they shall not escape. But ye brethren, are not in darkness, that that day should overtake you as a thief. Ye are all the children of light, and the children of the day: we are not of the night, nor of darkness.

Therefore, let us not sleep, as do others; but let us watch and be sober. For they that sleep, sleep in the night; and they that be drunken are drunken in the night. But let us, who are of the day, be sober, putting on the breastplate of faith & love; and for an helmet, the hope of salvation. For God hath not appointed us to wrath, but to obtain salvation by our Lord Jesus Christ, who died for us, that, whether we wake or sleep, we should live together with him. Wherefore, comfort yourselves together, and edify one another, even as also ye do. ...warn those that are unruly, comfort the feebleminded, support the weak, be patient with all men.

That which men bring of themselves & will is craft....as the builders who've rejected the chief cornerstone. They who know the Lord watch & wait, proving all things by the word of God, & working accordingly. Not to be saved, for Christ said, 'It is finished.' But for position & reward in eternity when the inheritance of the Son is dispersed. The false won't wait: and, on the authority of the word of God: what they will receive for that & of their own effort & merit is not as they expect. Acts 17:11; 1 John 4; Ephesians & 1 Corinthians 3; Revelation 6-20 KJB. Be not deceived.

Mark as Spam | Posted On 10/12/2021 3:44:12 PM

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