

Protocol Collation & Therapy Goals

Self-care guidance for prevention, home care and recovery -

- Our Goal: Better quality of life. Ideally prevent illness, or cope better and be less severely sick, so that hospital care isn't needed. Reinfection is mentioned in headlines, but relapse is the better word to use for CoV and LongCovid. It can be an ongoing low level intracellular infection that spreads by exosomes within the body and which can be shared in exhaled breath or body fluids.

The goal of a collation is that of a meta-review - look at the bigger picture and ask: *What do they all have in common?* That is the [Basics](#) which all or most of the various practitioners seem to agree are needed.

What is different? What standouts are present and might be worth considering as additions to the basics? What therapy goals are consistently mentioned? What are the additional therapy goals that may be present in some of the protocols? Metacognition is thinking about thinking, a meta-protocol collation is like a Consumer's Safety Report - are the basics covered in this protocol that I was interested in? What are any bonus extras in the various protocols? Does this particular protocol have any potential safety issues that weren't mentioned or complaints from individuals who tried it?

- Metareview is not copying others' work as one's own, instead it is reviewing many works to reveal the overall patterns. Here it is for the goal of identifying the basics from many protocols that seem to be helpful and safe - and provide an index of the resources.

by Jennifer Depew, R.D., work in progress from ~ 12/15/21; Pdf - [5/10/2022](#). Pdf - 5/30/2022

Main sites for my CoV posts/pages: TranscendingSquare.com JenniferDepew.com .

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 - a. Prevention - the basics help as prevention or early treatment - zinc, zinc ionophore, vitamin C and D, and aspirin is included in the nation of El Salvador's kit. Early treatment is on day 3-5-7 ideally - the very early cold symptoms phase. Post with CoV symptoms from early outbreak descriptions: <https://docs.google.com/document/d/1s6hNygkEHFx-Fnwi9SX6zMT7IYdYYjXy259mTUZi6Qs/edit?usp=drivesdk> extended reference list/origin & others
 - b. Treatment, [Ch2. Therapeutic Strategies.](#)

- c. Recovery/Maintenance, & subtopics for various symptom sets or in the Alphabetic List section at the end of the book. [Conditions or Symptoms - selfcare.](#)
 - d. [Tables: Collation of Protocols](#) - what is in common? What extra's might help besides the basics? What substitutes can be used if the popular one is sold out? *I need to add this one, it is good too, **Spike Protein Detox Guide*, worldcouncilforhealth.org, <https://worldcouncilforhealth.org/resources/spike-protein-detox-guide/>
 - e. [Is it Metabolic Syndrome? or Modern Life Syndrome?](#) - the more descriptive name for Metabolic Syndrome. Reducing the body's inflammatory load is almost more important for chronic conditions, or as important as adding anti-inflammatories to the diet. Food sensitivities, toxins, or excitotoxins - brain stimulating glutamates or aspartame/Neotame, all increase inflammation and can lead to cell death. Circadian cycle, our light/darkness phases, and other sleep issues, may be due to bright light from screen time into the pre-sleep hours of the day. EMF is also a negative as it can activate calcium channels and cause similar effects as excitotoxins in the brain, except to any cell, anywhere in the body. The rollout of the new 5G EMF is correlated at international levels with more severe Cov rates. Modern life is inflammatory in many ways. Putting out the 'fires' may be needed before supplements or diet additions can help enough for a full return to health.
 - f. EMF, Radar, other electrical fields, all increase inflammation and can lead to CoV like symptoms & tissue breakdown of the inflammation becomes severe. EMF & CoV ref <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC8580522/>
 - g. Healing frequencies can help reset our internal vibration/electrical fields, into more organized, healthy internal Electromagnetic Field (EMF). See: [Frequencies, chanting or audio tones.](#)
Includes an overview on frequencies with benefits and example audio for each tone Solfeggio frequencies: (briannesty.com).
2. Therapy goals; Why is preventive or very early treatment needed?
Viral DNA is also found in the human genome and breakdown of cell tissue will produce virus-like membrane packets. Inoculation of healthy people or animals with the packets does not consistently cause the same symptoms as seen in the person with the inflammatory condition which suggest Terrain Theory has merit - stay healthy to be less likely to get sick. Spike can cause dysfunction of many receptor types and enter cells in many ways. It also causes hyperinflammation readily if the infection continues. People with Metabolic Syndrome are also at increased risk and some metabolic or receptor gene differences are also a risk factor. Early treatment and ongoing can reduce long term risks of LongCovid or reduced immune function of Vaccine Induced Immunodeficiency (VAIDs) See video: <https://stlhandyman.tumblr.com/post/675301500515401728>
- a. Therapeutic Goals, [Therapeutic Goal Overview](#). 12/20/21 ([post](#))
 - b. Negative effects of chimeric spike/modified for injections version, or the other injection ingredients.

3. What are ways to defend against spike risks? whether viral carried, or injection produced, or passive exosome exposure produced? (sh3dding is a censored word on some platforms.)
 - a. Intracellular: Know your enemy, in order to defend or fight it better. Anti-parasitic medications and herbals help against any intracellular pathogen, or cancer cells.
 - i. [Intracellularly](#) - false negatives likely due to a latent/intracellular stage with no virus present in plasma or nasal fluid.
 - b. Airborne - aerosolized virus or exosomes with injection genes. HEPA filtration powerful enough for the size of the room, good circulation with some fans or open doors or windows, UV light, ozone or negative ion generator, sanitizes somewhat.
 - i. [Exosomes](#) - viral transmission within the body - may also be a risk to others from injection version exosome production.
 - c. Touch - exosomes can be in body fluids and may be on skin surfaces, or slick metal or glass/plastic surfaces may be more of a risk than fabric or paper.
 - d. Intranasal and mouth rinse defense - IgA antibodies in the nose can stop the virus in the nose before an intracellular lung infection can occur, which is harder to fight with antibodies whether natural immunity or injection induced.
 - e. Amyloid, prion like risk - pomegranate peel, delphinidin and others may help against the spike risks. Researchers have found that spike, once broken down partially by white blood cells, forms branching amyloid clusters, harmful and unlike any misfolded proteins tangling seen in prior, pre-chimeric spike research. <https://medicalxpress.com/news/2022-05-discovery-mechanism-mysterious-covid-symptoms.html>
4. But it is a hoax! True and false - a real patented, making money for people, chimeric coronavirus spike protein, is a toxin with patented gene sequences from many pathogens. It was likely created on a computer and 'printed' into physical existence with a mechanized process. Whether attached to a somewhat benign bat coronavirus or formed within the cells of people who got an injection - the chimeric spike is a biotoxin. It directly is harmful to blood vessels and other cells and interferes with cell function by blocking many types of receptors (cell receptors are specialized doorways or cell machinery located on cell membranes). The injection version is worse for cholinergic blocking effects on nAChR receptors. [Vak Spike vs Viral Spike and Exosomes](#). 12/15/21 ([post](#))
 - a. External resource *The Pfizer Inoculations for Covid-19: More Harm than Good*, canadiancovvidcarealliance.org, video and download the pdf: <https://www.canadiancovvidcarealliance.org/media-resources/the-pfizer-inoculations-for-covid-19-more-harm-than-good-2/>
 - b. Or the pdf *More Harm than Good*, in my Dropbox: <https://www.dropbox.com/s/e6zgrur0246lwpu/The-COVID-19-Inoculations-More-Harm-Than-Good-REV-Dec-16-2021.pdf?dl=0>
 - c. PCR tests have been in error, based on different genetic sequences than SARS-COV-2 & misused with too many cycles for any accuracy: People's Grand

Jury Day 3, 2/14/22,

<https://odysee.com/@GrandJury:f/Grand-Jury-Day-3-en-online:7>

- d. The Spartacus Letter - an anonymous overview of the damage the chimeric spike may cause and other info/theory:
<https://www.dropbox.com/s/oln16tvd6cc5t9/the%20spartacus%20letter.pdf?dl=0>
Reiner Fuellmich mentions it in this clip:
https://www.dropbox.com/s/hqngnzymcnwtbu/urgent%20news_%20u.s.%20attorney%20reiner%20fuellmich%20basically%20confirms%20in%20this%20interview%20that%20everything%20written%20i...t%20the%20elites%20plan%20for%200genocide%2C%20transhumanism%20and%20world%20control%20is%20true.%20_https__t.co_sbro5z7ukh_https__t.co_lavsem1r1c.mp4?dl=0
 - e. COVID Crimes, testimony by Dr. Richard Fleming:
<https://galleries.vidflow.co/awitness>
5. But virus are a hoax! Terrain theory is right! Whether virus are fragments of our own cell's genes or not, membrane bound packets of genetic material can spread bad terrain/bad proteins and genes within the body, or between people and other people. If they have bad terrain that day then they may be at risk of having it multiply in their own body.
- a. What to do? Have good terrain! -> Step 1, and [Terrain and Germ Theory](#), external site worldcouncilforhealth.org [Terrain and Environment](#); also [Microbiome](#), [Resistant Starch/Butyrate](#) and [How much butyrate?](#).
 - b. And have good detox - removal with nasal rinse, salt gargle, at the end of a day, or internal zeolite, GI protecting Bentonite clay, activated charcoal, or diatomaceous earth.
6. Why are triple vakked getting sick more?
- a. Leaky virus (Omicron evades jab antibodies) and/or
 - b. ADE (Non-neutralizing antibodies allow an infection to take over), [Adaptive Immunity, ADE, & Neutralizing Vs Non-Neutralizing Antibodies](#). 12/10/21 (post),
 - c. VAIDS - spike leads to a drop in T-cells, CD8+ killer T-cells, which protect against virus or cancer cells.
 - d. Reverse transcriptase may be incorporating the back mRNA into cell genomes and spike is being made indefinitely. <https://www.mdpi.com/1467-3045/44/3/73>
7. Protocols - People are all unique with things in common. Protocols are a basic guide that may help most people without considering individual differences. Having choices with clear therapeutic goals allows for individualizing a basic guide. If one item is not available or is a known allergen for an individual reader, then they can pick some other aid from that category which might be better tolerated or more available at a local level. [Tables: Collation of Protocols](#) includes Zelenko Z-stack, Marik, I-MASK+, Dmitry KATs; [Protocol - Malcador](#); [D Grouf's Protocol](#) and my [Health Aids for Special Times](#)
- a. Health Aids - has some dosing guidance for estimating portions for children (~ by weight/age, 1/4 toddler-preK, 1/2 - grade school, 3/4 adolescent, teens may benefit from extra compared to adults.).
 - b. Nation of El Salvador - ambulatory CoV kit. Has Vit. C (500 mg), D3 (2000 IU), zinc (50 mg), low dose Aspirin (100 mg) for clotting risk, acetaminophen (500mg),

a pain killer, & Ivermectin (12 mg/day) - a zinc ionophore & other mechanisms of action as an antimicrobial :

<https://twitter.com/KPCResearch/status/1442029839603548165?t=DSpxbday3pQRvyNrIaav7Q&s=19>

- c. This guide has useful points, but is selling product, I am unaffiliated and unfamiliar with. There are many zinc ionophores to pick from other than one. It includes a link about chlorine dioxide, and is a good overview.
<https://sarahwestall.com/important-proven-solutions-to-keep-from-getting-sick-even-if-you-have-the-mrna-shot/?s=09>
- d. This one is thorough:
<https://worldcouncilforhealth.org/resources/spike-protein-detox-guide/>
8. Alphabetical list of aids, or groups of aids - choice, *starts here currently: [Protocol - Malcador](#)
 - a. Encyclopedia of Traditional Chinese Medicinals, searchable database site,
<http://www.tcmip.cn/ETCM/index.php/Home/Index/>
9. Extra resource, bibliography about HIV and history of Gain of Function research:
<https://sites.google.com/antioch.edu/iatrogenic-timeline/home>. And a short video:
<https://osp.wetalkyoulisten.com/channel/5/>

Introduction & Disclaimer:

The following work includes self care guidance for a variety of health aids, with dosing and cautions included for some of the nutrients, foods, phytonutrients, and a few medications. As a dietitian my focus is on food first, nutrients and phytonutrients, and nutrient or food interactions with medications. Diagnosing or prescribing medications is not the task of a dietitian. Discussing exercise, sleep and other lifestyle changes is, and some products that may also benefit health or reduce risks found in modern life are also included. Modern life is inflammatory in many ways. I am not affiliated with any product or company that may be mentioned (at this time) except Dr Zelenko's [Z Stack product](#) line (5% discount code: JENNYRD). This information is being shared for educational purposes within the guidelines of Fair Use.

Please seek individual guidance from a functional oriented health professional for individualized guidance. Restoring underlying function by providing the body what it needs is the goal of functional health care specialists. More targeted lab tests might be ordered to identify metabolic imbalance or nutrient deficiency or a genetic metabolic screening to identify any special needs. Therapeutic trials were typical in early days of health care - if the symptoms seem to fit and the treatment is safe, then just try it and if the symptoms then improve, then 'Yes, *that was probably the correct diagnosis. Case Resolved.*'

~ The Basics for prevention or treatment of infection or inflammation. ~

Prevention Basics

- Zinc, 25-50+ mg, +older adults
- Zinc ionophore: quercetin 500 mg or 1 teaspoon citrus peel; EGCG 200 mg - 2-3 cups green tea, 1/4 tsp inner pomegranate peel; Black seed oil, 1 tsp.
- Vit. D3, 1000-2000 IU & sunshine
- Vit. C, 100 mg - 1000 mg buffered
- Vit. K2, 200 mcg - 45 mg
- Magnesium glycinate 400 mg, or Mg sulfate - Epsom salt soaks, 1 cup ~ 20-40 minute soak 1-2/wk.
- Copper, 2 mg / Trace Mineral mixed supplement / Methyl B complex or one-a-day.

J R Depew, RD 2022

Prevention Basics

Food has antivirals.

Good food sources of zinc include:

- oysters, meats, poultry, dairy, cashews, pumpkin seeds. Other beans, nuts and seeds are also vegan sources. Meats have more zinc than vegan sources, while oysters have so much zinc that it might risk excess, if eaten regularly in large servings.

Good food sources of quercetin include:

- red onion, onion, garlic, kale, tomatoes, asparagus, broccoli, capers, nuts and seeds, red grapes, cherries, olive oil. Herbal supplements also containing quercetin include St John's Wort, Gingko biloba, and American Elder.

Good sources of vitamin C include:

- cabbage, tomatoes, green peppers, broccoli, asparagus, peas, kale, sprouts, & citrus, strawberries, kiwi, papayas, cantaloupe.

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Food has antivirals.

Food & sunshine have antivirals

Good food sources of vitamin D3 include:

- cod liver oil, fatty fish - salmon, tuna, mackerel; beef liver, small amount in egg yolk, and mushrooms.

We make vitamin D with sunshine or UV containing light - unless glyphosate residue is interfering from within protein structures that were intended to be enzymes for vitamin D metabolism.

Fortified dairy sources and one-a-day supplements use vitamin D2. The problem: it would not be as bioactive as a vitamin D3 supplement or food, if there is a glyphosate effect causing malfunctioning enzymes.

Bonus: Sunshine helps immune function by helping us make water soluble forms of vitamin D & A; and helps circadian cycle function - anti-aging & anti-inflammatory.

J R Depew RD 2022

Food & sunshine have antivirals.

What to do? Why is there a need to do anything differently?

- Why so many supplements or other aids? Autoimmune patients who have gotten their condition into remission have looked at my comprehensive list and said, "Oh, I already do most of that, but I see a couple new things to try."
- Why not ask my doctor? The current medical system does not treat the underlying issues of autoimmune conditions, instead once it is severe they prescribe steroids or some other immune cell killing medication to reduce the attack on the body by the white blood cells. Steroids are end stage, they disrupt calcium balance and edema occurs and usually it is the last couple years of the person's life if continued long term.
- Why is there a need now? The bioengineered chimeric protein is harmful in itself and causes an autoimmune-like attack on any human cells that are made to produce it on their cell surface. The injections lead to spike being made throughout people's bodies and preferentially on fat tissue, which in a thin male athlete - is around their heart - which needs to work strenuously for them.

- Why are un-injected people getting sick from being around CoV injected people? Exosomes from injected people can spread in the air or be in sweat or body fluids. Exosomes are smaller than virus but can contain the chimeric protein on the membrane surface and enclose genetic material. A surface marker match needs to be on the recipient cell for it to be accepted, so a relative may be a greater risk to you, for symptoms to occur, than exposure to a non-relative. Busy medical offices with many people adding to the air mixture also increases risk, and total load. Closeness or frequency of exposure, or shared air supply adds to the risk. If the exosomes enter a recipient cell then the genetic material can be made by that person's cells and they have chimeric protein on the surface of that cell, and it can spread throughout their body via exosomes from that cell. In animal research this has been a goal, and is called 'passive vaccination'. Ethically it was noted that it was for the purpose of wild animal population control and fertility reduction was a goal, not for use in humans....

Information can be provided that suits a person's level of interest or need.

- Identifying that there is a problem, what the symptoms might be, and any other known risks. Genetic susceptibility and Metabolic Syndrome, obesity, or being a top athlete are all risk factors for more severe effects CoV/injections and hyperinflammation.
- What more specifically is the problem, how is it causing those symptoms, what are the avoidable risks?

Sometimes the first step still needs to be taken: seeing that there is a problem, and that opens up the thought that maybe something else is possible and may, therefore, be worth trying.

—> *Oh, I know there is a problem - what should I do?* —> Chapter 1: [Prevention](#), and a short simple list —> [Basics](#) and [Therapeutic Strategies & Goals](#). [Protocol - Malcador](#). [D Grouf's Protocol](#). Jennifer's [Health Aids for Special Times](#) has images of a variety of supplement examples.

Problem: Hyperinflammation and modern life - worse with Sp!ke.

Modern life is inflammatory and Metabolic Syndrome is an inflammatory mix of symptoms. COVID-19 symptoms are also hyperinflammation, excessive in severe cases. Sp!ke effects on ACE2 receptors can lead to ACE2 dysfunction, inhibition of the receptor function. Symptoms include edema of lungs and throughout the body, and other symptoms common to CoV-19. Fear and stress can also cause similar symptoms because it is also inflammatory and also affects our ACE2 function. Bowel symptoms may also be present in a minority of patients and can be stress related too. Peace be with us, we need it for our health!

During inflammation there is an increased need for certain nutrients in amounts that would not easily be available from food, or could not be obtained from food. Thiamine, magnesium, methyl

folate and B12, all of the Bs and C, D, and glycine, NAC, methionine and phytonutrients that promote Nrf2, which would promote our own internal production of glutathione.

Pomegranate peel extract and others can help protect the ACE2 receptors from spike. ([Tito, 2021](#)) It is a potent anti-cancer agent with diuretic function. In moderation based on need, it is helpful, while too much, could cause an excessive diuretic effect. Have it earlier in the day and drink extra water - urine removes toxins for us so it is a health benefit especially when there is excess fluid from edema. Therapeutic use of nutrients can have cautions, and guidance from a health professional is recommended.

Symptoms of Covid-19:

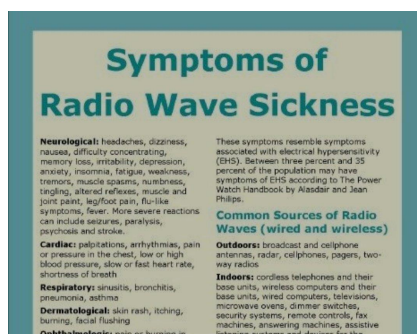
“Since its emergence in December 2019, SARS-CoV-2, the etiology of coronavirus disease 2019 (COVID-19), quickly spread to the majority of countries in the world and posed great threats to public health. The virus shares 79.5% genome identity with SARS-CoV-1 and also uses angiotensin-converting enzyme 2 (ACE2) as a cell entry receptor.[1,2,3,4,5](#) Typical clinical symptoms of COVID-19 patients include fever, fatigue, dry cough, and pneumonia, whereas around 20% of the severe cases may die of multi-organ failure.[6,7,8,9](#)”

- Ace2 Independent Infection of T lymphocytes;
<https://www.nature.com/articles/s41392-022-00919-x>
PDF: <https://www.dropbox.com/s/ud5va7wa9x4tvtq/s41392-022-00919-x.pdf?dl=0>

The equation for health at a simple level is: nutrients need to outweigh toxins.

In modern life the food supply is far lower in trace nutrients than in previous decades or centuries. Food additives include many negatives. Fats are in an excess of omega 6 fatty acids (seed oils) and low in omega 3 (seed oils /fish oil, olive & coconut for cooking). Agricultural chemicals may impact brain health and have other impacts on reproductive and gender development. EMF and bright light at all hours disrupts our own electrical fields, increases inflammation which leads to excess calcium entry into cells, and adds to the disruption of our circadian cycle.

Our night/day - sleep/wake circadian cycle regulates many genes that switch on or off each day and night during normal health to provide for more action and alertness during our awake hours and more growth, repair and detoxification during our sleep. The Nrf2 gene is part of this system of growth, repair and clean up. Many phytonutrients and omega 3 fatty acids help promote more production of Nrf2 protein by the Nrf2 gene.



Symptoms from radio waves/ EMF include cognitive changes including depression, reduced blood brain barrier function, and increased production of oxidative stress chemicals which

equals increased pain and swelling if adequate antioxidants are not available.

See: [Symptoms of EMF / radiation / Radio Waves](#) for a larger view of the image and more recent references.

Pomegranate peel extract or fruit may help protect against radiation effects. Use of the fruit in animals' diet has been studied by NASA for protection of astronaut's health against proton radiation. (3)

Protons are positively charged particles which are oxidative chemicals - can promote rust or oxidation of other chemicals. Antioxidants can accept a proton or donate electrons to reduce an oxidative chemical to a neutral charge. Nrf2 promotes our own production of glutathione and other antioxidants. We also need the glycine, methionine and cysteine from a protein rich diet in order to make the glutathione.

Nutrients are a team and our body needs them all in order to function well. Inflammation increases our need for more nutrients from our diet or supplements. We are fortunate to have access to more concentrated sources than what can be found in foods of standard portions. Teas and other extracts concentrate phytonutrients from foods or inedible plant parts and can provide more healing benefits in a spoonful than we could get from eating a salad sized portion of edible food. We also need the salad for fiber and resistant starch.

Our microbiome is us too - we are symbionts and need to accept that to be fully human is to be fully symbiotic. What we eat leads to what types of microbes live in our gut and body. Beneficial species need zinc and resistant starch and fiber in order to thrive. Harmful species seem to be the ones that can survive on the ultra-processed food common in the Standard American Diet (SAD). (1)

1. Shi Z. Gut Microbiota: An Important Link between Western Diet and Chronic Diseases. *Nutrients*. 2019;11(10):2287. Published 2019 Sep 24. doi:10.3390/nu11102287 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6835660/>

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Chapter 1. What to do?

Prevention.

Preventive help, for someone with good health, might just be the basic four (the Zelenko recommendation) or six nutrients - zinc, zinc ionophore, Vitamins D, C, and K2, magnesium to improve vitamin D metabolism and prevent excess free calcium.

Zinc ionophores include quercetin, EGCG, pomegranate and citrus peel, black seed oil, quinines, HCQ, olive leaf extract, oregano essential oil, black walnut husk extract (made when the husks are green)., etc. The list is long because the plant world is protecting itself from pathogens and sun or wind damage.

Or someone with Metabolic Syndrome, autoimmune disease or other conditions might benefit from more of the full list of therapeutic aids right away and more cofactors and nutrients that are conditionally essential. When older, malnourished, or unwell, or with genetic differences in metabolic enzymes - some people need to have nutrients in their food or supplements because they can no longer make the chemical or digest food to that simple of a chemical. Essential nutrients can not be made by humans, such as vitamin C. Conditionally essential nutrients include amino acids that can be made from other amino acids when the chemical pathways are functioning - but are needed as a supplement if dysfunction

Early treatment if someone already was taking preventive aids might just mean increasing frequency of some of the zinc ionophore, vit C, magnesium, and B vitamins; and adding more of the additional aids to protect the various receptor types or prevent hyperinflammation clotting/edema/damage.

And then continue - which may help prevent LongCovid or stop a low level intracellular infection from spreading and causing a flair up of full infection symptoms.

Preventive basics on most protocols include:

- Zinc
- and a zinc ionophore/anti-parasitic,
- vitamin D3 (curcumin is a D receptor agonist),
- and vitamin C.

Some of these ideas could be found at a grocery store:

- Pomegranate or citrus peel or green tea (2-3 cups/day ~ 200 mg EGCG) & canned oysters = zinc ionophore & zinc
- Pomegranate juice or fruit helps reduce inflammation too but the peel has more of the zinc ionophore phytonutrients.
- Antimicrobial or anti-inflammatory: Garlic, onion, Moong dal/beans, oregano, rosemary, thyme, or fennel seeds, ginger, Star anise spice or cloves in tea, dandelion leaf or root tea,
- Oxymel - throat soothing and antiviral - a spoonful each of honey* and apple cider vinegar* (*raw organic preferred) in a glass of water (hot or cold), one or more times per day.
- Real bone broth chicken soup as Hot & Sour Soup, made with hot pepper, apple cider vinegar, mushrooms, green onions, tofu, contains many healing ingredients.
- Pulpy orange juice has methyl folate which is needed in greater amounts in illness to protect against DNA changes. Asparagus, green or black-eyed peas are also good sources.
- Omega-3 fatty acids are needed and can be found in sardines or tuna. Tuna is also a good source of natural methylated B12 and anecdotally has been found helpful to restore a lost sense of taste after illness.
- Tapioca pudding helps promote beneficial microbiome species which seems critical. Butyrate may be a benefit in addition to protection against negative species. Promote the good ones with fiber rich plant foods, under-ripe fruit, and raw produce has more resistant starch compared to fully ripe, or cooked. Zinc and trace minerals help promote beneficial species which need zinc and may use up to 30% of the zinc in our diet.

Zinc ionophore/antimicrobials include:

- Quercetin (500 mg), EGCG/ellagic acid (200 mg) (green tea, 2-3 cups/day, pomegranate peel, ¼ tsp inner peel 1-3/day), Black seed oil (1 teaspoon, 1-2/day, Neem oil (1/8-1/4 tsp/day), Olive leaf extract (1 tsp, 1-3/day), Oregano essential oil (1-2 drop in base oil, 1-3/day), Resveratrol (250-500 mg, 1-4/day), Curcumin, Ivermectin, Quinines, Hydroxychloroquine, others.
- Resveratrol ref: <https://www.webmd.com/heart-disease/resveratrol-supplements>

- Black seed oil, Neem oil, and a few drops of oregano essential oil can all be used topically, possibly as an addition to a massage oil such as grape seed or almond oil.
 - This strategy may help pain or numbness in the hands and feet or lower limbs and improve circulation.
 - Apply aloe vera gel or a wipe with a wet cloth first to add a layer of moisture. The oil provides a seal against dehydration but adds no extra moisture to the skin. Aloe is healing also, and the phytonutrient emodin may inhibit formation of killer NLRP3 inflammasomes which are increased by inflammation or infection or spike.

Basics on a variety of protocols also include:

- Vitamin K2, (200 mcg)
- Magnesium, (400 mg, or topical Epsom salt soaks 1-3 x week, ~1 cup per soak)
- Copper, (2 mg)
- Selenium, (200 mcg)
- Iodine, (400 mg - kelp, or Iodoral, or Blue Iodine)
- Thiamine, (300 mg)
- Niacin, (25-250 mg up to 1000 mg 2-3 x day)
- Methyl B vitamins - folate and methyl or hydroxycobalamin instead of folic acid and cyanocobalamin - the forms typically used in mixed supplements. Avoiding mixed supplements that provide folic acid or cyanocobalamin may be needed as the inactive forms compete with the little active forms from foods. This is more of a problem if methylation is genetically a problem or difficult due to age or illness (nothing works as well).
- Methyl B complex that includes the other Bs and a mixed Trace Minerals supplement,
- or a one-a-day vitamin are also basics.

Basics that may be available in a well balanced diet,

- but may benefit from supplements in inflammation or infection, or for some genetic metabolic issues.
- **Omega 3 fatty acids** (300-1000 EPA/DHA, up to 2 grams EPA & 1 gram DHA - ratio seems important),
- **Melatonin** (3-10 mg before bed, or 5-10 mg 15 minutes prior to taking a high dose of niacin); larger, even very large doses of melatonin may be safe and effective as an antiviral - 8 mg/Kg/day, divided into 5 smaller doses given throughout the day,, trying for 24/7 coverage during infection:
<https://www.semanticscholar.org/paper/Estimated-doses-of-melatonin-for-treating-deadly-on-Tan-Hardeland/f07c57752c8b8fea4690d543a1002af2dcc027b2> *when calculating

dosage by body weight, typically use approximately the Ideal Body Weight, if very heavy, or Usual Body Weight if recently lost significant weight and is underweight.

- Amino acids **lysine** and **arginine** need to be in balance for optimal immune function and wound healing. Both are readily available in an animal protein rich diet but a vegan who eats mostly nuts and seeds for protein will be low in lysine and have excess arginine. Beans and soy are good sources of lysine, while nuts and seeds have lots of arginine.

Lysine & monolaurin therapy:

https://m.theepochtimes.com/lysine-therapy-interrupts-replication-of-virus_4232620.html?utm_source=ref_share&utm_campaign=copy&rs=0&

- **Glycine** is an amino acid with calming effects that can protect against seizures or anxiety or insomnia possibly and it may be reduced in the diet by glyphosate. Supplements made with commercial animal gelatin may have glyphosate residue in the gelatin capsule. Ideally read labels and look for vegetable cellulose of gelatin capsules.
 - Glycine is available as **TMG, trimethylglycine** also called betaine, and as **DMG, dimethylglycine**. Someone with an allele of the BHMT gene would need to supplement with DMG and methionine as it makes an enzyme needed to digest protein down to methionine or DMG.
 - Supplements of powdered DMG or TMG of a ½ teaspoon one or a few times a day may be beneficial of either, or both forms. They are additive in value rather than exact replacements for each other. Someone with the BHMT allele may need to avoid rich sources of betaine however, as it would be indigestible beyond the TMG/betaine stage. Quinoa, a gluten free seed/grain, is a particularly good source of betaine/TMG.
- **Methionine** is an amino acid that may be reduced in the diet due to glyphosate. It is a methyl donor and helps mitochondrial function. (Methionine: 250-500 mg, 1-3/day)
 - *“S-adenosylmethionine (SAM) is the major methyl donor in the cell. ... Methionine, betaine, choline, and 5-methyltetrahydrofolate (5-MTHF) are important dietary sources of labile methyl groups in mammalian cells”*
<https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC3798916/>
- **Cysteine** is an amino acid in NAC, and is generally plentiful in any protein rich diet. (NAC: 500 mg as prevention, increase to 2-4 times per day during severe inflammation.) During infection an increased intake may be very helpful though.
 - Whey protein powder is basically equivalent in therapeutic value,
 - Aged Garlic Extract has similar benefits while containing S-allylcysteine.
 - The cysteine part of the molecule is a precursor for glutathione - included in a later section.

Graphic: phytonutrients & the ways they stop replication or protect cell receptors from spike.

PHASE -1 : VIRAL REPLICATION			Active Ingredients								
VIRUS STRUCTURAL PROTEASE INHIBITORS			BAICALIN	QUERCETIN	LUTEOLIN	RUTIN	HESPERIDIN	CURCUMIN	EGCG	PIPERINE	GLYCYRRHIZIN
01	3C-LIKE PROTEASE	INHIBITORS	*	*	*	*	*	*	*	*	*
02	SPIKE GLYCOPROTEIN	INHIBITORS		*	*		*	*			*
03	ENVELOPE GYLCOPROTIEN	INHIBITORS					*				
04	NUCLEOCAPSID PROTEIN	INHIBITORS					*				
05	PAPAIN-LIKE PROTEASE	INHIBITORS	*						*		
06	RNA-DEPENDANT RNA POLYMERASE	INHIBITORS		*		*				*	*
07	HELICASE	INHIBITORS				*	*				
PHASE -1 : VIRAL REPLICATION			Active Ingredients								
BLOCKING HOST CELL RECEPTORS - BINDING INHIBITORS			BAICALIN	QUERCETIN	LUTEOLIN	RUTIN	HESPERIDIN	CURCUMIN	EGCG	PIPERINE	GLYCYRRHIZIN
08	RBD-ACE 2	BINDING INHIBITORS	*	*		*	*	*	*		*
09	APN + CD 13	BINDING INHIBITORS						*			
10	DPP4	BINDING INHIBITORS		*		*		*	*		
11	CD 147	BINDING INHIBITORS	*					*	*	*	
12	PALS - 1	BINDING INHIBITORS	*	*	*		*	*	*	*	*
13	NRP - 1	BINDING INHIBITORS		*				*	*		
14	VIMENTIN	BINDING INHIBITORS	*	*	*			*	*		
15	GRP - 78	BINDING INHIBITORS	*	*	*	*		*	*	*	
16	GP - 41	BINDING INHIBITORS						*	*		



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Phytonutrients or medications with a therapeutic goal:

- **Fibrinolytics can help with congestion and respiratory symptoms or reduce blood clotting risks**, including: Bromelain, serrapeptase, nattokinase, citrus peel, Bupleurum falcatum.
- **Aspirin**, 80-100 mg, for reducing clotting risk; and **steroids for inflammation** are meds that are frequently recommended in different protocols. Curcumin may have a mild steroid effect.
- **ACE Inhibitors or ACE2 receptors agonists can protect against edema of congested pneumonia and other symptoms of the inflammation of CoV.** Some include: NAC, pomegranate peel/ellagic acid & EGCG, citrus peel, serrapeptase/serratiopeptidase, bromelain, baicalan/Skullcap, & others. *baicalin ref, <https://www.sciencedirect.com/science/article/pii/S2211383520302999>
- **Dectin-1 - protects against fungal infections - when functioning, sp!ke can block the dectin-1 receptors:** Beta-glucan, 200-500 mg, ~ in 1/3 cup, 3 ounces fresh mushrooms, or 2 teaspoons of Nutritional Yeast Flakes has ~ 2 gr. 1-2/day w meals. Also is in oats & barley but lower carb diet benefits health & reduces fungal risk.
- **Sp!ke Enhances bacterial LPS toxicity**, so to reduce that risk: mushroom polysaccharides, any, or medicinal types have additional benefits for brain health; Nrf2 promoting phytonutrients and foods, see page [G10. Nrf2 Promoting Foods](#)); antibiotics possibly.
- **Sp!ke reduces Nrf2, needed for glutathione, which protects against sp!ke. & helps DNA repair & immune function.** Promoters include: quercetin, sulfarophane, sulfur

containing phytonutrients, anthocyanins, - in cruciferous veg, onions, garlic, blueberries... [G10 Nrf2 promoting foods](#)

- **NAC helps largely because it is a precursor for glutathione** - it is made from 3 amino acids: cysteine, glutamic acid, and glycine. Liposomal supplements of glutathione might help but otherwise we need to make it for ourselves. Glutathione is important for mitochondria in the citric acid cycle.
- **Sialic Acid is damaged:** to make new sialic acid we would need: nucleotides - (Nutritional Yeast Flakes for vegans, meats and dairy and seafood for others) and N-acetyl glucosamine (NAG) - which is not the glucosamine typically sold for joint pain/arthritis but is in edible insects.
- **SEB toxin, rated a biow3apon:** chimeric protein is similar to superantigen staphylococcal enterotoxin B; Detox aids: Bentonite clay, Activated charcoal, Diatomaceous earth, and Zeolite; can bind with SEB toxin -> lead to it being removed from the digestive tract instead of interacting with our cells. Zeolite has the advantage of entering the body and brain & therefore may help detox electrically charged/metallic items within the body in addition to being protective within the digestive tract.
- **Allergies to a chimeric protein is a risk, & developing autoimmune antibodies & other allergies** may also be more likely during 📈📈 activity of a vak or infection: Vit D in advance reduces risk of overactive immune response. The over-response->killer NLRP3 inflammasome creation.
- **Phytonutrients that may inhibit NLRP3:** [Nrf2 promoting nutrients](#), Quercetin, Sulfarophane (broccoli, cruciferous veg), Resveratrol (grape skins), EGCG (green tea, pomegranate peel) or Gallic Acid (pomegranate peel), Curcumin (turmeric/curry powder), Gensenoside (ginseng), Emodin (aloe vera gel), Mangiferin (mango) and Genipin (from a fruit used as a Traditional Chinese Medicinal).
- **Phytonutrients and nutrients that may promote p53 activity;** Promoting P53 also helps & prevents aging; sp!ke accelerates aging in varied ways. include: Zinc, Black seed oil (Nigella sativa seeds or oil), Ginger, Artemisinin - Sweet wormwood, Berberine - goldenseal, bayberries, Feverfew, Chamomile, Cordyceps mushrooms, others.
- **Prion or misfolded protein risk** - also avoid organophosphate pesticides & glyphosate. Test urine for glyphosate; take supplements or good food sources of nutrients neg affected by glyphosate.
 - Nutrients that may be more deficient due to glyphosate in the food supply: Manganese & others ->consider a Trace mineral mixed supplement; Glycine, methionine; Vit D3 is likely negatively affected & may be why low D levels are so common in modern populations.
 - Possibly protective against prions/misfolded protein risks: Curcumin, EGCG, Resveratrol, Olive oil, <https://www.sciencedirect.com/science/article/pii/S2590262820300150>
 - Delphinidin - also protects against misfolding protein/prion risks & is an iron chelator & may help dry eye: <https://www.semanticscholar.org/paper/Delphinidin-3%2C5-O-diglucoside%2C-a-constituent-of-the-Nakamura-Tanaka/0e10cafb4065e55000458699422356c943e34fb6> Is found in medicinal Blue Lotus & Blue Butterfly Pea flowers & in black

beans, black rice/sesame seeds, pomegranate peel, purple versions of some produce.

- **Serotonin reuptake inhibitors may help**, possibly by reducing loss of tryptophan which > lower niacin levels.
 - fluoxetine, fluvoxamine <https://pubmed.ncbi.nlm.nih.gov/34779847/>
 - Saffron - Anti-depressant, ~SSRI?, may help Hair Cells of inner ear
 - Ginkgo biloba also~ tinnitus/vertigo; Hair Cell issues. Ginkgo biloba is a modulator of serotonin levels, can help balance the response.
<https://pubmed.ncbi.nlm.nih.gov/12957329/> Results re ototoxicity, protective with several drugs that damage Hair Cells -
https://www.google.com/search?q=ginkgo+biloba+Hair+Cells+inner+ear&rlz=1C1CHBF_enUS977US977&sxsrf=AOaemvICJZ1qPOyeJGA8LWwh7xFQ2livzA%3A1643043120498&ei=MNnuYen7HfGZptQPmeeOyAo&ved=0ahUKEwjp07DM7Mr1AhXxjIkEHZmzA6kQ4dUDCA4&uact=5&oq=ginkgo+biloba+Hair+Cells+inner+ear&gs_lcp=Cqnd3Mtd2l6EAMyBQghEKsCOgclIxCwAxAnOgclABBHELADOGQlXAnOgUIABCGAzoGCAAQFhAeOgoIABCABBCHAhAUOgUIABCABDoICAAQgAQQsQM6CwgAEIAEELEDEIMBOgUILhCABDoFCAAQkQI6CAghEBYQHRAeOgUIIRCgAToFCAAQzQJKBAhBGABKBAhGGABKBQhEGO0ZSgQIQxgDUJcEWI9BYINDaAJwAngAqAGEAYgB6RuSAQQ5LjI0mAEAoAEBYAEJwAEB&scient=gws-wiz
- nAChR receptors may also be involved in hearing/taste/odor/vision issues. Cholinergic blocking toxin effects of sp!ke can cause paralytic effects. Goal - restore some function, paralysis is not good > possibly > menstrual bleeding, colitis like GI symptoms, miscarriages. The nicotinic Acetylcholine Receptors are activated by nicotine (not niacin/nicotinic acid), while sp!ke S1 subunit blocks them, causes dysfunction:
 - Nicotine is an agonist of nAChR receptors. ½-1 pack per day would be 10-20 mg in lozenges per day. Broken into small pieces and spaced out gradually will provide a more stable dopamine balance & nAChR function. Nicotine is addictive and irritability will occur if you forget or run out. Choline might help too.
 - A newer medication is possibly available that is a nAChR agonist without being addictive as nicotine.
- Cannabinoids are a phospholipid & a fat. Autoantibodies against phospholipid may occur -> cannabinoid deficiency & arachidonic acid excess (part of 2-AG, the CBD equivalent).
 - Other cannabinoids in hemp oil, seeds or kernels may be anti-viral.
 - THC if legal & smaller amounts of CBD can help the hypoxia and membrane breakdown in 'LongCovid fingers' or toes.
- Protease inhibitor - edible mushroom type
<https://www.nature.com/articles/s41598-022-05349-x>

(M_83), and Neonambiterphenyls-A (M_366) were identified based on the result of docking, Lipinski's rule, 100 ns molecular dynamics (MD) simulation and MM/PBSA binding free energy calculations. Finally, the inhibitory properties of these hits were compared with three known inhibitors, baicalein (1), baicalin (2), and biflavonoid (3). Data indicated that M_78, M_82 and M_83 compounds present in edible mushroom *Polyozellus multiplex* were potent inhibitors of M^{Pro}protein (6LU7). It could be concluded that edible mushroom *Polyozellus multiplex* has potential activity against SARS-CoV-2 infection and identified molecules could be further explored as therapeutic inhibitors against SARS-CoV-2.

Many of these nutrients and phytonutrients can be found in foods, but more likely if home-made or made from scratch. Reading labels for whole food ingredients and safer packaging can help reduce negatives from the food supply. Foods raised organically do tend to have less pesticide or herbicide residue.

The other advantage of food is the synergy, the potential additive value of nutrients within a whole food. Ginger has over 400 bioactive phytochemicals and even is a blood thinner if consumed in larger vegetable size servings or a small handful of crystallized ginger candy. Otherwise half a teaspoon per day may help reduce pain and inflammation associated with Rheumatoid arthritis.

Food first - healthy foods are satisfying with a mixture of bitter phytonutrients that promote a satisfied appetite and good blood sugar control. Other trace nutrients may be more available after some types of food processing. Chicken soup is a good source of glycine when it has broth made from stewing the bones and cartilage.

Modern life is inflammatory and removing negative stressors from our diet and lifestyle is also important.

1e. Is it Metabolic Syndrome or Modern Life Syndrome?

