

FALL/WINTER 2023 UPDATE

# Immune Support and Virus Protection Recommendations



Your Partners in  
**Integrative Healthcare**  
for Over 30 Years





# Continue to stay resilient: Reduce risk, boost immune defense and repair abilities. Prevent long COVID based on what you eat, drink, think, and do. Stay protected *even if or when* exposed.

**Multiple strains of SarsCOV2 have made waves for the past few years with infections waxing and waning. We are now yet again on the brink of another winter flu season. These two illnesses colliding together have been termed a “twindemic,” and last year we were looking at an added twist of a “tridemic” in the making. This year is no different. The CDC expects the hospitalizations due to the tridemic illnesses to be just like 2022, and higher than in any pre-pandemic year.** In addition to the influenza virus, the respiratory syncytial virus (RSV) is surging across the US. [RSV](#) usually causes mild cold- like symptoms and while most recover quickly, for infants and older adults it can be serious. Bronchiolitis and pneumonia in particular affect children younger than 1 year and can be [dangerous](#).

While multiple lockdowns, physical distancing, wearing masks and washing hands have played a part in limiting the spread of SARS COV2 and other viruses over the past few years, [10% of adults](#) infected with the virus continue to experience and suffer from the many symptoms termed together as “long COVID.”

As we approach the 5th year since the COVID pandemic began, the recommendations and approach to preserving immune health outlined in this Immune Support and Virus Protection eBook hold true even today. See our 'Long Covid' section for how to prevent it and [here](#) is our quick run through on our nutraceutical approach to COVID-19.

**Enhancing your immune system competence** reduces risks associated with RNA Coronavirus (COVID-19), or any viral, bacterial, parasite, prion or other pathogen. There is much nature offers to reduce risks and avoid infections. Exposure is widespread; illness is not. For each symptomatic individual, there are 5-10+ people whose immune defense and repair systems recognize the virus and neutralize it effectively without symptoms. Reduce your risk of infection and of cytokine storm as well as long COVID. **Use the [self-tests](#), [predictive biomarkers](#) and functional choices described here to evoke healing and protective responses.**

**Host hospitality** is what makes some people greatly more or less at risk. Common questions and functional responses follow below after risk reduction recommendations. The recommendations provided in this article are known to boost your immune defense and repair system and reduce infection risks if you are exposed—making you more resilient and “inhospitable.”

A “hospitable host” is one in whom conditions are right for a pathogen to take up residence due to **essential deficits of required nutrients and excess of anti-nutrient toxins**.



Conversely, a **healthier “inhospitable host”** is one in whom a foreign pathogen is unable to infect because of protective surface (mucosal) immunity and innate immune responses designed to engulf and recycle anything foreign that gets past the mucosal surface.

Co-morbidities, underlying issues, and known risk factors have complicated matters in catastrophic cases... [at least 94+% of all severely affected people](#).

Those who have hemoglobin A1c>5% increase their susceptibility to COVID-19 infection, as opposed to those who keep their blood sugar at healthy levels. When all predictive biomarkers are at their best outcome goal values, **RNA viruses do not pose the same risk**—surface (mucosal) and innate immune response mechanisms can prevent the infection itself and the ability of the person to infect others.

People with prior lung pathology from air pollution and/or smoking tobacco/vaping, and people taking certain medicines for heart disease are also at risk. Ask my team about [helpful self-assessments and predictive biomarker tests](#) to determine your risk potential.

While medical conditions abound in older people, birth age is *not* important; *functional* age is important. The elderly are *only* more at risk to the extent they have *co-morbidities*. The same risk factors affect too many younger individuals as well.

For those concerned about co-infections and lung surfaces that are more hospitable to viral ‘docking,’ the same comorbidities are found. The comments here are the best defense and repair enhancements we know to successfully adapt to this global health challenge.

Intensive bioavailable antioxidant, mineral, and essential cofactor supplementation has generated multiple anecdotal or early observational scientific reports strongly suggesting their value, particularly when nature’s nutrients are used and *not* synthetic workalikes that too often do not work.

Helpful and essential nutrient recommendations follow. Essential means we must take them in since our body is unable to make them. This personalized approach guides each individual to determine what their strengths and risk are, as well as what to do to reduce risks and celebrate resilient strengths.

