



## COVID-19 - Functional Medicine Approach to Improving Your Immune Function

We are all interested in reducing the chance of COVID-19 infection but also for potentially reducing the severity of infection. At this point it is clear that most of us have been or will be exposed to someone who tests positive, how our bodies handle that exposure is largely in our hands. There are several lifestyle factors that, when modified, can be excellent first steps for all of us to take. First, let's talk about three physiological mechanisms that can benefit from positive lifestyle changes and thus reduce the chance of viral infection and/or severity.

**1. Reducing inflammation in the body.** In most viral infections, inflammation and immune activation often occur together. Lowering the body's inflammatory load can start with shifting from a typical Western diet to a Mediterranean diet. According to the Nurses' Health Study, reducing sugar-sweetened drinks, diet sodas, refined grains, processed meats and excessive alcohol is the goal. Basically, reducing or eliminating foods that contribute to the body's inflammatory cascade – sugars, salts, trans fats, saturated fats and high glycemic foods. Improving omega-6 to omega-3 fatty acid ratio is also key to dampening inflammation in the body. That means increasing our omega-3 intake in the foods we eat (fish, nuts and seeds, plant oils) or taking a high-quality omega-3 supplement. Lastly, increasing foods that are known to have an anti-inflammatory effect on the body. This would include fruits, vegetables and legumes.

**2. Increasing antioxidant levels and decreasing oxidative stress.** Looking at our food preparation techniques is crucial here. Grilling,

frying and broiling, as opposed to boiling, steaming and baking can create oxidative compounds that can provoke an inflammatory response in immune cells. Including foods that are rich in antioxidants such as spices/herbs, nuts/seeds, chocolate and vegetables are so helpful in creating a less inflammatory environment in the body.

**3. Balancing the gut microbiome.** Since our gastrointestinal (GI) tract is home to 70-80% of your immune system, it's important to keep it healthy and nourished with nutrients to feed the microbiome. This would include dietary fiber (25-35 gms/day) or a high-quality fiber blend which can result in the production of short-chain fatty acids (SCFAs) to protect the gut barrier. SCFAs can also be taken in a capsule form (my personal favorite) in case our fiber intake may be lacking. You can also include fermented foods in your diet to further inoculate the gut microbiome. These would include foods like yogurt, kefir, kimchi, miso and sauerkraut.

Other important recommendations for reducing the occurrence and severity of viral infections would be to increase plant foods in our diet and thus increase polyphenols. Polyphenols result in immune enhancement by influencing the gut microbiome. Of course, a diet rich in diverse plants is even more beneficial to the gut microbiome. Reducing overall stress is also key to reducing the inflammatory immune response. Lastly, improving sleep and including a regular exercise routine are key players in a positive immune response.

### IMPROVE YOUR HEALTH... IMPROVE YOUR LIFE!



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