Segue to power and electrical activity of our body - magnesium and zinc are electrically active ionic metals. They provide power to the body. We can't do much without magnesium and we

can't do a lot of that without zinc to help in other ways. Health is teamwork, synergy of many miraculous mixtures of chemicals in complex or simple shapes. Shape is a key factor - we are a jigsaw puzzle of all of these chemicals and the electrical effects help form links whether temporary stabilization of two or more pieces that are near each other, or a stronger chemical bond that would need an enzyme or heat or acid to break the connection.

Metabolic Syndrome could reasonably be renamed Modern Life Syndrome. Stress from social and emotional or physical directions all add up to inflammation - oxidative stress refers to chemicals that are oxidizing - can cause 'rust' of other chemicals like iron. Ideally we do not want our body to be full of rust. Skin health is a visible indicator of the health inside of the body. Eczema and skin rashes could be thought of as the 'rust' on our body caused by oxidative stress in our lives. That might include a skin lotion you are using that contains an ingredient that you developed an allergic reaction to.

Or oxidative stress might include the formaldehyde that is off-gassing from a brand new vinyl shower curtain, baby furniture, or new flooring; or formaldehyde and other toxins from smoking, or breathing in secondhand smoke or the lingering chemicals of third hand smoke, (the smell left on the paint and furnishings of a room or car where smoking occurs). Or BIG news to me - we also make our own formaldehyde when we are under excessive stress from emotional or busy life reasons.

We need the methylated form of the B vitamin folate in order to detoxify formaldehyde. Common supplements include an unmethylated form, folic acid, which would not help anyone who has limited ability to re-methylate chemicals, whether due to a lifelong genetic problem or an age or ill health related problem. Methyl folate and methyl or hydroxocobalamin (B12) are needed instead of the commercially available supplements folic acid or cyanocobalamin (B12 with cyanide - actually no one deserves that).

Oxidative stress produces chemicals that need to be detoxified before they cause further damage to surrounding cells. Magnesium, B vitamins and antioxidants like vitamin C and E, are used up in larger amounts during inflammation. Chronic stress means that there is increased need every day - if the diet isn't providing the extra nutrients to detoxify the rust producing chemicals - then 'rust' occurs - skin breakdown inside and out. Then infection is also more likely to occur - there are openings into areas of the body rich in nutrients to support many types of microbes.

Decomposition changes start occurring in the body prior to death - the oxidative damage and increase in microbial growth could also be described as early decomposition. Tissue is breaking down and microbes are growing on the excess supply of free nutrients. Membranes are what separate us from the surrounding sea of life. We are like a water balloon creature with a semi rigid internal skeleton. Life is a miracle and biotensegrity is an interesting topic for another time.

More immediately - ideally we don't want to start decomposing prior to death - if we want to enjoy a better quality of life while alive.

There are many things that can help health, and many modern foods and habits that are harming our health. Avoiding processed foods helps reduce pesticide and herbicide intake and reduces inflammation as ultra-processed foods promote Metabolic Syndrome and weight gain per recent research. (43)

*additional section at the end with more about [Terrain and Germ Theory](#).

Quality of products - contaminants

from agricultural chemicals or pollutants, or added during processing from equipment that might be tarnished or damaged in some way.

- *Herbs & Spices might contain arsenic, cadmium, and lead*; testing by Consumer Reports, <https://www.consumerreports.org/food-safety/your-herbs-and-spices-might-contain-arsenic-cadmium-and-lead/>
- Solutions included growing some of your own oregano or thyme - two herbs that consistently tested higher in heavy metals than others in the sample group. Basil was also higher overall - this may represent a difference in leaf content versus seed content.
- Seeds and Roots tended to have safe levels, red peppers and flower stigmas - saffron: Curry, garlic and chili powder;
- black and white pepper;
- most of the turmeric samples and only the organic ginger sample;
- all the coriander and most of the cumin samples;
- all the sesame seed samples
- and all the saffron samples. (~ 6 stigmas is a therapeutic dose in tea, ~ once daily) <https://www.consumerreports.org/food-safety/your-herbs-and-spices-might-contain-arsenic-cadmium-and-lead/>

Tables: Collation of Protocols

Prevention Basics

- Zinc, 25-50* mg, *older adults
- Zinc ionophore: quercetin 500 mg or 1 teaspoon citrus peel; EGCG 200 mg - 2-3 cups green tea, 1/4 tsp inner pomegranate peel; Black seed oil, 1 tsp.
- Vit. D3, 1000-2000 IU & sunshine
- Vit. C, 100 mg - 1000 mg buffered
- Vit. K2, 200 mcg - 45 mg
- Magnesium glycinate 400 mg, or Mg sulfate - Epsom salt soaks, 1 cup ~ 20-40 minute soak 1-2/wk

The Basics - zinc, zinc ionophore, Vitamin D3, C,

and also vitamin E and the amino acid lysine were used successfully in a clinical trial.

The results were positive for the use of preventive supplementation with the nutrients zinc, zinc

ionophores quina bark extract and quercetin, vitamins C, D3, and E, and l-lysine. Copper and an herbal for respiratory symptoms, Bupleurum falcatum root extract, were also recommendations.:

“The core supplementation formulations included zinc; zinc ionophores (quina plant bark extract and quercetin); vitamins C, D3 and E; and l-lysine.” “Copper (e.g., copper orotate; copper (bis)glycinate)”, copper was also recommended to prevent zinc associated deficiency of copper.

Food & sunshine have antivirals

Good food sources of vitamin D3 include:

- cod liver oil, fatty fish - salmon, tuna, mackerel; beef liver, small amount in egg yolk, and mushrooms.

We make vitamin D with sunshine or UV containing light - unless glyphosate residue is interfering from within protein structures that were intended to be enzymes for vitamin D metabolism.

Fortified dairy sources and one-a-day supplements use vitamin D2. The problem: it would not be as bioactive as a vitamin D3 supplement or food, if there is a glyphosate effect causing malfunctioning enzymes.

Bonus: Sunshine helps immune function by helping us make water soluble forms of vitamin D & A; and helps circadian cycle function - anti-aging & anti-inflammatory.

J R Depew RD 2022

Also: *“Bupleurum falcatum root extract...for...symptoms of respiratory comorbidities as supplementary to their pulmonary medications.”* (Margolin et al, 2021) ([ncbi/PMC8264737/](https://pubmed.ncbi.nlm.nih.gov/38264737/)) *Bupleurum falcatum* is a Traditional Chinese Medicinal - a yellow flower. It contains quercetin, quercitrin, rutin, and other beneficial phytonutrients. It may help prevent or treat cancer - zinc ionophores are helpful against cancer and inflammation as well as being anti-microbials. ([kpubs/=E1HSBY_2015_v21n2_71](https://pubs.e1hsby.com/2015/v21n2_71))

Food has antivirals.

Good food sources of zinc include:

- oysters, meats, poultry, dairy, cashews, pumpkin seeds. Other beans, nuts and seeds are also vegan sources. Meats have more zinc than vegan sources, while oysters have so much zinc that it might risk excess, if eaten regularly in large servings.

Good food sources of quercetin include:

- red onion, onion, garlic, kale, tomatoes, asparagus, broccoli, capers, nuts and seeds, red grapes, cherries, olive oil. Herbal supplements also containing quercetin include St John's Wort, Gingko biloba, and American Elder.

Good sources of vitamin C include:

- cabbage, tomatoes, green peppers, broccoli, asparagus, peas, kale, sprouts, & citrus, strawberries, kiwi, papayas, cantaloupe.

J R Depew, RD 2022

Citrus peel also provides numerous bioflavonoids including quercetin that help respiratory symptoms and reduce vascular risks of clotting or bleeding. Pomegranate peel helps with vascular risks, help heal or prevent organ injury, brain or body inflammation and can reduce histamine related or Mast Cell overactivity. Pomegranate fruit helps too but the peel has more potent antivirals and vascular and organ protection. It is also protective against cancer and for other chronic conditions. Ginger is root is used to add spice to stir fries and it has over 400 bioactive phytonutrients. Foods can have synergy - additive value in the nutrients that help together even more than they could on their own.

Table 1: The Basics - for prevention or early treatment

Item	Zelenko - ZStack	Malcador	I-MASK+ prevntn	Health Aids	Marik	Function	D Grouf prophylaxis	D Kats
Vit D3	125 mcg (5000 IU)	Prevention	1000-3000 IU	1000-2000 IU + sunshine		Anti-allergy & autoimmune risk	1000-2000 IU, 5 d's/wk	25 mcg
Quercetin	500 mg	Prev	250 mg	or EGCG 200 mg, or others		Zinc ionophore	500 mg 4 days/wk	500 mg
Zinc	30 mg (130 mg zinc sulfate)	Prev	30-40mg elemental zinc	25-50 mg elemental, elders need more than younger adults.		Zinc, needed for zinc ionophores	50 mg, 3 days/wk	25 mg
Vit C	800 mg	Prev	500- 1000 mg 2 x day	100 mg+ several x day as needed, bowel tolerance; or Liposomal	Marik IV- C	Anti-inflammatory, anti-coagulation	1000 mg 1 gr 4 days/wk	1-6 gr
Vit K2		Prev		200 mcg		Helps D3 & clotting modulation		
Selenium		Prev		200 mcg		immune		
Magnesium		Prev		400 mg elemental glycinate or threonate, or Epsom salt soaks 1-2 x wk		Anti clotting, anti inflammatory, anti pain, needed to kill infected cells	400 mg elementl 5 d's/wk	250 mg
Thiamine, B1				300 mg/day or more often for severe	Marik	Inc need in inflammation; reduce hypoxia		
Niacin, B3; High dose niacin flush				25-250 mg; gradual inc to 1000 mg 2-3 x day				500 g > 1000-3000mg divide

								d doses
Methyl B complex				daily				daily
1-a-day Vit							5 dys/w	
Aspirin		Treat tmt		80-100 mg		anti-clotting		
NAC		Trmt		500 mg / x 3-4 day if severe. ~ whey powder, or Aged Garlic Extract, or adequate protein in diet.		Glutathione precursor, may bind with graphene oxide	600 mg 3 days/wk	600 mg
Black seed oil - Nigella Sativa oil (*Neem oil)		Trmt	40 mg /Kg daily**	1 teaspoon ~ prevention; or am & pm for treatment. Also used topically, helped my shingles.		Anti-viral, anti-parasi tic, iron chelator, zinc ionophore	*Neem oil (is similar, but lower doses) 500 mg 3 dy/wk	1 tsp or 500 mg quercet in
Turmeric (curcumin - Vit D receptor agonist)		Treat ment		Choice in the iron chelator/ant i- parasitic group.		immune/ant i-allergy/aut oimmune ~ Steroid like		*rec in curre nt proto cl
Melatonin			6 mg prior to bedtime	6-10 mg before bed, or 5-10 mg taken 15 minutes prior to high dose niacin.		Immune / anti-viral		
Steroids- Marek IV-C					Marik			
Bromelain / Fibrinolytics				500 mg, 2-3 x day if				

				severe				
Omega 3 fatty acids, DHA/EPA				Generous in diet or if severe ~ 2000 mg/2 grams EPA / 1 gram DHA				

- *Z-Stack, Dr. Zelenko* - this is convenience with a price -
 - Buying the nutrients individually would be less expensive as pointed out in this (negatively toned article) by ConsumerLab.com.
<https://www.consumerlab.com/answers/z-stack-does-it-boost-immunity/z-stack-immunity/>
 - The product does seem to be Dr. Zelenko's rather than a copycat company. Kosher and vegetable based capsule.
<https://zstacklife.com/pages/about-vladimir-zelenko-md>
 - The zinc sulfate may be more of a digestive upset for some people than other forms per individual comments. Take with meals is a suggestion.

Dr. Zelenko reported that 100 percent of his patients had survived the virus with no hospitalizations and no need for a ventilator. All these patients had laboratory confirmation of COVID-19 infection.

ZELENKO COVID 19 PROTOCOL (moderate/high risk, > 45 yrs old)			
Item in orange are available OTC, others are prescription			
Prophylaxis		Treatment	
1000mg daily	Vitamin C	same	1000mg, 7 days
5000IU 125mcg, daily	Vitamin D3	double	10000IU 250 mcg, 7 days OR 50000IU, 1-2 days
25mg, daily	Elemental Zinc	double	50mg, 7 days
Zinc ionophore			
500mg, daily OR 400mg, daily OR 200mg, 5 days, 200-400mg weekly OR 0.2mg/kg, day 1 & 3, weekly	Quercetin	double	500mg, 2x - 7 days OR -
	Epigallocatechin-gallate	Same	400mg, 1x - 7 days OR -
	Hydroxychloroquine (HCQ)	double	200mg, 2x - 5-7 days AND/OR -
	Ivermectin (IVM)*	double	0.4-0.5mg/kg, 5-7 days
Antibiotic			
---	Azithromycin (Z-PAK)	add	500mg, 1x - 5 days OR -
---	Doxycycline	add	100mg, 2x - 7 days
Other Treatment Options			
Corticosteroid	Dexamethasone 6-12mg 1 time a day for 7 days or		
Corticosteroid	Prednisone 20mg twice a day for 7 days, taper as needed		
Corticosteroid	Budesonide 1mg/2cc solution via nebulizer twice a day for 7 days		
Blood thinners	Blood thinners (i.e. Lovenox, Eliquis, Xarelto, Pradaxa, Aspirin)		
Anti-inflammatory	Cochicine 0.6mg 2-3 times a day for 5-7 days		
	Monoclonal antibodies		

Zelenko Protocol (moderate/high risk, > 45 yrs old), Items in orange are available OTC, others are prescription. Via <https://twitter.com/llosauro/status/1482417202955497473?s=20>

- [Protocol - Malcador](#) - & references included in a later section of this document.
- *I-MASK+ Protocol*, FLCCC, covid19criticalcare.com, *The link also has a protocol for hospital treatment.
<https://covid19criticalcare.com/covid-19-protocols/i-mask-plus-protocol/> **If Ivermectin is not available, 2 mg/Kg twice a week, take with or after a meal, for prevention where exposure risk is greater.
- Marik Intravenous Vitamin C, Thiamine, and steroids
<https://pubmed.ncbi.nlm.nih.gov/27940189/>
- Dmitry Kats; a very basic, his initial protocol, is included in this post with How-to's and cautions for gradually starting and following the high dose niacin protocol. It helps directly reduce inflammation and increase endolysosomal engulfment of cellular debris (like our internal recycling truck - scoop it up and reuse/detox).
<https://transcendingsquare.com/2021/01/22/niacin-early-treatment-in-general-for-sars-cov-2-is-sensible-reduces-hospitalization-and-mortality-rate/>

- Dimitry Kats, PhD - his site with the current info: <https://niacincurescovid.com/>
Research preprint: <https://osf.io/uec3r/>
- Melatonin - 10 mg found helpful:
<https://www.sciencedirect.com/science/article/pii/S1201971221007980> * higher doses may also help and be safe, spaced throughout the day. Different link. Also circadian cycle, light/darkness, is also important https://youtu.be/5YV_iKnzDRg
- Curcumin reference re steroid comparison animal study, arthritis model
<https://pubmed.ncbi.nlm.nih.gov/25424293/>
- Omega 3 EPA/DHA dosing range for autoimmune disease, range from 0.18 - 2.7 grams/day EPA and 0.12 - 1.8 grams/day DHA (180-2700 mg EPA and 120-1800 mg DHA)
 - Larger doses have been found most helpful for depression also - 2 gr EPA/1 gr DHA might be an effective dose for depression -
<https://www.nature.com/articles/s41398-019-0515-5>
- The point to reduce excess omega 6 rich oils or foods from the diet is also made in the image reference. The balance of excess omega 6/omega 3 in the average modern diet is inflammatory and tends to be very low in omega 3 fatty acids anyway. So more fish or krill or algal oil, or fatty fish, and less corn, soy, canola, or peanut oil. More olive oil or coconut oil for cooking would have less omega 6 content.

[n.nih.gov/labs/pmc/articles/PMC7779984/](https://pubmed.ncbi.nlm.nih.gov/labs/pmc/articles/PMC7779984/)

Table 3
Omega 3 fatty acid optimal dosage for various health conditions

Health Conditions	Optimal Dosage
Rheumatoid arthritis [84]	2.7 g/day EPA + 1.8 g/day DHA
Systemic Lupus Erythematosus [85]	0.18 g/day EPA + 0.12 g/day DHA
Multiple sclerosis [86]	0.4 g/day EPA + 0.5 g/day DHA
Type 1 Diabetes Mellitus [85]	0.4 g/day EPA + 0.6 g/day DHA
Sjogren's Syndrome [86]	0.42 g/day EPA + 0.28 g/day DHA

[nbi.nlm.nih.gov/labs/pmc/articles/PMC7779984](https://pubmed.ncbi.nlm.nih.gov/labs/pmc/articles/PMC7779984/) [Open in a separate window](#)

EPA, eicosapentaenoic acid; DHA, docosahexaenoic acid.

<https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC7779984/>

Dr Chetty's antihistamine & other goals protocol

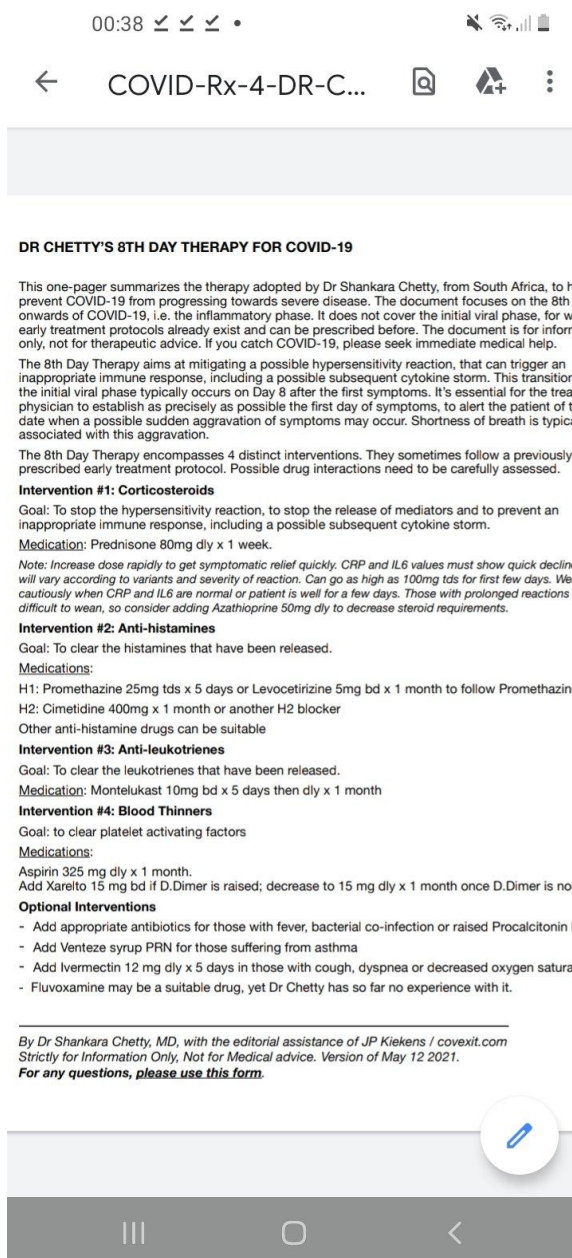


Table 2: More Basics - Methyl B's & Mitochondrial Support [planned]

B vitamins are very important and we need them in balance because they work as a team within the Citric Acid Cycle in our cell's mitochondria.

Niacin Flush - Mitochondrial B's Minerals & Cofactors Team

The Citric Acid Cycle has a big team, all are needed. Extra niacin is a little like giving the team more baseballs to replace them if they were used.

- **B vitamins:** B1 (Thiamin) (300 mg); B2 (Riboflavin) (250 mg); B3 (Niacin/nicotinic acid) (25-1000/1-3x/day); B5 (Pantothenic acid) (500 mg); B6 (Pyridoxine) (200 mg); B7 (Biotin) (250 mg); B9 (Folate) (400-1000 mcg).
- **Minerals:** Mg⁺⁺ (Magnesium) (400 mg), Mn⁺⁺ (Manganese) (2 mg), K⁺ (Potassium), Zinc (25-50 Mg), Iron, Copper (2 mg), Sulfate (Epsom salt soaks provide Mg & sulfate).
- **Amino acids:** Carnitine (1-6 gm) (N-acetylcarnitine or Acetyl L-carnitine); Cysteine (600 mg, 1-4 x day for illness) (N-acetylcysteine, NAC or whey powder).
- **Antioxidants:** CoQ10 (200 mg); Glutathione (500 mg liposomal, or Nrf2 promoters & NAC); Alpha-Lipoic Acid (ALA) (200 mg).

A good diet, or methyl B one-a-day vitamin/mineral supplement might provide most of these, or many. Avoid titanium dioxide, & commercial gelatin capsules (glyphosate source possibly).

J R Depew, RD 2022

High dose niacin/nicotinic acid can help increase inflammation removal by causing the mitochondria to release excess energy as heat - the warmth of the niacin flush figuratively more than literally, but it might not help as much if there is significant lack of the other B vitamins or some of the minerals, amino acids or antioxidants that are needed for the Citric Acid Cycle to function. See: *Niacin may help prevent or treat chronic migraines*, ([post](#)).

The Citric Acid Cycle has a big team, all are needed. Extra niacin is a little like giving the team more baseballs to replace them if they were used.

The body may need time to remove excess inflammation so a gradual increase in niacin may be allowing the toxin removal systems to keep up with the extra niacin activity. It also promotes more endolysosome removal of cellular debris - like a chimeric protein or Lipid Nanoparticle membrane.

How-to's and cautions

Niacin flush, high dose & methyl Bs & other cofactors

- **How-To:** Gradual start is best, 25-250 mg as a starting point. Take weeks to months to increase to 500 > 750 > 1000 mg dose, then increase to twice a day, early better than bedtime. Alert effect.
- **Buy:** Niacin or nicotinic acid, "Flush", but avoid Extended Release, or "No Flush," and nicotinamide is a slightly different form and is not flush niacin.
- **Caution:** Niacin is acidic, megadose of vitamin C in addition, or other acidic supplements or foods, may lead to excess acidity. A little baking soda in water may prevent pH problems. Adequate calcium helps prevent gout risk. Total no more than 3000 mg/day of niacin to reduce risk of gout. Serotonin excess in short term can be a risk, & additive effect with sudden increase in dose or addition of SSRI meds.

J R Depew RD 2022

How to start basics:

- Gradual start is best, 25-250 mg as a starting point. Take weeks to months to increase to 500 > 750 > 1000 mg dose, then increase to twice a day, early better than bedtime. Alert effect.

- Buy: Niacin or nicotinic acid, "Flush", but avoid Extended Release, or "No Flush," and nicotinamide is a slightly different form and is not flush niacin.
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Niacin receptor function may help strengthen membrane barriers - within the mammary glands in this example: Guo W, Li W, Su Y, et al. GPR109A alleviate mastitis and enhances the blood milk barrier by activating AMPK/Nrf2 and autophagy. *Int J Biol Sci.* 2021;17(15):4271-4284. Published 2021 Oct 17. doi:10.7150/ijbs.62380

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8579459/>

Background info regarding Nitric oxide and NOX, The Holmes Cycle Hypothesis.

<https://www.nutrigeneticresearch.org/research> via

<https://twitter.com/JennyJones64/status/1500452488637562884?s=20>

"If glyphosate residue is a big problem for an individual (or population), then quote Tweet is why high dose niacin might make some CoV people worse instead of better.

They likely need a HO-1 inhibitor, not more of it.

See <http://transcendingsquare.com> search 'Glyphosate and Covid-19'

<https://twitter.com/deNutrients/status/1500324385235902467?s=20> The quoted Tweet is now a suspended account (Dmitry Kats) but the link it referenced is the mammary gland link.

Related post: CoV & Glyphosate

<https://transcendingsquare.com/2020/10/25/glyphosate-and-covid-19/>

The nutrients and cofactors used in the Citric Acid Cycle include:

- **B vitamins:** B1 (Thiamin) (300 mg) ([3](#)); B2 (Riboflavin) (250 mg) ([4](#)); B3 (Niacin) (25-1000 mg / 1-3 x day) ([8](#), [10](#)); B5 (Pantothenic acid) (500 mg) ([5](#)); B6 (Pyridoxine) (200 mg) ([6](#), [7](#)); B7 (Biotin) (250 mg); B9 (Folate) (400-1000 mcg) ([9](#)).
- **Minerals** ([17](#)): Mg⁺⁺ (Magnesium), (400 mg) ([11](#), [12](#), [13](#)); Mn⁺⁺ (Manganese) (2 mg); K⁺ (Potassium) ([13](#)); Zinc (25-50 mg), ([14](#), [15](#)); Iron ([16](#)); Copper (2 mg); Sulfate, (Epsom salt soaks provide Mg & sulfate).
- **Amino acids:** Carnitine (1-6 gm) (N-acetylcarnitine or Acetyl L-carnitine; or derived from lysine within the body); Cysteine (600 mg, 1-4 x day for illness) (N-acetylcysteine, NAC or whey powder).

- **Antioxidants:** CoQ10 (200 mg); Glutathione (500 mg liposomal, or Nrf2 promoters & NAC); Alpha-Lipoic Acid (ALA) (200 mg).
- A good diet, or methyl B one-a-day vitamin/mineral supplement might provide most of these, or many. Avoid titanium dioxide, & commercial gelatin capsules (glyphosate source possibly).

The cofactors are used in the Citric Acid Cycle by mitochondria when they are performing aerobic glycolysis. This may be a limiting factor in chronic degeneration or cancer as mitochondrial dysfunction is common and an early symptom. Aerobic glycolysis is the process of metabolizing sugar with the use of oxygen, fermentation is anaerobic glycolysis.

How-to's and cautions

Niacin flush, high dose & methyl Bs & other cofactors

- How-To: Gradual start is best, 25-250 mg as a starting point. Take weeks to months to increase to 500 > 750 > 1000 mg dose, then increase to twice a day, early better than bedtime. Alert effect.
- Buy: Niacin or nicotinic acid, "Flush", but avoid Extended Release, or "No Flush," and nicotinamide is a slightly different form and is not flush niacin.
- Caution: Niacin is acidic, megadose of vitamin C in addition, or other acidic supplements or foods, may lead to excess acidity. A little baking soda in water may prevent pH problems. Adequate calcium helps prevent gout risk. Total no more than 3000 mg/day of niacin to reduce risk of gout. Serotonin excess in short term can be a risk, & additive effect with sudden increase in dose or addition of SSRI meds.

J R Depew RD 2022

Mitochondrial dysfunction and a shift to anaerobic metabolism of sugar or glutamate, fermentation, is associated with cancer cells and other chronic degenerative conditions. The cause may involve limited nutrients – the list of cofactors needed is long and includes niacin. It may also include aging and a slowing down of function or lack of enzymes that normally had been present.

Niacin is rich in meats and coffee but unlike other B vitamins, less common in whole grains. Providing extra niacin can allow the mitochondria to remove inflammation as heat. Niacin also increases endolysosomal removal of cellular debris by white blood cells.

Post with How-To's & cautions for using the high dose niacin: [Niacin & Early Treatment](#).

Melatonin, w/w-out Niacin

- Melatonin is a hormone made at night in the pineal gland and our mitochondria.
- Circadian cycle refers to melatonin production and many other gene functions that occur either in the sleep/dark hours or the wake/light hours. Best when our body is in complete darkness. Eyemask/soft cloth draped over the eyes can help when complete darkness is not possible. Cover alarm clock lights, etc.
- Supplements have shown anti-viral function, 6-10 mg at night for an adult. Higher doses (divided in a few smaller amounts) can be used during the day and may help with infection. Bulk powder would be needed.
- Take melatonin 15 minutes prior to a high dose niacin (better with a meal) & the flush effect may be reduced.
- Pistachio nuts and tart cherries are a natural food source.

J R Depew, RD, 2/2022

Melatonin is a hormone made at night in the pineal gland and much more may be made within our cell's mitochondria. It is an antioxidant. ([Reiter, et al, 2017](#))

Circadian cycle refers our daily/nightly melatonin production, and many other gene functions. Repair and growth occurs more at night and action oriented genes are more active in bright light hours.

It is better for health when our body is in complete darkness at night and dim light in the 3 hours before sleep.. An eye mask or soft cloth draped over the eyes can help when complete darkness is not possible. Cover alarm clock lights, etc, choose blackout curtains..

Supplements of melatonin have shown anti-viral function, 6-10 mg at night for an adult. Higher doses (divided in a few smaller amounts) can be used during the day and may help with infection. Bulk powder would be needed or a special high dose supplement. Some people use 600 mg before bed. It is generally safe but should be tried in a small dose first and gradually test larger doses. An animal study found very high doses helpful for protecting uterine and prenatal function by reducing oxidative stress - acting as an antioxidant. ([Luiz et al, 2019](#)).

Take melatonin 15 minutes prior to a high dose niacin (high dose niacin is better with a meal, & not at bedtime, it can be stimulating) & the flush effect may be reduced.

Tart cherries, Goji berries, pistachios, almonds, other nuts, eggs, milk and fish, are natural food sources of melatonin. ([WebMD](#))

Table 3: Phytonutrients & other specific purpose therapeutics.

“There are at least 300 plants that have ACE inhibitors activity, including some well-know medicinal and food species, such as cinnamon (*Cinnamomum zeylanicum Blume or Cinnamomum verum J. Presl.*), pepper (*Capsicum spp.*), olive (*Olea europaea L.*), hawthorn (*Crataegus pinnatifida Bunge*), black nightshade (*Solanum nigrum L.*), passion fruit (*Passiflora edulis Sims*) and grape (*Vitis vinifera L.*).^{47,50,51} ACE inhibitors from natural products belong to several phytochemical classes, including flavonoids, xanthones, alkaloids, peptides, terpenes, and tannins.”

<https://pubs.rsc.org/en/content/articlehtml/2020/ra/d0ra03774e#cit47>

Essential oils include bioactive chemicals that inhibit (protect from spike)

“mono and sesquiterpenes geraniol, linalool, (*E*)- β -farnesene and (*E*)-nerolidol presented *in silico* inhibition of 3CLpro....⁶⁷ These compounds can be found in several plants species with ancient and very well-known uses as foods, medicinal and aromatics, such as lemon balm (*Melissa officinalis*), lemongrass (*Cymbopogon citratus*), lavender (*Lavandula angustifolia*), geranium (*Pelargonium graveolens*), basil (*Ocimum basilicum*), mandarin (*Citrus reshni*), cinnamon (*Cinnamomum zeylanicum*), chamomile (*Matricaria recutita*), ginger (*Zingiber officinale*) and copaiba (*Copaifera sp.*).⁶⁷ “

<https://pubs.rsc.org/en/content/articlehtml/2020/ra/d0ra03774e#cit47>

- And edible violets are a source of geraniol.

Nature has a vast medicine cabinet that smells and tastes delightful and pungent - the dose is the potency. Some black pepper is medicinal - too much is an irritant and will lead to running nose and saliva to try to wash it away - a natural defense action of TRP channels which black pepper activates.

Item:	Protects receptors or other function:		D Grouf prophylaxis	D Kats
EGCG, Apigenin, Kaempferol, Olive leaf Others, Oil of Oregano,	ACE-2 & TMRSS2 receptors, Choice of: EGCG 200 mg (pomegranate peel (two , G13. Pomegranate - prep tips), Goji Berries, or 2-3 cups green tea); Natural Products Role against... https://pubs.rsc.org/en/content/articlehtml/2020/ra/d0ra03774e#cit47		Olive leaf extract 500mg 4 dy/wk -> daily up to every 8-12 hrs for	

Table in rsc.org link:	ml/2020/ra/d0ra03774e		treatmt, Oil of Oregano 150 mg	
Serratiopeptidase				
Bromelain	500 mg (or 1/3 cup raw pineapple);			
Citrus peel	500 mg, mixed flavonoids, naringenin (grapefruit), hesperetin (lemons, sweet oranges) hesperidin (white pith layer oranges), neohesperidin, nobiletin (tangerine);			
Baicalin (Skullcap) / scutellarin	250 mg https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC5031759/	Antiviral, anti-HIV-1, anti-cancer	500 mg 3 dy/wk / daily > trtmnt	
& others	nicotinamin; and glycyrrhizin. (three)			
Dandelion leaf extracts	https://www.biorxiv.org/content/10.1101/2021.03.19.435959v1.full.pdf			
Andrographolide	https://www.dropbox.com/s/tuj8vtcd8b7oha4/molecules-26-07036-v2.pdf?dl=0			
Beta-Glucan	Dectin-1 - protects against fungal infections - when functioning: Beta-glucan, 200-500 mg, ~ in 1/3 cup, 3 ounces fresh mushrooms, or 2 grams ~ in 2 teaspoons of Nutritional Yeast Flakes. Have once or twice a day, with meals.	Also in oats & barley but lower carb benefits health, & reduces fungal risk		
Mushrooms/ polysaccharides	Enhances bacterial LPS toxicity, so to reduce that risk: mushroom polysaccharides, Nrf2 promoting phytonutrients and foods, see G10. Nrf2 Promoting Foods).			
Nrf2 promoting foods	Nrf2 promoting phytonutrients and foods, such as quercetin, sulfuraphane, sulfur containing phytonutrients, anthocyanins, (cruciferous veg, onions, garlic, blueberries, see G10. Nrf2 Promoting Foods).	Also helps promote glutathione production, DNA repair, & immune func.	Ginger & garlic 500 mg 4 dy/wk or 1-2 x daily	
Nutritional Yeast Flakes	Sialic Acid is damaged: to make new sialic acid we would need nucleotides			

<p>NAG - N-acetyl glucosamine</p>	<p>(Nutritional Yeast Flakes for vegans, meats and dairy and seafood for others) and N-acetyl glucosamine (NAG), which is not the glucosamine typically sold for joint pain or arthritis.</p>			
<p>Detox aids Zeolite - internal Bentonite Clay, Activated Charcoal - GI detox</p>	<p>SEB toxin - chimeric protein may be similar to superantigen staphylococcal enterotoxin B - which is considered a bioweapon: Detox aids, Bentonite clay, Activated Charcoal, or Zeolite, can bind with SEB toxin and lead to it being removed from the digestive tract instead of interacting with our cells.</p>			
<p>Vitamin D, Sunshine, -adequate magnesium and vit K2 can be needed for good D metabolism. Protein is also needed. Avoiding glyphosate may be also.</p>	<p>Allergies to a chimeric protein is a risk, & developing autoimmune & other allergies may be more likely because of the increased immune activity: Vitamin D is essential for the immune T-cells to be 'Tolerant' of our self proteins, and not develop allergy or autoimmune sensitivities to our own proteins. Chimeric proteins may have similar genetic sequences to our own; or when attached to one of our receptors, it may cause an autoimmune antibody to be made against the receptor type instead of the chimeric protein. The allergy or inflammation reaction can initiate NLRP3 inflammasome creation</p>			
<p>Quercetin Sulfarophane EGCG Gallic acid Curcumin Ginseng Aloe Vera gel Mangiferin/ Mango</p>	<p>Phytonutrients that may inhibit NLRP3: Nrf2 promoting nutrients, (four) see G10. Nrf2 Promoting Foods), Quercetin which is found in citrus peel, also can help inhibit production or activity of the inflammatory NLRP3 inflammasome which has been found to be elevated during more severe COVID19 illness. Sulfarophane (broccoli, cruciferous veg), resveratrol (grape skins, etc), EGCG (green tea, pomegranate peel, G13) or Gallic Acid (pomegranate peel) (five), curcumin</p>			

	(turmeric/curry powder), gensenoside (ginseng), emodin (aloe vera gel), mangiferin (mango) and genipin (from a fruit used as a Traditional Chinese Medicinal). (six1.17*)			
Black seed oil, Ginger, Artemisinin, Sweet wormwood, berberine, Feverfew, Chamomile, Cordyceps mushrooms	Phytonutrients and nutrients that may promote p53 activity: include zinc, artemisinin (wormwood herb), goldenseal (berberine, also found in a few other herbs), Black seed oil (Nigella sativa), ginger (6-gingerol), feverfew, chamomile, and cordyceps mushrooms. (seven2.18*)		Ginger & Neem oil	
Nicotine, 4 mg Lozenges broken in 1 mg size pieces is what I use.	nAChR receptors - cholinergic blocking toxins can cause paralytic effects: nicotine, 10-20 mg day, spaced out gradually for more stable dopamine balance. Lobelia seems less safe upon checking into it, while being non addictive, less safe overall. Nicotine is addictive and irritability will occur if you forget or run out. Choline might help too.			
Hemp, THC, CBD - limit if membrane breakdown	Cannabinoids - phospholipid & a fat. Autoantibodies against phospholipid may occur > cannabinoid deficiency, & arachidonic acid excess (part of 2-AG, the CBD equivalent. Other cannabinoids in hemp oil, seeds or kernels may be beneficial. THC if legal with smaller amounts of CBD can help the hypoxia and membrane breakdown in 'LongCovid fingers' or toes.			
Delphinidin Scutellaria Manganese, -Trace mineral mix. -Vit D3 is likely affected Meds: PPS,	Prion or misfolded protein risk - also avoid organophosphate pesticides & glyphosate. Test urine for glyphosate, take supplements or good food sources of nutrients affected by glyphosate. Phytonutrients can help reduce risk. Curcumin, EGCG, Resveratrol, Olive oil, https://www.sciencedirect.com/science/a	Scutellaria https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3281244/ Meds: https://www.sciencedirect.com/science/a		

quinacrine, doxycycline	rticle/pii/S2590262820300150	rticle/pii/S2590053620301063		
Saffron	<p>Modulates neurotransmitters, maybe a serotonin reuptake inhibitor</p> <p>“several useful pharmacological effects such as anticonvulsant, antidepressant, anti-inflammatory, antitumor, radical scavenger effects, and learning and memory-improving effects.[33] Akhondzadeh et al.[30] stated that saffron had been widely used to relieve stomach aches, ease the pain of kidney stones, and treat depression in Persian traditional medicine.”</p> <p>https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC6266642/</p> <p>*may help tinnitus also, different link</p>	<p>Anti-depressant, serotonin reuptake inhibitor possibly, may help Hair Cells in the inner ear - Gingko biloba may also.</p>	<p>44-88 mg daily treatmt</p> <p>~ 5-6 threads</p> <p>*larger doses were used in depression studies</p>	

Graphene oxide detox - is a topic to expand on - Thread about some found in rain water
<https://twitter.com/NigelPa40144564/status/1520725661773619200?s=19>

10:41

← Thread

Nigel
 @NigelPa40144564

After yesterday's heavy 'plane activity and the skies looking such a mess, along with it raining today (strange that eh?), I decided to collect a few drops for the microscope...
 I think we're in trouble



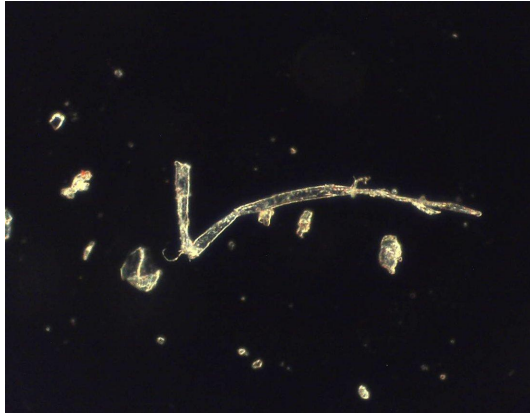
7:23 AM · 01 May 22 · Twitter Web App

1,247 Retweets 142 Quote Tweets 2,222 Likes

🗨️ ↻️ ❤️ 🔗

Nigel @NigelPa40144564 · 1d
 This is the same structures I have personally observed in blood, and what is generally referred to as graph een tubules

🗨️ 13 ↻️ 91 ❤️ 389 🔗



Graphene oxide, carbon structure that forms thin indestructible sheets that appear ribbon like or tangled ribbons. When chemically activated it may form into graphene hydroxide which is even stronger, blade like ribbons. Our body does not break it down readily as it is not found freely in nature.

Electrically active zeolite may help bind with it for removal, NAC or whey protein, and pomegranate peel or other electrically active iron chelators may help.

Graphene oxide: “single atom carbon layer with both surfaces modified by oxygen containing functional groups. Like any 2D carbon GO can have single layer or multilayer structure [5]. Carbon layers in multilayer GO are separated by functional groups bonded to each layer of carbon atoms. Although GO like graphene is two dimensional carbon material, its properties are extremely far from that of graphene. It does not absorb visible light, have very low electric conductance compared to that of graphene and demonstrates significantly higher chemical activity.” (Dideikin & Vul', 2019, 1) *Graphene has more electric conductance than graphene oxide, (GO), which acts as an insulator or semi-conductor, while reduced graphene oxide, (rGO), has strong electric conductance. (2)

1. Dideikin Artur T., Vul' Alexander Y., Graphene Oxide and Derivatives: The Place in Graphene Family. *Frontiers in Physics*, 6;2019, DOI=10.3389/fphy.2018.00149, <https://www.frontiersin.org/articles/10.3389/fphy.2018.00149/full>
 2. <https://nanografi.com/blog/what-is-the-difference-between-graphene-oxide-and-reduced-graphene-oxide/>
- Excess death rate curve follows vak rollout by age cohort, yet the stats were called unvak if within 14 days of an injection, <https://msyc1.wordpress.com/2022/01/26/analysis-by-german-prof-thousands-of-hiddden-deaths-daily-may-be-greatest-medical-debacle-in-human-history/>

Ch 2. Therapeutic Goal Overview

What to do? Why is there a need to do anything differently? What changed?

The therapeutic goals are an overview of the many ways dysfunction is likely from the chimeric sp!ke protein. Including aids that cover as many categories as possible is a goal because of the multiple ways that the chimeric coronavirus sp!ke can interfere with normal function or cause increased inflammation. [Dec. 20, 2021 ([post](#))]

Skip ahead: [Therapeutic Strategies and Goals](#).

FAQ's

Q. Why so many supplements or other aids?

A. Autoimmune patients who have gotten their condition into remission have looked at my comprehensive list and said, *"Oh, I already do most of that, but I see a couple new things to try."*

Q. Why not ask my doctor?

A. Try, but the current medical system does not treat the underlying issues of autoimmune conditions or intracellular infections very well. CoV complications are also being dismissed or misidentified as something else. We can not fix a problem that is not identified correctly. Currently autoimmune patients are treated once an autoimmune condition is severe with steroids or some other medication that inhibits or kills the overactive immune cells to reduce the attack on the body. But then you are susceptible to other infections, and may be suffering adverse drug side effects. Steroids are end stage, they disrupt calcium balance and edema occurs and usually it is the last couple years of the person's life if continued long term.