## Ascorbate Depletion

Acute depletion of antioxidants, especially vitamin E and ascorbate, is being increasingly recognized as a hallmark of COVID-19 infection. Almost 75-80% of severe cases have shown deficits in vitamin C leading to increased [oxidative stress](#).

The devastating consequences of COVID-19 infection can all be explained as multiple expressions of acute vitamin C depletion. Vitamin C deficiency affects the working of the lung (acute respiratory distress syndrome), heart and associated blood clotting mechanisms. Low levels of vitamin C can cause early red cell destruction due to iron or other mineral oxidation and damage to tiny blood vessels.

Multiple reports suggest benefit in people at risk when [adequate ascorbate is taken based on their oxidative \(anti-nutrient\) burden](#). Nature's fully buffered, fully reduced l-ascorbate is therefore necessary and highly [recommended](#).

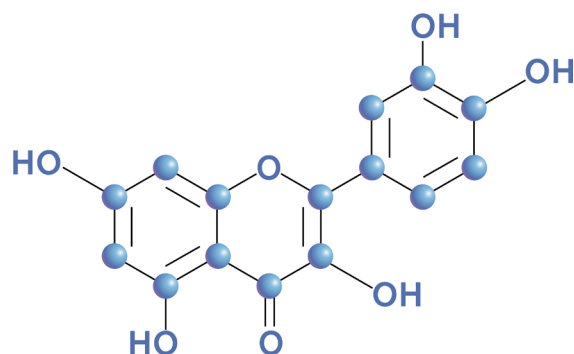
## Vitamin D3 Deficit

This essential **neurohormone** helps regulate cell division and is important in many systems designed to renew the body. Vitamin D [inhibits some of the inflammation](#) that can make COVID-19 more severe. Low levels of vitamin D are associated with longer duration and [worse severity of COVID-19](#) infections. Drops under the tongue provide easy and predictable uptake of vitamin D3. Going to brain before body is also helpful. Best health outcomes come to those with vitamin D3 levels of 50-80 ng/ml.

## Zinc/Magnesium Need

From taste and smell to immune and neurohormone balance, zinc and magnesium are essential yet often deficient. Considering its role as an antiviral, [zinc supplementation](#) can be beneficial for most of the population, especially older people and those who are at risk of COVID-19 infection. People at greater risk also show signs of cell metabolic acidosis. Cellular dysfunction states (as discussed above in the Ascorbate section) occur especially when ascorbate and magnesium (with choline citrate) needs are unmet. Cell energetics and functions are also disrupted by a lack of zinc, polyphenolics (and other antioxidants), and omega-3 fats. Urine pH after rest is one of the best ways to monitor if enough buffering minerals, especially magnesium, are present to neutralize the day's excess stress and metabolic acids.

Several of the recommendations here, especially [quercetin dihydrate](#), function as safer, more effective zinc ionophores — nature's way to facilitate necessary cellular uptake of zinc and other helpful minerals. See items 2, 4 and 5 in the supplement suggestions below. A more comprehensive list of needed supplements is detailed below.



We become what we...

# EAT *drink* *think* DO!

At its core, sustained health is about what people **EAT, DRINK, THINK** and **DO**. You can take action today to boost your immune defense and repair system, improve tolerance and reduce excess immune activity while reducing infection intensity if exposed.

There are benefits from each and synergy of benefits from all of the following:

## EAT

- Eat a diet that is easier to digest, assimilate and eliminate without immune burden. This means eating organic or biodynamic ripe fruits, vegetables, grasses (while avoiding grains), nuts, seeds, sprouts, sea vegetables, herbs, edible flowers, and spices. Metabolic and nutritional balance is reflected in a urine pH between 6.5-7.5 after six or more hours of rest. Resources at the end of this article provide additional information.
- Enhance healthier methylation to improve biological detoxification by making dietary staples from garlic, ginger, onions, brassica sprouts and eggs (the sulfur rich foods sometimes referred to as [GGOBE](#)). Methylation is important for proper translation of genetic code, cell detoxification, and for proper cell protein synthesis. Methylation status can be measured with proper plasma homocysteine and a healthy methionine to homocysteine ratio is suggested.



- Avoid processed foods, because they have too much processed fat, salt, and sugar. Chemicals, fats, salt, and empty-calorie sugar or artificial sweeteners, when combined in snack foods such as chips, can be addictive and cause your tongue to crave more.

