Covid-19 Action Plan

What You Can Do to Protect You and Your Family From COVID-19

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Health. Without a Prescription

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About The Novel Coronavirus (SARS-CoV2 and COVID-19)

Let's get some basic terminology out of the way…

SARS-CoV2 is the name of the actual virus that causes the disease now known as COVID-19.

I might use these interchangeably.

Although this particular strain is new, we've been through three pandemics caused by coronaviruses in the 21st century.

1. SARS-CoV occurred in 2003
2. MERS-CoV occurred in 2012
3. SARS-CoV2 (COVID-19) occurred in 2019

Currently, the primary symptoms of disease include gastrointestinal symptoms (stomach pain or nausea), pulmonary symptoms (shortness of breath, dry cough) and fever.

There's a good reason for this.

The way this virus works is that it enters the body and has these proteins on it's surface that resemble a crown or corona.

These little proteins bind to cell receptors in the body known as Angiotensin Converting Enzyme 2 or ACE2.

These receptors are present in the gastrointestinal system, pneumocytes of the lungs and heart.

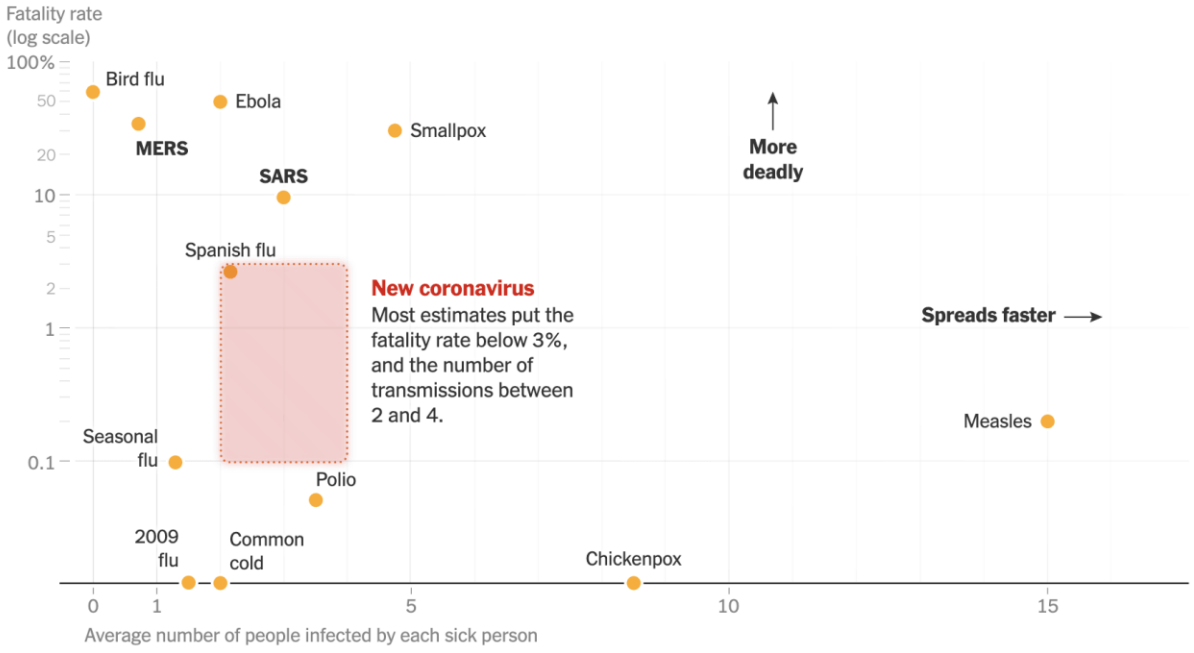
Now this particular virus is able to spread without symptoms.

It's now believed that children or younger individuals can carry this virus without any symptoms whatsoever and spread the virus to susceptible populations.

So COVID-19 is not the most lethal or transmissible of the viruses, but it is high in both categories.

For example, when we study viruses, we want to know how **fast it spreads** as well as **how many deaths occur** from it.

Here's an image to put things into perspective:



Note: Average case-fatality rates and transmission numbers are shown. Estimates of case-fatality rates can vary, and numbers for the new coronavirus are preliminary estimates.

Image Credit: New York Times

The chart above uses a logarithmic scale which means that data near the top is compressed into a smaller space to make the variation between less-deadly diseases easier to see.

Diseases near the top of the chart are much deadlier than those in the middle. As of now, COVID-19 is within the pinkish square.

As you can see, this virus is not nearly as fatal as SARS (2003) or MERS (2012), Bird Flu, Ebola, Smallpox, the Spanish Flu and possibly Measles.

To give additional perspective, COVID-19 can pass to 3-4 people for every 1 person that is infected, compared to 12 people who will get measles for every 1 person.