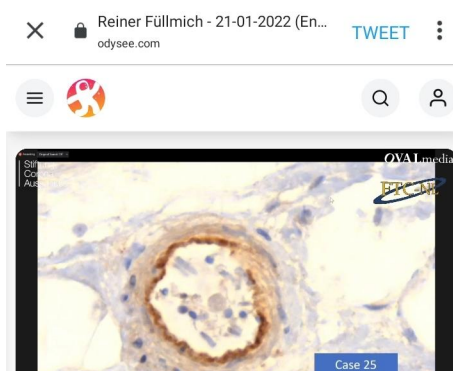
Q. Why is there a need now?

A. The bioengineered chimeric protein is harmful in itself and causes an autoimmune-like attack on any human cells that are made to produce it on their cell surface. The injections lead to sp!ke being made throughout people's bodies and preferentially on fat tissue, which in a thin male athlete - is around their heart - which needs to work strenuously for them.

Q. Why are un-injected people getting sick from being around CoV injected people?

A. Exosomes from injected people can spread in the air or be in sweat or body fluids. Exosomes are smaller than a virus but can contain the chimeric protein on the membrane surface and enclose genetic material. A surface marker match needs to be on the recipient cell for it to be accepted, so a relative may be a greater risk to you, for symptoms to occur, than exposure to a non-relative. Busy medical offices with many people adding to the air mixture also increases risk, and total load. Closeness or frequency of exposure, or shared air supply adds to the risk. If the exosomes enter a recipient cell then the genetic material can be made by that person's cells and they have chimeric protein on the surface of that cell, and it can spread throughout their body via exosomes from that cell. In animal research this has been a goal, and is called 'passive vaccination'. Ethically it was noted that it was for the purpose of wild animal population control and fertility reduction was a goal, not for use in humans....

Therapeutic Strategies and Goals,



Image, blood vessel lined with sp!ke antigen, dyed brown from antibodies. Arne Burkhardt with Reiner Fuellmich, session 88, The People's Court. The brown

material is spike protein dyed with anti-spike antibodies that are carrying dye.

The image was obtained from autopsy tissue samples from CoV injected people who died suddenly, out of hospital care, so there were no treatments to consider having possibly affected their bodies. Significant autoimmune like activity of white blood cells was observed in addition to fibrotic clotting damage.

<https://odysee.com/@Fazenda.Mondego:5/S88b:6?r=6YD7FJhQxg4ejrYps9ZKL9h9UAdoDFpc>

- *On COVID vaccines: why they cannot work, and irrefutable evidence of their causative role in deaths after vaccination* Sucharit Bhakdi, MD and Arne Burkhardt, MD
<https://doctors4covidethics.org/wp-content/uploads/2021/12/end-covax.pdf>
 - *"This text is a written summary of Dr. Bhakdi's and Dr. Burkhardt's presentations at the Doctors for COVID Ethics symposium that was live-streamed by [UKColumn](#) on December 10th, 2021. The two presentations can be viewed at the very beginning of the [video recording](#) of the symposium."*

Not necessarily in 'order' of importance or usage:

1. **Fibrinolytic** – protects against blood clotting risks and can help reduce congestion. Bromelain (raw pineapple, about 1/3 cup is ~ helpful dose equivalent to a 500 mg capsule, one a day as prevention, 2-3 times a day for treatment is typical), serratiopeptidase, nattokinase, streptokinase others. Fibrotic clotting in blood vessels or at old wounds is the concern, see image above.
2. **Iron-chelator / Antimicrobial-anticancer-anti-inflammatory / Zinc Ionophore** – reduces damage from oxidative stress and free iron, or identifies iron rich cells for removal. – Artemisinin, Sweet Wormwood tea, quercetin, EGCG, catechins, berberine, the green husks of black walnuts made into an extract, Black seed oil, Neem oil, Olive leaf extract, Oregano oil, Resveratrol, Quinines, NAC, garlic, even nicotine, and caffeine, and there are others. Zinc is needed too!
 - a. *Plants don't like to be eaten by insects or other parasites.

Anti-parasitic, Iron Chelators

Zinc Ionophores: eat zinc too. Pick one or a few, recommendation: take for 3 weeks, then a break, repeat a few times a year as prevention against parasites/worms.



The Power of
Phytonutrients

- **Quercetin** - onions, pear & other fruit peels, figs, greens. 500 mg once or more a day, produce rich diet may provide that.
- **EGCG** - 2-3 cups green tea, 200 mg, pomegranate peel, 1/4 teaspoon inner peel dried, once or more a day.
- **Artemisinin** - 200 mg 1 -2 x day, Sweet Wormwood tea, teaspoon in one mug of water, steep for a few minutes.
- **Berberine** - Goldenseal root and other herbs.
- **Black Walnut Extract** - may prevent protein misfolding/prion risk.
- **Black Seed Oil, Olive Leaf Extract, Oregano Oil**
- **Resveratrol** - grape skins, red wine (2-6 oz/day may be beneficial)
- **NAC, also: Garlic, Nicotine, Caffeine.**

Links to the slideshow and audio/video version: [Nutrients – we need them all.](#)

3. **Antioxidant support & increase glutathione (one of our antioxidants)** – infection and inflammation increases need for antioxidants. Spike also can inhibit our own antioxidant production pathways – Nrf2. Phytonutrients in many common foods and beverages can help promote Nrf2 ([G10. Nrf2 Promoting Foods](#)) which then promotes production of glutathione. Vitamin C, liposomal glutathione, NAC/whey protein/Aged Garlic Extract, alpha lipoic acid. Cysteine in protein foods, NAC, whey protein or Aged Garlic Extract is a precursor for our own production of glutathione. It gets broken down during digestion unless in the liposomal form (encased in a lipid membrane). Glutathione can help break down graphene oxide.
 - a. ([video](#) - *A Toxic Substance in the Vial of mRNA vaccine*, interview by Michel Chossudovsky with Ricardo Delgado Martin of La Quinta Columna, Spanish research team, by GRTV, GlobalResearchTV.com)
 - b. **NAC** - glutathione precursor, 500-600 mg may be recommended preventatively, or higher doses may be given intravenously to hospitalized patients ([112](#), [133](#)) Promoted by [Nrf2 promoting herbs or foods](#), and **Vit. C, zinc, selenium, magnesium sulfate, sulfur rich foods, garlic, cruciferous, and glutathione rich foods**: asparagus, okra, avocados, greens; **whey protein** for cysteine (caution glutamate source), Aged Garlic Extract - source of S-allylcysteine which has similar benefits as NAC/cysteine, and promotes Nrf2. ([789](#) -[Colín-González, et al. 2012](#)) **Milk thistle, turmeric; sleep & exercise!**
4. **Methyl B12*, folate*, choline*, (*methyl donors), thiamine, (B1), niacin, (B3), and all the other B vitamins** – inflammation and infection greatly increases

need for B vitamins and spike may reduce methyl Bs and increase neuropathy risk – tingling fingers. Methyl donors help protect against DNA damage. Niacin can help reduce inflammation and increase endolysosomal removal of cellular debris, like spike or virus or dead cell particles which increase oxidative damage risk.

5. **Topical magnesium sulfate** – the sulfate and magnesium help cardiovascular risks. Spike reduces absorption of magnesium in the GI tract. Low magnesium increases risk of stroke or heart attack, and muscle cramps, tinnitus, headaches, anxiety, depression or a short temper and anger.
6. **Vitamin D & sunshine & blackout curtain darkness at night** (or cloth to cover the eyes). Our circadian cycle has many functional changes every wake/sleep cycle in addition to melatonin production at night. Dosing of vitamin D is best as a prevention, daily attention to a healthy baseline. Megadoses should not be needed – just in advance of an allergy or autoimmune risk is the key factor.
 - a. Autoimmune problems are for life as soon as they develop. Remission can occur with less of a daily symptom problem but then can flare up if re-exposed to the antigen. Avoidance of the trigger food or toxin is needed – which means spike protein too.
 - b. While making our own melatonin means we are also helping all the other circadian repair and growth functions, the high dose niacin/melatonin protocol can help to fight infection and reduce inflammation. Gradual increase in dosing over months is needed ideally but short term immediate use for an infection may be needed. The gradual use as prevention or LongCovid symptoms may help by allowing the body to have time to cope with the level of inflammation that is present. Only so much cellular crud can be removed in any one night/day cycle.
7. **Protein** – Biology seems like magic but is little machinery made out of proteins, carbohydrates, fats and other nutrients and chemicals. We need adequate protein to make the little machines, and enzymes or cellular structure proteins. In severe inflammation with Covid, a ketone based diet may be helpful or at least low carbohydrate intake in comparison to the calories from fats and protein. If kidney damage is present then excessive protein is also to be avoided, but some is still important.
8. **Nucleotides (animal product sources and edible yeasts**, Nutrition Yeast Flakes or Deactivated Yeast (modified from Baker's yeast) to make RNA or DNA are plentiful in a diet with animal products but would be a need in a vegan diet. Nutritional Yeast Flakes or Deactivated Yeast (wheat product- gluten). We need to make RNA regularly in order to make any other protein from the DNA pattern. So for growth and repair or to make antibodies, we need to make RNA first.

9. **Mushrooms or the edible yeasts also provide beta-glucan** which would help with spike risk to the Dectin-1 receptors. The Beta-glucan in the edible fungus activates them, as they protect against fungus. In a normal fungal infection avoiding mushrooms would be recommended, but in spike situations it is preventively protecting the receptors from spike lodging in them instead. It would also by activating them to continue protecting against other fungal infections - prevention is key! Fungal infections are very difficult to get rid of once established.
- Medicinal mushrooms can also help immune function in other ways too.
 - Avoiding glyphosate likely would help as it can increase fungal infections,
 - and a low carbohydrate diet would be protective as fungus grow on carbs.
10. **Sialic Acid is made from N-acetylglucosamine (NAG) & would need nucleotides (edible yeasts or animal products).** It is decreased by spike. Making more is the need, we can't really get it through the digestive system. It is electrically active and needs to be made, or replaced with soluble sialic acid that is in the area. It helps prevent the rouleaux stacking of blood cells. Adequate nucleotides in the diet help and N-acetylglucosamine (NAG) – available in supplements or insects. Grow your own with supplies from a pet store – after you learn more about it first maybe.
11. **Frequency/vibration therapy can help or harm.** Certain frequencies can break the delicate membrane of a virus or bacteria while not harming the human cells, (Rife). Other frequencies can help our own quantum health and well feeling. Strong EMF can increase inflammation though and may increase risks from graphene oxide in the CoV injected people. In general it is good to turn off EMF sources during the healing sleep hours of your life. Faraday cages are available that help reduce EMF from WiFi routers.
- Example Rife healing frequencies for autoimmune conditions – I did find this helpful on a flare-up day: *Autoimmune Diseases Cure Healing – Rife Frequency | Pure Isochronic Binaural Beats – Sound Therapy* ([youtube](#))
 - Caution against anything that seems to worsen symptoms or just seems suspicious. Labels may be added to something that is actually negative frequencies and is just being called 'Rife'.
 - Music list in a later section.
12. **Omega 3 fatty acids – EPA & DHA.** They help reduce inflammation, are needed for membrane and eye health and are part of our quantum health – our energy fields. Vegan or vegetarian sources are likely inadequate as the conversion rate to the DHA/EPA forms is low. Krill oil or algal oil are sources in addition to fatty fishes like salmon, tuna and sardines.

When trying things, stop if it is worsening symptoms. Taking notes can help so you can see if over a few weeks there had been changes in the symptoms you were tracking.

Otherwise, being patient is a need as healing takes time. Seven days for the lining of the mouth; weeks, months, or years for some other types of tissue. Antibodies take about six months to go away if you stop being exposed to the allergen (food sensitivities, or a viral toxin). That can mean a very strict restriction of all sources of a problem ingredient such as gluten, or albumin, or corn - take out those three ingredients and you are left with very few choices among standardly available commercial foods, add cheese/dairy and even less is left – except healthier quality of life if they are inflammatory for you. And quality of life, lack of pain, ability to concentrate, waking up eager to get on with your day - is worth the effort.

13, 14, ... There are more. **Trace minerals** are important, and **microbiome** health – which means zinc, fiber and resistant starch are important. SARS-CoV2 can infect bacteria and the GI tract and appendix are potentially a risk for ongoing relapses. The injected LNPs may be entering microbes too and adding chimeric spike to their surfaces too. There has been an increase in appendicitis cases since CoV injection rollout.


- Microbiome stool kit for testing species:
<http://thegutclub.org/thryve-gut-test-and-probiotics/>
<http://thegutclub.org/biomesight-gut-microbiome-test/>
- Via Facebook ask to join group:
<https://www.facebook.com/groups/TheGutClubStoolTestDiscussionGroup>
- 100 year olds have a healthy microbiome - maybe it helped them reach 100 years old. Lactobacillus casei was possibly a beneficial unique to them over average. <https://www.mdpi.com/2072-6643/14/2/324>

Mitochondrial support is also needed as they are bacteria and a bacteriophage can infect them too. Mitochondria give cells their energy ~ burn the sugar/glucose molecules. Dysfunction of mitochondria is linked to neurodegenerative conditions, cancer, and other chronic degeneration conditions. ([ref](#), [ref](#)) Mitochondrial support includes all the B vitamins and niacin in an increased dose can be helpful if worked up to gradually. CoQ10, manganese, magnesium, NAC, or other forms of cysteine, and other cofactors may all be needed for promoting better mitochondrial function. (Form of CoQ10, MitoQ-[ref](#)) ([post](#))

- <https://www.sciencedirect.com/topics/medicine-and-dentistry/citric-acid-cycle>
- <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC5618933/>
- MitoQ: <https://pubmed.ncbi.nlm.nih.gov/31337974/>
- <https://transcendingsquare.com/2021/04/30/niacin-may-help-reduce-chronic-migraines/>

Topical essential oils, or by mouth, can be strong antivirals, and improve circulation. 2 drops in a little of a base oil, by mouth. Or 6-12 drops per 1-2 ounces of base oil for topical. Start with aloe vera gel for moisture and healing benefits, coat with oil, massaging gently until it is absorbed or mixes with the aloe moisture. If no aloe is available, a palm full of water adds a moisture layer to seal in with the oil.

Many helpful essential oils are in this paper:

✕  COVID-19 and therapy with essen... [TWEET](#) ⋮
ncbi.nlm.nih.gov

COVID-19 and therapy with essential oils having antiviral, anti-inflammatory, and immunomodulatory properties

Muhammad Asif, Mohammad Saleem, [...],
and Raghdaa Al Zarzour

<https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC7427755/?s=09>

Glycine

Glycines within the glycine zipper transmembrane motifs in the amyloid beta precursor protein (APP) play a central role in the misfolding of amyloid beta linked to Alzheimer's disease (Decock et al., 2016). APP contains a total of four GxxxG motifs (one fewer than the spike protein).

Vak & neurodegenerative disease

https://m.theepochtimes.com/sars-cov-2-vaccines-and-neurodegenerative-disease_4207235.html?slsuccess=1&s=09

Th1/Th2 - T helper cell balance

- T helper cells can be out of balance for effective immune response to an infection. Different herbal or nutrient supplements or foods can help correct the balance, or may intensify it. So different stages of infection/autoimmune reaction may need different treatments. The theory is still somewhat controversial as there are inconsistencies.

Th1 and Th2 cells are differentiated from the same precursor type of immune cell, so more production of one type may lead to fewer precursor cells being available for the other type. Th1 cells are thought to fight intracellular infection, "cellular immunity"; helping against virus, other intracellular pathogens or cancer, "*and triggering delayed-type hypersensitivity (DTH) skin reactions.*" (790) Th2 cells are thought to promote antibody production and help with risks outside of cells or with accepting a pregnancy or transplanted organ with different DNA - "humoral immunity". (790)

There is controversy because the categories seem somewhat fluid. Many herbs may modulate immune response - helping to promote an inactive and decrease an overactive response. So not to worry too much about "I can't use that if I am using this too." Food all ends up in the same place - nature was built that way, so trusting the body and nature to figure it out, is possibly a good idea. Quercetin may not be ideal as it may increase HDL which may help the virus enter at ACE2 receptors by interacting with cholesterol. (792, 793) Niacin helps balance blood lipids, remove inflammation, and increase endolysosome removal of cellular debris such as infected cell parts, or extracellular foreign particles.

Based on the recent research in the next section - the CoV or spike issues are intracellular and best fought with the Th1 cellular immunity strategies. However if autoimmune self attack is a more significant problem, then promoting more of the Th2 cells may be helpful.

"Prevention of COVID-19: Th1 (lower) & Th2 (higher)

<https://selfhacked.com/blog/supplements-people-th1-dominant/> (790)

- *Bromelain*
- *Black Cumin Seed Oil*
- *Olive Leaf*
- *Curcumin*
- *Boswellia*

Treatment of COVID-19: Th2 (lower) & Th1 (higher)

<https://selfhacked.com/blog/supplements-people-th2-dominant/> (791)

- *NAC*
- *Licorice*
- *Ginger*

-- Quercetin

-- Reishi"

Via - <https://twitter.com/bopnk/status/1454753063198134273?s=20>

Detox - direct binding and removal of spike or other toxins.

-NAC may help, other iron chelators/zinc ionophores may also clump other toxins, and as aids more directly - Zeolite - can be absorbed and protect internally in addition to protecting the gut. Deactivated charcoal, diatomaceous earth, Bentonite clay, are detox aids that can help protect the digestive tract. The health of the microbiome seems a big factor in risk of more severe illness and may play a role in lingering LongCovid as a reservoir for infection.

The virus can infect bacteria as a bacteriophage and that may lead to a later relapse as the virus replicate to a point of bursting out. The infection may also be lingering as an intracellular infection that spreads by exosomes or direct contact between cells

Chapter 3. Intracellular exosome risk.

The virus itself is intracellular and may not be detected in blood or nasal fluid leading to false negatives, which may be a factor in some cases of LongCovid or frequent "reinfections".

Intracellularly

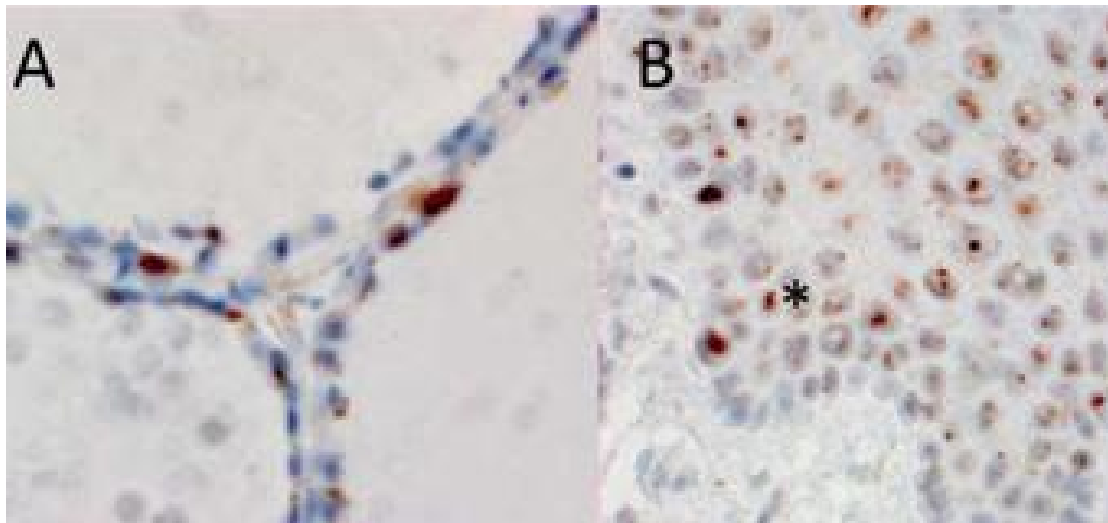
Tweet that follows- ALL CAPS are warranted, this is truly significant - there is a virus, free in the plasma or within cells - "intracellularly", image follows showing virus within cells and between some in a vessel shape of blueish dust.

- "**intracellularly**", more on that later. It affects the rate of false negative tests. The intracellular form may be more typical of a chronic stage while free virus in the plasma or fluids are not seen leading to a False Negative test result but still real symptoms, and potentially a risk to others still possibly from exosomes, which may be spreading the infection within the body. This is likely part of LongCovid in addition to autoimmune and histamine or other concerns.

Gustavo Aguirre Chang @Aguirre1Gustavo

THE STUDY IMAGES DEMONSTRATE THE PRESENCE IN THE TISSUES (IN SITU) OF PERSISTENT VIRAL INFECTION BY SARS COV-2 (see photos). OF THIS THERE IS NO DOUBT. The virus replicates, and is present in a disseminated form and intracellularly. THEY ARE NOT PARTICLES.

<https://www.researchsquare.com/article/rs-1139035/v1>



Daniel Chertow, Sydney Stein, Sabrina Ramelli, et al., SARS-CoV-2 infection and persistence throughout the human body and brain. In review for *Nature Portfolio Journal*, DOI:10.21203/rs.3.rs-1139035/v1, UNDER REVIEW, Version 1, Posted 20 Dec, 2021
<https://www.researchsquare.com/article/rs-1139035/v1>

Intracellular infection means treatment needs to use antiparasitic type of medications or phytonutrients such as zinc ionophores, (which may be iron chelators also). Zinc ionophores are also antimalarial type of medications. Artemisinin is also an anti-malarial with iron chelating functions and it can also help with intracellular infections.

The virus itself is intracellular ([Chang 2020](#)) and can infect other cells directly through membrane to membrane fusion or microtubules forming to connect them. Exosomes from the infected cell can also travel throughout the body to infect other cells through blood vessels, axons, or extracellular fluid. Therapeutic strategies focused on antibodies do not help against an infected cell with intracellular pathogens. That is what makes tuberculosis or Lyme's disease difficult to treat. The antimicrobial zinc ionophore/iron chelator herbs or medicines help by identifying the infected cells and the zinc disrupts protein replication - stops the virus or pathogen from being reproduced within the cell.

*"4/ In the autopsies the virus was not identified in the secretions or in plasma.
It is only present at the intracellular level.*

*MOLECULAR TESTS BY NASAL AND PHARYNGEAL SWABS DO NOT DETECT THE
PRESENCE OF VIRUS IN LONG COVID.*

They give False Negatives." - [Gustavo Aguirre Chang](#)

<https://twitter.com/Aguirre1Gustavo/status/1474395684514275336?s=20>

Stopping the virus in the nose before it becomes intracellular is ideal, and why early treatment within the first few days is critical. The dominant variant in the nose is stopped by the local IgA antibodies, while in the lungs the main variants are more heat tolerant and intracellular. Prevention daily then makes sense: how do you know which sniffles are an illness and which are just related to dry winter air? *Humidifiers that are kept clean are a health aid, or hang damp laundry or a wet towel near a vent. It will humidify the air while drying overnight. Drier or larger spaces may need more towels to be hung.

Nasal Rinses or Sprays may help prevent exposure to reach the intracellular stage.

Nasal rinses of many types have been found helpful as daily prevention after having been out for the day. Rinse once home again, or before bed. An example:

“No recommendations made. I am posting this recipe FYI only. From NurseClaire on Twitter.

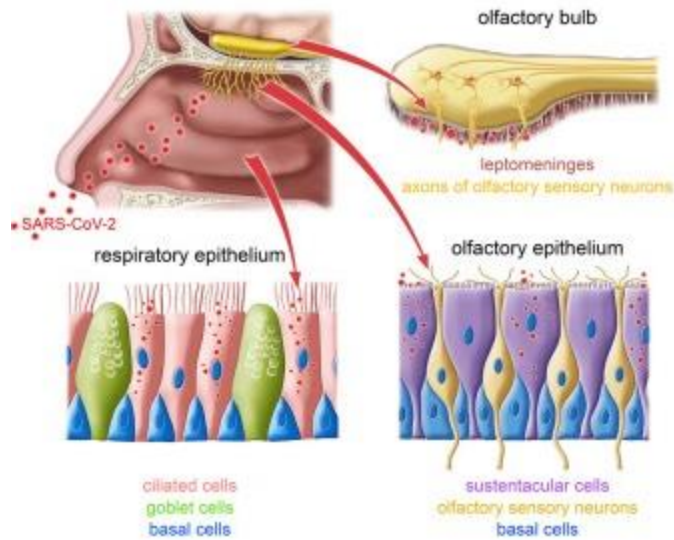
- 1. Order a nasal spray bottle from your fav online retailer*
- 2. Mix 9 mL of distilled water*
- 3. Add 1 mL of 10% povidone iodine*
- 4 squirts per schnozz hole twice daily.”*

- via: <https://twitter.com/BCrowe40765630/status/1474905300444528642?s=20>

We don't know what isn't allowed to be researched. Thankfully some independent researchers persist anyway.

- Review of nasal or mouth rinses, effectiveness against Covid: <https://www.sciencedirect.com/science/article/pii/S0002817721007868?s=09>
- *“A loop in the spike protein of SARS-CoV-2 grabs onto nACh receptors. A tiny part of the spike protein resembles the location where [snake venom](#) toxins bind to nACh receptors – and snake venom paralyzes victims by binding these receptors on muscle cells.”* How snake venom and a smoking cessation drug [Chantix] inspired a nasal spray that blocks Covid. [geneticliteracyproject.org, https://geneticliteracyproject.org/2021/08/17/how-snake-venom-and-a-smoking-cessation-drug-inspired-a-nasal-spray-that-blocks-covid/](https://geneticliteracyproject.org/2021/08/17/how-snake-venom-and-a-smoking-cessation-drug-inspired-a-nasal-spray-that-blocks-covid/)

The nasal rinse daily may also be helpful for preventing entry of the infection into the brain by way of the nasal cells that are linked to brain signaling nerves. Loss of sense of smell without significant respiratory symptoms may indicate an infection that went into the brain rather than the lungs. (Tang et al, 2021 SARS-CoV-2 infection of olfactory epithelial cells and neurons drives acute lung injury and lethal COVID-19 in mice. <https://www.biorxiv.org/content/10.1101/2021.12.04.471245v1.full.pdf>)



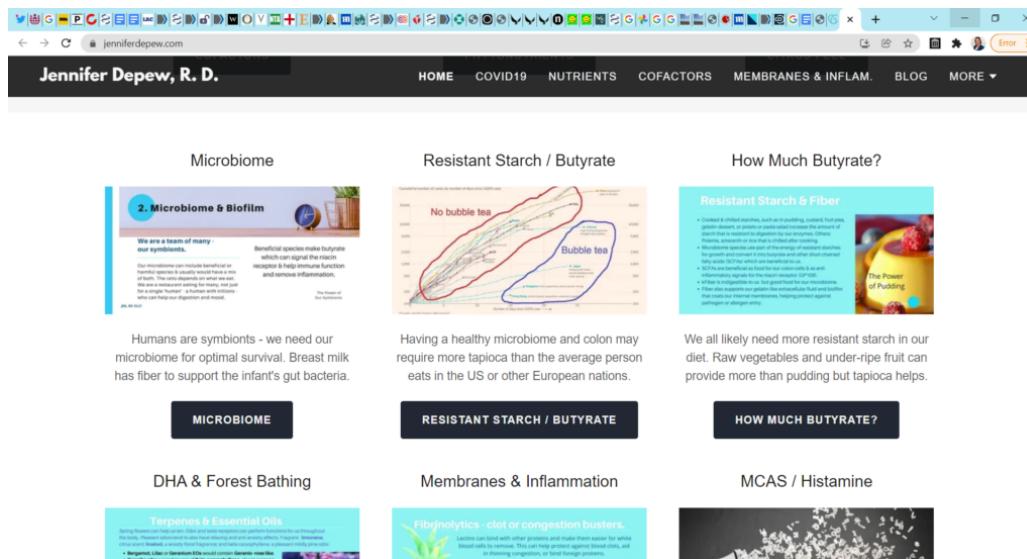
(Khan et al, 2021, Visualizing in deceased COVID-19 patients how SARS-CoV-2 attacks the respiratory and olfactory mucosae but spares the olfactory bulb.

[https://www.cell.com/cell/fulltext/S0092-8674\(21\)01282-4](https://www.cell.com/cell/fulltext/S0092-8674(21)01282-4)) via

<https://twitter.com/janiesaysyay/status/1476719902396346369?s=20>

Exosomes- viral transmission within the body

An infected cell in typical viral replication scenarios, multiplies until it reaches the cell's capacity and then the cell bursts open and releases the virus, which then are traveling freely in the plasma or extracellular fluid. Having an intracellular form of the infection with no presence of free virus suggests the infected cells are spreading in some other way than by releasing free virus from a dead cell. Pathogens do prefer a live host. The intracellular infection can pass from an infected cell to others nearby directly with membrane fusion between the two cells, or with the formation of a tubule between the cells produced by the infected cell.



Webpages on jenniferdepew.com include: [Microbiome](#), [Resistant Starch/Butyrate](#), [How Much Butyrate?](#), [DHA & Forest Bathing](#), [Membranes & Inflammation](#), and [MCAS/Histamine](#).

- *Health Aids for Special Times – Protocol* ([document](#)) has a link to a Spanish translation.
- *Histamine Food Lists* – also categories for food sensitivities that are frequently causes of increased inflammation. ([document](#))
- *DHA – a quantum molecule*. ([document](#))
- *Blue Iodine – Recipe & References*, shared from social media
- Very helpful Detox protocol on the WorldCouncilforHealth.org site: *Spike Protein Detox Guide*, November 30, 2021, Updated on: December 2, 2021, <https://worldcouncilforhealth.org/resources/spike-protein-detox-guide/>

Disclaimer: Opinions are my own and the information is provided for educational purposes within the guidelines of fair use. While I am a Registered Dietitian this information is not intended to provide individual health guidance. Please see a <functional or orthomolecular> health professional for individual health care purposes.

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790

791

[792](#) Ren K , Jiang T , Zhao GJ . Quercetin induces the selective uptake of HDL-cholesterol via promoting SR-BI expression and the activation of the PPAR γ /LXR α pathway. *Food Funct*. 2018 Jan 24;9(1):624-635. doi: 10.1039/c7fo01107e. PMID: 29292466. <https://pubmed.ncbi.nlm.nih.gov/29292466/>

[793](#) Wei, Wan, Yan, Wang, Zhang et al., SARS-CoV-2 manipulates the SR-B1-mediated HDL uptake pathway for its entry. *BioRxiv*, <https://doi.org/10.1101/2020.08.13.248872>, “*In this preprint, Wei et al. demonstrate that in the presence of high-density lipoprotein (HDL) particles, SARS-CoV-2 shows increased uptake into cells which is dependent on the S1 subunit of the viral spike protein. This uptake is mediated by the HDL receptor SR-B1. Although S1 does not directly bind to SR-B1, the authors find evidence that S1 interacts with the cholesterol and thereby increasing the chances to find ACE2 for viral uptake. Overexpression of SR-B1 in the presence of HDL and ACE2 increases viral replication, conversely transitory inhibition of SR-B1 inhibits viral replication.*”
<https://www.immunology.ox.ac.uk/covid-19/covid-19-immunology-literature-reviews/sars-cov-2-manipulate-s-the-sr-b1-mediated-hdl-uptake-pathway-for-its-entry>

Chang GA, (2020) Persistent Symptoms of COVID-19: Molecular Tests by Nasal and Pharyngeal Swabs Do Not Detect the Presence of the Virus in Intestines, Heart, and Other Organs and Systems or Intracellularly. August 2020, DOI:10.13140/RG.2.2.30458.31688/3 2020
https://www.researchgate.net/publication/343931153_Persistent_Symptoms_of_COVID-19_MOLECULAR_TESTS_BY_NASAL_AND_PHARYNGEAL_SWABS_DO_NOT_DETECT_THE_PRESENCE_OF_THE_VIRUS_IN_INTESTINES_HEART_AND_OTHER_ORGANS_AND_SYSTEMS_OR_INTRACELLULARLY

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“*Toxin-like peptides in plasma, urine and faecal samples from COVID-19 patients.*

E.g. Conotoxins, phospholipases, phosphodiesterases, zinc metal proteinases, & bradykinins” - Frank J Herrmann

- via <https://twitter.com/4141245879freun/status/1470507331419095042?s=20>

- also *Reference List – master* ([document](#))
- *Pomegranate Reference List* ([document](#))
- Seneff, S., & Nigh, G. (2021). Worse Than the Disease? Reviewing Some Possible Unintended Consequences of the mRNA Vaccines Against COVID-19. *International*

Journal of Vaccine Theory, Practice, and Research, 2(1), 38–79. Retrieved from <https://ijvtpr.com/index.php/IJVTPr/article/view/23> (Original work published May 10, 2021) *lengthy review of many ways the mRNA may be negatively affecting health.

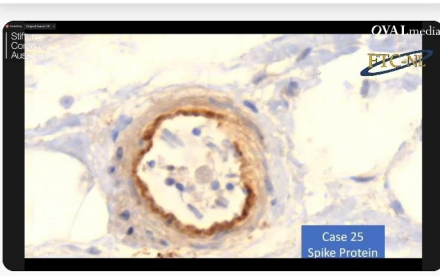
Russell MW, Moldoveanu Z, Ogra PL, and Mestecky J. Mucosal Immunity in COVID-19: A Neglected but Critical Aspect of SARS-CoV-2 Infection. *Front. Immunol.*, 30 November 2020 | <https://doi.org/10.3389/fimmu.2020.611337>
<https://www.frontiersin.org/articles/10.3389/fimmu.2020.611337/full>

- *explains why it is critically important to treat within the first 3-5-7 days of initial mild symptoms - the variants that survive in the nose can be stopped by antibodies before infecting cells.
- Once in the lungs the inflammatory cytokines that are elicited are more damaging and the T-cell immune response takes out infected cells - which is killing them after they were infected - better to prevent the infection from taking hold while it is still in the nose.
- This may also explain why so many types of nasal rinses have been found effective. From ancient Neti Pot use to more modern Xlear Nasal Spray. Carrageenan and iodine solutions in nasal sprays or rinses have also been found effective against SARS-CoV2.

Chapter 4. Problem - Is there a virus? Is there a toxin? Lab origin?

The whole alternative point about there being “no virus” because of Koch’s Postulates – is simply wrong regarding RNA type viruses. RNA viruses – they are a group of variants, a quasiswarm rather than all being genetically the same organism, like a malaria parasite is always a malaria parasite in some stage of growth. And there is definitely a chimeric spike protein which was patented in 2018, – in the US by Ralph Baric out of University of North Carolina.

Reiner Füllmich - 21-01-2022 (English) TWEET



Reiner Füllmich - 21-01-2022 (English)
January 22nd, 2022 655 views

The chimeric spike protein has the characteristics of a computer sequenced molecule with many hazardous sequences that are also patented. It is bioweapon-like in the changes, rather than natural mutations, which tend to be single nucleotide changes rather than a short string of nucleotide changes that happen to be specific patented sequences for known toxins. All of the CoV injections use the same modified version of that chimeric spike protein, which NIH gave a modified sequence of to all the vaccine companies – and they all used it.

Image: The brown material lining the interior of a blood vessel, is spike protein dyed with antispike antibodies that are carrying a brown dye.

<https://odysee.com/@Fazenda.Mondego:5/S88b:6?r=6YD7FJhQxg4ejrYps9ZKL9h9UAdoDFpc>

The bat coronavirus used as a carrier for the chimeric spike protein, in itself, is not that big a problem to a person of reasonable health, compared to any of the gene therapy injections designed to include the chimeric spike, because that is toxic to us in many ways and the injection version seems to be a worse cholinergic blocker – the snake venom toxin part is a paralytic – Ralph Baric’s patent, modified by the U.S. NIH.

- References – *Spike Protein Risks & Aids – Summary Page*, ([47](#))

and David Martin’s work on the patent trail:

- “20-year genetic trail behind Covid’s creation” <https://alethonews.com/2021/07/14/twenty-year-genetic-trail-behind-covids-creation/...>
- *David E. Martin testifies at the German Corona Inquiry* https://youtu.be/ihjNDf32_Ac
- 72-73 of Ch 6 [older book, ref for the Daszak quote] <https://nap.edu/read/21809/chapter/7...>

“A key driver is the media... Investors will respond if they see profit..., Daszak stated.”

– via <https://twitter.com/David32856757/status/1472365176775188489?s=20>

Quasiswarm - RNA virus

Re “Fake” “Hoax” “It hasn’t been isolated” “Koch’s Postulates (cultured in a cell culture of some sort)” → The chimeric bioengineered part is truly bad, and truly exists. The coronavirus are RNA virus which are less stable genetically, or just more interchangeable than other DNA based species (basically most all of life). They also need a cell to be replicated in so can not be cultured in a typical sense of a bacterial culture growing on a gelatin petri dish.

The RNA coronavirus are a group, 3500 variants, not just the media buzzword variant of the day. How do you isolate a single cloud of 3500 different forms? People always tend to have a mixture of them, in 100s though, not 1000s. In a crowded poorly ventilated situation though, the air above the crowd may be reaching a mixture that includes all of their 100s. Quasiswarm RNA can be exchanged rapidly and build new sequences and they also seem able to all adopt a new form somehow mimicking the new pattern. This can lead to the entire crowd below all becoming infected with the new strain. (see work of Sirotkin)

Terrain theory is certainly the big picture, regarding the prevailing Germ Theory, vs the underappreciated Terrain Theory (underappreciated by mainstream medical care), - but microbes and Germ Theory are also part of it. Once someone has a bad terrain - it can then be shared with others, and that includes the virome. The virome, the microbiome of virus specifically, does include significant amounts of our own DNA - so when a cell breaks down, parts of it may form virus like particles. Decomposition is somewhat pre-programmed and starts happening before death actually occurs - so ideally don't get that sick.

"The human virome is constituted of viruses that infect our cells, virus-derived elements in our genome, and viruses that infect the broad array of other types of microorganisms that inhabit us. 86 "

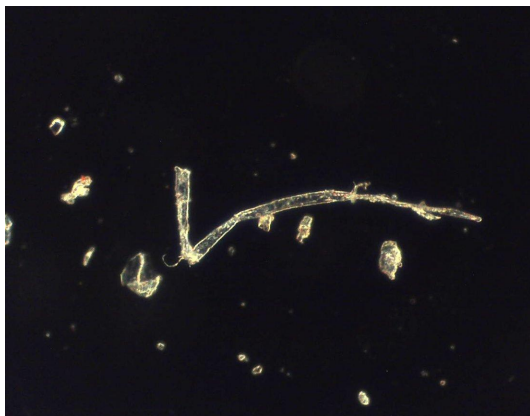
- The Microbiome in Health and Disease, L Yuan...P Zhou, <https://www.sciencedirect.com/topics/immunology-and-microbiology/human-virome>

Hope and selfcare are the solutions.

Q: *What's the best vax detox for the brain?* - ([ComradeVero](#))

A: Epsom salt soaks and pomegranate products, and other polyphenols, omega 3 fatty acids, B vitamins, methyl forms, zinc, trace minerals ... It is medical magic bullet style to ask for 1 best thing. We are a mixture. - ([deNutrients](#))

Graphene oxide, image.



Where are you at on the Venn diagram?



- via <https://twitter.com/GetARealCoffee/status/1475013481271341060?s=20>

We need to get more people on the same page, moving forward in action and unity.
Education and reach - control of media is control of people.

Chapter 5. Vak Spike vs Viral Spike and Exosomes

- J Depew, RD, 12/15/21 ([post](#))

#EarlyTreatmentWorks – prevention regularly is best bet as early means first 3-5-7 days of first symptoms ~a cold, not let it get a week later & you went to work throughout. Increasing dosing frequency rather than megadosing at once->24/7 protection ~ 3-4 x~8 hrs or 6 hrs apart

Basic treatment info and dosing guidance here: [Short List Dosing Details](#) ranges with self care guidance. Also on jenniferdepew.com, page Nutrients and page Cofactors.

Questions I was asked: How Bad Is The Sp!ke? – ([@_nikolakii_](#))

How bad is the actual virus vs how bad is the vaccine?

The actual virus is not that bad except for the chimeric spike added to it. Those who get infected and are unvaccinated without comorbidities have an approximately 99 percent recovery rate.

1. However the lingering LongCovid rate is more significant and frequently disabling. People have had difficulty getting help or answers.
2. Autoimmune antibodies against receptors that spike was lodged in may have been formed leading to self destruction of whatever protein or receptor type it was when antibodies against it were created by the person's immune cells.
3. Allergy like or other excess histamine symptoms might result from overactive mast cells. Over production of retinoic acid, the active form of vitamin A, might also lead to symptoms of mast cell overactivity. The dietary solutions can help a lot but are big changes – avoid all vitamin A foods and rich carotenoid sources of fruits and vegetables – seriously, but can help prevent long term liver and kidney damage and neurologic symptoms. Histamine producing or containing foods also need to be avoided, again, it can help a lot though.
4. Fatigue from anemia of chronic inflammation is likely, and elevated ferritin levels with fairly normal to low hemoglobin level might be lab results. Iron chelator herbs can help fairly quickly, then continue. Artemisinin is the one I used, am and pm for a few months and then once a day for a year or more.
 - a. Now I have been using Wormwood in tea with some better tasting medicinal herbs & (small piece or a couple) pomegranate and (can be several larger pieces, is mild and fruity) mango peel. Sweet Wormwood is less bitter and no thujone which can be a seizure risk if too much is consumed. I add thyme to balance the GABA effects from the Wormwood/thujone, fennel seed adds flavor, and dandelion leaf & root for anti-prion help.
5. Nerve tingling or pain in fingers and toes or pain, turning to reddening and swollen is a hypoxia of the tissue problem. Gentle exercise helps keep circulation going.
 - a. Epsom salt soaks help with a well absorbed form of magnesium and sulfate, both beneficial for cardiovascular and tissue health.
 - b. An imbalance of cannabinoids is present due to the inflammation, so CBD alone would make the imbalance worse. THC products would help provide the type that is needed, and it helps reduce the hypoxia.
 - c. Thiamine, B1, is also needed in amounts greater than available in food when there is inflammation and it can help hypoxia at the higher doses, 300 mg or more, seek guidance for larger amounts. Other Bs should also be taken in to provide balance – Bs are a team, work together within the mitochondria and in other functions. Niacin and other info in this: Spike Summary Spreadsheet, Telomerase, Circadian Cycle and Nrf2, (and niacin, also a link at the end to a post focused on niacin & melatonin).
 - d. Malnutrition in general is a risk factor for demyelination nerve damaging conditions. Low CoQ10 is also a risk factor. G12. Demyelination.