- Current best guidance suggests avoiding NSAIDs, particularly [ibuprofen](#) and acetaminophen. Fever can sometimes be a helpful change in temperature to activate immune defense and repair mechanisms. We recommend nature's ascorbate with safer polyphenolics, adequate magnesium and choline citrate, sufficient B complex to keep urine sunshine yellow and enough Omega 3 fats to achieve an Omega 3 Index of >8%.

## DRINK

- Stay well **hydrated** – Drink plenty of water and herbal beverages, at least 1 gallon per day. Keep a glass and a carafe of water on your desk. When the glass is full, drink it; when it is empty, fill the glass and repeat.
- Start each meal with something warm, wet and savory, like any broth (except bone broth) or soup. We recommend against bone broth, as bone is where the body stores toxic minerals such as lead, mercury, arsenic, cadmium, and nickel, and bone broths thus can have high concentrations of these toxins. "[Just as the dietary fat you swallow doesn't directly translate to body fat, swallowing collagen doesn't become collagen in or between your bones.](#)" Instead choose high quality [vegetable](#), meat or fish broths, using organic or biodynamic ingredients.



## THINK

- Anxiety and fear reduce and repress immune defense and repair ability. Knowledge and experience improve immune defense and repair ability, neurohormonal balance and quality of life.
- Use art, music or [relaxation response](#) practices to help calm and restore your mental equilibrium. For example, [Joan Kellogg's Mandala technique](#) or [Helen Bonny's Music suggestions](#) allow us to be in the moment as the mandala is created; in the moment as the music carries us to deeper self-awareness. Relaxation response training has been scientifically confirmed to promote well-being and reduce distress, anxiety and fear.
- Consider Ira Progoff's intensive journal ([Intensive Journal, Dialogue House](#)) or do Quaker peer co-counseling or read inspirational writings ([Ariel Press, Books of Light](#)) and watch uplifting videos.
- Learned Optimism by Seligman has helped many improve their inner outlook.

## DO

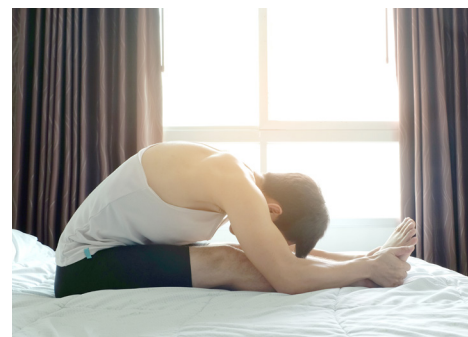
- Consider LRA by **ELISA/ACT**® testing to identify your personal immune system burdens. The LRA (lymphocyte response assay) by **ELISA/ACT**® tests your personal immune response to up to 500+ common foods, colors, preservatives, environmental toxins and medications. When you identify and substitute for dietary immune burdens, you make your immune system better able to fully function for both protection and repair.



- Keep your 1st morning [Urine pH after rest](#) between 6.5 and 7.5. Excess acid in cells prevents healthy cell activity. While known as metabolic acidosis in clinical pathology, it is really magnesium cell deficit in physiology. See item 2 in the essential supplements section below.



- Get enough quality, **restorative sleep** and improve mood by following a sleep preparation plan. Prepare for sleep about 30 minutes before bed by taking a salt and soda bath (1 cup each of Epsom Salt & baking soda in a warm bathtub) while practicing abdominal breathing and a relaxation response or active meditation, for example, [www.activemeditation.org](http://www.activemeditation.org).
- Amble while walking; consider forest bathing; walk barefoot when on healthy ground.
- Stretch regularly.** For me this includes stretching in bed before sleep, before getting out of bed on waking and in the shower. Stretching helps renew body infrastructure and helps reverse gravity's tendency to contract while improving sleep quality. Trager mentastics, hatha prana yoga and Tai chi chuan are examples.
- For many, enhanced uptake of [Tryptophan](#), nature's safer source of serotonin and melatonin, is helpful to enhance restorative sleep.
- Frequent hand washing** and **social distancing** are recommended to decrease exposure. **Skin nourishment** is essential since frequent hand washing can dry out the skin, making skin hospitable to infection. We suggest applying organic sesame oil or your favorite skin 'butter' such as [Weleda's biodynamic 'skin food'](#) to support healthy skin integrity.
- Consider improving the air quality in your home or office with a room ionizer** e.g., [Molekule.com](http://Molekule.com) or [Bionaire.com](http://Bionaire.com). In the 21<sup>st</sup> century, a healthy diet and lifestyle is no longer sufficient to optimize your immune and neurohormone functioning. Being proactive about the air in your home, school or office is timely.
- Self-assessment.** four personal tests are good places to start on a journey to healthier life. Eight **Predictive biomarkers** cover epigenetics and are available and especially helpful when interpreted to best outcome goal values.
- Upon returning home, change from "outside" clothes and shoes to "indoor" clothes. This simple habit can greatly reduce the toxins you bring into your home.