How is it spread?

As of right now it's believed to be passed via droplets. Droplets or respiratory droplets occur when someone coughs or sneezes and it creates an aerosol where the virus passes to other people.

Another way is that these droplets can land on surfaces or pass from hands to surfaces and live on these surfaces for some time.

This is why it's important to wash hands and clean surfaces as much as possible.

Let me also say that you don't need hand sanitizer or super strong soap – you just need plain old soap to do the job.

Let me say it louder – you don't have to have antimicrobial hand sanitizer to kill this virus.

What makes it hard to know right now is the actual number of people infected and the actual number of fatalities due to COVID-19 specifically.

In other words, because of a lack of testing, there may be a lot more people carrying this virus and overcoming it unknowingly, resulting in a false fatality number.

What we do know is that there are particularly lethal sub-population groups that need to be protected.

The most vulnerable people are those that have one or more of the following:

- Over the age of 70 years
- An underlying health condition (metabolic disease (heart disease, diabetes, hypertension)
- On immunosuppressive therapy
- First responders (healthcare workers)

Once again, children and adolescents don't seem to get sick but are carriers of this virus, which increases transmission.

There isn't any strong data as of yet, but we are starting to see that COVID-19 causes more problems because of the body's own immune response and not the disease itself.

Generally speaking, older individuals have weaker immune systems, poor kidney function, higher blood pressure and more comorbidities.

This is why it's a solid recommendation to keep older individuals separated from the rest of the group.

What are the Symptoms of COVID-19?

According to the CDC, the symptoms of coronavirus disease can appear 2-14 days after exposure.

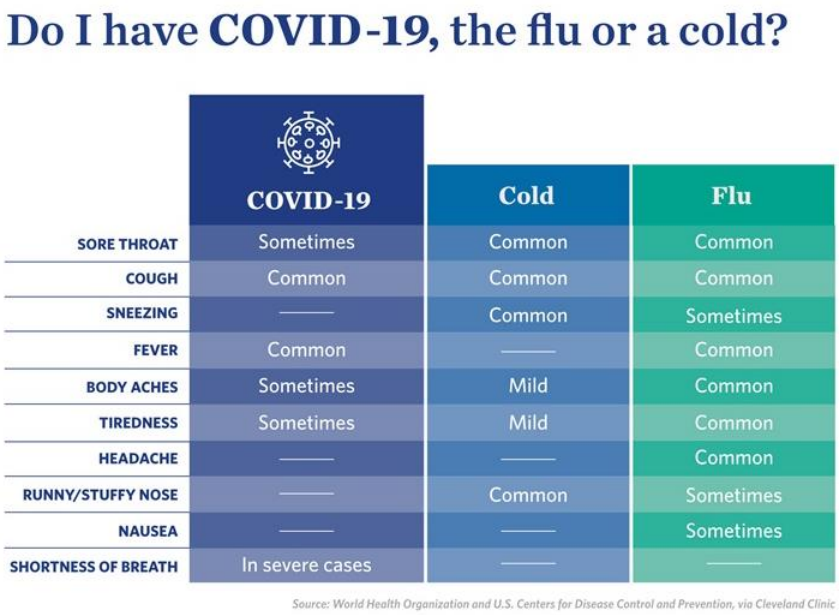
We know that 80% of people infected have mild or no symptoms and up to 96% - 99% recover from the infection.

The most common symptoms are:

- Low Grade Fever
- Dry Cough (no mucus)
- Shortness of Breath
- Fatigue
- Body Aches

Severe symptoms would include:

- High fever (102.5 or greater)
- Pneumonia



When Should You Call a Doctor?

The reason why “Flattening the Curve” has become a common statement, is to prevent the surge or demand placed on healthcare workers and providers.

If tomorrow, everyone who sneezes, coughs or runs a fever sprints to their doctors office, urgent care or ER, our healthcare system will collapse.

This is why it’s so important to stay calm and proceed as you normally would as long as nothing is critical.

Here’s what happens when you get infected.

The virus enters your body and begins to replicate. Once it starts replicating, in the majority of people (over 80%), the immune system of the host keeps the viral replication in check.

You get this viral response, the immune system activates and over time you get better. That's it.

In patients for whom this doesn't happen, they tend to get worse and worse. This is especially true for any cardiac patient and the trend is specifically for those with high blood pressure, diabetes (weak kidneys) and pulmonary conditions.

For these individuals, you have an exaggerated immune response. This is likely why older people have it worse – their immune systems are not as strong and the damage is too much for them to handle.

So what can you do? If you feel sick, stay away and practice good hygiene. Don't go to the hospital or a doctor unless you're critical.

What's critical?