The vaccines are worse in a variety of ways with the most basic being that the spike used in all the brands of injections was modified, supposedly to be better, but it has worse health effects as it is on the surface of the human cells – it would not be there in an infection, only on the virus, or within a cell being formed to make virus with. Virus hijack the cell machinery for replication of it instead of normal functions. See last post: [Adaptive Immunity, ADE, and Antibodies](#).

1. The modified spike is a worse nicotinic acetyl choline receptor blocker – the gene sequence has a section like snake venom toxin which causes paralytic effects by inhibiting cholinergic messaging (acetylcholine is a brain neurotransmitter it also activates choline receptors).
 - a. Blocking nAChR receptors – would lead to the hearing and vision problems, excessive menstrual bleeding, colitis, miscarriage, myocarditis. The cholinergic blocking #nAChRs can cause sperm motility issues and the excessive menstrual symptoms may indicate risk of female infertility/early menopause.
 - b. Nicotine activates function and would protect-block- the nicotinic acetylcholine receptors from spike protein. Choline might work too, but for me, I needed nicotine to resolve my colitis-like symptoms.
2. Exhaled breath or sweat from vaccinated people may contain free S1 subunit of spike proteins and can spread passively to non-vaccinated people. Exosomes, membrane packets with spike on the surface, may also carry the genetic directions within.
 - a. Exosomes are similar to pheromones and act as messengers within the body from one part to another but also can be exuded to share with the outer world too. There has to be a matching surface marker for another person's cells to accept the exosome or pheromone, or on a cell within a person if it was acting as a messenger between different areas of the body.
3. The spike affects ACE2 in a way that leads to pneumonia-like edema of lung tissue
 - a. Citrus peel or pomegranate peel can help. The Citrus Peel is more effective for clearing congestion and opening airways. The Pomegranate peel helps protect ACE2 receptors. G13. Pomegranate. G14. Citrus Peel.
4. The vaccines increases the risk of fungal infections, other viral infections or a flare up of Herpes or shingles, and cancer risk.
 - a. Dectin-1 receptors protect against fungal infections and spike blocks them, eating mushrooms or Nutritional Yeast Flakes would activate them instead, lodging and protecting them from being available to spike protein.

*this is spike specific and to prevent fungal infections, rather than being a standard treatment for fungal infections – which might include a recommendation to avoid eating mushrooms.

5. CD8+ T killer cells are reduced in number and lymphocyte count might be low on a lab test. CD8 cells help fight virus and cancer cells.
6. Cancer risk is also increased by inhibition of the Toll Like Receptors. (2)
 - a. Magnesium and methyl donor B vitamins, Nrf2 promoting phytonutrients, pomegranate and citrus peel, and most of the other things mentioned, also would be protective against cancer risks.
 - b. Reducing sugar and total carbohydrates helps Covid infection or cancer risk.
 - c. Reducing glutamate seasonings would also reduce cancer risk. Those are also usually histamine problem foods – may need to kick them out of the diet anyway – headaches may be a symptom if that is a problem.
7. The vaccines contain prion like sections, so misfolding protein conditions may be a risk Parkinson's disease (clumps called Lewy Bodies, 1), Alzheimer's & CJD/Mad Cow Disease.
 - a. Delphinidin (black beans, black sesame seeds or rice, Blue Lotus or Blue Butterfly Pea flowers) and pomegranate peel, dandelion leaf or root and/or pine needle tea may reduce this risk.
 - b. Avoiding organophosphate pesticide and glyphosate herbicide residue may also help reduce risk.
8. The jab increases toxicity of bacteria endotoxin LPS & SEB. Spike has a SEB like endotoxin sequence. Both endotoxins increase inflammation.
 - a. Activated charcoal, Bentonite clay, and water, may help remove SEB toxin (& maybe Spike Protein. Section 11. LPS toxicity and SEB are similar I think. Copper, immunomodulator herbals/foods, (garlic, broccoli, pomegranate, etc,) quercetin, mushrooms, are mentioned <https://transcendingsquare.com/2021/06/29/spike-protein-risks-aids-summary-page/>
9. Rapid aging – damage repair of DNA is inhibited, affecting immune cell differentiation in addition to increased risk for cancer and mitochondrial disorders such as Parkinson's Disease.
 - a. Methyl donor B vitamins, folate and hydroxy or methyl B12 and choline may help.
 - b. Nrf2 promoting foods and phytonutrients may help. ([G10. Nrf2 Promoting Foods](#))
10. Inflammation is increased in many ways by the spike destruction of tissue, changes to receptor function, the bacterial endotoxin SEB and LPS from negative species of the microbiome.

- a. Nrf2 promoters would help reduce inflammation; vitamin C and alpha lipoic acid, other mitochondria support and high dose niacin/melatonin protocol could also.
11. SARS-CoV-2 can infect bacteria, so again, a healthy microbiome is critical in a number of ways. Beneficial, zinc fed, species also help colon health and reduce infection risk with butyrate production. Butyrate can activate the niacin receptor and can also help reduce inflammation and increase removal of cellular crud, like free spike protein, by white blood cells with endolysosomes, see earlier link for an image. Spike Summary Spreadsheet, Telomerase, Circadian Cycle and Nrf2
- a. Vegetables and high fiber grains, beans, nuts, seeds, can help the microbiome flourish along with zinc and iron – though avoiding iron rich foods is helpful for other inflammatory issues mentioned in the first section in the discussion of LongCovid.
12. TRP channel disruption – at the ankyrin repeat domains.
- a. Risk to hair cells in hearing and the vestibular system (sense of balance and steady tracking of vision – following the bird in the sky).
 - b. Saffron (~80 mg/day) may help hair cells repair - it is difficult to not happening typically.
 - c. Epsom salt soaks, for a well absorbed topical source is needed as TRP channels in the GI tract are needed to absorb magnesium ions and spike disrupts them.

Others – this document has an earlier version and other sections, including one on exosomes topic, references for that are included:

https://docs.google.com/document/d/1tnhDPY59_NXG5dcCHVslicgR5W_hDCSoJ9j9QIlwtrY/edit?usp=sharing

The increased risk of autoimmune antibodies forming against receptors the spike is lodged in on the cells means that there can be a lifelong autoimmune attack on those receptors afterwards. If anti-phospholipid antibodies formed, then the person's own immune cells would be led to attack and remove endocannabinoids, – phospholipid molecules. And symptoms of the numb fingers and toes may involve endocannabinoid disruption during LongCovid. See: Cannabinoids & blood vessels – and LongCovid. Anti-phospholipid antibodies could by breaking down even more endocannabinoids than the inflammation had caused.

See [Membranes & Inflammation](#) for more about tissue damage in inflammation and what may help.

Boosters every 3-six months may keep the person in an autoimmune-like flair up all of the time practically as the vaccine spike is formed on human cells, so immune cells may be attacking the person's own cells and causing massive dysfunction and tissue damage which might be seen as skin rash or bruising. See the last post: [Adaptive Immunity, ADE, and Antibodies](#).

More treatment info and dosing guidance here: [Short List](#) Dosing Details ranges with self care guidance. Also on jenniferdepew.com, page [Nutrients](#) and page [Cofactors](#).

Disclaimer: Opinions are my own and the information is provided for educational purposes within the guidelines of fair use. While I am a Registered Dietitian this information is not intended to provide individual health guidance. Please see a health professional for individual health care purposes.

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Reference list needs a little help. – this has quite a bit of background info and reference list: [Spike protein risks & aids – summary page](#)

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- Re LAV - Live Attenuated Virus - developed to make a safer variant for vaccine use, tend to revert back to the pathogenic version - "There's plenty of molecular evidence that this thing is becoming self-reinforcing and building a much stronger swarm.
- And there's the reality that I don't have to guess, because this is simply what LAVs do.

- [_biorxiv.org/content/10.1101/2021.12.16.472843...](https://doi.org/10.1101/2021.12.16.472843)
- [_biorxiv.org/content/10.1101/2021.12.14.472719...](https://doi.org/10.1101/2021.12.14.472719)" - @Harvard2H #LAV"

First Link: "Seven of the 15 Omicron mutations occurring in the spike protein receptor binding domain (RBD) occur at the ACE-2 cell receptor interface, and therefore may play a critical role in enhancing binding to ACE-2" - preprint

- Zemla A, Desautels T, Lau EY, et al., SARS-CoV-2 Omicron variant predicted to exhibit higher affinity to ACE-2 receptor and lower affinity to a large range of neutralizing antibodies, using a rapid computational platform. bioRxiv 2021.12.16.472843; doi: <https://doi.org/10.1101/2021.12.16.472843>
<https://www.biorxiv.org/content/10.1101/2021.12.16.472843v1>

Second Link: "By evaluating a panel of monoclonal antibodies to all known epitope clusters on spike protein,... activity of 18 of the 19 antibodies tested were either abolished or impaired, including ones currently authorized or approved for use in patients." preprint

- Liu L, Iketani S, Guo Y, et al., Striking Antibody Evasion Manifested by the Omicron Variant of SARS-CoV-2. bioRxiv 2021.12.14.472719; doi: <https://doi.org/10.1101/2021.12.14.472719>
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Chapter 6. VAIDS and Natural or Adaptive Immunity.

12/10/21 ([post](#))

ADE & Neutralizing Vs Non-Neutralizing Antibodies - Leaky Vak and autoimmune risks.

The CoV “vaccines” cause the person’s own cells to make spike protein and put it on the surface of the human cell – this would never happen in an actual viral infection. In viral replication the virus with spike are made within the host cell and then burst forth, killing the host cell and possibly also using part of the host cell membrane as part of the membrane of the many replicated virus. The cellular debris from the cell being killed by the exit of the virus leaves inflammatory chemicals in the extracellular fluid.

In the case of the gene therapy “vaccines” the human cell itself has spike proteins produced on the surface – which may be identified by immune cells as an actual foreign protein with viral origin and neutralizing antibodies would be made that attack as if it is a virus – neutralizing the virus from being infectious. Or since it is a human cell, non-neutralizing antibodies might be made that recognize it as a ‘self’ protein – it is on the human cell after all.

When the injected person's immune cells recognize the viral protein on the human cell surface, they make antibodies against the spike protein, and eventually, those antibodies, whether neutralizing type or non-neutralizing, would connect with the spike proteins located on the surface of the human cells – throughout the body, wherever spike is being produced. Depending on the type of antibodies that had been made, other immune cells will either attack the human cell as if it is viral or cause the human cell to die – they were neutralizing antibodies – but instead of neutralizing an infectious pathogen a human cell was killed instead. The immune cells will also be extra busy with all that work, recognizing and killing all human cells that have the spike protein on the surface, so any other random infection may be ignored simply because the immune system is too busy attacking the human cells that have spike – whether a cold, flu, or SARS-CoV2.

Or, if non-neutralizing antibodies had been made, the other immune cells would leave the human cells with spike protein alone. That might seem good, but it also means that a real coronavirus infection might also be ignored by the immune cells, primed with non-neutralizing antibodies that think spike protein is 'self' now.

Neutralizing antibodies are the goal of a vaccine because they would help prevent infection or symptoms from the infectious pathogen – neutralizing it from doing harm. In the case of the CoV “vaccines” though, neutralizing antibodies are also causing the human cells with spike on their surface to be killed by immune cells – as if the human cells are a foreign virus. That is similar to autoimmune disease except that many different types of cells throughout the body may all be involved instead of more specific autoimmune antibodies against thyroid tissue and gluten for example (molecular mimicry – similar chemical shape).

Non-neutralizing antibodies are not the goal of vaccines but animal research with mRNA vaccine found that it was a big problem. Eventually all the animals died once exposed to the wild type virus. This is referred to in medical research as Antibody-Dependent Enhancement, (ADE), and more recently has been called as Vaccine Enhanced Disease.

If the non-neutralizing antibodies encounter a SARS-CoV2 virus, any variant with a closely matching spike protein, they will bind with the spike. However the non-neutralizing antibodies are labeling it as 'self' and immune cells will ignore the virus as if it was a human cell – not neutralizing the virus. The non-neutralizing antibodies also would not be causing the killing of any human cells that have spike protein being produced on their surface.

People with minimal symptoms after the jabs may have been one of the lucky ones to get the ~30% saline solution batches, or they may be more at risk for ADE infections to any coronavirus that has somewhat similar spike proteins.

Vaccine Enhanced Disease is a descriptive name. The vaccine caused the formation of non-neutralizing antibodies which accept the pathogen as 'self', instead of neutralizing ones that would be protective. The infection is able to grow freely, unstopped by the immune cells – which

means the disease process was 'enhanced' – the infection will be much worse than if there hadn't been a vaccine inducing non-neutralizing antibodies.

ADE reactions generally lead to death of the research animal with mRNA gene therapy research, and there is limited information regarding the condition in humans as adverse vaccine reactions tend to be called other things rather than performing autopsies and finding out in more detail. A nasal infection leading to lung infection would show more damage in the upper area of the lungs. An ADE infection would likely have evidence of tissue damage throughout the lungs and body rather than more damage near the upper passages of the lungs, near the opening from the nasal passages.

In the case of an RSV vaccine and later infection, the ADE reaction was "*termed vaccine-associated enhanced respiratory disease.*" (1)

Recent research is showing a disease enhancement effect occurring with the CoV gene treatments. Infection rate is higher in the injected than those who have not had the CoV injections:

"Earlier, I had published and announced in a public speech (Harrisburg) that the vaccine program had failed, in part based on my findings that the number of new cases was highest in countries with highest vaccine uptake (See article here). The Israeli and UK data showed more cases in the vaccinated than in the unvaccinated, and my analysis yesterday should silence the pedestrian response "that's because there are more people who are vaccinated". I've pointed out (as have others) that Fauci's "go home until you are sick enough to need emergency care" makes people variant incubators.

Now a new study has found the specific mutations by which the SARS-CoV-2 lineages have escaped the vaccine. The study, which is behind a paywall (US\$40), reports that these mutations lead to less infectivity compared to the original SARS-CoV-2, but, according to the authors, "can disrupt existing antibodies that neutralize the virus".

That sounds like disease enhancement to me." – James Lyons-Weiler (2)

People getting CoV injections are supposed to be informed of increased risk of infection being possible as a result, rather than protection. Research focused on whether they are being informed of the risk of ADE or Vaccine enhanced disease found that there was insufficient awareness. (3)

Variants with a spike modification that evades the antibodies, whether neutralizing or non-neutralizing may also be at an increased risk of the leaky gene treatments, (4), called vaccines by the new definition of the word.

“Nobel Laureate virologist Luc Montagnier on C19-vaxxing of the masses

“A scientific error as well as a medical error. It is an unacceptable mistake”

“The history books will show that, because it is the vaccination that is creating the variants.””

- via <https://twitter.com/MattRandolphLee/status/1474769515535749122?s=20>

““By tracking the evolutionary trajectories of vax-resistant mutations in more than 2.2 million SARS-CoV-2 genomes, we reveal that the occurrence & frequency of vax-resistant mutations correlate strongly with the vaccination rates in Europe and America.”” - (Wang, Chen Wei, 2021), via <https://popularrationalism.substack.com/p/spike-only-vaccine-a-colossal-blunder> via <https://twitter.com/DoubtersR/status/1474950188024438786?s=20>

Adaptive immunity – ability to make new types of antibodies & more B or T immune cells.

Adaptive immunity means our ability to make new types of antibodies whenever we need, and allow the transformation of undifferentiated immune cells into the active B or T cell type that is ready to make antibodies (B), or fight infection (T). Without the DNA repair function the immune cell differentiation can not occur either. Lack of DNA repair also is a problem because DNA changes can lead to cancer or mitochondrial dysfunction conditions which can include Parkinson’s disease (PD). (5)

The viral infection leads to inflammation, oxidative stress, and that leads to increased DNA damage, which might be random. Adequate nutrients can help correct the oxidative stress chemical imbalance before damage occurs. After DNA damage occurs, it may be too late to correct DNA changes that were replicated in a large enough number of defective mitochondria or cells to cause noticeable symptoms.

*“Consistent with our results, clinical observations also show that the risk of severe illness or death with COVID–19 increases with age, especially older adults who are at the highest risk [22]. **This may be because SARS–CoV–2 spike proteins can weaken the DNA repair system of older people and consequently impede V(D)J recombination and adaptive immunity.***

In contrast, our data provide valuable details on the involvement of spike protein subunits in DNA damage repair, indicating that full–length spike–based vaccines may inhibit the recombination of V(D)J in B cells, which is also consistent with a recent study

that a full-length spike-based vaccine induced lower antibody titers compared to the RBD-based vaccine [28].

This suggests that the use of antigenic epitopes of the spike as a SARS-CoV-2 vaccine might be safer and more efficacious than the full-length spike. Taken together, we identified one of the potentially important mechanisms of SARS-CoV-2 suppression of the host adaptive immune machinery. Furthermore, our findings also imply a potential side effect of the full-length spike-based vaccine. (6)

DNA Damage can lead to cancer or mitochondrial conditions, like Parkinson's Disease, PD.

DNA damage can be prevented more easily than it can be changed back to healthy – unless it is just an epigenetic change. Methyl groups are an atom of oxygen and hydrogen that can be added to the side of DNA sequences where they act kind of like a bottle cap to keep the DNA in a closed or off position.

Epigenetic changes where a gene is active when it should be inactive, can change back when adequate methyl donor vitamins are available (methyl or hydroxy B12, folate, and choline). Some people may need extra due to a genetic inability somewhere in the methylation steps, or because inflammation/infection caused a big increase in need for the nutrients.

Other phytonutrients may also help with DNA damage and protect against cancerous changes.

*“Recently, we have shown that dietary phytochemicals such as **quercetin, rutin, rosmarinic acid, luteolin**, and others not only protect DNA damage but also stimulate DNA repair in liver and colon cell lines (Lima et al., 2006; Ramos et al., 2008; Ramos et al., 2010b; Ramos et al., 2010a). These effects may contribute to their anti-carcinogenic effects” (Ramos et al, 2011) (7)*

See jenniferdepew.com page [Phytonutrients](#) for food sources and more information about **quercetin, rutin, rosmarinic acid, luteolin** and other phytonutrients.

The menu and beverage ideas for *Nrf2 Promoting Foods* (G10) on effectivecare.info would also be helpful for DNA repair, and *Pomegranate* (G13) or *Citrus Peel* (G14). Zinc is also important, food sources on (G15), or see reference (8).

Thiamine, vitamin B1, is also needed in larger amounts during severe inflammation or infection and possibly for a long time afterwards, a LongCovid personal story: (9). Riboflavin, B2, is important to take along with it, and niacin/nicotinic acid, B3, pantothenic acid, B5, and the other methyl donors, folate, methyl or hydroxy B12, and choline. Betaine, TMG, may also be beneficial to take and CoQ10 and alpha lipoic acid, both cofactors for mitochondrial use of the

citric acid cycle (see post Niacin for preventing migraines) for converting glucose into usable energy or as heat, which can reduce inflammation. (see post [Niacin & Early Treatment](#))

*Disclaimer: This information is provided for educational purposes within the guidelines of fair use. While I am a Registered Dietitian this information is not intended to provide individual health guidance. Please see a [*functional] health professional for individual health care purposes.*

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<https://www.hormonesmatter.com/recovering-from-long-covid-with-thiamine/>

Worse Than the Disease? Reviewing Some Possible Unintended Consequences of the mRNA Vaccines Against COVID-19

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Keywords: antibody dependent enhancement, autoimmune diseases, gene editing, lipid nanoparticles, messenger RNA, prion diseases, reverse transcription, SARS-CoV-2 vaccines

Seneff, S., & Nigh, G. (2021). Worse Than the Disease? Reviewing Some Possible Unintended Consequences of the mRNA Vaccines Against COVID-19. *International Journal of Vaccine Theory, Practice, and Research*, 2(1), 38–79. Retrieved from <https://ijvtp.com/index.php/IJVTPR/article/view/23> (Original work published May 10, 2021) <https://ijvtp.com/index.php/IJVTPR/article/view/23>

Chronic stress is part of hyperinflammation, social inequality is part of that. Brief video: <https://twitter.com/Anonylyzer13/status/1470373218217521154?t=kLCG8FTXo0lz6AosOJhAwA&s=19>

Part 2: <https://twitter.com/Anonylyzer13/status/1470373898219044872?t=8rn3BTL1oSodhWoLSZVGxg&s=19>

This is fine gif, <https://twitter.com/deNutrients/status/1474307515374612482?t=xcaWu5mEa7Otqeg4srd9CA&s=19>

Terrain and Germ Theory

Hyperinflammation is modern life. Health Aids can only help put out fires. The cause of the raging inferno also has to be addressed directly - who or what is setting fires in your life?

A cup of herbal tea is inadequate to quell inflammation if modern life habits are not also changed so the inflammatory signals aren't being sent to immune cells. Health habits or self care isn't a day at the spa as much as a weekend prepping a pot of soup and making quick

bread to have ready for a busy week ahead. Self care is limiting time spent with friends, family, or coworkers who drain your energy. Your body is your terrain and so is your microbiome - what you eat feeds both you and all of your microbes. Healthy types like healthy foods and fresh produce. Unhealthy types of microbes - aka germs - tolerate the modern diet and need fewer trace nutrients. Malnutrition and processed food diets leads to the growth of microbial species that are not beneficial. Zinc and resistant starches in the diet supports beneficial species. Mom was right about eating your veggies every day!

Terrain and Germ Theory are two schools of thought about infection and our microbiome.

We benefit from having a healthy microbiome - all the microbes of our intestines and other areas of our body can help protect us from more harmful species. They also help keep each other in balance, so that beneficial species do not become so numerous that they also become a problem. Terrain Theory and Germ Theory are two competing ideas about our microbiome and infectious disease.

Terrain Theory suggests that infection is a result of dysfunction in our cells and body that allow the microbiome species to grow excessively. Mitochondrial dysfunction is generally associated with degenerative disease and comorbid infections (occurring along with the chronic condition).

Germ Theory suggests that infection is always the result of a person or other species randomly being exposed to a pathogenic microbe and it causes the infection. The big flaw with that theory is that many fairly severe illnesses can result from a microbe that is usually present in large numbers in many apparently healthy people. How to explain that?

Also our own DNA includes a sizeable percentage of viral gene sequences - we are part virus! But we don't really know what those genes do for us, if anything. They can lead to the formation of virus like particles during breakdown of a cell which supports the Terrain Theory supporter's idea that there are no virus.

However, a combination of the two theories is probably most correct:

- a healthy functioning body can keep a large number of microbial species in check;
- while an unhealthy, dysfunctional and/or malnourished body is probably going to have trouble removing infected or damaged cells quickly enough to:
 - keep inflammation in check,
 - and prevent excessive growth of microbial species,
 - whether the microbe is generally considered dangerous or is more typically simply a benign and normal part of most people's microbiome -
 - once growing in large numbers the microbes will no longer be a benign part of the mixture of many types of microbes.
- Example: Bacteria help keep yeast from growing out of control - Thanks bacteria!

For an overview video by Dr. Sam Bailey, *Germ Theory vs Terrain Theory*, [{Youtube}](#)

Disclaimer: Opinions are my own and the information is provided for educational purposes within the guidelines of fair use. While I am a Registered Dietitian this information is not intended to provide individual health guidance. Please see a <functional or orthomolecular> health professional for individual health care purposes.

Protocols by others:

TCM protocol for Recovery of Qi

Protocol/ article about recovery from an illness that leaves lingering "Evil qi" - bad quantum energy health, using Traditional Chinese Medicinals.

tonify Qi, nourish Yin, tonify Lung and Open the Collaterals

HUBEI SHA SHEN MAI DONG TONG		
Herb Name	Bulk Herb Grams	Extract Powder %
Bei sha shen / Glehnia littoralis root	10 g	9.2%
Mai men dong / Ophiopogon japonicus tuber	10 g	9.2%
Wu wei zi / Schisandra chinensis fruit	10 g	9.2%
Ren shen / Panax ginseng root	8 g	7.4%
Lai fu zi / Raphanus sativa seed	10 g	9.2%
Si gua luo / Luffa cylindrica sponge	10 g	9.2%
Ju luo / Citrus reticulata blanco pith	10 g	9.2%
Zi su zi / Perilla frutescens seed	8 g	7.4%
Zhe bei mu / Fritillaria thunbergii bulb	8 g	7.4%
Ku xing ren / Prunus armeniaca seed	8 g	7.4%
Huang qin / Scutellaria baicalensis root	10 g	9.2%
Gan cao / Glycyrrhiza uralensis root	9 g	8.1%

Although we have created a template suitable for tailoring in the Prescription Service, Mayway Herbs offers this formula in a pre-made extract powder, MW# 3119C. This article on our website features a discussion of this formula.

This slightly different formula with the same intent can be found as a template in the Prescription Service:

Wuhan Recovery Phase

Strengthen Lung and Spleen, tonify Qi, nourish Yin

WUHAN RECOVERY PHASE		
Herb Name	Bulk Herb Grams	Extract Powder %
Sha shen / Glehnia littoralis root	15 g	9.3%
Mai men dong / Ophiopogon japonicus root	15 g	9.3%
Yu zhu / Polygonatum odoratum rhizome	10 g	6.2%
Tian hua fen / Trichosanthes kirilowii root	15 g	9.3%
Xi yang shen / Panax quinquefolium root	10 g	6.2%
Wu wei zi / Schisandra chinensis fruit	15 g	9.3%
Si gua luo / Luffa cylindrica sponge	15 g	9.3%
Bai bian dou / Dolichos lablab seed	10 g	6.2%
Sang ye / Morus alba leaf	10 g	6.2%
Ju luo / Citrus reticulata pith	5 g	3.1%
Zi su zi / Perilla frutescens seed	10 g	6.2%
Zhe bei mu / Fritillaria thunbergii bulb	10 g	6.2%
Ku xing ren / Prunus armeniaca seed	10 g	6.2%
Gan cao / Glycyrrhiza uralensis root	6 g	3.7%
Di long / Pheretima aspergillum	10 g	6.2%

PRC National Health Commission Recovery Formulas

Two formula templates address this lingering Qi Level pat



<https://www.mayway.com/articles/recovery-formulas-for-lingering-evil-qi>

Protocol - Malcador - @the_Sigilite on Twitter

Daily intake:

- Vit. D (+ K2)
- Zinc + quercetin + Vit. C
- selenium
- magnesium

In the event of contact with the SarsCov-2 spike (through infection or "mRNA therapy"):

- ASA (e.g. "Baby Aspirin" 100)
- NAC (e.g. ACC 600)
- Black seed oil
- turmeric https://twitter.com/the_Sigilite/status/1474044761610854406?s=20

"In addition to the list at the beginning there are the following optional "aids"):

- (flush) niacin + melatonin (be careful with the "flush" at the beginning)
- Olive leaf extract
- glutathione" - https://twitter.com/the_Sigilite/status/1474044797786759172?s=20

"All of the above are food supplements / auxiliaries that are generally available without a prescription and can be supplemented relatively safely."

https://twitter.com/the_Sigilite/status/1474044801616072704?s=20

"However, the following applies to all of the above: It is not a medical recommendation. In case of doubt, all measures and dosages must be clarified with a (hopefully competent) doctor (who you trust)."

https://twitter.com/the_Sigilite/status/1474044805114216448?s=20

- References for the nutrients & herbals: see [Alphabetical List of Aids](#) section.

D Grouf's protocol

Includes a recommendation to rotate the supplements a few days a week* rather than taking them all daily, getting a few in each day. Once a day for prevention, twice or three times a day for treatment. Refer to the graphic for his specifics.

Includes for Prevention and many are also mentioned on the Treatment image:

Olive leaf extract, an iron chelator, 500 mg/day 1-3 x day for prevention or treatment.

NAC, N-acetyl cysteine, a precursor for glutathione, 600 mg 1-2 x day.

Quercetin, a zinc ionophore and iron chelator, 500 mg 1-2 x day.

Vitamin C, 500-1000 mg / day.

Zinc 50 mg elemental / day.

Vitamin D, 1000-2000 IU.

Magnesium, 400 mg elemental / day.

Garlic, 500 mg 1-2 x day.

Ginger, 500 mg 1-2 x day.

Saffron - 44-88 mg / day

Neem oil - 500 mg / day* (Black seed oil would be similar and is safe for child bearing women. Neem oil can be a cause of miscarriage (1) and is not recommended during pregnancy or lactation. (2) More information below.)

Berberine / Barberry Bark - 500 mg / day*

Chinese Skullcap - 500 mg / day*

Oil of Oregano - 150 mg / day* (*all four are iron chelators/anti-parasitic)

Multivitamin - 1 / day

Treatment, also includes:

Glycine - 500 mg 2 x day

Milk Thistle - 500 mg

Grouf Covid Prophylaxis Protocol

1. Olive Leaf Extract 500mg/day, 4 days a week
2. NAC 600 mg 3 days a week
3. Quercetin 500mg 4 days a week with 1000mg C
4. Zinc 50 mg/day for 3 days
5. Vitamin D (1000-2000 iu) with Magnesium 400mg elemental, 5 days a week
6. Garlic and Ginger 500mg every day for 4 days
7. Saffron 44mg/day for 4 days a week.
8. Neem 500 mg/day, 3 days a week
9. Barberry Bark (berberine) 500 mg/day 3 days a week
10. Chinese Skullcap 500mg/day 3 days a week.
11. Oil of oregano 150 mg/day, 3 days a week.
12. multivitamin 5 days a week.

Rotate 8,9,10,11 so as to cover 7 days of the week.

Grouf Prophylaxis protocol

Grouf Covid Protocol (updated)

1. Olive Leaf Extract 500mg every 8-12 hours for 7 days, 500mg/day for 7 more.
2. NAC 600 mg every 12 hours for 7 days, 600mg/day for 7 more.
3. Quercetin 500mg every 12 hours with 500-1000mg vit c for 7 days, 500mg/day for 7 more
4. Zinc 50 mg/day for 5-7 days.
5. Garlic and Ginger 500mg every 12 hours for 7 days, 500mg/day for 7 more.
6. Saffron 88mg/day for 7 days, 44mg/day for 7 more.
7. Glycine 500 mg every 8-12 hours for 7 days, 500mg/day for 7 more

Recommended:

- Milk Thistle, 500 mg/day
- Barberry Root/ berberine 500 mg/day
- Chinese Skullcap 500mg/day

D Grouf Treatment Protocol

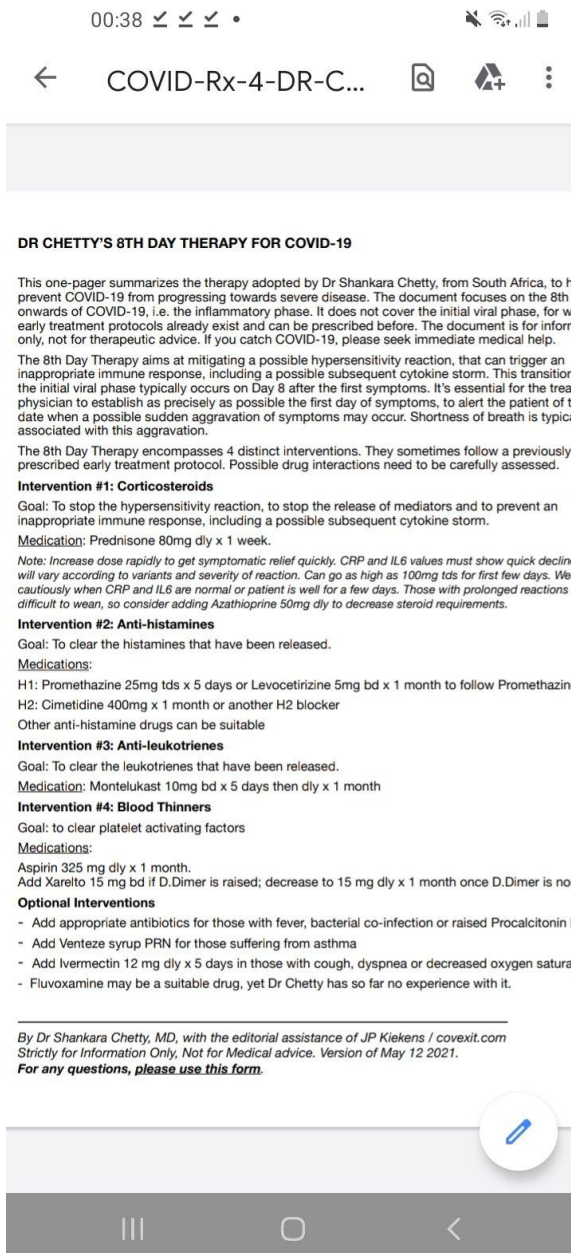
Neem oil can cause poisoning in infants. (3) More cautious dosing is needed with Neem oil than with black seed oil, *Nigella sativa*, for adults as well. It would be a food serving size risk though, not a concern for use of a capsule amount. In an adult woman, 150 milliliters, (ml), is equivalent to 150,000 milligrams (mg) caused vision loss. Neem oil contains a low concentration of aflatoxin. (3)

The DGrouf recommendation includes 500 mg/day 3 days a week as a prevention and is not included in the treatment part. Seventy five doses of that amount would equal the 150 ml amount that caused symptoms for the person in the example. (3)

For perspective, a teaspoon of black seed oil, would be about 5 grams (4.67 gr), which would be 5000 milligrams. I take one of that as prevention, and increase to one spoon am and pm if feeling worse.

1. Talwar GP, Shah S, Mukherjee S, Chabra R. Induced termination of pregnancy by purified extracts of *Azadirachta Indica* (Neem): mechanisms involved. *Am J Reprod Immunol*. 1997 Jun;37(6):485-91. doi: 10.1111/j.1600-0897.1997.tb00264.x. PMID: 9228306. <https://pubmed.ncbi.nlm.nih.gov/9228306/>
2. *Neem - Uses, Side Effects, and More*, "Other Name(s): *Antelaea azadirachta...*" webMD.com <https://www.webmd.com/vitamins/ai/ingredientmono-577/neem>
3. *Neem*, drugs.com, <https://www.drugs.com/npp/neem.html>

Dr Chetty's Protocol, antihistamine & other goals



- Intervention 1. Corticosteroids
- Intervention 2. Anti-histamines
- Intervention 3. Anti-leukotrienes
- Intervention 4. Blood Thinners
- Optional Interventions - appropriate antibiotics if bacterial co-infection is present, anti-asthmatic if needed, Ivermectin 12 mg x 5 days if cough, shortness of breath, or decreased oxygen saturation, Fluvoxamine may be helpful.

Dr Chetty's 8th day therapy protocol

Meticore - product being marketed by Melania Trump's company as a 'cure' - may be an effective treatment for Metabolic Syndrome issues and hyperinflammation

After reviewing the reference list on the site, without reading each one (no links added yet) - the potential ingredient list might be very helpful to the hyperinflammation and blood clotting risks of current times. It targets Metabolic Syndrome, obesity, and cardiovascular health.

Potential ingredients include: **Fucoxanthin** (brown seaweed), **Irvingia gabonensis** (Mango seed extract), **why protein** (NAC equivalent for cysteine), **Moringa oleifera** (green tree leaves rich in vitamin A and other beneficials), **Quercetin** (a zinc ionophore, have adequate zinc too), **Bitter Orange** (citrus bioflavonoids), **Curcumin** (Vitamin D Receptor agonist), **Ginger** (anti-clotting in larger amounts). **Magnesium as a chelate** may be included as dysfunction of the TRPM8 ion channels needed to absorb ionic magnesium in the GI tract is included in the Reference List. (<https://mymeticore.com/science/>)

Scientific References: for Meticore: <https://mymeticore.com/science/>

Herbals:

1. Fucoxanthin - carotenoid (1, 9, 12)
2. Irvingia gabonensis, (2, 3, 4, 5, 6, 7)
3. Why protein - (NAC equivalent)

TRPM8 ion channel differences and obesity - (8, 10, 11) *means poor magnesium absorption in the GI tract leading to inflammation and insulin resistance, hypertension, and obesity --> Metabolic Syndrome. (20)

13. Moringa oleifera (13, 15)
14. Quercetin
16. Bitter Orange - Citrus aurantium L - citrus bioflavonoids (16, 17)
18. Curcumin (18, 19)
21. Ginger (21, 22, 23, 24)

Fucoxanthin is a carotenoid (vitamin A group antioxidant) from brown seaweed that may help cardiovascular health & reduce obesity. *There are a number of reported biological functions of fucoxanthin, including anticancer, antioxidant, antihypertensive, antiinflammatory, radio-protective, and antiobesity effects. *

Role of Marine Nutraceuticals in Cardiovascular Health, <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/fucoxanthin>

1. Gammona MA, D'Orazio N. Anti-obesity activity of the marine carotenoid fucoxanthin. Mar Drugs. 2015;13(4):2196-2214. Published 2015 Apr 13. doi:10.3390/md13042196
2. Sun J, Chen P. Ultra high-performance liquid chromatography with high-resolution mass spectrometry analysis of African mango (Irvingia gabonensis) seeds, extract, and related dietary supplements. J Agric Food Chem. 2012;60(35):8703-8709. doi:10.1021/jf202703u
3. Ngondi JL, Oben JE, Minka SR. The effect of Irvingia gabonensis seeds on body weight and blood lipids of obese subjects in Cameroon. Lipids Health Dis. 2005;4:12. Published 2005 May 25. doi:10.1186/1476-511X-4-12
4. Oben JE, Ngondi JL, Blum K. Inhibition of Irvingia gabonensis seed extract (OB131) on adipogenesis as mediated via down regulation of the PPARgamma and leptin genes and up-regulation of the adiponectin gene. Lipids Health Dis. 2008;7:44. Published 2008 Nov 13. doi:10.1186/1476-511X-7-44
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17. Park J, Kim HL, Jung Y, Ahn KS, Kwak HJ, Um JY. Bitter Orange (Citrus aurantium Limb) Improves Obesity by Regulating Adipogenesis and Thermogenesis through AMPK Activation. Nutrients. 2019;11(9):1988. Published 2019 Aug 22. doi:10.3390/nu11091988
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Ginger is anti-inflammatory, aids digestion, pain reducing, & prevents platelet aggregation (anti-clotting in larger servings), antibacterial, may help Rh. arthritis. <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/ginger>

Irvingia gabonensis - mango seed extract. It helps Metabolic Syndrome, and obesity. Delays gastric emptying so there would be a sense of fullness longer, may eat less. <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/irvingia-gabonensis>

Why protein may be incidental in the references, rather than part of the Meticore blend, but is helpful as a cysteine source. It would support our mitochondria and glutathione production.

If the TRPM8 references are pertinent to the Meticore blend, a chelated magnesium may be added, Mg glycinate or threonate are examples. Metabolic Syndrome is magnesium deficiency at basic underlying level, and lack of bitter tasting phytonutrients.

Moringa is a green leaf and very good vitamin A source.

Quercetin is a zinc ionophore - eat zinc too. Helps inflammation.

Bitter Orange helps Metabolic Syndrome & vascular health.

Curcumin is a vitamin D receptor agonist - helps immune function with VDR control over immunity.

Disclaimer: Opinions are my own and the information is provided for educational purposes within the guidelines of fair use. While I am a Registered Dietitian this information is not intended to provide individual health guidance. Please see a <functional or orthomolecular> health professional for individual health care purposes.

Alphabetic List of Aids, or Groups of Aids or Lifestyle Strategies.

Links via in part to Malador: *“All of the above are food supplements / auxiliaries that are generally available without a prescription and can be supplemented relatively safely.”*

https://twitter.com/the_Sigilite/status/1474044801616072704?s=20

Quality of products - contaminants

Product quality varies a lot in the herbal and nutrient supplement industry. Shop from reliable companies and read the label for other ingredients as well as the nutrient name and amount. Titanium dioxide is used as a whitener in supplements and foods, yet may be a negative as a source of nanoparticles of titanium, a heavy metal. Gelatin capsules from non organic sources may be a source of glyphosate. Organic sourced vegetable cellulose capsules might be a better choice.

Contaminants may be from agricultural chemicals or pollutants, or may be added during processing from equipment that might be tarnished or damaged in some way. Plants also take up contaminants from the air and soil. Some may take up certain types of chemicals more than other plants or parts of a plant (the leaves possibly based on the below study) may concentrate contaminants more than other parts. Rhubarb takes up iodine more than average which is a benefit when iodine is needed but a negative if near a nuclear waste leak. Rice plants absorb arsenic more than other plants so getting a variety of grains in the diet can help to not overuse a potential arsenic source.

(https://journals.lww.com/jpgn/fulltext/2015/01000/arsenic_in_rice_a_cause_for_concern.28.aspx)

- *Herbs & Spices might contain arsenic, cadmium, and lead*; testing by Consumer Reports, <https://www.consumerreports.org/food-safety/your-herbs-and-spices-might-contain-arsenic-cadmium-and-lead/>
- Solutions included growing some of your own oregano or thyme - two herbs that consistently tested higher in heavy metals than others in the sample group. Basil was also higher overall - this may represent a difference in leaf content versus seed content.
- Seeds and Roots tended to have safe levels, red peppers and flower stigmas - saffron: Curry, garlic and chili powder;
- black and white pepper;
- most of the turmeric samples and only the organic ginger sample;
- all the coriander and most of the cumin samples;
- all the sesame seed samples
- and all the saffron samples. (~ 6 stigmas is a therapeutic dose in tea, ~ once daily)

<https://www.consumerreports.org/food-safety/your-herbs-and-spices-might-contain-arsenic-cadmium-and-lead/>

Alkalizing Foods

Fennel seed is a more alkalizing food than many. In general green vegetables and seeds are alkalizing after digestion while animal and dairy products are more acid forming. The pH of the undigested food is not what is being measured. It is an acidity/alkalinity measurement of the ash, the waste chemicals that are produced during digestion, which are measured. Lime and lemon juice are acidic but their effect in digestion is alkalizing for the body.

- See: [Alkalizing Foods](#)

Anthocyanin / anthocyaninidin

"Bingo. I've been using and recommending Pinus pinaster [Pycnogenol] (I work in herbal medicine manufacturing) which is has the highest Oligomeric pro anthocyanidin content I can find and its OPC's are low molecular weight (easily absorbed and utilised)." - in response to my suggesting delphinidin for preventing misfolded protein accumulation.