- **Dietary supplementation** is essential today and in the 21st century to enhance repair and immune responses, neurohormonal balance, stress resilience and healthy digestion.



# Targeted Supplementation with PERQUE®

My team has developed the **PERQUE®** brand of novel, professional, synergistically beneficial, scientifically researched and validated quality formulations to meet today's needs. Simply said, **PERQUE** provides the most advanced, full disclosure, novel, all active, more bioavailable, safer forms of nature's nutrients combined for multiple benefits.

**Suggestions below provide meaningful amounts of safer essential nutrients:**



1. Take sufficient L-ascorbate (based on your C cleanse/calibration results). L- ascorbate is an excellent antioxidant and a potent natural anti-viral, but only when it is 100% L-ascorbate, fully reduced and buffered as you find in **PERQUE Potent C Guard™** [powder](#) or [tabsuble](#).



2. [PERQUE Mg Plus Guard™](#) and [PERQUE Choline Citrate™](#) taken together are a proven system for improving the amount of magnesium your body can absorb and use. Take 2 capsules + 1 teaspoon twice or more daily to maintain first AM urine pH 6.5 – 7.5.



3. [PERQUE Life Guard™ Mini](#) tabsules, 2-4/day (enough to keep your well hydrated urine sunshine yellow). This super-multi-vitamin/mineral provides a solid foundation of nutrients necessary for resilient health.





4. **PERQUE Zinc & Throat Guard™ Lozenges**, 1-3 lozenges/day or as needed. These fully soluble, synergistic nutrients help fight infection and provide maximum immune support.



5. **PERQUE Repair Guard™** / **PERQUE Pain Guard™ Forté**, 4-12 tabsules/day. This potent flavonoid/flavonol polyphenolic combination of quercetin dihydrate and soluble OPC works synergistically with L-ascorbate to activate first line cells responsible for protection and repair.



6. **PERQUE D3 Cell Guard™**, 5-10 drops/day or sufficient to keep your D3 levels within the best outcome goal range of 50-80 ng/ml. Maintaining an adequate level of D3 supports a healthy immune system with enhanced viral protection especially from respiratory and intestinal infections. Sunlight activates vitamin D, but *only* when the precursor (cholecalciferol) is already present in lymphatic blood and blood stream. Sunlight does enable memory T cells and other defense and repair systems.



7. **PERQUE Liva Guard Forté™**, 1-2 softgels daily provides much needed liver detox support with milk thistle and additional antioxidant nutrients. Additionally, it is a good source of vitamin D. Daily vitamin D intake should be enough to maintain healthy blood vitamin D (25-OH-D) levels of 50-80 ng/ml. *Do take into consideration your total vitamin D intake if taking other Vitamin D supplements.*



8. **PERQUE EPA/DHA Guard™**, 4 softgels/day provide safer Omega-3s to keep Omega 3 Index > 8%. This blend of pure marine lipids derived from deep sea fish yields a high level of brain- and body-building Omega-3 EFAs: EPA and DHA. **PERQUE EPA/DHA Guard** is nitrogen-purged and has one of the lowest Total Oxidation (TOTOX) levels in the industry ensuring maximum purity and protection.



# Your Questions Answered

## What is long COVID?

Most people with COVID-19 [get better](#) within weeks of illness, while many experience a wide range of new, returning, or ongoing health problems four or more weeks after first being infected with the virus. These conditions have been termed long COVID, long-haul COVID, post-acute COVID-19, long-term effects of COVID, or chronic COVID. With huge similarities in their symptoms, these conditions can also be called chronic fatigue immune dysfunction (CFIDS) or 'adult failure to thrive.' It is evident that there is enough essential nutrient deficit and antinutrient toxin excess which hamper recovery from acute illness. Reports suggest that at least third to [two thirds of](#) people who recover from COVID have persisting impairments and afflictions.

