

# What supplements should I take (or avoid) prior to my COVID vaccine?

written by Dr. Ronald Hoffman | April 2, 2021



It's acknowledged that "results may vary" when it comes to vaccine responses. Notwithstanding that preliminary trials showed that COVID shots were 90%, 95%, or 76% "effective" (take your pick), there's lots of inter-individual variation.

Research protocols for new drugs or vaccines are notorious for cherry-picking younger, healthier subjects to game the system for approval. Precisely the individuals at highest risk of getting very sick or dying from COVID-19 are less likely to be included.

When they are, as with Astra-Zeneca trials in Europe, lasting protection waned for vaccine recipients over 65 in the approval trials, which led to hesitancy by some EU countries to authorize the vaccine for the very seniors known to be most vulnerable.

This is due to immunosenescence, the natural tendency for immunity and vaccine responsiveness to wane with age. It's the reason that seniors are given a special version of the flu shot, which is more powerful than the regular vaccine.

There's plenty of evidence that a significant number of Americans—regardless of age—are nutritionally deficient. Surveys reveal that high double digits of the US population have insufficient levels of key nutrients like vitamin D, zinc, selenium, and magnesium, to name but a few.

Several of these nutrients are now undergoing intensive investigation to see if they could curb the severity of COVID-19 infections.

But whether they "boost" vaccines is different. There are as yet NO studies or clinical trials that correlate low levels of critical nutrients with COVID-19 vaccine efficacy. Plus, theoretically, heightening the immune response to the vaccine might increase the danger of side effects. For the vaccine to deliver protection without over-stimulating the immune system

requires “Goldilocks immunity”—not too hot, and not too cold, but just right.

That hasn’t stopped opportunistic marketers from offering solutions. The makers of VACCIPREP™ promise that it is “specifically formulated to support your immune system when vaccinating”. It has some of the requisite vitamins and minerals associated with immunity, plus glutamine, branched chain amino acids, astragalus, quercetin, reishi mushrooms, elderberry, and some probiotics.

That some of these nutrients may play a role in preparing someone for a COVID-19 vaccine might seem plausible, but is entirely speculative. It’s an untested hypothesis, or rather a collection of hypotheses, because there are multiple ingredients—and none have been specifically vetted for enhancing COVID-19 vaccines or preventing side effects.

What we do have is a body of research that examines the impact of nutrition on *prior* vaccines. And they’re often based on populations of malnourished children in 3rd World Countries. One study concluded that, even in those extreme circumstances, *“Our analysis indicates that malnutrition has surprisingly little or no effect on vaccine responses.”*

Other studies have suggested that *“Even mild zinc deficiency, which is widely spread in contrast to severe zinc deficiency, depresses immunity of humans. There are some groups that are at high risk of zinc deficiency such as elderly people, vegetarians and patients with renal insufficiency . . . Response to vaccination is rather low in zinc-deficient persons such as elderly or hemodialysis patients. At least in hemodialysis patients, it is possible to find a relationship between serum zinc concentration and the vaccination response.”* But they caution: *“However, many trials do not confirm a correlation between humoral response and zinc supplementation when zinc is provided as an adjuvant in vaccination.”*

As to vitamin D, it’s acknowledged to be extremely important for immunity and may enhance survival in COVID-19, but in the most recent trial of whether it impacted responses to the flu vaccine, *“no association was observed between vitamin D deficiency and immunogenic response to influenza vaccination.”*

It was once proposed that high-dose vitamin A be co-administered with the measles shot in 3rd World countries to boost the vaccines’ efficacy in malnourished children. But supplementation fell out of vogue when studies showed it provided little additional benefit. A new study—“Mega doses of retinol: A possible immunomodulation in COVID-19 illness in resource-limited settings” proposes reviving the practice in impoverished regions: *“Vitamin A supplementation may aid the generation of protective immune response to COVID-19 vaccines.”* Yet rigorous proof that this works in practice is lacking.

So, what’s the take-home for Americans queuing up for their vaccines? I think it’s reasonable to keep taking a multi containing adequate amounts of all the key vitamins and minerals prior to your shot. Judging from the benign reactions of all my vaccine-recipient patients who take high doses of vitamin D, I see no reason to discontinue it either.

As to specific “immune boosters”, I’m not convinced they’re counterproductive, but they may not be needed when getting the vaccine. They may make no difference to vaccine uptake, or else may stoke immune responses to the vaccine, which in theory at least, could heighten the risk for allergic or autoimmune reactions, or else general malaise, fever, or soreness at the injection site. We simply don’t know, so why go there? They can be stopped a few days before the shot, and then resumed within a week or two of taking it.

Quercetin is probably OK with its anti-inflammatory effects, as is fish oil. Both may tamp down adverse vaccine reactions without compromising immunity.

Do you need glutamine and branched chain amino acids? Probably not. While it’s true that your body needs protein building blocks to synthesize the antibodies that will protect you from COVID-19, you can get that from food.

That’s why it’s probably not a good idea to short-change yourself by fasting or going on a juice detox at the time of your shot, although it probably won’t matter much.

Glutamine might support glutathione synthesis, especially necessary if you take acetaminophen to quell a vaccine reaction. Tylenol depletes glutathione, so I tell patients who take it to add N-acetyl cysteine (NAC) 500-600mg two or three times per day as a countermeasure. And, no, a little Tylenol won’t compromise the effectiveness of the vaccine.

And probiotics make sense for immunity, but there’s no evidence they’re decisive for vaccine effectiveness.

When it comes to diet, one intriguing study suggests that *“Increased fruit and vegetable intake improves the Pneumovax II vaccination antibody response in older people, which links an achievable dietary goal with improved immune function.”*

Additionally, it’s probably a good idea to limit your refined carbohydrate intake for a few days around vaccine administration, notwithstanding Krispy Kreme’s generous offer to reward customers with free glazed donuts on presentation of a vaccine certificate. Dr. Jeff Bland reported to me in a recent podcast that, even though he experienced only minor symptoms with the COVID shot, the continuous glucose monitor he was wearing registered significant short-term deterioration of his tight blood sugar control in the immediate aftermath of his vaccination.

It’s also a good idea to make sure you get adequate sleep and allow time for

ample rest when you obtain the shot. Keep workouts moderate and pace yourself according to how you feel. Overexertion may be immunosuppressive.

And don't forget to hydrate—adequate fluid consumption may ease side effects. How 'bout some comforting chicken soup with plenty of vegetables?