<https://t.me/arkmedic/3704?comment=40418>

- Pycnogenol references from the same person:
<https://pubmed.ncbi.nlm.nih.gov/12117551/>
- <https://pubmed.ncbi.nlm.nih.gov/10490291/>

Anti-Parasitic / anti-microbial / anti-cancer / iron chelators

Anti-parasitic-anti-cancer Medications, i.e. iron chelators:

Wanna know what all these drugs have in common?

They're all anti-parasitic And They're all anti-cancer

Weird coincidence, eh?

(What it cures already exist) - IET 17, on Telegram, <https://t.me/InevitableET/3177>

- Moxidectin induces Cytostatic Autophagic Cell Death of Glioma Cells through inhibiting the AKT/mTOR Signaling Pathway.
<https://www.jcancer.org/v11p5802.htm>
- Moxidectin induces Cytostatic Autophagic Cell Death of Glioma Cells through inhibiting the AKT/mTOR Signalling Pathway
<https://pubmed.ncbi.nlm.nih.gov/32913473/>

- The anthelmintic agent oxfendazole inhibits cell growth in non-small cell lung cancer by suppressing c-Src activation
<https://www.spandidos-publications.com/mmr/19/4/2921>
- Ivermectin Antiparasitic Anticancer Wonder Drug
<https://jeffreydachmd.com/2016/05/ivermectin-antiparasitic-anticancer-wonder-drug/>
- The multitargeted drug ivermectin: from an antiparasitic agent to a repositioned cancer drug
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5835698/>
 - Unexpected antitumorigenic effect of fenbendazole
<https://pubmed.ncbi.nlm.nih.gov/19049251/>
 - A Drug For Animals Now Taken By Humans For Cancer: Fenbendazole
<https://principia-scientific.com/a-drug-for-animals-now-taken-by-humans-for-cancer-fenbendazole/>
 - The Antitumor Potentials of Benzimidazole Anthelmintics as Repurposing Drugs
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7458798/>
 - Albendazole and Mebendazole as Anti-Parasitic and Anti-Cancer Agents
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8255490/>
 - Mebendazole as a Candidate for Drug Repurposing in Oncology
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6769799/>
 - Niclosamide Exhibits Potent Anticancer Activity
<https://pubmed.ncbi.nlm.nih.gov/29843133/>
 - Molecular mechanisms of niclosamide antitumor activity
<https://pubmed.ncbi.nlm.nih.gov/26716739/>
 - Niclosamide: Beyond an anthelmintic drug
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5628105/>
 - Oxibendazole inhibits prostate cancer cell growth
<https://www.spandidos-publications.com/ol/15/2/2218>
 - IET 17 - Telegram,
 - Repurposing Drugs in Oncology (ReDO)-chloroquine and hydroxychloroquine as anti-cancer agents. <https://pubmed.ncbi.nlm.nih.gov/29225688/>
 - Via IET 17 on Telegram: <https://t.me/InevitableET/3177>

Apple / peel

- quercetin & histamine, pectin, fructose

A is for Apple - a very beneficial fruit. Include the peel. It is rich in quercetin. The fruit is rich in pectin, a resistant starch. Raw fruit would have more resistant starch and large servings may cause gassiness for people with SIBO from excess bacterial growth and fermentation - production of gas as a waste product from using starch/sugar for energy. Increased gassiness may also cause IBS or colitis symptoms as it can activate TRP channels. Apples with the peel (or pears or quince) may be helpful if allergies or autoimmune conditions are present. The

quercetin helps inhibit allergy mast cells and reduce histamine excess. Histamine can cause seasonal allergy symptoms but it can also cause odd mood and behavior changes that may be diagnosed as schizophrenia and eventually as Alzheimer's dementia as it causes damage to the hippocampus in addition to weird mood and behavior (extreme anxiety and fear, or mania).

Artemisinin, an extract of Sweet Wormwood (Wormwood, Mugwort).

Artemisinin - typical dose 100-200 mg once a day for prevention or twice a day for treatment.

The Artemisia species in general are beneficial for their anti-parasitic, immunomodulator and iron chelator effects (Mugwort & Wormwood, Artemisia absinthium, and others).

- Artemisia afra is used as a malaria prevention in some African nations for children or women of childbearing years as Sweet Wormwood and Wormwood are not recommended.
- Artemisia annua is used as tea as a malaria prevention for other adults, about one teaspoon, 10 grams, made into a cup of tea.
- Artemisia absinthium is bitter and quite potent. A ¼ teaspoon steeped for a couple minutes makes a strong tea without too much of the oily thujone being released. Excess thujone can cause seizures. Making Wormwood tea with thyme and/or fennel seeds too, helps balance the GABA effects caused by thujone inhibition, and adds better flavor.

Aspirin:

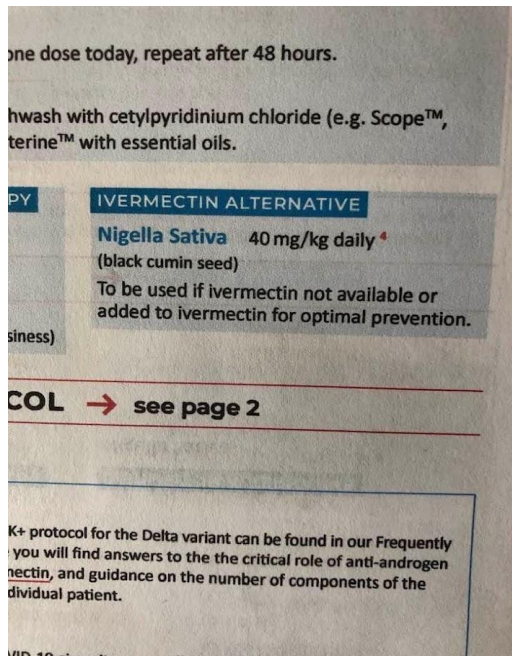
- <https://c19aspirin.com/>
- Chow JH, Khanna AK, Kethireddy S, et al., Aspirin Use Is Associated With Decreased Mechanical Ventilation, Intensive Care Unit Admission, and In-Hospital Mortality in Hospitalized Patients With Coronavirus Disease 2019, *Anesthesia & Analgesia*: April 2021 - Volume 132 - Issue 4 - p 930-941 doi: 10.1213/ANE.0000000000005292
https://journals.lww.com/anesthesia-analgesia/Fulltext/2021/04000/Aspirin_Use_Is_Associated_With_Deceased.2.aspx
- via https://twitter.com/the_Sigilite/status/1474044781659623428?s=20

Black Seed Oil / Nigella Sativa

- <https://c19ns.com/>
- Koshak AE, Koshak EA, Mobeireek AF, Badawi MA, Wali SO, Malibary HM, Atwah AF, Alhamdan MM, Almalki RA, Madani TA. Nigella sativa for the treatment of COVID-19: An open-label randomized controlled clinical trial. *Complement Ther Med*. 2021 Sep;61:102769. doi: 10.1016/j.ctim.2021.102769. Epub 2021 Aug 15. PMID: 34407441; PMCID: PMC8364675.
<https://pubmed.ncbi.nlm.nih.gov/34407441/>
- Khazdair MR, Ghafari S, Sadeghi M. Possible therapeutic effects of Nigella sativa and its thymoquinone on COVID-19. *Pharm Biol*. 2021;59(1):696-703.

doi:10.1080/13880209.2021.1931353

<https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC8204995/>



- Image - The Frontline Covid-19 Critical Care Alliance, FLCCC, IMASK+ prevention protocol:

<https://covid19criticalcare.com/covid-19-protocols/i-mask-plus-protocol/>

<https://covid19criticalcare.com/covid-19-protocols/>

- Axel Rhindt, Black seed oil against coronaviruses: thymoquinone at Covid 19. November 16, 2021, medmix.at (automatic translation from German) “*Shield and sword in the corona pandemic: black seed oil a possible remedy against the coronavirus disease Covid 19.*”

<https://www.medmix.at/thymoquinon-schwarzkuemmel-gegen-coronaviren-covid-19/?cn-reloaded=1>

- * Black seed oil is a strong antiviral. It helped me with a shingles problem this summer, a first occurrence for me, and it followed a passive exposure problem in May, 2020.
- Via https://twitter.com/the_Sigilite/status/1474044789293264899?s=20
- Addition: Regarding Zinc Ionophore mechanism of action for Black Seed Oil <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7313527/>

Honey & Nigella Sativa seeds, clinical trial:

“honey (1 gm/Kg/day) and Nigella sativa seeds (80 mg/Kg/day)” is the amount that was given per patient who was randomly assigned to the experimental group, in Pakistan. To adjust individually it would likely be good to use Ideal Body Weight or Usual Body Weight if excess weight, or recent weight loss.

100 pound person ~ $100 / 2.2 = 45.5$ Kg

45 grams of honey would be about an ounce and a half, 3 tablespoons,

80 mg x 45.5 = 3636 mg or 3.6 grams which might be a teaspoon of Nigella seeds.

*I have been told Nigella/Black Cumin seeds are better toasted than raw. ~ Gentle heat in a skillet for a few minutes. They are also better tasting when mixed with fennel seeds and chewed as a minty breath freshener and digestion aid. Black Nigella seeds can also be ground into a powder and taken within a capsule. Soaking them in another oil like grape seed oil will infuse some of the health benefits of the black seeds into the carrier oil for use topically, if black seed oil isn't available for topical use.

Honey and Nigella sativa against COVID-19 in Pakistan (HNS-COVID-PK): A multi-center placebo-controlled randomized clinical trial. Sohaib Ashraf, Shoaib Ashraf, Moneeb Ashraf, et al., for the COALITION COVID-19 Shaikh Zayed, Abubakar Hilal, Arz Muhammad, et al., *medRxiv* 2020.10.30.20217364; doi: <https://doi.org/10.1101/2020.10.30.20217364>

Chrysin, from raw Honey, not processed ideally:

Why honey? Chrysin, a polyphenol that may protect against DNA damage. (George, 2017) It is found in honey or the bee propolis. Similar to other flavonoids, chrysin has antioxidant, anti-inflammatory, antiviral, and anticancer properties. (Mani, 2018) References: *Cancer: Adjuvant Therapies* - a long alphabetized list, useful.

<https://www.lifeextension.com/protocols/cancer/cancer-adjuvant-therapy?s=09>

Protective effects of the flavonoid chrysin against methylmercury-induced genotoxicity and alterations of antioxidant status, in vivo. Manzolli ES, Serpeloni JM, Grotto D, Bastos JK, Antunes LM, Barbosa Junior F, Barcelos GR. *Oxid Med Cell Longev*. 2015;2015:602360. doi: 10.1155/2015/602360. Epub 2015 Feb 24. PMID: 25810809; PMCID: PMC4355113.

<https://pubmed.ncbi.nlm.nih.gov/25810809/?s=09>

Also re **protection against DNA damage**, which is protection against cancer or mitochondrial conditions such as Parkinson's Disease:

- Cancer Risks of CT Scans.
<https://www.lifeextension.com/magazine/2015/12/cancer-risks-of-ct-scans?s=09>
- Optimize Your Internal Defenses Against Radiation.
<https://www.lifeextension.com/magazine/2011/6/optimize-your-internal-defenses-against-radiation-exposure?s=09>

Chrysin

Chrysin is a polyphenol found in a variety of plants, and is particularly concentrated in the bee products honey and propolis.

Like many other flavonoids, chrysin has free-radical scavenging, anti-inflammatory, antiviral, and anticancer activities (Mani 2018). Although few human studies have been conducted with chrysin, animal studies and in vitro studies suggest that it may protect against DNA damage (George 2017) and modulate several cell-signaling pathways involved in cancer progression, including those affecting inflammation, cell survival, cell growth, new blood vessel growth, and metastasis (Kasala 2015).

Chrysin, like other polyphenols, is poorly absorbed in the digestive tract; however, new techniques are being developed to improve its availability and uptake by cells, sustain higher levels in the blood over longer periods of time, and enhance its antitumor activities (Davatgaran-Taghipour 2017; Walle 2001).

Chrysin has been shown in human ce

Image article: Cancer,; Adjuvant Therapies- long alphabetized list, useful.

<https://www.lifeextension.com/protocols/cancer/cancer-adjuvant-therapy?s=09>

C, vitamin, ascorbic acid **Vitamin C:**

90 RDA / 100-1000 or more, to bowel tolerance - Caution - can be a pro-oxidant if there is not excessive inflammation. Very large doses can be life saving in cases of cytokine storm and many types of cancer when the body needs the additional help with inflammation.

Vitamin C is also called ascorbic acid, and is not citric acid, that's different. We need vitamin C for strong blood vessels and to prevent easy bruising - or clotting risks. Vitamin C helps the vascular system and skin health in many ways. Higher doses will cause diarrhea. Smaller amounts more frequently! Liposomal vitamin C can be tolerated at higher doses than regular C. Very high dose vitamin C helps control cytokine storm and IV treatment may be medically available.

- Food examples: (lpi.edu), *Vit C for beautiful skin inside and out*: [Post](#), *Health Professional Fact Sheet*: ods.od.nih.gov.
- References re CoV <https://c19vitaminc.com/>
- [Inhibit NET Inflammasome formation](#):

Catechins - hydrolyzable tannins.

Catechins & others, Inhibit NET Inflammasome formation:

- Epicatechin, catechin hydrate, rutin trihydrate, vitamin C, N-acetyl-L-cysteine, NAC, 5-aminosalicylic acid.

"We could show that the flavonoids (-)-epicatechin, (+)-catechin hydrate, and rutin trihydrate as well as vitamin C and the pharmacological substances N-acetyl-L-cysteine and 5-aminosalicylic acid inhibited PMA induced ROS production and NET formation."

(1) Reference in post:

<https://transcendingsquare.com/2020/05/14/pomegranate-peel-catechins-inhibition-of-net-formation/>

Catechins - COX1 inhibitors ([ref](#)):

Epicatechin and catechin hydrate are found in green tea and available as EGCG. They are part of a group of catechins and are also in the inner pith and outer rind of pomegranate peel and in other plant foods (Goji berries, a small amount in red raspberries, cocoa, acai palm, pome fruit: apples, pears, quince ([ref](#))) and herbal sources (Green tea, *C. sinensis* leaves, ([ref](#))). (Quince turns pink during cooking from a change in the color of the catechins. ([ref](#)))

- <https://www.selleckchem.com/products/catechin-hydrate.html>
- <https://www.caymanchem.com/product/29175>
- <https://en.wikipedia.org/wiki/Catechin>
- <https://www.thekitchn.com/quince-tough-fall-fruit-with-a-secret-reward-ingredient-intelligence-73041>

Chakras -

- Chakras are considered to be energy centers of the body which can be assessed for activity with a pendulum held still above each zone. There are seven and are visualized with a rainbow of colors. It is possible that the wavelength of the colors also physically represents variations in the vibrations of the different regions. See [Visualizing Chakras](#) within the [Frequencies](#) section.

Citrus Peel / Chen Pi - tangerine peel - Traditional Chinese Medicine, TCM

- Citrus peel is a rich source of pectin and other potent bioflavonoids and the fragrant citrus aroma is from limonene, a terpene found in the oil extract. Bioflavonoids are water soluble and would be present in a water extract - gently steeped tea in other words. If

more peel is used and it is steeped longer, the extract will be stronger and can be used by spoonfuls added to other foods or beverages. Just a few pieces in one cup of tea makes a flavorful beverage to drink. The addition of other tea or ingredients can add more flavor.

- Review of health benefits and phytonutrients found in citrus peel. The phytonutrient content varies somewhat by type of fruit.
<https://www.sciencedirect.com/science/article/pii/S1658077X16300960>
- Citrus peel is a very potent decongestant and anti-asthmatic. For acute needs it is helpful and needed every 4-8 hours for symptom control. While sick I found eating the white pith with Navel oranges a good dose, half in the morning and half in the evening. The outer colorful layer is more potent and 1-2 teaspoons minced fresh is a medicinal serving size. Just sprinkle fresh or dried on soup or salad at the table or in the last few minutes of cooking. Do not overheat for the best medicinal value of the bioflavonoids. Tea, water extract, will retain the desired water soluble phytonutrients..

Grapefruit fruit, juice, or peel has some specific phytonutrients not found in other citrus fruits, and which can interfere with the breakdown of some medications and would need to be avoided if using those meds. The medication might accumulate to dangerous levels. Two statin drugs and some other frequently used meds are mentioned in an FDA guidance article with the point that it is not all drugs in each category, just some specific ones.

Here are examples of some types of drugs that grapefruit juice can cause problems (interact) with:

- *Some statin drugs to lower cholesterol, such as Zocor (simvastatin) and Lipitor (atorvastatin).*
- *Some drugs that treat high blood pressure, such as Procardia and Adalat CC (both nifedipine).*
- *Some organ-transplant rejection drugs, such as Neoral and Sandimmune capsule or oral solution (both cyclosporine).*
- *Some anti-anxiety drugs, such as BuSpar (buspirone).*
- *Some corticosteroids that treat Crohn's disease or ulcerative colitis, such as Entocort EC and Uceris tablet (both budesonide).*
- *Some drugs that treat abnormal heart rhythms, such as Pacerone and Cordarone tablet (both amiodarone).*
- *Some antihistamines, such as Allegra (fexofenadine).:*
<https://www.fda.gov/consumers/consumer-updates/grapefruit-juice-and-some-drugs-dont-mix> Other citrus could still be used though.

That looks like a long and thorough list, thanks FDA, and yet as a dietitian I immediately see that it does not include the one that we were trained to be aware of when I went to school - edit, add: "*Some anticoagulants, like warfarin*". If warfarin accumulates to greater levels, then it can cause increased bleeding risk. If grapefruit juice is a frequent choice for a patient on the blood

thinner med then it may interfere with a liver enzyme that normally would break down warfarin and certain other chemicals included in the FDA list and lead to a bleeding risk.

“Do not drink grapefruit juice if you're taking warfarin. It can increase the effect of warfarin on your blood, making you bleed more easily. It's safer to drink grapefruit juice if you're taking the newer anticoagulants rivaroxaban, dabigatran, apixaban or edoxaban.” - [Does grapefruit affect my medicine? - NHS](#). This reference has a more specific medication list than the FDA article, and also mentions statins:
<https://www.nhs.uk/common-health-questions/medicines/does-grapefruit-affect-my-medicine/>

The link is NHS.uk, so thanks FDA for informing us in the US of some risks but not informing us of a potentially deadly one at the same time makes it a dangerous piece of misinformation - the article seems authoritative yet it is missing critical information..

Copper

Also see [Trace Minerals](#)

Cruciferous vegetables

Cruciferous vegetables include “*broccoli, cauliflower, cabbage, kale, bok choy, arugula, Brussels sprouts, collards, watercress and radishes.*” They contain sulfarophane, an Nrf2 promoter, and are a source of [DIM](#) after digestion. Chew well! The amount of the Nrf2 promoting sulforaphane is increased during thorough chewing.

- *The Beginner’s Guide to Cruciferous Vegetables*, eatright.org, <https://www.eatright.org/food/vitamins-and-supplements/nutrient-rich-foods/the-beginners-guide-to-cruciferous-vegetables>

Curcumin:

- <https://c19curcumin.com/>
- Rattis BAC, Ramos SG, Celes MRN. Curcumin as a Potential Treatment for COVID-19. *Frontiers in Pharmacology*, 12;2021, pp 1068, DOI=10.3389/fphar.2021.675287
<https://www.frontiersin.org/articles/10.3389/fphar.2021.675287/full>
- Dr. Ramya Dwivedi, *Curcumin, a bioactive component of turmeric, effectively: neutralizes SARS-CoV-2 in vitro*. Reviewed by Benedette Cuffari, M.Sc. Nov. 1,2021
<https://www.news-medical.net/news/20211101/Curcumin-a-bioactive-component-of-turmeric-effectively-neutralizes-SARS-CoV-2-in-vitro.aspx>
- Pawar KS, Mastud RN, Pawar SK, Pawar SS, Bhoite RR, Bhoite RR, Kulkarni MV, Deshpande AR. Oral Curcumin With Piperine as Adjuvant Therapy for the Treatment of COVID-19: A Randomized Clinical Trial. *Front Pharmacol*. 2021 May 28;12:669362. doi: 10.3389/fphar.2021.669362. PMID: 34122090; PMCID: PMC8193734.
<https://pubmed.ncbi.nlm.nih.gov/34122090/>
- Thimmulappa RK, Mudnakudu-Nagaraju KK, Shivamallu C, et al., Antiviral and immunomodulatory activity of curcumin: A case for prophylactic therapy for COVID-19,

Heliyon, Volume 7, Issue 2, 2021, e06350, ISSN 2405-8440,
<https://doi.org/10.1016/j.heliyon.2021.e06350>.<https://www.sciencedirect.com/science/article/pii/S2405844021004552>

- Via https://twitter.com/the_Sigilite/status/1474044793718198278?s=20

Vitamin D:

Low vitamin D levels have been associated with more severe COVID19 illness and mortality rate. (15) Vitamin D must be present in adequate amounts for immune T-cells to fully activate and be functional against pathogens. (40)

- Borsche L, Glauner B, von Mendel J. COVID-19 Mortality Risk Correlates Inversely with Vitamin D3 Status, and a Mortality Rate Close to Zero Could Theoretically Be Achieved at 50 ng/mL 25(OH)D3: Results of a Systematic Review and Meta-Analysis. *Nutrients*. 2021;13(10):3596. Published 2021 Oct 14. doi:10.3390/nu13103596
<https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC7435492/>
- Xu, Y., Baylink, D.J., Chen, CS. et al. The importance of vitamin d metabolism as a potential prophylactic, immunoregulatory and neuroprotective treatment for COVID-19. *J Transl Med* 18, 322 (2020). <https://doi.org/10.1186/s12967-020-02488-5>
<https://translational-medicine.biomedcentral.com/articles/10.1186/s12967-020-02488-5>
- “*Vit. D (+ K2): There are countless studies that show a clear advantage of a Vit-D level higher than 30+ ng / ml.*” *Database of 139 studies on vitamin D in CoV*
<https://c19vitamind.com/> via:
https://twitter.com/the_Sigilite/status/1474044764999884804?s=20

Delphinidin, anthocyanidin

This reference turned into an extra document:

https://www.researchgate.net/publication/358038162_Artecanin_of_Laurus_nobilis_is_a_novel_inhibitor_of_SARS-CoV-2_main_protease_with_highly_desirable_druglikeness

See: [Phytonutrients, Molecular Docking List](#)

Diindolylmethane, (DIM)

Diindolylmethane (DIM) is made from [cruciferous vegetables](#) during digestion. Broccoli, cauliflower, cabbage, radish, and others. It seems to effect estrogen in beneficial ways - helping maintain the beneficial form. Eating more cruciferous vegetables is good for us all. Taking DIM supplements may be helpful for older men who are reaching menopause years or men with concerns about feminizing effects of other medications or conditions. Women who have severe mood swings or other PMS symptoms with their menstrual cycle might consider trying it too.

- DIM: <https://www.healthline.com/nutrition/dim-supplement#basics>

Essential Oils, herbal oil extracts

Herbs can be made in a more potent form as a water extract (strong tea), an alcohol extract (called a tincture), or by making an oil extract. Herbs with water soluble and oil soluble phytonutrients may be made as both types in order to gain different medicinal benefits from the herb or seed.

Essential oils can be so strong they can act as a corrosive skin irritant and feel like a burn afterwards, if used undiluted. Typically one to two ounces of a massage oil (such as almond or grape seed oil) can safely be used as the carrier for 6-10 drops of essential oil for topical use. Some essential oils may be usable directly on the skin - read about each one for safety guidance first before trying it undiluted.

Oregano essential oil is such a strong antimicrobial agent that probiotics may be needed after using it for treatment - 1-2 drops diluted in a serving of food can be used as an oral dose, am and pm, or once a day for short term prevention. It is probably better to not use drops of oregano essential oil as a daily oral aid.

- Torres Neto L, Monteiro MLG, Galvan D, Conte-Junior CA. An Evaluation of the Potential of Essential Oils against SARS-CoV-2 from In Silico Studies through the Systematic Review Using a Chemometric Approach. *Pharmaceuticals*. 2021; 14(11):1138. <https://doi.org/10.3390/ph14111138> <https://www.mdpi.com/1424-8247/14/11/1138/htm> (1)
“Some plant species were identified as EO potential sources with anti-SARS-CoV-2 activity, such as *Melissa officinalis* Arcang, [Lime Balm], *Zataria multiflora* Boiss, [Shirazi thyme], *Eugenia brasiliensis* Cambess, [Grumichama], *Zingiber zerumbet* Triboun & K.Larsen [ginger], *Cedrus libani* A.Rich, [Lebanese Cedar], and *Vetiveria zizanioides* Nash, [Vetiver].” (1)

From another paper that evaluated a large database of phytochemicals for their potential fit as anti-virals against SARS-CoV-2 with a molecular docking computer analysis:

“In terms of chemical composition, the top-ranked compounds were not found to be similar in structure.”

“Instead, these compounds were attributed to several chemical features with multiple activities, such as anthocyanidins, flavonoids, hydrolyzable tannins, oligosaccharides, coumaric acid derivatives, guaianolides, and anthraquinones (Supplementary Table 1).”

Thousands of plant chemicals were analyzed for docking receptivity with SARS-CoV2 and 30 were found to fit closest. [Molecular docking](#) is a computer analysis method that screens a chemical database for estimated binding between the database and another molecule, such as a chimeric spike protein on a coronavirus. The method is just an initial screening as the real world results do not match consistently once tried in a physical experiment - the compounds need to be tested to see if the computer estimate was accurate. In the five year old explanation - a box of puzzle pieces were screened for which would be most likely to fit one other puzzle piece that needs a match.

“Out of 3663 unique ligands’ conformers, the best 30 natural compounds docked with Mpro with the highest scores were considered for further in silico predictions. The percentage of these compounds was estimated at the best 1% of the screened natural compounds against the viral Mpro. The docking scores of these thirty plant-derived candidates were ranged between 9.1 kcal/mol for Delphinidin 3-(60’-Malonylglucoside)-5-Malonylglucoside (compound no. 1, PubChem CID 44256901) to 6.88 kcal/mol for Cosmoside (compound no. 30, PubChem CID 275431581) (Table 1).” (2)
https://www.researchgate.net/publication/358038162_Artecanin_of_Laurus_nobilis_is_a_novel_inhibitor_of_SARS-CoV-2_main_protease_with_highly_desirable_druglikeness

The research team then analyzed the 30 phytonutrients for their “drug-likeness” (2) - does it make it through the digestive tract intact? and four other questions. “Artecanin”, (also referred to as “chrysertemin B”), (2), an extract of the herb commonly known as Bay Leaves, was found most druglike with delphinidin as a runner up in the *Is it drug-like or a nondrug?* analysis.

“One particular compound showed high docking potential with the targeted protein, it should not be suggested as an optimum inhibitor in drug design without evaluating its drug-likeness possibility. Out of thirty highest docking scores compounds, the SwissADME tool showed that only compound no. 1 (Delphinidin 3-(600-Malonylglucoside)-5-Malonylglucoside) and compound no. 21 (arteconin, also called chrysertemin B) exerted decent gastrointestinal (GI) absorption properties. Further critical filtrations were conducted for these candidates using Lipinski’s rule of five, Ghose’s rule, Veber’s rule, Egan’s rule, and Muegge’s rule. These five filters were employed to give a sufficient rationale for the grouping of each compound as a drug or nondrug” (2)

Whether considered a drug or non-drug, delphinidin may be protective in many ways, anti-inflammatory, iron chelator, and protective against misfolded proteins/prion accumulation. The essential oils reviewed in the first reference included many with varied terpenes and other water soluble phytonutrients, (1), - including some mentioned in the second article **“anthocyanidins, flavonoids, hydrolyzable tannins, oligosaccharides, coumaric acid derivatives, guaianolides, and anthraquinones”**. (2) They are listed in [this document link](#).

The drug-likeness is also an estimate based on known properties of chemicals and physiology - and again, real world testing would be more definitive. Liposomal preparations of some of the phytonutrients might also bypass the digestive breakdown issue and carry the phytonutrient into the body intact, absorbed as a lipid instead of being broken down as a dietary phytonutrient. Other phytonutrients or herbs mentioned in the second article include:

Essential oils mentioned in the first reference, (1):

- *Melissa officinalis* Arcang - Common name: *Balm mint or Lime Balm*, it is a taller growing variety of the more familiar Lemon Balm. Major terpene: “*cis-caryophyllene*”
<https://www.sciencedirect.com/science/article/abs/pii/S0926669018302401>

- *Zataria multiflora* Boiss - Common name: in Iran Avishan-e-Shirazi ~ Shirazi thyme, Major terpenes: "The oil of ZM...thymol and carvacrol, and exhibits excellent anti-microbial properties." "ZM is a valuable medicinal and condimental plant that has anti-microbial, antioxidative, anti-inflammatory, spasmolytic and anti-nociceptive properties." <https://www.sciencedirect.com/science/article/abs/pii/S0378874112008525>
- *Eugenia brasiliensis* Cambess - Common name: Brazil cherry or Grumichama, - small purple edible fruits, evergreen shrub or small tree. <https://www.healthbenefitstimes.com/grumichama/> Major terpenes likely include alpha and beta pinene and caryophyllene. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7466042/>
- *Zingiber zerumbet* Triboun & K.Larsen - Common name - a type of ginger. The leaves may be used for essential oil. Major terpenes - alpha and beta pinene, others vary by species and may have caryophyllene and others. <https://www.mdpi.com/2223-7747/9/10/1269/htm>
- *Cedrus libani* A.Rich - Common name: Lebanese or Taurus Cedar, Major terpenes: " α -pinene (25.1%–37.3%), β -pinene (6.4%–35.6%), myrcene (0%–30.6%), limonene (5.6%–14.1%), sclarene (1.1%–5.5%), abieta-8,11,13-triene (2.2%–10.2%), kaur-16-ene (3.5%–7.5%), and abieta-7,13-diene (1.9%–7.5%)," *Ethanol Extract contains: coumarins, tannins, flavonoids, and phenols. <https://www.sciencedirect.com/science/article/pii/S2405844022005424>
- *Vetiveria zizanoides* Nash - Common name: Vetiver. The essential oil of the root has antioxidant properties and may promote glutathione production. <https://pubmed.ncbi.nlm.nih.gov/19374265/> Major phytonutrients in the oil: "*khusimol*, and the sesquiterpenes α -vetivone and β -vetivone" https://www.researchgate.net/publication/292161359_Chemical_composition_and_biological_properties_of_Chrysopogon_zizanioides_LRoberty_syn_Vetiveria_zizanioides_L_Nash-a_review

Fennel seed / essential oil of fennel seed.

See [post](#) re use of fennel seed for hair loss or thinning, or section: [Alopecia](#),

Fennel seed is used in an herbal extract 'health wine' for hair loss, in a patent that uses many Chinese traditional medicinal herbs. (1) Fennel seed has a variety of terpenes, terpenoids, and aldehydes that may have medicinal benefits. (Table 1, 2) It is thought to have digestive benefits and may help prevent postmenopausal osteoporosis as it has estrogenic effects.

"Fennel (*Foeniculum vulgare* Mill) is an umbelliferous* plant [*from the parsley family, umbrella like flowers]. The fruit and root infusions are used as relaxant, estrogenic, analgesic, and anti-inflammation agent. (Ozbek et al., 2003). Fennel is used in herbal remedies for respiratory tract disorders and indigestion and is also used to increase milk flow in nursing mothers (Choi et al., 2004 ▶; Amjad and Jafary 2000 ▶). Fennel seeds have been shown to increase milk secretion, promote menstruation, facilitate birth, and alleviate the symptoms of dysmenorrhea ()." (3)

"Fennel seeds extract increases libido and female climacteric (Ostad et al., 2001 [▶](#); Namavar Jahromi et al., 2003 [▶](#)). A study conducted by Mimica Dukic et al., 2003, showed an antifungal activity of Fennel essential oil. Moreover, different doses of Fennel essential oil (25 and 50 µg/ml) significantly decreased level of oxytocin and prostaglandin E and induced uterine contractions in primary dysmenorrhea (Ostad et al., 2001 [▶](#); Namavar Jahromi et al., 2003 [▶](#)). Fennel seed extract has been shown to have estrogenic, antioxidant, and antihirsutism activities (Oktay et al., 2003 [▶](#); Malini et al., 1985; Javadnia et al., 2003)." (3)

If fennel seed helps promote hair growth for some people and reduce excess hair growth for women, it may be acting as an immunomodulator as well as estrogenic effects that may reduce androgenic hair growth in women.

1. <https://patents.google.com/patent/CN105950407A/en>
2. Sharopov F, Valiev A, Satyal P, et al. Cytotoxicity of the Essential Oil of Fennel (*Foeniculum vulgare*) from Tajikistan. *Foods*. 2017;6(9):73. Published 2017 Aug 28. doi:10.3390/foods6090073 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5615285/> *cytotoxicity against cancer
3. Mahmoudi Z, Soleimani M, Saidi A, Khamisipour G, Azizsoltani A. Effects of *Foeniculum vulgare* ethanol extract on osteogenesis in human mesenchymal stem cells. *Avicenna J Phytomed*. 2013;3(2):135-142. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4075705/>

Frequencies - chanting or audio.

Frequency of music and sound, a broken fan or nearby train station, can be healing or be inflammatory to the body. We have our own internal and external energy field - like a magnetic field surrounding each of us. Some people say they can see our aura, our energy cloud and others have tried to photograph it. Without going further into belief or disbelief - the science facts do support the idea that repetitive loud vibrations, or living near major power lines, can increase oxidative stress and risk of negative health conditions. Other tones may be relaxing.

- This example is designed to help promote sleep: *Sleep Music 432hz Healing Frequency Black Screen 10 hours* 🧘‍♀️ *Chakra Balancing Music and ANXIETY*, (youtu.be).
- This one is for autoimmune conditions: "*Autoimmune Diseases Cure Healing - Rife Frequency | Pure Isochronic Binaural Beats - Sound Therapy*" (youtu.be). It does not sound like music, but after 30-45 minutes it seems to make me feel less tired, more energetic and alert. *Caution if you have tinnitus or hyperacusia sensitivities, the autoimmune video may be uncomfortable. It is barely audible to me - a rapid pulsing noise that is quiet, barely noticeable. I thought the video wasn't playing at first.
- Melodic Chanting with 432 Hz music: *OM SO HUM Mantra sung by CHOIR * Mantra Meditation Music ॐ M1012*, ([Youtube](https://youtu.be/))
- DNA Repair frequency, see the [Solfeggio Frequencies](#) subsection: *Deep Healing Energy | 528Hz Ancient Frequency | Sound Healing Session | Zen Meditation*, ([Youtube](https://youtu.be/)).

Electric fields of a frequency that matches the body can be healing. Internally - endogenously, our cells generate a current ranging from 40-200 mV/mm, strong enough to cause cellular movement towards the stronger field. There has been some success using energy fields for improved wound healing (13-50%). The area of research is still new and techniques and force of the energy field needs to be refined. <https://pubmed.ncbi.nlm.nih.gov/14711011/>

432 Hz vs 440 Hz controversy

There is some controversy regarding the standard tuning of 440 Hz for music, a change made for business convenience more than for musician and orchestra preference. The previous standard used internationally by many orchestras and musicians was 435 Hz. Some still tune to a different frequency and per a [Quora](#) reply by Anthony Zbikowski:

“Individual orchestras may still tune to slightly different A’s such as A442 or A443 and apparently in Cuba they tune to A436 to make strings last longer.

So, A440 is a standard and is the international industrial standard but it is to this day not the only tuning.”

The tuning of A strings to 440 Hz makes for a brighter, pop-ier sound but is also stretching them tighter.

We can listen to the difference between ambient guitar music tuned to 432 Hz or 440 Hz and played at a steady metronome pace of 60 beats per minute in a video by Bill Vencil at the [Chords of Orion](#) channel, *432Hz VS 440Hz - An Ambient Guitar Shootout!* ([Youtube](#)).

Anything that had been written 440 Hz, basically all of modern music, will not sound right simply retuned to 432 Hz. Music has mathematical relationships based on ratios between the notes rather than a simple changing of frequencies. To sound good the music needs to be composed with instruments tuned to 432 Hz tuned instruments, in order to work out a pleasing melody and rhythm track.

How to tune [Electronic] Keyboard to 432 Hz Tuning. ([Youtube](#)) and a song written and performed by the Youtuber at channel [432 Hz Music](#): [LIVE LOOP] Lion-I "The Chant" 432 Hz [with LYRICS] ([Youtube](#)).

Other frequencies, lower or higher, can also be healing, or relaxing, or stimulating to the mind and body. Repetitive vibrations will gradually set our body energy field into vibrating in rhythm to the beat. The 432 Hz frequency is thought to be more in sync with the natural rhythm of the planet. The [Quora](#) question *“Who changed the standard tuning from 432 Hz to 440 Hz?”*, has many interesting responses that fill in the pros and cons about the tinfoil hat controversy.

*“The Earth behaves like a gigantic electric circuit. Its electromagnetic field surrounds and protects all living things with a natural frequency pulsation of **7.83 hertz on average** – the so-called “Schumann resonance,” named after physicist Dr. Winfried Otto Schumann, who*

predicted it mathematically in 1952.” -Isabel Pastor Guzman, *Tuning in to the Earth’s Natural Rhythm*. Oct 4, 2017,
<https://brainworldmagazine.com/tuning-in-to-the-earths-natural-rhythm/>

Solfeggio Frequencies

Solfeggio Frequencies are tones known for healing or other benefits; 528 Hz may benefit DNA repair. “*The fluid properties of water make it especially responsive to sound.*” ([Youtube](#)) We are 60-70% water, held together with our skin and provided structure with bones, muscles and ligaments.

These tones were used in Gregorian chants and other historical places of worship. Play the recorded tones as background sound during meditation, yoga, or rest.

- BrianEsty.com has a post with audio tones available for: “174 Hz - Foundation; 396 Hz - Liberate guilt & fear; 417 Hz - Facilitate change and expand consciousness; 528 Hz - DNA repair, Initiate transformation and miracles; 639 Hz - Enable connections and relationships; 741 Hz - Awaken intuition; 852 Hz - Return to spiritual order; 1122 Hz - Master frequency,” brianesty.com.

Combining the healing frequencies with what is believed about our chakra energy centers of the body suggests our energy fields vary in different parts of the body.

“Visualizing Chakras

Visualize 7 different spheres of light two inches in diameter from the base of your spine, which begins with red, to the crown, which ends as violet or white. focus on them each of them individually with the correct Marcotone and work up.”

“C is red, D is orange, E is yellow. F sharp is green, G sharp is blue, A is violet-blue, and B is violet-red. 528 Hz is close to the second octave of C, which is at 523 Hz.”

“If you want to become more intelligent, I suggest you listen to this, and make this a memory rather than an impression. All Protoss themes remastered from Starcraft. All the songs are heavy on A and B, meaning they give an Aura of mystery and intrigue.”

All Protoss StarCraft Remastered Music - OST Official Soundtrack SC1

<https://youtu.be/KBjLEct3IOw> - @Sunday74114838

<https://twitter.com/Sunday74114838/status/1522728805617467392?s=20>

528 Hz is close to the second octave of C, which is at 523 Hz.”

Music or audio tracks designed to help mood or healing.

- *THROAT CHAKRA HEALING Hang Drum Music || Overcome Shyness and Speak your Inner Truth, Meditative Mind,* <https://youtu.be/WTmPt5ZSLPI>.

- *Tibetan Music, Healing Music, Relaxation Music, Chakra, Relaxing Music for Stress Relief*, © 450A, Yellow Brick Cinema, Relaxing Music, <https://youtu.be/vkkfUYcpwjQ>.
- 100% Pure Alpha Wave Frequency for Focus, Meditation, & Power, <https://youtu.be/uk2jws9AvqQ>.
- *ADHD Relief Music: Polyrhythmic Music for Focus and Studying*, Greenred Productions, Relaxing Music, <https://youtu.be/sXC6AUbY69A>.

They are so mellow that playing all four at the same time sounds nice too - four times as relaxing? Or just an ADHD mind? (Open all four tabs and press play. The mellow tones overlap peacefully.) Have fun with frequency and pay attention: *Is this edginess I feel possibly the music that I had playing for a while?* Turn off the music and see if the edginess improves.

Music is an arrangement of frequencies in a rhythmic order, and it can affect our mood and our health by affecting our own energy fields and flow.

Caution: Listening to loud music or other noise, especially if there is a one-sided focus may increase risk of tinnitus. The Hair cells of the inner ear can be easily damaged by pressure, nutrient deficiencies, dehydration, and certain medications. See the section on [Tinnitus](#) for self care and other information.

See [Music for holidays or anytime](#), for some classical selections by James DeMeo, PhD.

Ginseng / Red Ginseng Extract - an adaptogen

Modulators can help the body adapt to whatever circumstances. **Panax ginseng** can help against high blood pressure – and help against low blood pressure. Magic? or Immunomodulator?

*“It is noteworthy that *P. ginseng* and its various constituents play different functions in different cell types simultaneously to produce pharmacological and therapeutic effects in the body, indicating its potential adaptogenic behavior.”*

Protects against arrhythmia and other cardiovascular problems: “Kim [18] summarized the cardioprotective effects of ***P. ginseng* and ginsenosides**, describing their **potential to be effective in improving cardiac contractility** (i.e., *P. ginseng*, Rb1, Re) [[49], [50], [51]], **ameliorating arrhythmia** (i.e., *P. ginseng*, Rb1, Re, Rg3, and Rf1) [[52], [53], [54]], **and improving vasomotor function, which led to balanced vascular tone and normalized blood pressure.**” <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC7322748/>

Red Ginseng Extract:

“Red [ginseng extract](#) boosts immunity against inflammation and cancer in the human body.”

...and improved microbiome diversity: “This study proposes the potential use of red ginseng extract as a [prebiotic](#) after confirming its positive effects, including increasing gut microbiome

richness, reducing harm to the gut microbiome, and increasing the number of some strains in the gut microbiome.” <https://www.sciencedirect.com/science/article/pii/S1226845321000476>

Glyphosate

Possible aids if excessive glyphosate is a concern: *Curcumin*, *Garlic* (source of sulfur containing phytonutrients), *Vitamin C*, *Probiotics* (fermented foods, yogurt, live active culture pickles), *Methyl tetrahydrofolate* – (this is the bioactive form of folic acid), *Cobalamin – methyl B12*, *Glutathione (GSH)* (an antioxidant that we make for ourselves when healthy, NAC, N-acetyl-cysteine is a precursor, or liposomal glutathione can be better absorbed. Glutathione is typically broken down in the intestines otherwise. Alpha lipoic acid and Superoxide dismutases (SODs) are additional antioxidant support for the body. (26)), *Taurine* (another amino acid), *Epsom salt baths*, source of magnesium and sulfate., *Manganese containing foods*, *Eat organically grown foods* when possible.