A few essential nutrients and lifestyle choices are necessary to address long COVID in the right way and leave it behind as a distant memory.

### Expression of long COVID as “chronic scurvy” and “metabolic acidosis”

From a physiological, molecular point of view, long COVID occurs due to depletion of antioxidants and minerals. Long COVID can in fact be described as the result of chronic scurvy and prolonged metabolic acidosis. The primary cause of these two situations is lack of ascorbate and cellular magnesium.

Chronic scurvy results from incessant ascorbate deficit. We recommend using nature's ascorbate (vitamin C) buffered with alkalinizing minerals for best results, and the amount of ascorbate needed by an individual is determined by a [C Cleanse](#) procedure. The action of buffered ascorbate is amplified by polyphenolics. We suggest using preferred, safer, more bioavailable polyphenols such as quercetin dihydrate combined with soluble, low molecular weight oligomeric-proanthocyanins (OPC).

Ascorbate is essential for collagen and elastin repair. These are the connective tissues that hold the body together and orient cells to do their job. Bones, joints and muscles, organs and vascular systems all exist because of connective tissue. Renewing connective tissue is essential for staying functionally young. Ascorbate boosts host defense and repair systems and it is a principal detoxifier.

Metabolic acidosis occurs primarily due to lack of intracellular magnesium. Among its many functions, magnesium buffers metabolic acids, especially from the mitochondrial cell battery, activates ATP, and maintains the proton gradient upon which the mitochondria depends to produce energy and detoxify some toxic chemicals. Magnesium activates hundreds of biological enzymes, protects essential fats in transit and counteracts toxic minerals.

Magnesium availability in the diet has decreased by [half in about 50 years](#). On the other hand, magnesium requirements have doubled in the same time due to exposure to oxidative antinutrients which are omnipresent in today's environment. [Chronic latent magnesium deficiency \(CLMD\)](#) is now at least epidemic. This main cause of metabolic acidosis is corrected when magnesium uptake is enhanced with choline and citrate. This provides a path for the whole cellular system to function at a higher level.



## “Anti” and other essential nutrients

In addition to ascorbate and magnesium, people symptomatic from COVID infection are often further depleted in CoQ10 and other antioxidants. Antioxidants trap free radicals induced by oxidative anti-nutrients such as hormone disrupters and persisting pollutants, solvents like methylene chloride, and toxic minerals such as lead, mercury, nickel, cadmium, and arsenic. Intensive supplementation of buffering minerals like magnesium and zinc, as well as essential cofactors such as vitamin D and Omega 3 fats are important today to counteract the damaging effects of food processing and increase in anti-nutrients. The persistence of anti-nutrient oxidative toxins in herbicides like glyphosate, processed foods, personal care products, kitchen ingredients and utensils, and clothes exacerbate the symptoms and disabilities associated with long COVID.

## How can I prevent long COVID?

For at least three months after recovery, rebuild these essential nutrients and reduce exposure to anti-nutrients. The suggestions in this protocol can help rebuild and restore health to those who have gone through “long” or “post COVID” and are even more important after recovery to reduce any future acquired infections. The following lifestyle tips are integral to the healing journey from COVID-19 or other infections:

- Regular abdominal breathing (5 min twice daily),
- Stretching (5 minutes twice or more a day),
- Walking (especially in a forest, park, or garden) and
- Green dichro light to improve pineal/pituitary functions.

Severe COVID-19 can cause the brain to age faster — the [cognitive damage](#) it can cause is equivalent to almost 20 years of brain aging. Let’s not get there. Prevent long and severe COVID 19. Read about our nutraceutical approach to long COVID [here](#). Our recently released book, [Thriving in the 21st Century](#) has helpful hints and doable suggestions to help you heal or be resistant to infection. In just 72 minutes a day you can make choices in what you eat, drink, think and do that improve your wellbeing.

## What about antivirals?

Antiviral therapies like Paxlovid and Remdesivir are helpful when the cell is vulnerable. With nutrients detailed in this protocol, especially ascorbate, polyphenolics and magnesium and choline citrate, we can establish adequate cellular health that would not need the help of these antivirals.

