

# Be Prepared. Not Scared.

## Building up your defenses against COVID-19

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As a board-certified family physician and hospital medical director with over 25 years experience in emergency, hospital and nutritional medicine, I want to encourage you to do everything you can to stay as healthy as possible during this devastating epidemic. I have created this list of specific recommendations to help you keep your body strong and build up your defenses against COVID-19.

### Universal Recommendations:

Follow current state and local guidelines regarding social distancing, hand washing and sanitizers, wearing of masks, etc. to reduce exposure. Remember, you are not just protecting yourself, you are also protecting those who may be more vulnerable.

### Top 10 Specific Recommendations:

1. There has never been a better time in the history of the world to **quit smoking**. And that includes e-cigarettes (vaping) and marijuana as well. Preexisting lung disease is one of the strongest predictors of those who will get severe COVID disease.
2. High sugar intake suppresses the immune system for 4 hours. There has never been a better time to drastically **cut back on all intake of added sugar**. Naturally occurring sugar in whole fruit should be fine, but cut back on concentrated sugars in sugar-sweetened beverages and sugary foods and desserts. If you do drink 100% fruit juice, limit this to 4 oz. per day.
3. **Eat a healthy whole-foods diet**. There's never been a more important time to increase your intake of healthy vegetables, especially green vegetables, fruits, whole grains, beans, nuts and seeds. Cut down on refined foods made with white flour and sugar and added fats and oils. A healthy, mostly plant-based diet can help reduce inflammation – and inflammation seems to be one of the primary destructive mechanisms by which COVID causes so much harm. Salmon and other cold-water fish are high in healthy omega-3 fats which help to reduce inflammation.
4. This is a great time to **make sure your body is getting enough rest**. A body that is run-down and worn-out is more susceptible to infection. Turn the lights out, turn off the electronics and get to bed at a good time.
5. **Be active**. The immune system works best in someone who is fit, rather than sedentary. Get outside in the sunshine, with social distancing, if you can. Sunshine helps boost your body's vitamin D naturally. Be careful, though, not to get sunburned.
6. **Take vitamin D**. If you've never taken vitamin D, start with 10,000 IU/day for a 1-2 weeks, then drop back to 4000 IU/day. If you're already taking vitamin D, go for 2000-4000 IU/day. If you have a history of high calcium, hyperparathyroidism, tuberculosis, sarcoidosis or lymphoma, please talk with your doctor before starting a vitamin D supplement.

**7. Take vitamin C. This is probably the single most important supplement you can take.**

Start with 500-1000mg 2-4x/day. Vitamin C stays in the bloodstream for only a few hours after it is ingested, therefore it is more effective to take several smaller doses throughout the day rather than one big dose just once a day. If you have been directly exposed to the virus or may be experiencing some early symptoms, you may benefit from increasing this dose to 1000-2000mg 3-4x/day or more. If you develop loose stool or diarrhea, back off on the dose, you may have reached "bowel tolerance."

It is important to know that smokers, diabetics and people with other chronic diseases typically have lower levels of vitamin C and really need to start building up their reserves as soon as possible. When the body is faced with a powerful virus, vitamin C reserves are quickly depleted and the body requires much higher doses than when it is well. High doses of vitamin C have been shown to be protective to the lungs when patients are fighting life-threatening infections such as sepsis.

**8. Take a good multivitamin-mineral supplement regularly.** Be sure it contains zinc, selenium, magnesium, vitamin A, the B vitamins, and vitamin E.

**9. Take time to pray, read and reflect on what is most important in life.** Take time to tell others you love them. Spend time with God. Find ways to help and bless others. Find peace in the storm.

**10.** There is early evidence that certain **medications** might be beneficial in patients facing COVID: blood pressure medicines known as ACE inhibitors or ARBs (angiotensin receptor blockers), statins (usually prescribed for high cholesterol), and medicines that thin the blood such as aspirin, Plavix and Lovenox. If you're already taking these medicines don't stop. If you're not taking them, however, there's not sufficient evidence yet to recommend starting them.

On the other hand, certain medications known as NSAIDs (such naproxen or ibuprofen) or COX-2 inhibitors (such as Celebrex) may make COVID disease more lethal in the later stages. If you are already taking these or thinking about taking these medications, talk to your doctor.

**Additional Information:**

What are the symptoms of COVID?

Common symptoms include: fever, shortness of breath, cough, sputum, chills, headache, body aches, and throat pain. Some individuals also report diminished sense of smell or taste, nausea, vomiting or diarrhea.

**Risk Factors for Severe COVID Disease:**

The following medical conditions have been identified by Mass General Hospital as high risk for severe COVID disease: hypertension, preexisting pulmonary disease, cardiovascular disease, diabetes not well controlled (A1c >7.6%), chronic kidney disease, patients with organ transplants or immune suppression, HIV with CD4<200, and patients taking "biologics." Examples of biologics include: Humira, Enbrel, Remicade, Rituxan, Lantus, Herceptin, Avastin, Neulasta and Avonex. These are used to treat autoimmune and other conditions such as rheumatoid arthritis, psoriatic arthritis, Crohn's disease, ulcerative colitis, ankylosing spondylitis, multiple sclerosis, macular degeneration and certain types of cancers.