*Italicized words were recommendations made by Stephanie Seneff, eat food sources of manganese (Pure Maple Syrup is an excellent source) and sulfur containing produce. (9)

Sulfur containing produce includes those in the green and yellow sections of the graphic Nrf2 Promoting Foods & Phytonutrients. Epsom salt also provides bioavailable sulfur.

Nrf2 Promoting Foods & Phytonutrients

J R Depew, RD 2022

Beverages & Spices

Coffee, Green Tea, Chamomile, Sweet Wormwood (Artemisinin), Thyme, Capsaicin (Hot Pepper), Cardamom, Cinnamon, Curcumin (Turmeric), Cumin/Black seed oil, Oregano, Resveratrol (Grapes/Red Wine), Rosemary.

Cruciferous & Green Vegetables - Sulforaphane

Broccoli, Brussel Sprouts, Bok choy, Cabbage, Cauliflower, Chives, Collard greens, Kale, Kohlrabi, Leeks, Lettuce, Mustard greens, Spinach, Swiss Chard, Asparagus, Artichoke, Okra.

Allicin & Organosulfur Compounds

Garlic, Chives, Leeks, Onions, Scallions, Shallots, Horseradish, Radish, Wasabi, Mushrooms, Mustard Seeds, Nasturium Flowers & Seeds, Capers, Watercress.

Lycopene & Carotenoids

Apricots, Carrots, Tomatoes, Guava, Pink Grapefruit, Watermelon, Kale.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5494269/>

<http://jeffreydachmd.com/2016/02/artemisinin-our-ultimate-cancer-weapon-a-gift-from-china/>

Nrf2 Promoting Foods & Phytonutrients, effectivecare.info.

Gumbo File (powdered Sassafras leaves)

Gumbo File is the Acadian name for a powdered preparation of dried Sassafras Leaves that was used by Native Americans as a thickener for broth. It can also be used as an emulsifier and egg replacer in vegan baking.

Gumbo File was commonly known at the time as Choctaw Spice. The Creole use in Gumbo stews occurred later. Choctaw spice was used by many people during the early part of U.S. history as a thickener in soups. It was believed to be healthy. Sassafras leaves or root, became the second largest export in the 17th century, with tobacco being the largest export crop. It became less popular in the 20th century when it was discovered that a chemical, safrole in the essential oil of the tree bark and sassafras root was cancerogenic.

Gumbo File is still healthy though, because it does not contain as much of the chemical. Beneficial nutrients include the terpenes, myrcene and linalool, which both have anti-inflammatory benefits and sedative (sleep inducing) effects and myracene may also help reduce pain (analgesic). Gumbo File has been traditionally thought to be helpful to prevent kidney stones from forming, and it may be due to a diuretic effect. It also is thought to help reduce high blood pressure and relieve arthritis pain.

- See: *Gumbo file powder - the Choctaw Spice*, spicegraphy.com] or for additional information, Post: [Gumbo File – anti-inflammatory and possibly anti-cancer](#).

Vegan egg replacer for quick breads:

For 2 eggs: 3 Tablespoons, Gumbo File or Golden Flax meal
10 Tablespoons of boiling hot Water

For 4 eggs: 3 Tbs Gumbo File and 3 Tbs Golden Flax meal
2 cups boiling hot Water

- In a small bowl, combine the Gumbo File and/or ground flax meal and boiling water and stir together for a few minutes until the mixture thickens, and looks a little like a watery porridge. It will change to an opaque darker color after ~ two minutes of occasional stirring.
- See: *G8. Cookies and Bean Soup*, (effectivecare.info)

Histamine Food Summary

- See: [Histamine Foods](#).

Insulin Resistance - nutrients, mitochondria & muscles

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2522344/>

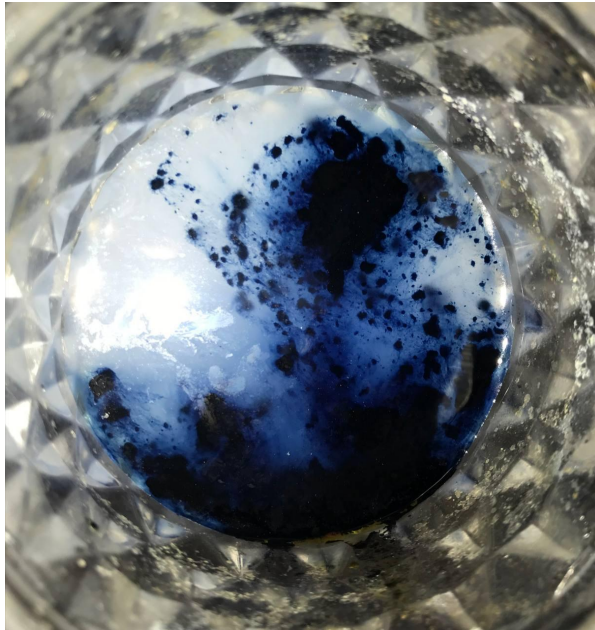
Iodine / Blue Iodine

Blue Iodine Recipe & references

[👉]

💧 Blue Iodine - A Possible Countermeasure

Blue Iodine- iodine plus corn or potato starch.



Background and Preparation:

After reading the Russian research on their use of Blue Iodine (Iodine complexed with Starch) I gave it a try. Simplifying the preparation I boiled a shredded potato and let it cool then drained off the thickened water. I boiled one potato to make a half cup of liquid and put a few tablespoons in a cup of water, then dripped in 5 drops of full strength Lugol's iodine and stirred. You can also use potato starch extract or corn starch but it needs to be boiled to break down the starch polymers.

Effects:

I am super sensitive to shedding and have been around family members that were recently vaccinated. The spike protein exposure has become like an allergy that makes my nose sting, hurts my throat and I get weird headaches and head pressures. I have tried EVERYTHING including CDS, niatonin protocol, all the recommended herbs, etc. Recently after exposure I have been waking up feeling like I smoked a pack of cigarettes the night before. Last night after exposure I made the mixture above, drank it down and did some work. After a few hours I was shocked that I felt totally normal. I went to bed after a long night of working late and was surprised that I woke up a few hours earlier than normal and totally rested. It's been a long time since I got sleep this restful. 100% of my shedding symptoms were gone. I felt like my nerves were also totally quiet, my phone started ringing and normally that would wake me up but it was easy to sleep past it with no annoyance. The Russians noticed this too, that blue iodine had a sedating effect on the nerves. I will continue to do experiments but I feel really good in general today. I did not have anything close to these results with normal Lugol's iodine.

Theory:

This Blue Iodine research really struck a note because of the successful use of bioavailable iodine for morgellons and smartdust*. [*Controversial topics about alleged metallic hair like nanostructures that cause discomfort as they occasionally emerge from the skin.] *The Carnicom**

Institute did a lot of research on the metabolism of morgellons pathogens and found that iodine disrupts their fatty acid metabolism. Many people with morgellons feel better with iodine, usually KI. This really took off in the community when a senator told his girlfriend that to avoid issues from smartdust and chemtrails by eating sea salt and kelp every day in brown rice for the bioavailable iodine. It seems the iodine has to be delivered to the body in a complexed form, which is exactly what blue iodine does. The iodine links inside of the starch molecules so it is more gentle on your body and can penetrate to places normal iodine can't.

More references for blue iodine {& additions}:*

Russian research: Preparation of shelf stable mix: Uses: [non working links]

- **History of discovery by "Scientist and physician V.O. Mokhnach from St.Petersburg"; "Amyloyodine" had a strong antimicrobial and antiviral effect without any negative effects.";*
- *Iodine/starch complex - safer & more effective: "Blue iodine, the recipe of which is very simple, has enhanced antimicrobial properties compared to conventional iodine. This is due to the high polymeric starch, in the molecule of which the usual iodine is included. Starch in its own way contributes to a rapid cure, enveloping the affected area and creating a protective layer.";*
- *Uses: "The doctors' opinions agree that the drug helps in the shortest possible time to restore the normal state of the body and overcome various infectious diseases (non-healing wounds and burns, conjunctivitis, stomatitis, tonsillitis, poisoning, diarrhea with blood) due to its antibacterial and antiviral properties." ... cardiovascular issues, stroke recovery, "diseases of the genito-urinary organs and kidneys," "excellent sedative" <https://stuklopechat.com/zdorove/118956-siniy-yod-otzyvy-vrachey-primeneniye-i-svoystva.html>*
- **School chemistry demo - includes the chemical explanation for what is happening. <http://chemistry.elmhurst.edu/demos/disappearblue2.htm>*

Speaking of iodine/thyroid, in published clinical research, iodine is the single most effective thing for preventing COVID19 morbidity, even just rinsing your nasal passages with it. Much more effective than ivermectin, antioxidants, HCQ etc. follow the science. WWW.C19Early.COM

- **"This study evaluated the virucidal activity of the aqueous solution of Iodine-V (a clathrate complex formed by elemental iodine and fulvic acid) as in Essential Iodine Drops (EID) with 200 µg elemental iodine/ml content against SARS-CoV-2 to ascertain whether it is a better alternative to PVP-I." <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0254341>*
- **Fulvic acid: <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC6151376/>*
- **Pomegranate peel in bean soup forms similar complexes as humic or fulvic acid. The Hydrolysable tannin content is similar to tannins in soil decomposition, too much is not better. Good in small amounts.*

Research on covid hospitalization shows that around 8% of people going in have existing thyroid issues while 70%+ coming out have developed them.

[👉]

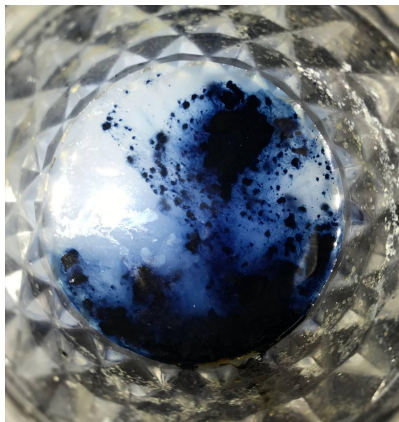
💧 Blue iodine protocol v2

This protocol combines the blue iodine protocol with the sea salt bromine flush and it is a hyper tonic solution so it will help clean the lymph system also.

Protocol:

1/2 tsp quality sea salt is dissolved in 100ml of boiling water. 1/2 tsp of corn or potato starch is added very slowly with stirring to prevent clumping and depolymerize it with the heat. Add more cold water for cooling and dilution until you hit the 270ml mark which makes it isotonic (0.9%). 5 drops of 5% Lugol's iodine with stirring are added.

This is taken on an empty stomach and then an hour later 500ml+ of water is ingested. - Via Telegram/ shared from a closed group.



Blue Iodine- iodine plus corn or potato starch.

Tapioca or arrowroot starch would probably work too (if corn sensitivity). - Jennifer Depew, RD, 11/01/2021

Iron chelator - see Anti-parasitic.

Light - Full Spectrum lamps or sunshine.

- *Sunlight: Optimize Health and Immunity (Light Therapy and Melatonin)*, MedCram, https://youtu.be/5YV_iKnzDRg

Magnesium:

Hyperinsulinaemia, excess insulin or insulin resistant fat cells, and **hyperglycaemia**, excess blood sugar, are common underlying factors of **Metabolic Syndrome**. Magnesium deficiency and/or vitamin D metabolism problems may be underlying factors leading to the excess insulin problem and the resulting cascade of other symptoms associated with Metabolic Syndrome. Magnesium deficiency also causes **hypertension**, high blood pressure.

Lack of zinc and bitter tasting phytonutrients in the diet is also an underlying factor in lack of taste or odor sensation and also the insulin resistance and other symptoms of Metabolic Syndrome. We need bitter taste receptor function for healthy membrane integrity and production

of mucus that is a healthy texture - not too thick or too thin for white blood cells to navigate easily while providing a barrier around and between cells. Zinc is also needed for the gene transcription of the odor and taste receptor proteins.

- *“Risk factors for COVID-19 patients with poorer outcomes include pre-existing conditions: obesity, type 2 diabetes mellitus, cardiovascular disease (CVD), heart failure, hypertension, low oxygen saturation capacity, cancer, elevated: ferritin, C reactive protein (CRP) and D-dimer. “* ([Cooper, 2020](#))
 - Low Carbohydrate Diet is recommended: *“Patients with COVID-19 admitted with hyperglycaemia and/or hyperinsulinaemia should be placed on a restricted refined carbohydrate diet, with limited use of intravenous dextrose solutions. Degree/level of restriction is determined by serial testing of blood glucose, insulin and ketones.*
 - Supplementing magnesium, vitamin D and zinc is recommended: *Supplemental magnesium, vitamin D and zinc should be administered.*
- *By implementing refined carbohydrate restriction, three primary risk factors, hyperinsulinaemia, hyperglycaemia and hypertension, that increase inflammation, coagulation and thrombosis risk are rapidly managed.”* ([Cooper, 2020](#))
- Cooper ID, Crofts CAP, DiNicolantonio JJ, et al., Relationships between hyperinsulinaemia, magnesium, vitamin D, thrombosis and COVID-19: rationale for clinical management. *Open Heart* 2020;7:e001356. doi: 10.1136/openhrt-2020-001356
<https://openheart.bmj.com/content/7/2/e001356> ([Cooper, 2020](#))
- Theo A. T. G. van Kempen and Elisabeth Deixler. SARS-CoV-2: influence of phosphate and magnesium, moderated by vitamin D, on energy (ATP) metabolism and on severity of COVID-19. *American Journal of Physiology-Endocrinology and Metabolism* 2021 320:1, E2-E6
<https://journals.physiology.org/doi/full/10.1152/ajpendo.00474.2020>
- St. Luke's, *New Research Suggests Magnesium and Vitamin D Can Help Reduce COVID-19 Infections*. February 1, 2021
<https://www.saintlukeskc.org/about/news/new-research-suggests-magnesium-and-vitamin-d-can-help-reduce-covid-19-infections#>
- Jose, Jes; Magoon, Rohan; Kapoor, Poonam M.1, Magnesium - The neglected cation in COVID-19?, *J Anaes Clin Pharm*: Jan–Mar 2021 - Vol 37 - Issue 1 - p 141-142, doi:10.4103/joacp.JOACP_628_20
https://journals.lww.com/joacp/Fulltext/2021/01000/Magnesium_The_neglected_cation_in_COVID_19_34.aspx

Manganese - Mn - (-3 thru +7) - 2.3 mg / 5 mg

Manganese is a trace mineral that is essential for mitochondrial function within an antioxidant. However it is healthy in a narrow range, too much can collect and cause symptoms of toxicity so mega doses, or excessive use of excellent food sources such as [Pure Maple Syrup](#), may add up to too much.

- Manganese is a versatile ion with many observed levels of electrical charge - the most frequently seen are +2, +3, +4, +6, and +7. ([ref](#)) This versatility may also be why it is so

essential for our mitochondria, antioxidants accept free electrons (-1) so they don't damage other things instead. "*Manganese superoxide dismutase (MnSOD) is the principal [antioxidant enzyme](#) in the [mitochondria](#).*" Too much or too little manganese can increase diabetes risk. Too much can become toxic also. ([lpi.edu](#))

- Holley AK, Bakthavatchalu V, Velez-Roman JM, St Clair DK. Manganese superoxide dismutase: guardian of the powerhouse. [*the mitochondria] *Int J Mol Sci*. 2011;12(10):7114-7162. doi:10.3390/ijms12107114
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3211030/>
- "Ca, Mg and Mn [[#manganese](#)] all inhibit the spontaneous secretion of histamine which occurs in the presence of Sr." [Strontium a highly electrically active metal] Foreman JC.
- Spontaneous histamine secretion from mast cells in the presence of strontium. *J Physiol*. 1977;271(1):215-232. doi:10.1113/jphysiol.1977.sp011997
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1353614/?page=1>
- Also see [Trace Minerals](#)

Maple syrup, Pure

Maple syrup, pure, real from the tree sap - is a super food source of Manganese. It is also rich in polyphenols with anti-inflammatory & other immune supporting benefits, and rich in trace minerals: manganese, copper and the electrolytes potassium and magnesium. ¼ cup is considered a serving size in Canada and this presentation [pdf](#), page 6, has nutrient info for that size serving. It is almost a full day's goal for manganese - which is essential for mitochondrial health. Too much manganese is not good, so one serving a day would be plenty, rather than thinking more is always better - no, moderation is usually better.

- Page six, "*Nutritional Value for Various Sweeteners*". The carbohydrates are the same - it is a sucrose source, glucose & fructose, a disaccharide like table sugar which is well tolerated in the gut, pure fructose can support microbiome overgrowth and lead to gassiness instead of brain fuel. However look at the nutrient content in the trace minerals - maple syrup is the clear winner. (Blackstrap molasses would stand out as an iron source if it were included too, but it is not on that chart.)
http://www.internationalmaplesyrupinstitute.com/uploads/7/0/9/2/7092109/___nutrition_and_health_benefits_of_pure_maple_syrup.pdf
 - InternationalMapleSyrupInstitute.com ([history/about](#))

Music, for the holidays, or anytime, also see [Frequency/Music](#)

via James DeMeo's Christmas email, thanks!

- Händel's Water Music <https://www.youtube.com/watch?v=EVAB2z1RPu4>
- Mozart for Christmas, a Selection, <https://www.youtube.com/watch?v=TwJcCh8i9nY>
- Beethoven 9 - 'Choral' Symphony in D minor, Op. 125 - Proms 2012, Daniel Barenboim
<https://www.youtube.com/watch?v=sJQ32q2k8Uo>
- 2nd Movement at 18:00, 3rd Movement at 30:00, Finale, Ode to Joy! at 55:05

- Mozart: Clarinet Concerto in A major, K.622, Arngunnur Árnadóttir, clarinet
https://www.youtube.com/watch?v=YT_63UntRJE
- BEETHOVEN Concerto for Violin and Orchestra - Hilary Hahn, violin
https://www.youtube.com/watch?v=0Cg_0jepxow
- Mozart Symphony #40 in G minor, Boston Symphony Orchestra, Leonard Bernstein.
<https://www.youtube.com/watch?v=qzBwa2jl1Oc>
- G. F. Händel: Messiah HWV 56 (fantastic performance)
<https://www.youtube.com/watch?v=JH3T6YwwU9s>

NAC

Do not megadose NAC or cysteine as a prevention strategy. Excess may be cancer promoting during normal health. Extra is only needed if actively treating inflammation/infection symptoms. The average diet typically has plenty of cysteine from any adequate protein foods. Low protein diets would be a risk in general.

<https://cellandbioscience.biomedcentral.com/articles/10.1186/s13578-021-00731-0>

- Michael Kalafatis, COVID-19: A Serious Vascular Disease with Primary Symptoms of a Respiratory Ailment, *The Journal of Applied Laboratory Medicine*, Volume 6, Issue 5, September 2021, Pages 1099–1104, <https://doi.org/10.1093/jalm/jfab084>
<https://academic.oup.com/jalm/article/6/5/1099/6317833>
- Shi Z, Puyo CA. N-Acetylcysteine to Combat COVID-19: An Evidence Review. *Ther Clin Risk Manag*. 2020;16:1047-1055. Published 2020 Nov 2. doi:10.2147/TCRM.S273700
<https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC7649937/>
- Wong KK, Lee SWH, Kua KP. N-Acetylcysteine as Adjuvant Therapy for COVID-19 - A Perspective on the Current State of the Evidence. *J Inflamm Res*. 2021 Jul 6;14:2993-3013. doi: 10.2147/JIR.S306849. PMID: 34262324; PMCID: PMC8274825.
<https://pubmed.ncbi.nlm.nih.gov/34262324/>
- Debnath U, Mitra A, Dewaker V, Prabhakar YS, Tadala R, Krishnan K, et al. N-acetyl cysteine: A tool to perturb SARS-CoV-2 spike protein conformation. *ChemRxiv*. Cambridge: Cambridge Open Engage; 2021; This content is a preprint and has not been peer-reviewed.
<https://chemrxiv.org/engage/chemrxiv/article-details/60c753ec4c89190f3bad43ca>
- Via https://twitter.com/the_Sigilite/status/1474044785287643141?s=20
- Additional <https://pubmed.ncbi.nlm.nih.gov/34182881/?s=09>
- NAC helped reduce the need for mechanical Ventilation in CoV.
<https://pubmed.ncbi.nlm.nih.gov/34182881/>
- Baig, A., Srinivasan, H. SARS-CoV-2 Inhibitors from Nigella Sativa. *Appl Biochem Biotechnol* (2022). <https://doi.org/10.1007/s12010-021-03790-8>
<https://link.springer.com/article/10.1007/s12010-021-03790-8>
- NAC and others help: [Inhibit NET Inflammasome formation:](#)

Nanoparticles, toxicology

Toxicology of Nanoparticles,

<https://odysee.com/@covid-19-science:7/toxicology-of-nanoparticles-2012:9>

Nitric Oxide & oxidative stress

"Does nitric oxide increase oxidative stress?"

"Nitric oxide (NO), a product of the normal endothelium, is a principal determinant of normal endothelial and vascular function. In states of inflammation, NO production by the vasculature increases considerably and, in conjunction with other ROS, contributes to oxidative stress." (1)

1. Lubos E, Handy DE, Loscalzo J. Role of oxidative stress and nitric oxide in atherothrombosis. *Front Biosci.* 2008;13:5323-5344. Published 2008 May 1. doi:10.2741/3084
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2617738/>

In other words - Nitric oxide helps health in the correct amounts and can be inflammatory when it is produced in excess.

Oxalates

When adding more 'healthy' foods to the diet, like beans, nuts, greens, and other fiber rich plant foods, or teas, a person may find themselves sensitive to oxalate crystal formation. The oxalate chemical is found in foods, the skin of almonds or hazelnuts, or in beans and taro root, and in green or black tea. It combines with calcium in the body, if not broken down, and forms a crystalline, needle like shape, which can collect in tissue. The binding with calcium may increase risk of calcium deficiency or osteoporosis. Within the digestive tract, or when in the bladder, excess oxalates feels like crystals. It can be painful in a prickly stabbing physical way, that is unlike other pain.

Great Northern Beans and tofu were mildest for me when I was experiencing inflammatory bowel symptoms for the first time, and had to find something I could eat without pain and be able to retain it long enough to absorb some nutrients. Many of my typical foods were causing problems, including coffee, and pain. Restricting or avoiding the problem foods or beverages is the solution along with having adequate calcium. This is not a problem for all people equally, some break down the oxalate better than others however switching to almond milk and almond meal keto products, increasing beans, kale and chard, and other nuts, along with coffee or tea, chocolate, can add up to too much of an oxalate load for most anyone. Portion size matters for breaking it down, less is more likely to be efficiently metabolized.

"Plant foods with the highest oxalate content include spinach, swiss chard, amaranth, taro, sweet potatoes, beets, rhubarb, and sorrel." (Petroski, 2020)

See [Renal health - kidneys](#) for more about oxalates.

- Petroski W, Minich DM. Is There Such a Thing as "Anti-Nutrients"? A Narrative Review of Perceived Problematic Plant Compounds. *Nutrients.* 2020;12(10):2929. Published

2020 Sep 24. doi:10.3390/nu12102929

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7600777/>

Polyphenols

Polyphenols in the diet can help modulate the balance of Th1, Th2 and other beneficial T cells (white blood cells with immune functions) and help direct apoptosis - the killing and safe removal of infected, cancerous or damaged cells by white blood cells. (14) Polyphenols are a large group of water soluble phytonutrients which protect against oxidative stress for the plant and against parasitic infection or insect damage. Small amounts may taste good and spicy or hot, but too much would overpower a meal or something trying to eat through a peel.

Pomegranate / peel:

- For benefits and prep: G13. Pomegranate, <https://effectivecare.info/g13-pomegranate> and G10. Nrf2 Promoting Foods, <https://effectivecare.info/g10%3A-nrf2-promoting-foods>.

Pomegranate peel extract blocks spike from ACE2 receptors:

“Our results showed that PoPEx, punicalin, punicalagin and urolithin A exerted significant potential to block the S-glycoprotein-ACE2 contact.”

Suručić R, Travar M, Petković M, et al. Pomegranate peel extract polyphenols attenuate the SARS-CoV-2 S-glycoprotein binding ability to ACE2 Receptor: In silico and in vitro studies. *Bioorg Chem.* 2021;114:105145. doi:10.1016/j.bioorg.2021.105145
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8256661/>

- Also an ACE2 receptor reference (Tito, 2021) Tito Annalisa, Colantuono Antonio, Pirone Luciano, Pedone Emilia, Intartaglia Daniela, Giamundo Giuliana, Conte Ivan, Vitaglione Paola, Apone Fabio, Pomegranate Peel Extract as an Inhibitor of SARS-CoV-2 Spike Binding to Human ACE2 Receptor (in vitro): A Promising Source of Novel Antiviral Drugs. *Frontiers in Chemistry*, 9;2021, DOI=10.3389/fchem.2021.638187, ISSN=2296-2646 <https://www.frontiersin.org/articles/10.3389/fchem.2021.638187/full>

Catechins in pomegranate fruit or peel help [Inhibit NET Inflammasome formation](#), along with NAC, Rutin, vitamin C and 5-aminosalicylic acid.

- Also see: *Pomegranate peel catechin's inhibition of NET formation.*
<https://transcendingsquare.com/2020/05/14/pomegranate-peel-catechins-inhibition-of-net-formation/>
- And follow-up post: *NLRP3 Inflammasomes - Spike protein.* - goal, prevent them by inhibiting NET formation which triggers the formation of the cell killing NLRP3 inflammasomes. Picture a biological tank - deadly once armed and ready.
<https://transcendingsquare.com/2021/06/28/nlrp3-inflammasomes-spike-protein/>

Bonus: pomegranate helps grow new hippocampal cells: Polyphenols linked to lower dementia risk in large human-based study.

- <https://transcendingsquare.com/2020/06/01/big-news-non-cov-related-polyphenols-linked-to-lower-dementia-risk-large-human-study/>
- Water holding capacity of muscle tissue increased with pomegranate peel in the diet, animal study. <https://www.sciencedirect.com/science/article/pii/S2405844020325524>

Quercetin:

- <https://c19quercetin.com/>
- Saeedi-Boroujeni, A., Mahmoudian-Sani, MR. Anti-inflammatory potential of Quercetin in COVID-19 treatment. J Inflamm 18, 3 (2021). <https://doi.org/10.1186/s12950-021-00268-6>
<https://journal-inflammation.biomedcentral.com/articles/10.1186/s12950-021-00268-6>

Zinc, Quercetin, Vit C / Zinc + Quercetin + Vit. C:

- Via: https://twitter.com/the_Sigilite/status/1474044768665718787?s=20
"Based on our observations, quercetin is safe and effective in lowering the serum levels of ALP, q-CRP, and LDH as critical markers involved in #COVID19 severity."
- "Quercetin has shown therapeutic benefits in severe COVID-19."
<https://sciencedirect.com/science/article/pii/S0014299921007718>
Via <https://twitter.com/DrJohnB2/status/1476567315646984194?s=20>

Resistant Starch / short chain fatty acids including butyrate

- Research resource site: resistantstarchresearch.com

Webpages on jenniferdepew.com:

- [Resistant Starch/Butyrate](#)
- [How Much Butyrate?](#)

Two to five grams of butyrate per day from a resistant starch rich diet per day is the approximate goal. The overall diet goal roughly is to include 5-15% of the total calories from resistant starch foods.

Each serving only provides a little butyrate with the help of a healthy microbiome; there is 113 mg in a serving of rice that was cooked and then chilled, which then provides about 3% resistant starch. One to three percent may be the average content of resistant starch foods once the starchy food is cooked. Raw can be closer to 30% for rich sources. So it seems many portions throughout the day of resistant starches (chilled pasta or potato salad, tapioca pudding, under-ripe papaya or bananas) are needed to reach 5-15%, or more likely include some raw sources too, green salads and green banana flour smoothies?

Eating a diet with more resistant starches would be helping the colon cells and the microbiome health is also being supported. Our gut microbial species vary with what we are feeding them - with what we are eating. Processed foods do not support healthy species which need zinc and resistant starches to survive and dominant over less helpful or harmful species that can survive on a modern processed food diet.

Summary point - we probably need more butyrate and resistant starch than we are getting in the average modern diet.

Supplementing with some butyrate, ~ 1 gram, (or more if a bulk powder is available, less cost than capsules), might be a healing idea, while also trying to increase the resistant starch in your diet. The health of our microbiome helps our health in many ways.

Resveratrol

Resveratrol is found in the skins and seeds of grapes. Supplements typically are Grape seed extract which can help prevent senescence and reverse aging. Senescence is a condition where aged and dysfunctional cells are not killed and removed safely by white blood cells in a process called apoptosis and autophagy.

<https://www.medicalnewstoday.com/articles/grape-seed-extract-reverses-aging-in-mice#Senescence-and-senolytics>

Rutin

- Typical dose as a supplement is 250 mg once or twice a day. 10 mg/Kg body weight has been used in research, so a 150 pound / 70 Kg person might want to take a 250 mg supplement three times a day to get at least 700 mg. Flavonoids are water soluble so smaller amounts more frequently would be more effective dosing than a large amount once a day. We do get some in a produce and whole grains rich diet.
- *“Rutin is a naturally occurring flavonoid in many foods, especially **buckwheat, apricots, cherries, grapes, grapefruit, plums, and oranges***. It is often used in patients with capillary fragility, varicose veins, bruising, or hemorrhoids.”* - Pregnancy Third Trimester, (Romm, 2010)
<https://www.sciencedirect.com/science/article/pii/B9780443072772000179> via <https://www.sciencedirect.com/topics/medicine-and-dentistry/rutin>.
- *Rutin is not the main bioflavonoid in citrus peel but it is present in addition to many other beneficial phytonutrients including limonene, the terpene with the aroma of citrus.
<https://www.sciencedirect.com/science/article/pii/S1658077X16300960>
- Rutin - [Inhibit NET Inflammasome formation](#): NET inflammasomes are created in response to inflammatory signals and their purpose is to kill cells, good if a pathogen or infected cell, but bad if it is for autoimmune killing of our own cells.

Salicylic acid / salicylates / 5-aminosalicylic acid

- 5-aminosalicylic acid - [Inhibit NET Inflammasome formation](#): NET inflammasomes are created in response to inflammatory signals and their purpose is to kill cells, good if a pathogen or infected cell, but bad if it is for autoimmune killing of our own cells.

Sauna

Sauna use mimics moderate exercise for heart benefits and circulation to the muscles. Sauna use 4-7 times per week was more beneficial than once a week use or 2-3 times per week for cardiovascular measurements or blood pressure. Muscle benefits may include an improvement in endurance.

- *Sauna Benefits Deep Dive and Optimal Use with Dr. Rhonda Patrick & MedCram*, Apr 10, 2022 <https://www.youtube.com/watch?v=RWkv9ad7zvc>

Selenium:

- Khatiwada S, Subedi A. A Mechanistic Link Between Selenium and Coronavirus Disease 2019 (COVID-19). *Curr Nutr Rep.* 2021 Jun;10(2):125-136. doi: 10.1007/s13668-021-00354-4. Epub 2021 Apr 9. PMID: 33835432; PMCID: PMC8033553.
<https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC8033553/>
- Moghaddam, Arash; Heller, Raban Arved; Sun, Qian; et al., Selenium Deficiency Is Associated with Mortality Risk from COVID-19. *Refubium - Freie U Berlin Repository*, 2020-09-11T12:33:07Z DOI: [10.3390/nu12072098](https://doi.org/10.3390/nu12072098)
<https://refubium.fu-berlin.de/handle/fub188/28127> “A Se status below the 2.5th percentile of the reference population, i.e., [Se] < 45.7 µg/L and [SELENOP] < 2.56 mg/L, was present in 43.4% and 39.2% of COVID samples, respectively. The Se status was significantly higher in samples from surviving COVID patients as compared with non-survivors (Se; 53.3 ± 16.2 vs. 40.8 ± 8.1 µg/L, SELENOP; 3.3 ± 1.3 vs. 2.1 ± 0.9 mg/L), recovering with time in survivors while remaining low or even declining in non-survivors.”
- Lutz Schomburg, Selenium Deficiency Due to Diet, Pregnancy, Severe Illness, or COVID-19—A Preventable Trigger for Autoimmune Disease. *Int. J. Mol. Sci.* 2021, 22(16), 8532; <https://doi.org/10.3390/ijms22168532> <https://www.mdpi.com/1422-0067/22/16/8532>
- Bermano G; Méplan C; Mercer DK; Hesketh JE. Selenium and viral infection: are there lessons for COVID-19? *Br J Nutr* ; 125(6): 618-627, 2021 03 28. W.H.O. ID: covidwho-1139692
<https://search.bvsalud.org/global-literature-on-novel-coronavirus-2019-ncov/resource/en/covidwho-1139692>
- Schomburg, L. Selenium Deficiency Due to Diet, Pregnancy, Severe Illness, or COVID-19—A Preventable Trigger for Autoimmune Disease. *Int. J. Mol. Sci.* 2021, 22, 8532.
<https://doi.org/10.3390/ijms22168532> <https://www.mdpi.com/1422-0067/22/16/8532>

Thiamine - B1 -

1.2 mg RDA / 300 mg - or higher in severe hypoxia, seek guidance.

Deficiency is only common when malnutrition is chronic, anorexia or alcoholism, for example. Symptoms of deficiency, [foods](#). Higher dose, 300 mg, or more, (seek guidance), may be used. ([LPI.edu](#)) It has antiviral action and our need for thiamine is greatly

increased during an infection or immune challenge. Very high doses may help hypoxia.

Guidance: [Lubell](#).

- Video: *Thiamine (Vit B1) Deficiency Signs & Symptoms (& Why They Occur)* [JJMedicine](#).
- Thiamine and other Bs are needed for the Citric Acid Cycle and digestive health. Video: *Is Thiamine Deficiency destroying your digestive health?* [EOnutrition](#).
- Thiamine research list: https://www.skyclk.com/sup/UDBshowList.php?sup_name=Vitamin%20B1&cond_name=Cognitive%20Performance&showType=showSup

Trace Minerals

Trace minerals are very important - a magnesium section is at the very end of the document in a messy form currently, it is needed in larger amounts than trace minerals. Summary of trace minerals:

On the solution side of chimeric protein issues, trace minerals are protective in balance. Yes zinc is needed, and higher doses for older adults may help stimulate natural declines in the thymus gland function (50 mg/daily) but can high doses make a low copper problem more likely. Take 2 mg of copper also, but excess copper is also a risk and not uncommon among those on the autism spectrum or people with schizophrenia.

Trace minerals also help with histamine excess or seasonal allergy type issues from mast cell over activity. "*Ca, Mg and Mn [manganese] all inhibit the spontaneous secretion of histamine which occurs in the presence of Sr.*" [Strontium a highly electrically active metal] Foreman JC.

- Spontaneous histamine secretion from mast cells in the presence of strontium. *J Physiol.* 1977;271(1):215-232. doi:10.1113/jphysiol.1977.sp011997 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1353614/?page=1>
- Reducing other histamine foods can help reduce symptoms of histamine excess. Adequate methyl folate is needed to break down histamine. See [Histamine Food Lists](#) for more details about foods that can help and those that may worsen symptoms of over active allergy mast cells. Full link: <https://docs.google.com/document/d/17iz9lsJyGqIUUjF0p-totXp4R2GhgRi2Na4gYueisT/edit?usp=sharing>
- Copper deficiency may also be involved in histamine excess: "*Acute copper deficiency produces disturbances in the microcirculation and structure of extracellular matrix proteins, causes an increase in mast cell population, which is followed by an increased content of their degranulation products, produces disturbances in histamine metabolism and decreases the activity of some antioxidant enzymes. These pathogenic mechanisms are similar to the processes underlying stress ulcer formation. The histamine*

H2-receptor antagonist ranitidine, a drug with the highest application for stress ulcer prophylaxis, has the ability to chelate the copper ion and to influence its tissue distribution and the processes of generation and neutralization of reactive oxygen oxygen species (ROS)." Velinov H, Mileva M, Nachev C. Influence of acute copper deficiency, cold-restraint stress and the H2 blocker ranitidine on the severity of acute gastric mucosal lesions and lipid peroxidation in rats. *Methods Find Exp Clin Pharmacol.* 2001 Sep;23(7):401-7. doi: 10.1358/mf.2001.23.7.662125. PMID: 11771855.
<https://pubmed.ncbi.nlm.nih.gov/11771855/>

So copper deficiency is bad, and zinc, manganese, and other minerals are probably also commonly deficient - adding to the iron excess likelihood, elevated ferritin or free iron associated with anemia of chronic inflammation/infection; and also the risk of an electrically active metal or toxin like strontium to cause histamine excess.

And therefore supplementing copper, and selenium is needed.

- Hackler, Julian; Raban Arved Heller; Qian Sun; et al., Relation of Serum Copper Status to Survival in COVID-19. *Nutrients* 2021, 13(6), 1898;
<https://doi.org/10.3390/nu13061898>
<https://dropbox.com/s/qfbycw3zlxu65av/nutrients-13-01898-v2.pdf?dl=0>

Other trace minerals too, manganese, boron are important.

(*replies to this Tweet: [Matthew B @Wonteventweet27 · Oct 12, 202](#) *Jennifer do you have a hypothesis for the ferritin source and impact upon one's body? This is about the sixth instance like this that I've heard of with massively spike ferritin levels post-vaccination.*
<https://twitter.com/Wonteventweet27/status/1448012932609187849?s=20>

Therefore it is likely that the Graphene oxide (GO) in the CoV injections is going to be a much bigger risk for people who are also low in trace minerals. The graphene oxide can become electrically active like strontium and would also likely promote secretion of histamine.

Increased stimulation of mast cells and histamine excess does seem to be a frequent problem for people with LongCovid and use of antihistamine medications has been found helpful in treatment of CoV. Infection with CoV can cause a mast cell to release histamine and other inflammatory cytokines. [Frontiers | Histamine Potentiates SARS-CoV-2 Spike Protein Entry Into Endothelial Cells | Pharmacology](#)

- Copper is needed 2 mg/ day
- Selenium 200 mcg
- Iodine *>=/400 mcg
- Manganese 2 mg
- Boron 3 mg
- There are a couple others too in a good mix, molybdenum, vanadium, silica,

* Iodine is more complex because hyperthyroidism people need to avoid it.

- High dose iodine can be helpful to clear halides, bromide & fluoride. See effectivecare.info page: [G9. Iodine/Thyroid](#)
- Nascent iodine - liquid iodine drops which may be more bioavailable. It has an electrical charge instead of being in a neutral form. *“Nascent iodine is a consumable form of iodine, and it contains an electromagnetic charge. It is like the precursor form of iodine which converts into THs. It permits greater release of energy once consumed. As a result, the human body can recognize and assimilate this form easily.”* Iodine Consumption and Cognitive Performance, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6145226/>
- Example Nascent Iodine product: <https://www.amazon.com/Organic-Vegan-Iodine-Drops-Non-GMO/dp/B07P4M7RHZ> via <https://twitter.com/champagne3393/status/1448435806159446016?s=20>
- Links that are inactive for non-me people: <https://twitter.com/deNutrients/status/1448125208154583041?s=20>
 - Links in this Thread <https://twitter.com/deNutrients/status/1448125786582552581?s=20>
 - Partial Thread unroll here <https://twitter.com/threadreaderapp/status/1448085414250692611?s=20>

TRP Channels & Inflammatory Bowel Disease, Migraines, others.

TRP ion channels

Conditions that may involve excess TRP membrane channels:

Irritable Bowel Syndrome; Pre-eclampsia & Eclampsia
Chronic Obstructive Pulmonary Disease; Congestive Heart Failure

Things that may activate TRP channels:

- Osmomechanical stress, (increased physical pressure);
- Temperature changes, (got suddenly chilled or feel too hot);
- 1, 25(OH)₂D, (hormone form of vitamin D, activates Vitamin D Receptor);
- Benicar, (a medication that can also activate the Vitamin D Receptor (VDR));
- Steroid medications / corticosteroids, (can act on the Vitamin D Receptor);
 - Curcumin, extract of the spice turmeric, (also can activate the VDR);
 - Capsaicin, the active ingredient in hot peppers;
- Ginger, Note that Curry powder contains ginger, hot pepper & turmeric;
 - a low pH, (increased acidity);
- Cannabinoids, especially those affecting CB2 receptors; which can cause:
- A sudden influx of calcium into the interior of the cell (The TRP channels' job is to keep excess calcium from entering, but magnesium is needed for the job.
- Cigarette smoking & other environmental irritants may exacerbate COPD.

<http://transcendingsquare.com/2016/03/30/osmomechanical-stress-temperature-chili-curry-ginger-benicar-d-steroids-cannabinoids/>

The graphic was made ~ 2016 when I had to learn how to get better and stay better from colitis like symptoms. I was not able to digest foods that I had previously loved. What had happened? The odd triggers of pressure changes and getting cold along with the spice list led me to TRP channels. See: effectivecare.info, pages [G3. Relaxation & Stress](#) and [G5. Pre-eclampsia & TRP channels](#), for more about TRP channels and the seasonings or foods that can activate them.

The team (Chen, et al, 2020) found over-expression of TRP channels; which would be increasing sensitivity to TRP activators, and increasing overall activity of their function. TRP channels are gateways that allow ions and fluid to enter or leave a cell. Magnesium helps keep them closed. In my graphic I had used the word overstimulate and the overall effect is an excess of stimulation by the increased number of TRP channels, rather than an individual one being more sensitive than in the past.

- Chen Y, Mu J, Zhu M, Mukherjee A, Zhang H. Transient Receptor Potential Channels and Inflammatory Bowel Disease. *Front Immunol.* 2020;11:180. Published 2020 Feb 20. doi:10.3389/fimmu.2020.00180

Water

Bio-Chem overview page, very helpful, lots of the basic structures all on one page.

<https://www2.estrellamountain.edu/faculty/farabee/biobk/BioBookCHEM2.html>

Physics, biology and chemistry of water, a site by Martin Chapin which is now on the Wayback site. Link to the Wayback Table of Contents page (still active to the rest of the Wayback pages of the encyclopedia like site).