## Does vaccination protect people from infecting others?

**Vaccination starts a process the goal of which is to have circulating white blood cells known as T cells to neutralize a specific foreign invader such as COVID-19, no matter the subtype.**

This process typically takes two to six weeks. During that time, an infected person can still infect others, until the immune defense and repair system ‘learns’ how to prevent further infections, after the vaccine is successful in mounting a memory immune response. Regardless, following suggestions in this guide reduces risks and improves outcomes.

## What about natural immunity?

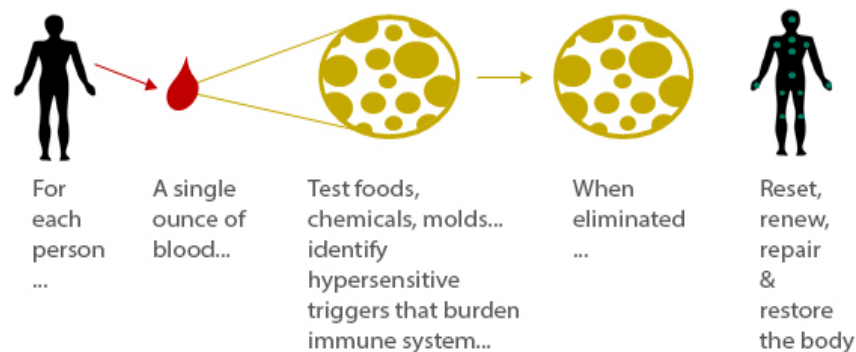
Those who have recovered from COVID-19 have a [strong protective immunity](#), and this can shield them from repeat infection, disease, hospitalization, and even death. This protection is like, or perhaps better than vaccine-induced immunity. For previous variants, natural immunity has been as high as 90% and while lower in the most recent omicron variant, it is still [substantial](#). Natural immunity can be determined by an accurate and reliable antibody test or the documentation of prior infection but data suggests that while antibody titers [can decrease](#), those with T cell protective immunity (as detected by a T cell test) can have probably [lifelong protection](#).

It is important to support the innate and adaptive immune systems and our protocol ensures maximum protection from ever changing, mutating viruses such as SARS COV 2

## What about adjuvants in vaccines?

**An adjuvant is needed for a vaccine to be effective. The adjuvant paralyzes the innate immune defense and repair system for weeks after vaccination in order for the delayed immune vaccine induced response to happen.**

In the past, mercury and aluminum were used as adjuvants. Newer vaccines use excipients that, when combined, become the needed adjuvant so that the vaccine can be effective. Unfortunately, there are costs to paralyzing the innate immune system, especially in people who are metabolically in survival mode rather than the preferred elective protective mode. Testing for delayed immune hypersensitivity to adjuvants in the COVID 19 vaccines is now available through **ELISA/ACT®** Biotechnologies.



## What about cytokine storm?

Many COVID-19 complications may be caused by a condition known as cytokine release syndrome or a cytokine storm. This is when an infection triggers your immune system to flood your bloodstream with inflammatory proteins called cytokines. They can kill tissues and damage your organs. When your immune system is burdened, further foreign invasion can cause over-stimulation of pro-inflammatory cytokines. People with repair deficit (inflammation) and/or self-attacking chronic illness (autoimmune conditions) are particularly in need of the tolerance and resilience enhancing guidance in this protocol which avoids the risk of a [cytokine storm syndrome](#).

Cytokines are primarily Omega 6 fat-derived amplification molecules. Hence, more active Omega 3 (EPA and DHA) and less Omega 6 (Arachidonate and Alpha-Linoleate) in the diet reduces risk. Processed foods, meats, and chips are Omega 6 rich and often contain anti-nutrients that further deplete essential nutrients, increase risk and are best avoided.



When your immune system is supported with sufficient essential nutrients to prevent harm from the oxidative anti-nutrients, tolerance is restored. This means homeostasis, the self-regulation of a healthy immune defense and repair system when rehabilitated, is always there to help you. People who follow LRA immune enhancing recommendations are correcting their essential nutrient and metabolic needs and will not be susceptible to cytokine storm, even in those with the known co-morbidity risk factors.

## What about co-infection?

When people become hospitable to viruses, they are also often susceptible to other infections. Increasing evidence confirms that enough healthy prebiotic fiber, probiotic digestive organisms, and symbiotic recycled glutamine crowd out pathogens and promote host resistance to infections.

Antibiotics are available but we suggest digestive aides including [prebiotics, probiotics, and symbiotics](#) before antibiotics. When antibiotics are given, it typically takes months to restore healthy digestion and metabolism.

## What about nature's melatonin?

Melatonin is a powerful antioxidant and plays an [anti-inflammatory role in respiratory conditions](#). Healthy physiology restricts melatonin production and its local use for short times to where and as needed. Our experience is that physiologic consumption of **enhanced uptake tryptophan** can be converted when and where needed into serotonin and melatonin.

## What about variants?

The T and B cells (lymphocytes) are the body's key immune cells. The helper T cells recognize infected cells and stimulate B cells to make antibodies to fight the virus. B and T cells are among the fastest replicating cells in the body, and multiply for several days to produce enough to neutralize an infection. Now more than ever, it is imperative that we make sure that these immune fighting cells of the body are primed to do their job.

All viruses, including SARS-CoV-2, change over time. The "delta variant" was one of the first variants detected — a "variant of concern" — a super-fast replicating one, and then came omicron. For those whose immune systems are not ready and robust, they are and will be playing catch up all the time.

Initial protection offered by vaccines is showing signs of waning, and breakthrough cases are also on the rise. As this update comes out, 2 new descendants of the Omicron subvariant BA.5 have started making their rounds — BQ.1 and BQ1.1.

Following the nutrient and lifestyle suggestions in the "**PERQUE** Immune Support and Virus Protection Recommendations" can offer the much-needed defense we all require as variants continue to emerge.

## Do these recommendations apply to children?

Going back to pre-pandemic lives and the 'immunity gap' have created a situation that has made children particularly vulnerable to the early onset of the flu virus and onslaught of other and respiratory viruses. However, the Eat and Drink suggestions here can be tailored to children

easily. **PERQUE** offers child-friendly versions of many of the supplement suggestions as well.

## What about at home/rapid tests? Status, relevance, and meaningful results

The meaning of rapid tests, home tests, and related lab innovations deserves some clarification to provide understanding of what the results mean. For that it is necessary to dive into the sensitivity and specificity of a test — the two key aspects that determine the accuracy of a test and its results.

**Sensitivity** refers to a test's ability to show that an individual with a condition (e.g., COVID 19) is positive. A highly sensitive test means that there are few false negative results.

**Specificity** of a test is its ability to show that an individual who does not have that condition tests as negative. A highly specific test means that there are few false positive results.

Robert Galen, MD, MPH and Ray Gambino, MD, introduced these important concepts in their 1975 book [Beyond Normality](#) — a landmark achievement regarding studying groups or populations. When these criteria are applied to an individual in the community, meaningful results require high precision or correlation.

All lab tests need to report their sensitivity and specificity, from which predictive significance for that population can be calculated. For a test to produce meaningful results for an individual, the sensitivity must be >95% and the specificity must be >98%. Currently available home tests do not meet this meaningfulness standard. Some of the at-home rapid antigen tests in fact have an overall sensitivity of approximately 85%, which means that they are catching roughly 85% of people who are infected with the virus and missing 15 percent. Some studies show an even [lower](#) performance.

Care needs to be taken that these tests are performed correctly and meticulously as well as within the first week of symptoms for even these results to show. We do see that despite these statistics, at-home/rapid tests have gained popularity, undoubtedly due to the convenient nature of the process.

Tests will likely get more meaningful over time. For now, we recommend the following:

- Reducing health risks as guided in this immune support eBook.
- Paying attention to lifestyle and co-morbidity risks. It is increasingly clear that lack of nature's ascorbate and cellular magnesium are primary causes of the COVID related heart, lungs, and blood vessel catastrophes. These deficits can be corrected by using the [C Cleanse](#) and [daily urine pH measurement](#) to guide ascorbate and magnesium + choline citrate intake respectively, along with other safer, higher bioavailability supplements described in the protocol
- Letting your body tell you when you need to rest and recover, hydrate, and stretch.