- Water site, Wayback, Cover page:
<https://web.archive.org/web/20201210040133/http://www1.lsbu.ac.uk/water/>
- Water Structure and Science, Table of contents:
https://web.archive.org/web/20201205113238/http://www1.lsbu.ac.uk/water/water_structure_science.html
- Document with a copy of the Table of Contents page:
https://docs.google.com/document/d/1IP4ARKBX_IHQ6rOGVYBwgj2TW3wqaD-WZHfw9LiuDD0/edit?usp=sharing

Zinc

Low zinc or an increased need for it in older age leads to reduced thymus gland function. The thymus gland is where antibodies and T-cells are formed. Fortunately taking extra zinc may help restore thymus function for older adults, and production of antibodies. Vaccines are given to promote antibody formation and therefore taking zinc for a few weeks or months in advance of flu and shot season might help restore the thymus function and produce a protective antibody.

- References re zinc & CoV: <https://c19zinc.com/>
- Aartjan J. W. te Velhuis, Sjoerd H. E. van den Worm, Amy C. Sims, Ralph S. Baric, Eric J. Snijder, Martijn J. van Hemert. Zn²⁺ Inhibits Coronavirus and Arterivirus RNA Polymerase Activity In Vitro and Zinc Ionophores Block the Replication of These Viruses in Cell Culture. Published: November 4, 2010,
<https://doi.org/10.1371/journal.ppat.1001176>
<https://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1001176>
- Zinc, Quercetin, Vit C / Zinc + Quercetin + Vit. C:
Via: https://twitter.com/the_Sigilite/status/1474044768665718787?s=20
- Also see [Trace Minerals](#).

Zinc, magnesium, and A, B vitamins, C and D, are also important for infection response and may become deficient during a severe illness even if levels had been adequate prior to getting sick. Blood sugar may also become elevated during severe illness or after trauma to dangerously high diabetic levels.

Extra support for a variety of nutrients, antioxidants, and immunomodulating polyphenols or other phytonutrients is likely needed when infection is present and providing it early can help prevent an infection from becoming severe - the body has the tools it needs to build the weapons of defense and offense.

Exercise if simply gentle range of motion work can help the body keep nutrients flowing to the cells and remove toxins from them. Sleep is also important because more clean up and healing occurs while we sleep.

Nutrients - we need them all!

- Jenniferdepew.com page Nutrients

B vitamins

B vitamins are water soluble so they are non-toxic. We just excrete excess everyday in the urine, so we need more B vitamins in our diet every day. They are involved in energy production in the mitochondria of our cells. Mitochondrial dysfunction is a precursor to many chronic illnesses. We need our mitochondria to do their job normally, and they need B vitamins to be able to do that.

Thiamine - B1 - 1.2 mg RDA / 300 mg - or higher in severe hypoxia, seek guidance.

- Deficiency is only common when malnutrition is chronic, anorexia or alcoholism, for example. Symptoms of deficiency, [foods](#). Higher dose, 300 mg, or more, (seek guidance), may be used. (LPI.edu) It has antiviral action and our need for thiamine is greatly increased during an infection or immune challenge. Very high doses may help hypoxia. Guidance: [Lubell](#).
- Video: *Thiamine (Vit B1) Deficiency Signs & Symptoms (& Why They Occur)* [JJMedicine](#).
- Thiamine and other Bs are needed for the Citric Acid Cycle and digestive health. Video: *Is Thiamine Deficiency destroying your digestive health?* [EOnutrition](#).

Riboflavin - B2 - 1.3 mg / 5-400 mg

- Riboflavin is also common in [foods](#). It has anti-viral benefits at higher doses & is nontoxic. It is bright yellow & changes the color of urine. Higher doses used in research varied for diff studies: 5, 10, 100, 400 mg. (lpi.edu)

Niacin - B3 - 16 mg / 25-3000 mg

- Niacin is more in animal products than a vegan diet. Coffee-a good source. ([lpi.edu](#)) ([Foods](#))
- High dose niacin can help the body remove more inflammation & cellular debris as long as other cofactors for the mitochondria are also available. High dose, 2-3000 mg/day, may help schizophrenia symptoms normalize (other nutrient deficiencies may also need to be corrected - B12, zinc, vitD, balance of THC/CBD endocannabinoid equiv, iodine)
- Post with Dmitry Kats, PhD [niacin](#) protocol how-to's & cautions. His site: [Niatonin](#)

Pantothenic Acid - B5 - 5 mg / 500 mg

- Pantothenic Acid is found in dairy, organ meats, fish and shellfish, eggs, beans, avocados, mushrooms and sweet potatoes in greater amounts than average but it is fairly commonly available in foods. Deficiency is rare but severe malnutrition caused symptoms of "*numbness and painful burning and tingling in their feet*". ([lpi.edu](#)) ([Foods/symptoms](#))

Pyridoxine - B6 - 1.7 / 25-200 mg

- Pyridoxal 5'-phosphate (PLP) is the bioactive form of vitamin B6. It is involved in 4% of the body's enzymatic reactions. It is fairly common in food so deficiency is not common. ([Foods](#)) High dose supplements used in research trials varied, (25 - 200 mg). ([lpi.edu](#))
- However a genetic condition called pyroluria ([post](#)), can cause excess loss of B6 & [Zinc](#) in the urine. The condition may be present in 40% of people with Down's Syndrome, yet it is not screened for or treated typically.

Biotin - B7 - 30 mcg / 100-600 mg

- Eating too many raw eggs can cause biotin deficiency due to an enzyme that breaks it down. Symptoms of deficiency: "*hair loss, [dermatitis](#), and skin rash, [ataxia](#), [seizures](#), and other [neurologic](#) dysfunctions.*" ([lpi.edu](#))

- Foods: egg yolks, beans, nuts, organ meats, Nutritional Yeast Flakes & Baker's yeast, deactivated, mushrooms, broccoli, avocados,, sweet potatoes, bananas, many other foods. ([Foods](#))

Folate - B9 - 400 mcg / 800 mcg

- Folate is essential in the growth of new blood cells, so deficiency can cause a type of anemia due to immature red blood cells rather than lack of iron. A genetic difference in methylation can make a person more at risk for deficiency as the supplement forms are typically an inactive form. It would be better to avoid those and just eat good food sources: Peas, beans, asparagus, green leafy veg, oranges/juice, un-enriched whole grains. ([lpi.edu](#)) High dose supplements aren't typical. ([Foods](#))

Cobalamin - B12 - 2.4 mcg /100-500 mcg

- Vitamin B12 deficiency can cause irreversible nerve damage. Early symptoms of deficiency might include tingling numbness in the fingers. Stomach acid helps B vitamin absorption & B12 needs Intrinsic Factor from the stomach for absorption. Some people need sublingual or intravenous B12. Methyl forms of supplements would be needed if methylation gene alleles are present. (More info & [foods](#), symptoms.) Cyanocobalamin contains cyanide and excess supplements might lead to cyanide toxicity symptoms.

Other Nutrients

Whether a chemical is considered an essential nutrient can be unclear as some people may need the nutrient throughout life due to genetic differences, or anyone might need the nutrient when ill or elderly even though their body might make it during normal health. Other nutrients are just more recent discoveries and clear guidance is still being learned.

Choline - 550 mg / 250-6000 mg

- Choline is a methyl donor that can help protect our DNA. It is used in the neurotransmitter acetylcholine so is important for our thinking. It may also be converted to betaine. ([lpi.edu](#)) Excessive choline supplements might increase excitability in someone who tends towards elevated acetylcholine levels anyway. Low intake is associated with fatty liver disease. ([lpi.edu](#))

Betaine - Trimethylglycine, TMG - 2-10 gr

- Glycine is an amino acid and can act as a methyl donor in the form of betaine - if there isn't methylation gene alleles interfering with that enzymatic step. Good food source of betaine, TMG: quinoa. Bone broth, collagen would be a good source, but > organic reared < or it would likely be glyphosate source too/instead. Post: Glyphosate & COVID19.
 - Post - Glycine - good for our extracellular matrix & immune function.

Dimethylglycine, DMG - 2-10 gr

- People with a BHMT gene allele would need to take the DMG form of glycine in addition to TMG, as the BHMT enzyme is needed to convert TMG into DMG. Excessive intake of betaine/TMG when there is no functional BHMT enzyme may be upsetting - and need to avoid quinoa. (Something I learned the upset tummy way.) This is available as an amino acid powder. It may help with sleep, taken in the evening in water, ~ 2.5 grams, 1/2 teaspoon. Sleep
- Post - Cannabinoids are made with the BHMT gene - and others.

Other Water Soluble Nutrients

The B vitamins are generally very safe and nontoxic even at very high doses because they are water soluble and excess is excreted in the urine. Fat soluble nutrients can become toxic because they can be stored within fat tissue or in other organs - that provides a benefit in that we do not become deficient as rapidly. We need water soluble vitamins in our diet everyday. We can become deficient more rapidly with inadequate water soluble nutrients in our diet than lack of fat soluble ones - we run.

Vitamin C, Ascorbic Acid - 90 RDA / 100-1000 or more, to bowel tolerance - Caution - can be a pro-oxidant if there is not excessive inflammation.

- Vitamin C is also called ascorbic acid, and is not citric acid, that's different. We need vitamin C for strong blood vessels and to prevent easy bruising - or clotting risks. Vitamin C helps the vascular system and skin health in many ways. Higher doses will cause diarrhea. Smaller amounts more frequently! Liposomal vitamin C can be

tolerated at higher doses than regular C. Very high dose vitamin C helps control cytokine storm and IV treatment may be medically available. ([lpi.edu](#)) ([Foods](#))

Fat Soluble Vitamins

Fat soluble nutrients can be given in larger amounts less frequently as they are stored by the body. Toxicity limits may be reached over time if a large amount is used regularly. For infants and young children a large dose of vitamin A given every six months can save lives by supporting normal immune function. ([lpi.edu/vit A](#))

Vitamin A, Retinal, Beta-carotene - 900 mcg / up to 1,500 mcg RAE (5,000 IU)

- Vitamin A is critically important for immune function. Too little can cause an AIDS like immunodeficiency syndrome. Measles severity is linked to vitamin A inadequacy. ([lpi.edu](#)) On the other hand, history of an immune challenge may lead to liver enzyme changes that cause over-activation of vitamin A to the retinoic acid form which activates immune cells - and too much immune activity, is not good either - autoimmune & allergy symptoms, & odd ones that may not be id'ed as Retinoid Toxicity.

Vitamin D, a seco-steroid hormone actually - 600 IU / 800-2000 IU

- We can make vitamin D from cholesterol with 15-30 minutes of sunshine or full spectrum light that has UV. ([lpi.edu](#)) There's an advantage for our circadian cycle health and vitamin A & D, to focus on getting the full spectrum light daily. We can make water soluble forms of the nutrients with the light availability too - new area of research. Balance of forms may also be effected by high dose D3 supplementation. Daily 600-1000 IU may be adequate for preventing respiratory infections.

Vitamin E, tocopherols, a group - 15 mg or 22 IU/ 100 mg - 400-600 IU

- Alpha-tocopherol (α -tocopherol) is most bioactive and typically used in supplements, though mixed tocopherols is on labels too. People who eat nuts and seeds daily (vegan possibly) may be getting adequate vitamin E, like me, I stopped using vitamin E supplements. Too much can cause easy bruising symptoms, caution 1000 mg/day

UL (upper intake level). Supplement doses used in research varied, results were inconsistent. (lpi.edu)

Vitamin K1 and K2 (menaquinone-4) - 120 mcg / 200 mcg - 45 mg K2

- There is a lot of vitamin K1 in green leafy veggies, however it isn't activated readily to the K2 form, so a supplement of vitamin K2 may be beneficial if easy bruising is a problem - and eat your green veggies too! Vitamin K helps with clotting factors, actually, is essential for blood clotting. It also helps prevent osteoporosis. (lpi.edu)
- Too much clotting risk and vit K foods may be limited, or if on a blood thinner like Warfarin. More info on [Hypercoaguability: TNF alpha and Nrf2](#)

Minerals

Electrolytes, Iron, Iodine, & Zinc

Minerals used for the bone matrix and fluid balance are needed in greater quantity and are found in foods in larger amounts than trace minerals, which are in the second section. Minerals that are electrically active are kept within a narrow range by storing excess on transport proteins or in cellular storage. Excess of one type of mineral can cause deficiency of another due to the mineral sharing the same transport proteins or other chemical carriers.

Iron - Fe - Ferrous oxide, ferritin, (+2, +3 ions) - 8 mg RDA

- Iron is used to carry oxygen within red blood cells on the hemoglobin protein. Iron overload is a risk from excess. (lpi.edu) Infectious pathogens also want iron and hemoglobin is an easy target. The body shifts some of it into storage. Oxidative damage can occur if too much is free - rust (+2 or +3 ions). Blood clots, hypercoagulation (see vit. K above), may also be an increased risk. Iron chelators and vitamin C could be protective in addition to avoiding iron rich foods or supplements. [Foods](#).

Iodine - I - Potassium iodide, (-1) - 150 mcg / 400 mcg - 12 mg

- The RDA for iodine may be too low compared to the level of goitrogenic halides in the food and water supply. Higher dose iodine can help the body remove any bromide or fluoride that has been used in place of missing iodine. Selenium is important to supplement along with iodine as it is used in the enzyme that breaks down extra thyroid hormone. ([Iodine & Thyroid](#)) Iodine helps immune function and energy production. ([lpi.edu](#)) (Ion: -1) ([Iodide for CoV](#))

Potassium - K - (+1) - 3400 mg

- Potassium and sodium are referred to as electrolytes, (+1 charge). High blood pressure involves the balance of the two minerals more than simply too much salt - too little potassium may be the bigger problem. Potassium also reduces risk of stroke from a blood clot. "...3,043 mg/day versus 1,484 mg/day) was associated with a 62% lower risk of hypertension. (37)" ([lpi.edu](#)) Low magnesium can cause a decrease in potassium level. Supplements can be dangerous and are used for excessive loss issues.

Sodium - Na - Salt - Sodium (+1) Chloride (-1) - 1500 mg AI,

*U.S. "Adequate Intake" ~ 3800 mg Salt

- We need about equal amounts of sodium and potassium in our diet each day, and get too little potassium on average, and too much sodium. The recommendation for sodium was dropped to a level lower than the Low sodium diet for heart patients had been when I trained as a dietitian - too low in my medically trained opinion. Hyponatremia, low sodium to fluid ratio in the body can be disorienting or even deadly. In sweaty weather we need extra salt. ([lpi.edu](#))

Magnesium - Mg - Magnesium glycinate - (+2) - 420 mg / 250-400 mg

- Magnesium glycinate is Mg on the amino acid, glycine, which is well-absorbed form (see TMG & DMG). If urinary loss is an issue, 400 mg 2-3 times per day would be recommended to replace the losses, am/pm. Too much magnesium at once could cause watery bowel movements for rest of the day, nontoxic, but no fun. Epsom salt, Mg Sulfate, or MgCl are topical sources which bypasses poor GI absorption

problems, ~ genetic or health reasons. Low Mg can -> low vit D, Ca, & K. (lpi.edu) [Mg helps in 80%...!](#)

Calcium - Ca - (+2) - 1200 mg (*U.S.) / 250-1200 mg

- The ratio of calcium & magnesium effects health. Like sodium & potassium, Ca & Mg act in balance with each other on opposite sides of cell membranes. Their levels within blood plasma are kept within narrow ranges. Heart disease deposits on vessel walls may be a way to cover up excessive electrically active calcium. Modern diet has far more calcium than nature offered us. Our bodies are used to conserving calcium in bone matrix and wasting magnesium in urinary losses. (lpi.edu) [Calcification.](#)

Phosphorus - Ph- (+5, +3, or -3) - 700 mg / caution 4000 mg U.L.

- Phosphorus is plentiful in foods and is rarely deficient. People who drink carbonated beverages a lot may get too much, which can lead to a loss of calcium & increase osteoporosis risk. Milk has more though ([ref](#)), but it also has calcium. The safe upper intake level of Ph is 4000 mg and some people do exceed that regularly. People with kidney disease may need to limit phosphorus and other nutrients. (lpi.edu)

Zinc - Zn - (+2) - 11 mg / 30-50 mg

- Zinc is used in man enzymes and in gene transcription for protein production. It is essential for T-cell maturity and good immune function. (lpi.edu) The thymus gland seems to need extra as we age, yet the current recommendations do not reflect that increased need. ([ref](#)) Toxicity with excess supplementation can occur, and can lead to lower copper levels with other health symptoms. Genetic pyroluria may increase need for zinc for life.

([Pyroluria](#)) ([Zinc page on this site](#))

Trace Minerals

Trace minerals are essential or beneficial to health in trace amounts and toxic in excess. The reserve supply of minerals within a cell can be released strategically as a type of antibiotic or immune system defense against infectious microbes. Minerals may also be withdrawn into storage to make it unavailable for pathogen growth, see above - Iron. Trace minerals are metals with

electrically active ionic forms. They can act as antioxidants or may be essential within the structure of an enzyme.

Copper - Cu - (+1, +2) - 900 mcg / 2-6 mg, short term

- Copper and zinc share transport proteins so excess of one may lead to deficiency symptoms of the other. (lpi.edu)

Boron - B - (+3, -3) - 3 mg/day - suggested

- Boron helps us absorb magnesium and is involved with vitamin D metabolism and bone health. The mineral also helps reduce inflammation and promote wound healing. Official recommendations are not set, benefits for health are seen at intake of 3 mg/day or less. ([ref](#)) Too much is not more beneficial for many trace minerals. It can be difficult for our body to excrete some minerals.

Manganese - Mn - (-3 thru +7) - 2.3 mg / 5 mg

- Manganese is a versatile ion with many observed levels of electrical charge - the most frequently seen are +2, +3, +4, +6, and +7. ([ref](#)) This versatility may also be why it is so essential for our mitochondria, antioxidants accept free electrons (-1) so they don't damage other things instead. "*Manganese superoxide dismutase (MnSOD) is the principal antioxidant enzyme in the mitochondria.*" Too much or too little manganese can increase diabetes risk. Too much can become toxic also. (lpi.edu)

Molybdenum - Mo - (+4, +6, most common) - 45 mcg / 100 mcg - 1 mg

- Excess of molybdenum can cause copper deficiency. Manganese deficiency seems to increase cancer risk, supplements were not protective though, and may have increased long term risk rather than being protective (only one study though). (lpi.edu)

Selenium - Se - (-2, +4, +6) - 55 mcg / 100-200 mcg

- Selenium is not common in the diet. Seafood, shellfish, and Brazil nuts. It is needed for the enzyme that breaks down excess thyroid hormone. Lack may increase risk of

hyperthyroidism. It is an antioxidant that helps immune function too. Excess intake regularly may lead to toxicity symptoms, such as hair loss. (lpi.edu)

Silicon - Si - (+4, -4) - - / 20 mg/Kg/day ~ 1350 mg for 150 pound person

- Silicon helps with bone formation and can help skin healing. Water soluble silicon in the diet is nontoxic as excess is excreted within a few hours. Kidney patients on dialysis may reach elevated levels of silicon. ([ref](#))

Chromium - Cr - (+2, +3, +6) - 30 mcg / 200-1000 mcg

- Chromium can help with blood sugar control. It is found in small amounts in many foods, however a supplement may help if weight or blood sugar are concerns. Chromium picolinate is a well absorbed form. (lpi.edu)

Fluoride - F - (-1) - 4 mg AI *U.S. "Adequate Intake"

- Fluoride is added to the water supply to help prevent dental cavities. Topical rinses would be safer. Fluoride is goitrogenic and increases risk of hypothyroidism and it collects in the body over the lifespan and may lead to skeletal conditions. Adequate chloride intake helps the body excrete fluoride in the urine. (lpi.edu) Fluoride is in our food supply from the water in food processing, however, we do not need it for health, in the way we need other minerals used in enzymes or as cofactors.

Other Trace Minerals - Mixed Trace Mineral Supplement

- **Essential** - Cobalt (Co), possibly Chromium (Cr), Copper (Cu), Iron, (Fe), Manganese (Mn), Molybdenum (Mo), possibly Nickel (Ni), Selenium, (Se), possibly Vanadium (V), Zinc (Zn),
- **Nonessential or benefits not defined**- Arsenic (As) - toxic in humans in excess, essential for some types of animals in trace amounts.
- Food sources are available here: [Trace minerals - It's Teamwork](#)
- Also see [Trace Minerals](#).

Food First - Nutrient Dense Foods~

What to eat? - variety:

- Drinking water,

- Dairy products, cheese, and fortified substitutes made from almond, soy, rice or hemp.
- Sesame and Pumpkin seeds, almonds, walnuts, Brazil nuts and other nuts, seeds, and beans, peas, lentils, soybeans and soy products. (G.zinc)
- Canned salmon and sardines, shellfish, (G.28), oysters, crab, lobster;
- Oat and wheat bran, rice, whole grains, flour, cereals, fortified cereals for folate, zinc, iron;
- Fruits, edible fruit peels (or in tea), dried fruits, such as apricots and prunes, juices, sea vegetables, cauliflower, spinach, leafy green vegetables, asparagus, potatoes, onions, garlic, cruciferous and other vegetables.
- Parsley, dill seed, ginger, black pepper, oregano, rosemary, thyme, sage, cilantro, herbs, cumin, coriander, cardamom, spices;
- Mushrooms, nutritional yeast flakes, apple cider vinegar,
- Vegetable oils, coconut, and olive oil, fats, olives,
- Cocoa, chocolate, honey, and blackstrap molasses,
- Eggs, poultry, beef, red meats, liver, organ meats;
- Coffee, tea, beer, wine.

Cofactors - Antioxidants

Page Cofactors jenniferdepew.com.

Cofactors, also called coenzymes, are chemicals used in addition to essential nutrients in our metabolic pathways - like an assembly line of production steps, chemicals are built or broken down with enzyme steps. cofactors help the enzyme in some way. Sometimes many steps are needed to make a chemical - so getting some of the chemical in our food can help save our body time and energy as well as the more basic building blocks that might be needed for the assembly line. Nucleotides take 14 steps

- **CoQ10, ubiquinone, (fat-soluble) - 30-100 mg / 60–1200 mg**
 - Coenzyme Q10 is known as statin medications interfere with the production of it & lead to side effects of muscle & joint pain. Glyphosate may also be interfering with our own production of CoQ10. Mitochondria use CoQ10 in the Citric Acid Cycle. We make less CoQ10 starting around age 40, so supplements may help older adults, but too much is not good. It is an

antioxidant - excess can cause auto-oxidation. Ascites, fluid retention around heart, may be a severe symptom of deficiency. ([ref](#)) ([lpi.edu](#))

- **Lipoic Acid, Alpha-lipoic Acid (ALA) -200 mg / 600-1800 mg**

- Alpha-lipoic acid is also an antioxidant used in the Citric Acid Cycle by mitochondria. It can be taken as a supplement, 200 mg capsules are typically available for purchase. Diabetic neuropathy may be helped by higher doses, 600-1800 mg. ([ref](#)) Lipoic acid is an antioxidant for our other antioxidants, glutathione, vitamin C, and CoQ10. It helps restore them to an unoxidized state so they can be reused as antioxidants. *600 mg helped as much as 1800 mg in one DM neuropathy study. ([lpi.edu](#))

- **Glutathione - 500 mg / 2-3 x day / Nrf2 promoters**

- Glutathione is also an antioxidant that we make for ourselves, and which is used in the Citric Acid Cycle by mitochondria. It is available as a supplement, & other foods or nutrients can help promote our production of it, including Milk thistle, NAC, & SOD, ([ref](#)), [Nrf2](#). Diabetic patients were helped with 500 mg supplements over 6 months, HbA1C levels were improved. ([preprint](#)) Increase to several times per day if a higher dose is desired, 65 mg/Kg was used, in a divided 3/day dose, CF. ([ref](#))

- **Acetyl-CoA (CoA) - --**

- Acetyl-CoA is ancient, early life on earth, chemistry, that turns CO₂ into other slightly larger chemicals - "*formate, acetate, and pyruvate from H₂ and CO₂*". ([ref](#)) CoA is needed in the Citric Acid Cycle within mitochondria. Promotion of acetyl Co-A production helped cognition (in mice). ([ref](#)) Mixed product for humans includes: "*Calcium Pyruvate , Pantethine Powder , Dimagnesium Free amino acids - free from being part of a longer protein - often have roles to play within chemical reactions or in the control of receptors and ion channels on cell membranes. the cell membrane is like the wall of our house and it has doorways with a door bell - roughly. Amino acids may help ring the door bell to open the door, or may help keep the door locked from the inside. Malate , Acetyl L-carnitine Hcl , L-Cysteine HCl*" ([product](#)/*unaffiliated)

Cofactors - amino acids

Free amino acids - free from being part of a longer protein - often have roles to play within chemical reactions or in the control of receptors and ion channels on cell membranes. the cell membrane is like the wall of our house and it has doorways with a door bell - roughly. Amino acids may help ring the door bell to open the door, or may help keep the door locked from the inside.

- **Carnitine, Acetyl-L-Carnitine - 1 to 6 gr/day**
 - L-carnitine is used as a weight lifting supplement and has been found helpful for promoting muscle gain. (ref) Carnitine is a cofactor in the Citric Acid Cycle in mitochondria, so it is needed for optimal energy production. Supplements of L-carnitine may be less absorbed than Acetyl-L-Carnitine is or from protein foods in the diet. (lpi.edu)
- **Cysteine, N-Acetyl-Cysteine, (NAC) - 600 mg / x 4 - 2400 mg**
 - Cysteine is a cofactor within the Citric Acid Cycle of mitochondria. Cysteine may help angina pain of CVD, cancer, autoimmune conditions, infertility, and it has shown respiratory and antiviral benefits. (ref)
- **Lysine - 500-1000 mg / 2-4 gr/day**
 - Carnitine is made from lysine & within our body. *"Lysine appears to **help the body absorb calcium**, and it plays an important role in the formation of collagen, a substance important for bones and connective tissues including skin, tendons, and cartilage."* (ref) Extracellular matrix proteins help with immune defense. Vegan eaters may get too much arginine in ratio to lysine for good immune function. (ref) Soy, beans, peas, & lentils are a better source of lysine than nuts & seeds, in a vegan diet.
- **Carnosine, L-carnosine - 500 mg / ~ 2-4 x day**
 - Carnosine is not carnitine or a typo. *"Carnosine is made from alanine and histidine."* (ref) It is important in immune function & within the brain also, adequate protein in the diet is helpful to make it. Carnosine can help control copper & zinc excess in the brain or body, & has *"...potential to maintain telomere length [60] and delay cellular senescence. [61]"* (ref) Carnosine may help prevent Alzheimer's and cataracts, and promote wound healing. (ref)

Cofactors - metallic ions

In chemistry, inorganic chemistry came first. Organic chemistry, the chemicals of life, are both simpler and more complex than inorganic chemistry. A smaller variety of atoms are used in

biology - we are carbon and water based life forms, but the proteins and other chemicals made from those types of atoms can be very large and complex compared to the chemical reactions of a water softener. Cofactors generally are considered to include a metallic ion with an electric charge to stabilize other parts of an enzyme.

- **Manganese Superoxide dismutase (MnSOD) - Nrf2 promoters**

- *"The cell is equipped with myriad antioxidant enzyme systems to combat deleterious ROS production in mitochondria, with the mitochondrial antioxidant enzyme MnSOD acting as the chief ROS scavenging enzyme in the cell."* (ref) (ref) CoQ10 supplements promoted SOD in animal-based studies. (ref) Cruciferous veg, retinoic acid, & vit E may promote SOD. Low levels of MnSOD are linked to cancer, risk worse with low vit C, E, & produce intake. (ref) Baicalein promotes Nrf2 which promotes MnSOD. (ref)

Disclaimer: This information is provided for educational purposes within the guidelines of fair use. While I am a Registered Dietitian this information is not intended to provide individual health guidance. Please see a health professional for individual health care purposes.

Conditions or Symptoms - selfcare information.

Alopecia, hair thinning or loss.

Alopecia can be due to B vitamin deficiencies, malnutrition, autoimmune disease, radiation, or extreme stress. See:

<https://transcendingsquare.com/2022/03/30/alopecia-hair-loss-autoimmune-other-reasons/>

Fennel seed oil is mentioned in the post, linked above, pumpkin seed oil may also be beneficial. Endocannabinoid production may be a factor then, as both would be good sources of phospholipids. A phosphatidylcholine rich extract of porcine lung tissue was found to increase hair regrowth on animals who had the hair on their back shaved. (1)

Pumpkin or fennel seed oil might seem more palatable to some people, even for topical use, and would also likely be a source of phospholipids including phosphatidylcholine. (2)

Fennel seed is used in an herbal extract 'health wine' in a patent that uses many Chinese traditional medicinal herbs. (3) Fennel seed has a variety of terpenes, terpenoids, and aldehydes that may have medicinal benefits. (4)

- Pumpkin seed oil vs. minoxidil 5% topical for the treatment of female pattern hair loss: A randomized comparative trial <https://onlinelibrary.wiley.com/doi/10.1111/jocd.13976> via JP Fanton, @HealthyFellow <https://twitter.com/HealthyFellow/status/1378467171437670400?s=20>
- 4. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4354319/>
- 5. https://www.researchgate.net/publication/266050452_PHOSPHOLIPIDS_FROM_PUMP_KIN_Cucurbita_moschata_Duch_Poir_SEED_KERNEL_OIL_AND_THEIR_FATTY_ACID_COMPOSITION
- 6. <https://patents.google.com/patent/CN105950407A/en>
- 7. Cytotoxicity of the Essential Oil of Fennel...against a type of cancer. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5615285/>

Autoimmune Disease

Autoimmune disease is not well understood yet but can be more of a risk during any infection or other immune challenge because the immune system is in too busy mode - accidents can happen leaving a self protein with a 'foreign' antibody designed to attract a white blood cell to remove the protein antigen. It might be thyroid tissue in autoimmune thyroid disease which can be gluten related.

Molecular mimicry is a phrase used to describe when the body sets up an autoimmune condition based on a dietary protein that is similar to a body protein. When membranes in the intestines are leaky, less protected between cells, then whole proteins may enter the body undigested and lead to an autoimmune condition against a similar molecule to one of ours instead of the food protein.

In Covid-19 it has been found that antibodies are formed against the type of receptor the chimeric spike protein is lodged in, rather than to the spike protein. Severe mental health symptoms can occur with anti-NMDA receptor autoimmune antibodies. It can cause encephalitis and has occurred in a patient after a CoV injection. (1)

Prevention: The primary way to prevent autoimmune antibodies from occurring is to have adequate vitamin D levels prior to an immune challenge, whether an infection or an injection. Adequate magnesium is needed in order to have good vitamin D metabolism. Topical or chelated sources may be better absorbed during CoV or inflammatory conditions. Vitamin K2 (up to 200 mcg) is also supportive of a healthy calcium balance when vitamin D3 is being supplemented (1000-2000 IU plus full spectrum lights or sunshine ideally). Avoiding glyphosate may be a need for improving chronically low vitamin D levels if supplementing doesn't seem to help. See post: [Glyphosate and CoV](#)

Immunomodulating, iron chelating, herbs can be helpful to rebalance the types of immune cells in autoimmune conditions. If a problem chemical in the diet is identified, then it needs to be 100% avoided as best as possible. Every re-exposure to the original problem chemical may be

setting off another round of autoimmune antibodies to be made. It takes about six months of careful avoidance for them to fade and then symptoms and sensitivity would be less but relapse is likely if the problem chemicals are still in the diet. The memory immune cells are still patrolling and ready to make more autoimmune antibodies.

The targeted proteins or cells that they are part of are destroyed by the immune cells that were attracted by an antibody/antigen combination of the 'foreign/destroy' type of immune signal. Standard treatments used for severe autoimmune disease generally suppress all white blood cells. Immunomodulating phytonutrients can help inhibit inflammatory T-cells and promote anti-inflammatory white blood cells (T-cells).

“Artemisinin [an extract of Artemisia annua, Sweet Wormwood] and its derivatives (ARTs) have been shown to impact immune cells (Figure 1) and exert therapeutic effects on allograft rejection [a main cause of graft failure after transplantation] and Immune-mediated inflammatory disorders (IMIDs), including Rheumatoid arthritis, Psoriatic skin inflammation, Inflammatory Bowel Disease (IBD), Multiple sclerosis, Systemic Lupus Erythematosus (SLE) and IgA nephropathy.” (2)

Artemisinin is an iron chelator and anti-malarial that acts in ways similar to zinc ionophores. It can help reduce oxidative stress from excess free iron during inflammation and also seems beneficial against cancer.

- See: [Artemisinin, an extract of Artemisia annua \(Wormwood, Mugwort\)](#) for more about use of the extract or the herbs as tea.
- See: [Hepatitis, viral or autoimmune origin](#) for phytonutrients that may help, and medications that typically might be prescribed instead.

1. Flannery P, Yang I, Keyvani M, Sakoulas G. Acute Psychosis Due to Anti-N-Methyl D-Aspartate Receptor Encephalitis Following COVID-19 Vaccination: A Case Report. *Front Neurol.* 2021;12:764197. Published 2021 Nov 4. doi:10.3389/fneur.2021.764197
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8599934/>
2. Qiu Feifei, Liu Junfeng, Mo Xiumei, Liu Huazhen, Chen Yuchao, Dai Zhenhua, Immunoregulation by Artemisinin and Its Derivatives: A New Role for Old Antimalarial Drugs. *Frontiers in Immunology*, 12;2021, DOI: 10.3389/fimmu.2021.751772, ISS: 1664-3224
<https://www.frontiersin.org/articles/10.3389/fimmu.2021.751772/full>

Autoimmune Neuropathic Conditions, POTS, neuropathy.

I go into detail about epigenetic changes, methyl donors and Postural Orthostatic Tachycardia Syndrome (POTS) – a problem that has been occurring for some Covid survivors and a problem I've had symptoms of twice and got better from twice – See: [Epigenetic changes may also be involved in Covid19 or LongCovid](#). And this follow-up post includes more background information about epigenetics, RNA, micro - miRNA, and messenger -mRNA: [Aging biomarker found to be increased in LongCovid, epigenetic changes possible](#).

Solutions in brief: avoid formaldehyde and stress because we make formaldehyde during stress and increase methyl folate. The condition may be more likely to occur in people with a methylation gene difference. Supplementing with other methyl donors may also help with restoring the epigenetic settings that we need for normal orthostatic balance. Avoiding the non-bioactive folic acid supplements or the cyanocobalamin form of B12, and fortified foods might also help. Other sources of formaldehyde (and other volatile chemicals) include new vinyl products, smog, smoking, and second or thirdhand smoke.

Cyanocobalamin is a nonmethylated, inactive form of B12. We need the active form to not have neuropathy, so anyone with a methylation problem would not be helped by supplements of cyanocobalamin - and it has cyanide which may accumulate over time. Do consider taking methyl or hydroxycobalamin supplements if there are any concerns about neuropathy - numbness and tingling, coldness and pain in the fingers or toes. In cases of demyelination general malnutrition was a risk factor and low B12.

Neuropathic conditions were seen as adverse reactions after CoV injections and evaluated in a preprint journal article. This excerpt is describing autoimmune neuropathic conditions in a general way. Cholinergic failure in relation to CoV injections or passive exposure suggests a need for nicotine or some other nAChR agonist:

“Autoimmune autonomic neuropathy and ganglionopathy is an antibody-mediated disease that usually presents with orthostasis and symptoms of cholinergic failure including dry mouth or urinary retention.”

Sensory and autonomic neuropathies also occur following viral infections and vaccination without cholinergic manifestations or characterized autoantibodies. Regardless of whether defined autoantibodies were detected, symptoms and biomarkers often respond to high dose corticosteroid treatment suggesting the process is immune-mediated.”

Safavi F, Gustafson L, Walitt B, et al., Neuropathic symptoms with SARS-CoV-2 vaccination. medRxiv 2022.05.16.22274439; doi: <https://doi.org/10.1101/2022.05.16.22274439>

This article is a preprint and has not been peer-reviewed

<https://www.medrxiv.org/content/10.1101/2022.05.16.22274439v1.full.pdf>

I go into more detail about epigenetic changes, methyl donors and Postural Orthostatic Tachycardia Syndrome (POTS) – a problem that has been occurring for some Covid survivors and a problem I’ve had symptoms of twice and got better from twice – See: [Epigenetic changes may also be involved in Covid19 or LongCovid](#). And this follow-up post includes more background information about epigenetics, RNA, micro - miRNA, and messenger -mRNA: [Aging biomarker found to be increased in LongCovid, epigenetic changes possible](#).

Detox Support - which is also Mitochondrial Support - which is also protective against risk of misfolded protein, or cancer:

High Dose Niacin protocol (Dmitry Kats, Ph.D) - and Citric Acid Cycle cofactors: gradually work up to a high dose of niacin/nicotinic acid, the type that causes a reddening of the skin, and itchiness for 30-60 minutes. The reaction fades as your body gets used to it, or is less inflamed. Melatonin taken 30 minutes prior to the niacin may help reduce the intensity of the flush, otherwise, just go as gradually as your body seems to need. Some people start at 25 mg niacin/nicotinic acid. I started at 250 mg, and the flush was intense the first couple times, and has never been as bad ever since. I take 1000 mg 2-3 times per day now and plan to continue long term. Energy level and clear headed feeling are noticeable benefits for me.

Three grams per day of flush type niacin, 1000 mg x 3, B, L, D, was found to help people with schizophrenia - in the 1970s. Sadly the treatment is still not in standard use. This amount of niacin would not be feasible from food. It is helping the body remove inflammation, which is damaging and continues to increase brain damage the longer it continues untreated. Genetically some people may not detoxify oxidative stress chemicals very well and may need the external support of supplements that would not be available from foods.

For Covid or other infection concerns, the high dose niacin helps remove the out of control inflammation and would help with endolysosomal removal of cellular debris (like chimeric protein). Endosomes are when a white blood cell engulfs, 'vacuum sealing up crud,' in little membrane sacks, and takes the crud into the cell within the membrane rather than directly having crud in the white blood cell intracellular fluid. The cellular debris can then be reused as nutrients or be detoxed and eventually excreted.

- See this for How-To's and a few cautions for gradually starting the basic high dose Niacin Protocol: [Niacin, & early treatment in general for SARS-CoV-2 is sensible, reduces hospitalization and mortality rate.](#) (Jan 22, 2021)
- Niacin - symptoms of deficiency with images, MerckManuals.com, <https://www.merckmanuals.com/home/disorders-of-nutrition/vitamins/niacin-deficiency>
- Manganese - in maple syrup, also a source of copper - pure Maple Syrup from Quebec, *The Science Behind Immunity and Gut Health through Postbiotics* with Keri Gans, MS, RDN, CDN, and Dr. Justin Green; Presentation: <https://www.todaysdietitian.com/ss21/pdf/Pure-Maple/GiveRealMapleaTurnPresentationHandout.pdf> Reference List: <https://www.todaysdietitian.com/ss21/pdf/Pure-Maple/GiveRealMapleaTurnReferenceList.pdf>

Other Foods that help with detoxification processes:

"3. Naturally Detoxify with These 8 Foods

- 3.1. 1. *Chlorella*
- 3.2. 2. *Spirulina*
- 3.3. 3. *Turmeric*
- 3.4. 4. *Ginger*
- 3.5. 5. *Leafy Greens*
- 3.6. 6. *Apples*
- 3.7. 7. *Broccoli Sprouts*
- 3.8. 8. *Beets*"

<https://www.amymyersmd.com/article/foods-detox-naturally/>

*also Modified Citrus Pectin (a product type), cilantro, alpha lipoic acid, NAC, N-acetylcysteine (found in protein foods), the amino acid taurine, and selenium:

<https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC3654245/>

** Here is the longer document in which much of this information was collected, and which has a lengthy reference list. The list here is just a few recent additions added while writing this version.

Spike Protein Risks & Aids - Summary List, [tabbed google doc](#).

Intermittent fasting and a Moderate or Low Carb diet also may help with detox. Simply not overeating, especially prior to the night's sleep also helps the body with removal of toxins and use of excess cellular debris for nutrients. If we are always overfed then the body has to spend time at night storing the excess instead of using it, or any other cellular debris such as damaged cell parts, or chimeric spike protein. See: [Intermittent fasting...](#)

Excessive menstrual bleeding

(Sperm motility problems ([19](#)) & colitis may have a similar underlying factor - inhibition of nAChRs by chimeric protein)

The chimeric protein may include disruption of the cholinergic system, which can have wide ranging effects throughout the body and mental health. Snake venom toxin and snail conotoxin block the nicotinic Acetylcholine Receptors and cause paralysis of cells normal activity. See: [Snake venom toxin in the spike protein?](#) Low nAChR activity is seen in excessive menstrual production conditions such as endometriosis ([13](#))

- Endometriosis: blood is formed in areas outside of the uterus, and is very painful, due to pressure from the internal blood clots.

For such a specific problem, a specific solution is needed - something to protect the nAChRs - nicotine. It works, nicotine patch or lozenges helped me with colitis after a month of symptoms following a few hours spent in busy medical offices. I was wearing a fabric face mask, I switched to KN95 and those seem helpful, though hard to breathe in.

Yes nicotine is addictive, however it can also be an ADHD aid to concentration. I have found it helpful for that too. Forgetting to take more would cause irritability until you remember to take more. Yes, I learned that lesson a few times. While coping with the severe symptoms, around the clock dosing is good. Protect those receptors all day and night with small doses every few hours, or the nicotine patch left on at night too (it didn't cause bad dreams for me, but some people have mentioned that).

The tiny part of the lozenge at a time helps keep the mood stable. Large/full cigarette amount would cause a greater dopamine spike - a reward chemical and which can be more addictive and more impact on behavior - very high dopamine levels cause a grandiose mania type of feeling - creative and exciting, and let's have more in a few hours when it wears off. There is a crash. So stay off the roller coaster by having tiny amounts more often and protect the receptors all day/night ideally. One cigarette provides about 2 milligrams of nicotine. The lozenges are available in 2 mg or 4 mg sizes (same price, I buy the 4 mg size - Sam's Club brand). Patches for Step 1 are 21 mg. I cut them in half as my initial start, and stuck them on more securely with a bandaid - but my skin got sensitized and I had added the lozenges as a little more during the day and morning (patch wasn't quite enough as I got used to it, tolerance occurs within the body chemistry), so I switched to just those. As a medical marijuana smoker, I need less smoking not more, so I quite like the convenience of the lozenges.

That was lengthy - but it stresses the point - nicotine is essential TREATMENT in this situation, not something to view as *'I don't want to be an addict'* - You don't want your cholinergic system paralyzed either.