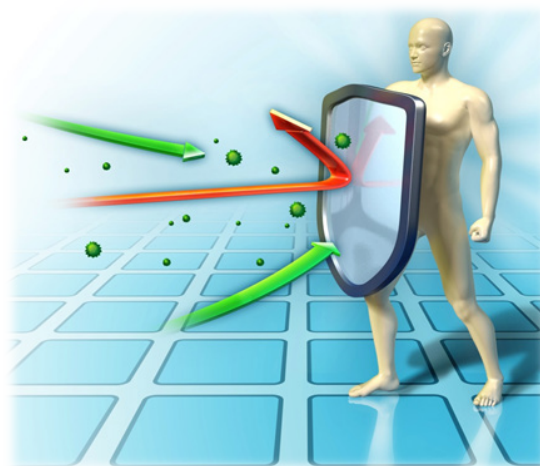


# Strengthen host defense and repair to live well and avoid viral afflictions.

As we have reviewed here, the best approach to staying healthy as SARS COV2 and other flu/respiratory viruses spread, is to be an inhospitable host for the virus. Sufficient antioxidant intake – especially 100% l-ascorbate can restore immune tolerance and balance neurohormones.

Follow a physiology before pharmacology lifestyle, guided by the four self-assessments and eight predictive epigenetic biomarker tests interpreted to best outcome goal values. Commit to eating what you can digest, assimilate, and eliminate without immune burden.

This brings us full circle for now. Strengthening host defenses and reducing risks are a choice. If not now, when is the time to invest in your health and well-being?



## RESOURCES

To find a healthcare practitioner who offers the **LRA by ELISA/ACT** tests, email [ClientServices@ELISAAC.com](mailto:ClientServices@ELISAAC.com) or call **800.553.5472**.

To order LRA tests and interpretations directly, visit [BetterLabTestsNow.com](http://BetterLabTestsNow.com). Safer, more convenient home blood draw options are available.

To find an Authorized Distributor of **PERQUE**, call **800.525.7372** or email [ClientServices@PERQUE.com](mailto:ClientServices@PERQUE.com).

More information is available from:

- [DrRussellJaffe.com](http://DrRussellJaffe.com)
- [Dr Russell Jaffe on YouTube](https://www.youtube.com/channel/UCvKvKvKvKvKvKvKvKvKvKvK)
- [ELISAAC.com](http://ELISAAC.com)
- [PERQUE.com](http://PERQUE.com)
- [HealthStudiesCollegium.org](http://HealthStudiesCollegium.org)
- [A Users Guide to Vitamin C](#)
- [Your Viral Risk Reduction Plan](#)
- [The Joy of Living the Alkaline Way](#)
- [PIH Coronavirus Resource Center](#)
- [Thriving in the 21st Century](#)



# About PERQUE Integrative Health™

**PERQUE Integrative Health** (PIH) is dedicated to speeding the transition from sickness care to healthful caring. Combining the innovations of **PERQUE®** and **ELISA/ACT® Biotechnologies**, two leading companies with 30+ years' experience in delivering novel, personalized health solutions, PIH gives you and your patients the tools to achieve sustained optimal wellness.

**PERQUE** offers a complete line of 100% bioavailable, active, novel supplements featuring full disclosure labels so you know EXACTLY what is in each product. You can feel the **PERQUE** difference.

**ELISA/ACT Biotechnologies** is the exclusive provider of the high sensitivity lymphocyte response assay (hsLRA), the gold standard in delayed hypersensitivity testing. By looking directly at lymphocytes, the hsLRA detects **all 3 types** of delayed food and chemical hypersensitivities to over 500 items.

Combining advanced functional, evidence-based tests with premium professional supplements and healthful lifestyle guides, PIH solutions have delivered successful outcomes in even the most challenging situations by evoking healing responses.

*Dr. Russell M. Jaffe, CEO and Chairman of PIH, is one of the pioneers of integrative and regenerative medicine. Since inventing the world's first single step amplified (ELISA) procedure in 1984, a process for measuring and monitoring all delayed allergies, Dr. Jaffe has continually sought new ways to help speed the transition from our current healthcare system's symptom-reactive model to a more functionally integrated, effective and compassionate system. PIH is the outcome of years of Dr. Jaffe's scientific research. It brings to market three decades of rethinking safer more effective, novel and proprietary dietary supplements, supplement delivery systems, diagnostic testing, and validation studies.*



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