- Nicotine itself is not a carcinogen, it is toxins in the tobacco that are carcinogens. Marijuana does not have carcinogens in the plant, but smoking is bad, there are toxins and formaldehyde in smoke which can increase risk of epigenetic changes, especially if methylated folate is not available.

Excessive bleeding or colitis (watery diarrhea almost immediately after eating and even while you are asleep) can be deadly. I would seek out a knowledgeable midwife possibly. They are knowledgeable in herbs for excessive bleeding postpartum. ([11](#), [12](#))

Acute and ongoing care ideas, for excessive menstrual bleeding:

It can take membranes a week to replenish, so my acute treatment suggestions would be -

1. Pedialyte (has less sugar & balanced electrolytes compared to sports beverages) as an immediate need. Dehydration is a huge risk.
 - a. Epsom salt soaks for magnesium, Epsom salt soaks would get magnesium in bypassing any bad intestine membrane problems. An acute situation may

benefit from a 20 minute soak every 2-3 days. Signs it is needed again are increase in muscle cramps or in anxiety/irritability. See: [Epsom salt footsoaks](#).

- b. adequate calcium foods that don't upset digestive health if that is also a problem.
 - c. salty snacks to nibble on as desired.
 - d. potassium rich juice to sip (not too much fruit sugar) or vegetables/fruits.
2. Nicotine to restore cholinergic function.
 3. Vitamin K2 - for clotting factors
 4. Vitamin C - reduce inflammation and support blood vessels
 5. Lysine - support immune function
 6. Thiamine - 300 mg - need for this nutrient is greatly increased in acute health situations
 7. B vitamin complex, plus additional niacin/nicotinic acid
 8. Melatonin - 2-6 mg before bed, additional taken 30 minutes prior to the niacin may also be helpful.

For longer term healing, be patient for a few days while trying additional supplements for healing - it takes a few days to regrow tissue. The blood vessels may need to heal and more blood cells need to be made within the bone marrow.

1. Vitamin C, collagen, glycine, and lysine can help blood vessel tissue.
2. B vitamins, in a methylated form-if genetic methylation alleles are present, are needed for blood cell growth too.
3. Adequate protein is needed to regrow cells too.
4. Adequate calcium is mentioned in this postpartum excessive bleeding article, it is needed for muscle cells to contract, and magnesium for them to relax.
5. K2 is directly adding more clotting factors, which is the need for CoV spike issues
6. Melatonin is highlighted too. Our circadian cycle is disrupted by the electronic lights of modern life and that does seem connected to more severe CoV. The magnetic fields of EMF exposure is also inflammatory, as it can open TRP channels. It is better to not have on all night in a bedroom. Blackout curtain darkness at night and full spectrum light in the morning can help all of the circadian gene changes, not just melatonin. Both a supplement and working on improving sleep habits would be a start.
7. Pomegranate peel extract - seriously - ancient royal fruit - ([12](#), [14](#)) ([prep/use tips](#))
8. Phytonutrients - pick one or a few, rotate a few within your diet: ([14](#))

Patience please - Start some of those ideas and give them a few days before giving up. Rebuilding membranes, making more clotting factors and blood cells is needed.

If possible/legal THC may be needed - there is likely an excess 2-AG/CBD issue due to inflammation breaks down membranes leaving excess free 2-AG, which breaks down further into arachidonic acid - which is inflammatory) See Section 2 for more about the damaging effects of inflammation on membranes - thiamine and cannabinoids are included in detail: [Spike Protein Risks & Aids](#).

Repeat of the list:

vitamin K2.

Electrolytes, magnesium/pedialyte - dehydration can be deadly

Thiamine - 300 mg - B1 needs are greatly elevated during acute inflammation or infection

B's - methyl form of folate and B12, just in case there is a gene issue, or just to make it easier for a malnourished body to get to work on healing

Vitamin C

Glycine

Organic Collagen

If possible/legal THC - there is likely an excess 2-AG/CBD issue due to inflammation breaks down membranes leaving excess free 2-AG, which breaks down further into arachidonic acid - which is inflammatory)

& phytonutrients, EGCG, ([14](#))

Adequate calcium is mentioned in this postpartum excessive bleeding article,

-K2 is directly adding more clotting factors, which is the need for CoV spike issues

-Melatonin is highlighted too.

pomegranate peel extract - seriously - ancient royal fruit - ([12](#))

The phytonutrients are the ones I recommend anyway

EGCG - pomegranate peel, Goji berries, green tea

Curcumin,

Genistein - soy,

Isoliquiritigenin - licorice, shallot, or soy

Resveratrol - grape skins, ([14](#))

pick one or a few - I can't have curcumin due to IBS. I take Resveratrol, Licorice (non DGL), and eat pomegranate peel in foods everyday, snack on Goji berries occ, and I get a block of tofu once or twice a month (I eat it by myself, so is a few meals each time).

Herbs used in midwifery for Hemorrhage - prepare in advance, have ready just in case

Hemorrhage: All hemorrhage mixtures should be made ahead of time.

- *Prepare a hemorrhage extract from:*
 - *1 part yarrow flower extract (Achillea millefolium)*

- 1 part shepherd's purse seed, leaf or flower extract (*Capsella bursa-pastoris*)
- Drink a half-teaspoon in warm water every half hour.

Make an infusion using equal parts raspberry leaf and nettle: This can be drunk as a beverage.

- Make an extract blend using this recipe:
 - 1 part shepherd's purse seed, flower or leaf (*Capsella bursa-pastoris*)
 - 1/4 part blue cohosh root (*Caulophyllum thalictroides*)
 - 1 part motherwort leaf (*Leonurus cardiaca*)
 - 1 part witch hazel leaf or bark (*Hamamelis virginiana*)
- Give mother two dropperfuls orally. You can follow with juice. Repeat in one minute, if needed, then again in ten minutes.

Hepatitis, viral or autoimmune origin

Hepatitis is an inflammation of the liver and it can occur with certain types of viral infections. There are also autoimmune hepatitis which may also have an underlying pathogen that was not identified or may be due to other unknown reasons.

Summary of possible aids, using in combination may increase the benefit: aloe vera, black seed oil, Colloidal Silver, curcumin/turmeric, vitamin D, EGCG (green tea/pomegranate peel), ginger, glycyrrhizin of licorice root, Milk thistle (silymarin), naringenin (citrus peel bioflavonoid), quercetin, and also take zinc with zinc ionophores.

Black seed oil, quercetin, curcumin, EGCG (green tea/pomegranate peel), aloe vera, (4, 5), naringenin (citrus peel bioflavonoid), (3), turmeric or curcumin (also a vitamin D receptor activator), ginger, (*Zingiber officinale*, 1), plus zinc, would all likely be protective against a viral hepatitis risk whether Herpes, shingles, CoV, adenovirus, or Hepatitis C virus. (4) Using several phytonutrients or food sources at the same time can have an additive effect as it might provide more varied routes of defense - more overlapping mechanisms of action in addition to zinc ionophore effects.

The combination of a zinc ionophore/iron chelator with zinc supplementation is helpful because intracellular infections are identified by having excess free iron. The zinc ionophore/iron chelator phytonutrient is attracted electrically to the iron rich cell and the zinc it carries is passed into the cell where it disrupts protein replication and an infected cell dies.

Other mechanisms of action may also be involved in how the phytonutrients can prevent liver damage from a viral infection:

“Hung and colleagues have suggested possible mechanisms whereby quercetin may exert its anti-HSV activity [30]. They revealed that quercetin inhibits the infection of HSV-1, HSV-2 and acyclovir-resistant HSV-1 mainly by blocking viral binding and host cell penetration. Quercetin also suppresses NF-kB activation, which is essential for HSV gene expression.” (4)

All of the phytonutrients listed above are also NF-kB inhibitors/Nrf2 promoters. Aloe vera in excess can cause acute hepatitis but can be protective in a moderate use. It promotes glutathione production within the liver, based on an animal study. (5)

Black seed oil and Zingiber officinale (500 mg doses) were found helpful for reducing viral load and liver symptoms in patients with Hepatitis C, and the combination was even better. (1) Milk thistle, (silymarin), ginseng, and the glycyrrhizin of licorice root, Vitamin D, and Colloidal Silver are also beneficial for treatment of Hepatitis C. (3)

The WebMD site also recommends that patients with Hepatitis C avoid some herbs or extracts that have been linked to liver damage:

- *Artemisia*
- *Atractylis gummifera*
- *Bush tea*
- *Comfrey*
- *Gordolobo herbal tea*
- *Jin Bu Huan*
- *Kava*
- *Kombucha*
- *Ma huang*
- *Mistletoe*
- *Sassafras* [Gumbo file spice, the leaves would be less of a liver risk than sassafras root tea or real Root Beer made with the roots of the Sassafras tree. See: Gumbo file or [Post](#)]
- *Skullcap*
- *Valerian root.* (3)

In the case of autoimmune disease it is unknown whether an intracellular infection exists that was not yet identified because it is difficult to do so compared to virus in the bloodstream. Inflammatory conditions for other reasons can cause iron rich cells because inflammation or infection causes a natural immune response of trying to hide iron from hemoglobin where it is more available to pathogens who also need it to survive.

Standard and alternative medications used for autoimmune hepatitis:

“Standard therapy consists of a combination of corticosteroids and azathioprine, which is efficacious in 80% of patients. Alternative therapies...(second-line agents) available for AIH treatment non-responders [or when adverse effects are

severe]...include budesonide, mycophenolate mofetil, cyclosporin, tacrolimus, 6-mercaptopurine, 6-thioguanine, rituximab, ursodeoxycholic acid, rapamycin, and methotrexate.” (Jothimani, 2011)(2)

1. Abdel-Moneim A, Morsy BM, Mahmoud AM, Abo-Seif MA, Zanaty MI. Beneficial therapeutic effects of *Nigella sativa* and/or *Zingiber officinale* in HCV patients in Egypt. *EXCLI Journal*. 2013 ;12:943-955. PMID: 27298610; PMCID: PMC4904745. <http://europepmc.org/article/PMC/4904745>
2. Jothimani D, Cramp ME, Mitchell JD, Cross TJ. Treatment of autoimmune hepatitis: a review of current and evolving therapies. *J Gastroenterol Hepatol*. 2011 Apr;26(4):619-27. doi: 10.1111/j.1440-1746.2010.06579.x. PMID: 21073674. <https://pubmed.ncbi.nlm.nih.gov/21073674/>
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4. Musarra-Pizzo M, Pennisi R, Ben-Amor I, Mandalari G, Sciortino MT. Antiviral Activity Exerted by Natural Products against Human Viruses. *Viruses*. 2021;13(5):828. Published 2021 May 4. doi:10.3390/v13050828 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8147851/> or <https://www.dropbox.com/s/vauygfq3a1liul/viruses-13-00828-v2.pdf?dl=0>
5. Werawatganon, D., Linlawan, S., Thanapirom, K. et al. Aloe vera attenuated liver injury in mice with acetaminophen-induced hepatitis. *BMC Complement Altern Med* 14, 229 (2014). <https://doi.org/10.1186/1472-6882-14-229> <https://bmccomplementmedtherapies.biomedcentral.com/articles/10.1186/1472-6882-14-229>

Hyperinsulinemia / Metabolic Syndrome / Hypertension / Magnesium and zinc deficiency & lack of bitter phytonutrients.

Hyperinsulinaemia, excess insulin or insulin resistant fat cells, and **hyperglycaemia**, excess blood sugar, are common underlying factors of **Metabolic Syndrome**. Magnesium deficiency and/or vitamin D metabolism problems may be underlying factors leading to the excess insulin problem and the resulting cascade of other symptoms associated with Metabolic Syndrome. Magnesium deficiency also causes **hypertension**, high blood pressure.

Lack of zinc and bitter tasting phytonutrients in the diet is also an underlying factor in lack of taste or odor sensation and also the insulin resistance and other symptoms of Metabolic Syndrome. We need bitter taste receptor function for healthy membrane integrity and production of mucus that is a healthy texture - not too thick or too thin for white blood cells to navigate easily while providing a barrier around and between cells. Zinc is also needed for the gene transcription of the odor and taste receptor proteins.

- “Risk factors for COVID-19 patients with poorer outcomes include pre-existing conditions: obesity, type 2 diabetes mellitus, cardiovascular disease (CVD), heart failure, hypertension, low oxygen saturation capacity, cancer, elevated: ferritin, C reactive protein (CRP) and D-dimer. “ ([Cooper, 2020](#))

- Low Carbohydrate Diet is recommended: *“Patients with COVID-19 admitted with hyperglycaemia and/or hyperinsulinaemia should be placed on a restricted refined carbohydrate diet, with limited use of intravenous dextrose solutions. Degree/level of restriction is determined by serial testing of blood glucose, insulin and ketones.*
- Supplementing magnesium, vitamin D and zinc is recommended: *Supplemental magnesium, vitamin D and zinc should be administered.*
- *By implementing refined carbohydrate restriction, three primary risk factors, hyperinsulinaemia, hyperglycaemia and hypertension, that increase inflammation, coagulation and thrombosis risk are rapidly managed.”* ([Cooper, 2020](#))
- Cooper ID, Crofts CAP, DiNicolantonio JJ, et al., Relationships between hyperinsulinaemia, magnesium, vitamin D, thrombosis and COVID-19: rationale for clinical management. *Open Heart* 2020;7:e001356. doi: 10.1136/openhrt-2020-001356 <https://openheart.bmj.com/content/7/2/e001356> ([Cooper, 2020](#))

Hypothyroidism, Iodine/Thyroid Protocol

Hypothyroidism is common and can be due to autoimmune antibodies or iodine deficiency or halide excess, or all three. In the 1950's iodine deficiency became more of a risk when potassium bromide was switched for potassium iodide in flour, as an anti-caking agent (to keep it from clumping); and fluoride was added to drinking water. Halides are chemically similar and the body may make thyroid hormone with atoms of bromide, fluoride, or chloride, instead of iodide, if there is a lack of iodine and plenty of the other minerals.

Humans may benefit from iodine intakes closer to the amount found in the traditional Japanese diet (13 mg) in which seaweed is a commonly used seasoning. The US RDA is 150 mcg, set sometime in the 1940s, and the research has not been updated. Thirteen milligrams would be 1300 micrograms - quite a difference between the traditional diet for a population that experiences very little breast cancer (when eating the traditional diet), and the Western diet which has a population with a high rate of cancers.

It is important to take selenium along with iodine, because it is used in the enzyme that breaks down excess thyroid hormone. The risk or concern with higher dose iodine is hyperthyroidism - getting too much active thyroid hormone, leading to mania and a racing mind, heart and body, jittery hand writing can occur, and reckless behavior. Excess thyroid hormone can affect mood significantly and cause the thyroid gland to swell which can make it quite painful to swallow. Balance is the goal.

Using high dose iodine temporarily can help the body remove fluoride or bromide by allowing it to be swapped out for iodine. Fibrocystic breast pain conditions may improve as the bromide and fluoride excess is excreted. Iodine is protective against cancer, while fluoride and bromide may be more negatives for health. A metallic taste in the mouth may occur as the bromide and fluoride excess is being excreted, but it is a temporary change.

Symptoms of iodine excess include a watery drippy nose, like a tear drop occasionally, but from the nose. See my webpage [G9. Iodine & Thyroid](#) for more information about iodine and selenium food sources and other symptoms of excess or deficiency.



Iodoral 12.5

Intermittent fasting, a Moderate to Low Carb Diet, and not overeating helps detox.

Not overeating as a habit also helps detox; the body needs time and a need to scavenge for cellular debris to reuse as nutrients.

Thirty percent calories from carbohydrates is what I feel comfortable with. My mood will suffer when I get low blood sugar and find intermittent fasting with the simpler delay breakfast and just have some nuts or seeds in the early morning helps my weight and mood.

I did a nutrient analysis for an example day's worth of food with four slight variations of the menu for vegan, vegetarian, meat, or fish I think. I was curious about why I had lost weight while eating pounds of almonds, pistachios and cashews regularly. I was traveling and was eating less of other things - less carbs it turns out, about 30% in proportion to about 20% protein and 50% fat (nuts and seeds are high fat - which is satisfying for the appetite.)

- See this series ([30% Carb](#))
- This prenatal diet book is very well researched and has a week of menus for a ~ 30% carb diet plan with variations for vegetarian and vegan. The nutrients that might need to be supplemented for a vegan diet are also mentioned along with a warning that it really is not ideal for the developing fetus. <https://realfoodforpregnancy.com/> Just ignore the

pregnancy specific recommendations - the information is good enough to grow a new baby, then it is going to be pretty healthy for the rest of us too.

- Vegetarian diet is typically thought to include eggs and dairy and egg yolk is a good source of choline which a developing fetal brain needs plenty of - for the Cholinergic system - the receptor group of which the nAChRs are part.
- Vegan diet excludes all animal products and can be at risk for vitamin B12 and choline deficiency, vitamin D may also be low in the plant based foods. Adequate protein can be difficult to achieve and I have been dismayed at what I see offered at restaurants, even ones with a 'vegan' theme - a large salad is not what a dietitian would consider an entree just because it is really big. Entree, a main meal needs about 20-30 grams of protein, which would be a cup of beans (14 gr protein) and a handful of nuts or seeds (14 gr in 2 ounces of nuts), not a spoonful decorating a green salad.

National Lipid Association Scientific Statement:

- Moderate CHO diet – 26-44% TDE
- Low-CHO diet – 10-25% TDE
- Very-low CHO/Very-low carbohydrate ketogenic diet - <10% TDE

Kirkpatrick, CF., et al. J Clin Lipidol. 2019;13(5):689-711

- *Carbohydrate Restriction for Obesity and Diabetes: What does the research say?*
Jonathon Clinthorne, PhD, Kristen Kirkpatrick, MS, RD
<https://www.todaysdietitian.com/marketing/webinars/2021/SGFcarbs/Presentation.pdf>

Prenatal topics

Constipation in *Pregnancy, Third Trimester* -

Constipation is a common concern of the Third Trimester of pregnancy and can be a problem for anyone who eats a diet that is low in water or non-diuretic beverages and foods; low in fiber and produce; rich in simple carbohydrates, meats and dairy; and who may not exercise much. Eating too much iron fortified cereal may be constipating and if it is colorful children's cereal, mom and dad may be in for a surprise.

Tips include (paraphrased to active voice):

1. Hydrate, drink eight glasses of water a day. A petite person would need less than a large person while someone sweating a lot from exercise or heat would need extra. Drink small amounts in between more frequent, small meals or snacks, as the baby takes up more space. *"Avoiding dehydration will keep the stools softer and make them easier to pass; liquids that contain caffeine (coffee, tea, cola) increase dehydration."*
2. *Increase dietary fiber to 20 to 35 g/day: High-fiber foods increase stool bulk and facilitate bowel evacuation; high-fiber food sources include fruits, vegetables, whole grains and bran cereals, and beans.*

3. *Minimize consumption of constipating food items, for example, ice cream, meats, cheese, and high-fat foods can increase constipation, especially in a low fiber diet.*
4. *Increase daily activity: Even increased daily walking, as well as other forms of exercise, for unknown reasons, will prevent constipation.*
5. *Go to the bathroom soon after the urge is felt. Putting off the need to have a bowel movement can actually blunt the sensation over time, leading to constipation.*
6. *Try to have a bowel movement at a regular time each day by sitting on the toilet and trying to relax each morning shortly after awakening. Some women, particularly in advanced pregnancy, find that putting their feet up on a stool while sitting on the toilet relieves pressure of the uterus on the lower intestines, facilitating a bowel movement. Should these measures not be adequate to treat the problem, bulk laxative fiber supplements, or, if necessary, osmotic or stimulating laxatives can be used.*

Romm A, Lee L, Hobbs C, Ch 15. Pregnancy Third Trimester, *Botanical Medicine for Women's Health*, 2010, Pages 370-397,
<https://www.sciencedirect.com/science/article/pii/B9780443072772000179>

Disclaimer: Opinions are my own and the information is provided for educational purposes within the guidelines of fair use. While I am a Registered Dietitian this information is not intended to provide individual health guidance. Please see a <functional or orthomolecular> health professional for individual health care purposes.

Psychosis

Many nutrient deficiencies may affect mental health and may lead to symptoms of psychosis. B deficiencies, zinc/copper imbalance, magnesium deficiency, histamine excess or hyperthyroidism can cause mania and irrational or reckless behavior. Correcting one nutrient deficiency or imbalance may help but they all may need to be resolved and maintained at healthy levels for symptoms to resolve and remain in remission.

Genetic differences in metabolic pathways can be a lifelong underlying reason for some nutrient deficiencies or imbalance, including endocannabinoids, or the ability to remethylate B12 and folate.

Cannabidiol, (CBD) helped reduce symptoms of psychosis. It is the non-euphoria producing equivalent of our endogenous 2-AG, which in normal health is present in greater concentrations than the psychoactive THC/anandamide:

<https://journals.sagepub.com/doi/10.1177/02698811211001107>

Psychosis, Mass psychosis, or Mass formation psychosis, Group think, Mob mentality.

Post: [Mass Psychosis and Totalitarian Takeover](#) - repetitive messaging from supposed family, friends, leaders, newscasters, doctors, nurses, and pop songs and comedians - can all add up to a gradual change of public opinion and many people's core beliefs - even if it is wrong. Quote ~ *It is easier to fool the public than to convince the public that they have been fooled.* - attributed to Mark Twain but written evidence of that has not been found. ([quoteinvestigator.com](#))

- *"In 1647 Baltasar Gracián wrote "Oráculo Manual y Arte de Prudencia" ("The Art of Worldly Wisdom")" Translation from Spanish: "Every blockhead is thoroughly persuaded that he is in the right, and every one who is all too firmly persuaded is a blockhead, and the more erroneous is his judgment the greater is the tenacity with which he holds it."* ([quoteinvestigator.com](#))

It can help people break free from the group think when there are standouts from the repetitive messaging who are modeling and sharing an alternative way. Parallel services and organizations also are needed so as people break free they have somewhere else to turn to for the basic social needs of a human. Isolation is not healthy and can be damaging.

Emotional or physical stress can cause physical inflammation and damage if inadequate nutrients are available for detoxification of the oxidative stress chemicals. Like rust - electrically active materials can oxidize, or rust other chemicals like iron. Our red blood cells have iron in the hemoglobin. During inflammation the body stores more as ferritin or free iron within other cell types as a defense against potential pathogens. They need iron too and it is easier to get from red blood cells than other cell types. This natural defense system is called anemia of chronic infection or inflammation when it is severe enough to cause fatigue.

Magnesium, vitamin C, and methyl B complex can help the body cope with the physical demands of emotional stress - bad news every day is emotional stress. Fear and worry every day is also emotional stress. Isolation tends to cause emotional and physical stress in most people. Humans are a social species that naturally seek out groups more than isolating in a hermit cave. Touch itself can be physically healing, when there is kind intent rather than fear. Prisoners may fall in love with their captor as a natural instinct or defense - when there is an emotional bond the other human is less likely to harm. This instinct can be used against victims as they start to cooperate with their captor, who they now feel bonded to, and then may become actively involved in the criminal activities.

Awareness of our instincts can help to recognize when we are falling into an unspoken pattern of behavior. Our thinking mind tries to rationalize these instincts, but likely is not aware of the real reason - innate feelings that are nonverbal - irrational even. I see the color red: *Danger!* or *Lust!*, may be the unspoken feelings that are generated. Other colors can have other unspoken feelings, but the color red has similar instincts across cultures and other species. Red light of a campfire is healing and safe, while the red light from a forest fire or a bleeding wound indicate Danger!

Psychosis in part is irrational thoughts and can be nutrient imbalance or other chemicals that affect mood. Working on physical health is important to replace the nutrients that are being used up excessively - magnesium, Bs and C, and other mitochondrial support nutrients and cofactors. Working on the irrational thoughts and underlying beliefs that may be false, whether from childhood or modern media and government messaging.

- The role of magnesium in oxidative stress, whether physical or emotional is discussed in *G3. Relaxation & Stress*. (effectivecare.info) For more about the healing benefits of kind touch see: *G3.4: Social contact would help protect against oxidative stress*.
- For more about our shared behavior patterns, see webpage, *7. When to Report?*, *7.7: Our instincts may be based on actions learned by more distant relatives*. (effectivecare.info)
- Also helpful for understanding our childhood core values, and how we may need to work to change core values that were not healthy, but modeled for us by our parents or other caregivers, . . . or school and society. See: *8. Trust is learned early*. (effectivecare.info)
- Strategies for healing childhood issues is included in section 7.3 and 7.4 (<https://effectivecare.info/g-fear-%26-inner-child>)
- Instincts about gender and expectations of women and men can also have unspoken feelings that are rationalized - *I feel odd around her, I shouldn't hire her then*. That would be sexual discrimination if the woman had not done anything inappropriately sexual, besides existing in a female body. Decorum is fair and needed even for best work efforts of males. Cognitive skills can be reduced temporarily by seeing or thinking about a woman they consider attractive. See: *11. Gender Discrimination*. (effectivecare.info)

Renal Health - Kidneys

In case you missed World Kidney Day (March) today is a good day to appreciate kidney health. The pair of kidneys or even a single functioning kidney has the power to clean the body of daily acidic waste from metabolism and dietary sources and remove other excess minerals and toxins. Adequate water is essential for kidney health as dehydration can cause damage that may not be reversible.

The amount of water a person needs per day varies with the size of the person and the amount of heat, humidity and exercise they experience throughout their day. The eight cups per day for an average person is just an estimate based on typical conditions and average size. Dr. Batmanghelidj specialized in water needs for chronic illness or general health and his rough guideline for adults was to aim to drink ounces of water per day equal to half your body weight (in pounds), so a 150 pound adult might benefit from drinking 75 ounces of water per day ~ about 9 cups of water. The fluid content of herbal tea, juice, milk, or soup would be helping reach the goal, while a diuretic type fluid like coffee or caffeinated black or green teas, or alcoholic beverages would not. His book is older and the validity of some of his theories have been questioned but as a fairly easy to follow overview of the importance of water to health, it is helpful. (*Your Body's Many Cries for Water*, pdf)

For more information on a healthy diet for general health or aging and the prevention of chronic kidney or vascular disease see the recently published article about nutrition for health written by a nephrologist. (1) It is technical but some of the basic concepts can be picked up from the thorough description of issues with our modern diet that may be causing chronic illness and leading to chronic kidney disease. Prevention has to start before permanent damage occurs and is easier diet changes than those a renal patient has to follow with more advanced dysfunction or on dialysis.

The summary points for prevention – dehydration is damaging to the kidneys, whether acute or chronic there can be a risk of long term damage occurring. Excess protein and sodium and acid producing foods or beverages is taxing on the kidneys and may increase risk of chronic illness, while adequate to plentiful amounts of potassium and magnesium rich vegetables and fruit is protective. Excess phosphorus and calcium can also be a problem for declining kidney function.

Oxalates are damaging and painful, if the breakdown of the needle-like crystals is malfunctioning. Adequate calcium helps the body because the oxalate crystal is formed with calcium instead of being broken down further. Inadequate calcium intake may lead to low calcium levels or osteoporosis. Excess acidity worsens the risk of crystal formation and gout or other symptoms of pain. Urination or digestion can feel like there are little needles.

Use of diuretic teas or coffee is removing water and adding both oxalates and acidity. Chaga powder, a medicinal mushroom, dissolves in hot water readily and is coffee-like in taste and appearance without the acidity or caffeine of coffee. It is good with a little vanilla, sweetener, and cardamom or other flavorful spice like nutmeg, cloves, or ginger.

Using too much Chaga powder is also a renal risk because it has oxalate content. A half teaspoon once or twice a day does not cause oxalate symptoms for me like a cup of coffee or (higher amount) a cup of green tea or (even higher amount) black tea. Chocolate is also an oxalate source and might also cause symptoms if eaten in excess or a person is very sensitive. Use blanched almonds to reduce oxalates from the papery skin on the almond. See: [Oxalates](#).

“Is chaga bad for kidneys? As we discussed, those prone to kidney stones, as well as people diagnosed with kidney disease, IBD, [Inflammatory Bowel Disease], or kidney stones advised to avoid Chaga all together, and should certainly consult with a licensed physician before consuming Chaga or any other oxalate-rich foods. What happens is that in your bloodstream, free oxalate may bind with free calcium to produce calcium oxalate crystals. Over time, excessive presence of these crystals could lead to kidney stones, gout, and physical damage to the kidneys, while simultaneously depleting essential calcium needed for healthy growth.

Otherwise, when consumed in moderation, oxalates in Chaga do not pose any health threats to the average person.” (2)

Excerpt from *Kidney Disease and Medicinal Mushrooms*, (2), see for more information about types of kidney disease, common symptoms to watch for, more about oxalate sources, and which medicinal mushrooms are best for renal benefits. (2) Dr Alla recommends Reishi, Lion's Mane, and especially Cordyceps based on research showing renal benefits. (2) Information & product pages: **Cordyceps** — **Lion's Mane** — **Reishi** (2) *I am unaffiliated.

Numerous studies of the effects of Reishi, Lion's Mane and especially Cordyceps have shown huge improvements in the function of kidneys, such as:

- *water re-absorption,*
 - *ability to regulate the blood pressure in the blood vessels,*
 - *reduce the inflammation,*
 - *better production of hormones,*
 - *reduce production of urinary protein,*
 - *improved production of amino acids and glucose,*
 - *ability to maintain the balanced acid-base levels*
- and, in general, boost the immune system to fight the disease. (2)*

Traditional Chinese Medicinal herbal preparations, or herbs, are listed in a document with a long reference list and some notes, and a blog post about vascular calcification of the kidneys and magnesium's beneficial role. [TCM for Kidney Health](#).

- Angelica sinensis (7)
- Astragalus membranaceus (4, 5, 6)(7)
- Dan Shen
- *Ligusticum wallichii*, (7)
- Rehmannia
- Rheum officinale Baill (RO) (4)
- *Rhizoma dioscoreae* (7)
- *Rhodiola crenilata* (7)
- Salvia miltiorrhiza Bunge (SM) (4)(7)
- Ji-Sheng-Shen-Qi-Wan (JSSQW) (4)

Analgesic Nephropathy and painkillers or other negatives for renal health.

Avoid negatives for the kidneys, like remdesivir, alcohol in excess, or painkillers like ibuprofen and taken at prescribed doses over time may cause chronic kidney problems.

"Aspirin, Acetaminophen, Ibuprofen, and Naproxen sodium" use chronically, at prescribed doses or greater amounts, may lead to "analgesic nephropathy".
"Painkillers that combine 2 or more medicines (such as, aspirin and acetaminophen together) with caffeine or codeine are the most likely to harm the kidneys." (3)

Remdesivir for Babies: FDA Gives the Rubber Stamp After a Third of Animals Suffered Kidney Failure

Vascular Calcification of the Kidneys & Magnesium.

Magnesium adequacy is important for cardiovascular health too and the renal system is a cardiovascular exchange - toxin removal and magnesium may be lost too. Vascular calcification can be a cause of renal dysfunction and magnesium is needed to help prevent excessive free calcium ions by keeping calcium channels closed. Magnesium provides the electrical power as an equally charged ion, 2+, able to accept two negatively charged electrons. Calcium is electrically active also and blood vessel plaque may be simply the body's way to waxy coat the 2+ charged ions to keep them from causing oxidative damage to other chemicals.

Magnesium- protects against vascular calcification

Summary - Calcification is damaging throughout the body, not just in the kidneys, and magnesium can help reverse calcification but intestinal absorption of the magnesium may be a problem, increased urinary or sweat losses may also be a problem, and/or low protein and low phospholipids in the diet or inability to make the chemicals endogenously may limit the amount of back stock of magnesium that the body can store. Background info: We can not have excess magnesium in the electrically active ionic form (or other ions). Extra magnesium is held in a non-electrically active form on protein transport molecules and the phospho-chemical ribonucleotide ATP. Other nutrients and bitter tasting plant phytonutrients may also be needed to prevent calcification - vitamins D and K, magnesium, iodine, selenium, zinc are discussed in this post.

See the blog post *Magnesium - protects against vascular calcification*, which is after the two reference lists in the document: [TCM for Kidney Health](#)

Team - water, magnesium sulfate, zinc, iodine, selenium, Vitamin D, protein, phospholipids.

Take home point - while magnesium, and particularly topical Epsom salts (magnesium sulfate) may help reverse or prevent vascular calcification within the kidneys (and rest of the body) - other nutrients may also be essential to help in that process such as zinc, iodine, and selenium and vitamin K. Adequate vitamin D is also essential while excess may increase calcium excess and add to problems with poor intestinal absorption of magnesium. Adequate protein and phospholipids are also necessary to maintain a surplus supply of magnesium within cells. Excess phosphorus can be a risk.

1. Qi Qian, Dietary Influence on Body Fluid Acid-Base and Volume Balance: The Deleterious “Norm” Furthers and Cloaks Subclinical Pathophysiology, *Nutrients* 2018, 10(6), 778; Open Access, <http://www.mdpi.com/2072-6643/10/6/778/htm>
2. Dr Alla, *Kidney Disease and Medicinal Mushrooms*, medimushrooms.com, <https://medimushrooms.com/articles/medical-conditions/kidney-disease-and-medicinal-mushrooms/>
3. *Analgesic Nephropathy*, hopkinsmedicine.org, <https://www.hopkinsmedicine.org/health/conditions-and-diseases/analgesic-nephropathy>
4. 2. Huang KC, Su YC, Sun MF, Huang ST. Chinese Herbal Medicine Improves the Long-Term Survival Rate of Patients With Chronic Kidney Disease in Taiwan: A Nationwide Retrospective Population-Based Cohort Study. *Front Pharmacol.* 2018;9:1117. Published 2018 Oct 1. doi:10.3389/fphar.2018.01117 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6174207/>
5. 3. Zhang H, Lin Z, Xu C, Leung C, Chan L, *Astragalus (a traditional Chinese medicine) for treating chronic kidney disease*. 22 October 2014, Cochrane.org, https://www.cochrane.org/CD008369/RENAL_astragalus-a-traditional-chinese-medicine-for-treating-chronic-kidney-disease
6. 4. *Astragalus membranaceus; Astragalus mongholicus; Huang-qi; Milk-vetch root*, mountsinai.org <https://www.mountsinai.org/health-library/herb/astragalus>
7. 11. Tong Y, Han B, Guo H, Liu Y. Protection of Chinese herbs against adenine-induced chronic renal failure in rats. *Afr J Tradit Complement Altern Med.* 2010;7(4):331-8. doi: 10.4314/ajtcam.v7i4.56701. Epub 2010 Jul 3. PMID: 21731165; PMCID: PMC3005392. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3005392/>

Sleep Protocol

Hello, sweet dreams and restful slumber!

- Pick one magnesium, and a choice of lavender or chamomile, ashwagandha or valerian root, may be reasonable rather than trying them all.
- Magnesium deficiency may be related to poor intestinal absorption, due to genetic or inflammatory conditions. If magnesium supplements don't seem to help consider Epsom salt baths or foot-soaks or topical creams with magnesium sulfate. Research on absorption from a bath shows it is well absorbed. Research on magnesium chloride topical applications has had less positive results - and may have led to topical magnesium being dismissed as a therapy tool. It is an ancient therapy - go to the hot springs in Bath, England - 57 mg/liter magnesium concentration in the naturally hot springs in the historically famous location. (thermaebathspa.com / unaffiliated) More information: [*Magnesium deficiency and cancer – and magnesium sulfate salt.*](#)
- People with seasonal allergies may react to chamomile, it is a flower.
- Valerian root has a strong, odd odor. It is a root, and I did find it helpful for sleep but didn't continue it, really has a strong odor. But it can help, as needed before bed, can help induce sleep.

- The Ashwagandha label has a caution against use during pregnancy. In India it is used to support a healthy pregnancy but large doses during pregnancy are avoided. More than 1/2 to 1 teaspoon of powder is considered a large dose (which would be 2.5 -5 grams roughly). It can effect menstruation. (mofga.org/resources/herbs/ashwagandha) Ashwagandha is an adaptogen that can help general health and cognitive health. It is considered a nootropic that has been found helpful for sleep and mental clarity: (psychologytoday.com)
- Magnesium glycinate may be more beneficial as a sleep aid than magnesium citrate, as the glycine also has calming effects. Products that can be mixed in water, or a low dose capsule are included at the end of the list with details about dosing amounts for children.
- Dimethyl glycine powder in water before bed may help cool the body into pre-sleep mode. 1/4 to 1/2 teaspoon in a glass of water with a little low acidity juice for flavor, a little sweetener and tiny amount of baking soda can make it more palatable
- We naturally cool down in temperature and a slow down occurs in brain activity before we drift off to sleep. A cool gel pack used for sprained ankles can be wrapped in fabric and used on the forehead during insomnia, or for a headache. It helps cool the brain temperature which needs to happen to promote the calmer brain activity needed to be able to fall asleep.
- Blackout curtain darkness is important, even light on our skin can reduce the amount of melatonin that we make for ourselves. It also helps our circadian cycle epigenetic changes to happen normally to get outside for some morning sunshine - kickstart the daytime genes. Avoiding blue light from electronic screen devices or TVs for the last three hours before sleep can help ease into the night-time mode. Blue light blocking glasses are available. Having only red light on during the evening hours would also not interfere with the transition to our circadian night genetics. Hundreds of genes are activated or inactivated every 24 hours - during normal health...modern life seems to be keeping us in the daytime inflammatory mode and we don't switch over to the growth and repair gene pathways at night - bright lights, poor sleep, caffeine late in the evening keeping our brain stimulated - all may interfere with the circadian changes that ideally should be taking place for us every night.
- See the post [Sleep and Health](#) for more info about some of these points.

Red light & Negative ions from Himalayan salt lamps.

Addition - red light may help increase our melatonin, and health.

Via Perp to the future @perp2thefutures ·5m Replying to @deNutrients and @LNeuroscientist

"IDK where to post so you'll see this. @deNutrients

- Liebert A, Bicknell B, Markman W, Kiat H. A Potential Role for Photobiomodulation Therapy in Disease Treatment and Prevention in the Era of COVID-19. *Aging Dis.* 2020;11(6):1352-1362. Published 2020 Dec 1. doi:10.14336/AD.2020.0901
<https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC7673843/>
- Odinokov D, Hamblin MR. Aging of lymphoid organs: Can photobiomodulation reverse age-associated thymic involution via stimulation of extrapineal melatonin synthesis and bone marrow stem cells?. *J Biophotonics.* 2018;11(8):e201700282. doi:10.1002/jbio.201700282
<https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC5995606/>
- de Matos BTL, Buchaim DV, Pomini KT, et al. Photobiomodulation Therapy as a Possible New Approach in COVID-19: A Systematic Review. *Life (Basel).* 2021;11(6):580. Published 2021 Jun 18. doi:10.3390/life11060580 <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC8233727/>

red light/nir therapy, increases extrapineal melatonin production, stem cell production, reduces excess ferritin. Thought u should see this."

<https://twitter.com/perp2thefutures/status/1448868344728154114?s=20>

Himalayan salt crystal lights cast a soft reddish glow and release negative ions that have a positive effect on health..



At night the light acts as a night light, too dark to really see to read by, but bright enough not to trip in the dark.



Himalayan Salt Crystal lamps also produce negative ions which can help sterilize the air of positively charged chemicals such as the chimeric spike protein. The larger clump of neutralized particles fall from the air and sweeping and mopping more often is a good idea. That also helps remove volatile chemicals from the air and surfaces where they collect similar to musty mold or third hand smoke adding stale odors to wall paint or fabrics.

Tinnitus

Tinnitus is a dysfunction of the inner ear that causes a fairly constant ringing or buzzing sound where there is no sound in the real world. Our inner ear Hair cells are shaped like short hairs but are not strands of hair. It is a motion detector and Hair cells are also found in the vestibular system. Having tinnitus may be an early indicator that vestibular dysfunction may be on the way then balance for walking or stable vision - tracking the flight of the bird or a mosquito. It would be difficult to read if the letters appeared to be jumping around or jiggling.

Magnesium and sulfate and good hydration are critically important for prevention or repair. The delicate Hair cells are in a gelatin-like fluid that protects them from abrupt changes in position - like they are in a vat of Jello™, rather than water.

Soaking in Epsom salt provides magnesium and sulfate and a bath with the ears submerged would be providing it rapidly. Excess is not safe or more effective. Epsom salt baths, hand or foot soaks can be helpful about 1-2 times per week. The more deficient a person, the more is absorbed, somewhat. Caution: Falling asleep in an Epsom salt bath might lead to an overdose and a significant overdose of magnesium can be fatal due to the heart rate slowing, bradycardia. More likely a day of loose watery stools can occur from excess absorption.

Healing Hair cell damage is difficult. Saffron (80-100 mg/day, or 6 strands made into tea) or Ginkgo biloba supplements may help repair Hair cell function.

Hearing protection across the lifespan is important for our hearing and our sense of balance. The loud noise can damage both. Symptoms can be more severe when the noise was one sided, from use of a cell phone or musical instrument perhaps.

Tinnitus, sound sensitivity, - brain connectivity dysfunction

Buzzing in the brain can be due to neuroinflammation and lack of synaptic function or malfunction between the limbic and auditory systems of the brain - the messages from the ears are being amplified and reverberating instead of being inhibited. Cannabinoids are involved with control of synaptic connections and inhibition or removal of unnecessary synapses - pathways to forget.

Nutrients that reduce inflammation and provide phospholipids, needed for us to make cannabinoids internally when genetically able to do so.

Sonus Complete is a product sold by direct marketing currently. It contains: *Hibiscus, Hawthorne Berry, Olive Leaf, Garlic, Niacin, B12, B6, Bucha leaves, EGCG/Green tea extract, Juniper Berry, Uva Ursi, Vitamin C.* ([Review/product link page](#))

The company also has a *Calm* product: which contains *California poppy seeds, Marshmallow root, Corydalis, Passionflower (Passiflora incarnate).*

*Unaffiliated, but I am going to try the products though as the ingredients sound effective, depending on if it is a methylated B12, and what the capsules are made from - commercial gelatin glyphosate risk?

It is interesting that magnesium is not included, but the list includes iron chelators, vitamin C, important B's, cardiovascular and nerve support, and sources of phospholipids.

Will update once I try it or decide not to. *Sadly the product does use commercial source bovine gelatin and cyanocobalamin. That would not be helpful to anyone with methylation issues which includes my family and I.

The return policy is at least clearly available on the website.

Disclaimer: This information is provided for educational purposes within the guidelines of fair use. While I am a Registered Dietitian this information is not intended to provide individual health guidance. Please see a health professional for individual health care purposes.