- If you have uncontrolled fever that never breaks (>103.5 for longer than 2 hours)
- If you cannot breathe
- If you are not going to the bathroom (urinating or having bowel movements) despite hydrating and eating
- If your heart rate or blood pressure is abnormal

Here's a decision tree that I'd use to determine if it's time to see a doctor:

1) Do you have a fever or lower respiratory symptoms (cough)?

- **No -** If you have no symptoms, keep practicing good hygiene :)
- **Yes -** See Question #2

2) Have you had close contact with a COVID19 patient?

- **Not Sure -** Go to Question #3
- **Yes -** Consider Getting Tested or Call your Doctor

3) Have you traveled to areas impacted by COVID19 in the last 14 days?

- **No -** Go to Question #4

- **Yes -** Consider Getting Tested or Call your Doctor

4) Do you feel sick enough that you would normally call your doctor?

- **No -** Do what you normally do when you are sick
- **Yes -** Consider Getting Tested or Call your Doctor

The idea here is to not rush to the doctor unnecessarily and allow those patients who really need the care to do so.

The reality is, if you're young, healthy and otherwise have symptoms of the flu or common cold, stay home.

A Considerations For the Critical

Currently it's believed that Ibuprofen can make things worse. So taking ibuprofen for a fever is not the best idea if you suspect COVID-19 infection.

It's also believed that anyone on ACE2 inhibitors, steroids or immunosuppressants will do worse.

This is associational data and not confirmed, but there's definitely a link of some sort.

What Can I Do Right Now to Protect Myself and Family?

In a way, I feel like I have been training for this the last 20 years of my life.

I don't say that in a heartless way, but I do need to say it because I have dedicated my life to trying to help people to build their bodies up and develop strong immune systems to prevent disease.

If I was 70 years old, I wouldn't be afraid because If I continue along the same trajectory, I'm going to be a pretty bad ass grandpa. Just sayin.

So the answer to this question is that there's plenty for you to do right now and continue doing in the future.

The first strategy is to simply do everything you can to avoid getting it.

The second strategy is to support your body and build up it's defense systems.

I actually see this pandemic as bringing out the best in us because for those who have not taken care of themselves, it's a wake up call to do it. It's also a time for us to be kind, call friends, FaceTime with family, or just hang out with loved ones and family in your own home.

I also know that people are going to be cooking home made meals from scratch and learning more about health in these next few weeks than ever before and that's pretty damn amazing!

How to Prevent COVID-19 INFECTION

Separation: The easiest tool is to simply distance yourself from the general population. This includes no hugging (and I'm a hugger), shaking hands or touching other people in public places (you shouldn't really do that anyway).

Specifically, try to keep a 6-foot radius from others (unless they are healthy, uninfected people who live in your home). Avoid restaurants, bars, schools, yoga classes, fitness clubs and more. Work from home if you can.

Practice Good Hygiene: Wash your hands for 20 to 30 seconds with soap and water. Hand sanitizer is ok but not necessary. If you are out and about, do your best to wash hands frequently and avoid touching your face (hard to do).

Stay Home: Since restaurants, bars, sports events, and gatherings of more than 10 are not recommended, stay home and work on projects you have neglected. Write letters, play games, prepare home-cooked food. If the whole country stayed home for 14 to 21 days we could significantly slow the pandemic. San Francisco has already recommended its citizens stay home.

Protect Those At Risk: The CDC recommends that people over 60 stay home and avoid unnecessary contact. If you have elderly parents find ways to support them with food and supplies. If you have an autoimmune disorder, cancer, or are on transplant medication be especially careful if you decide to travel outside.

How to Build Up Health & Support Your Immune System

Eat a Whole Foods, Nutrient Dense Diet: Health is undoubtedly determined by the fuel we choose to put into our body. Everything our body does relies on the

nutrients that come via food intake. Death from infections in the developing world is often not due to the infection itself, but the body's inability to fight it because of nutrient deficiencies.

Because more than 90% of Americans are deficient in one or more nutrients at the minimum dose to prevent deficiency diseases like scurvy and rickets, we all need to focus on improving the quality of our diet.

Since diabetics are more likely to die from COVID-19 and one in two Americans is pre-diabetic or diabetic this is a great opportunity to cut sugar and starch which suppress the immune system.

Speaking of Sugar and Starches: Now has never been a better time for a sugar and junk food detox. Studies have shown that refined sugars can suppress your immune system for hours after ingesting. Limiting starch and sugar will help your immune system function better and your overall health improves.

Make Sure to Eat Enough Protein: Most people do not eat enough protein in a day and it's safe to say that the older we get, the less protein we consume. Right now, getting enough protein is critical because protein is vital for immune function and protein deficiency is a big risk factor for death from infections. Eat approximately 1 gram/kg or about half your body weight in grams of protein a day, or about two four-ounce servings of organic, clean animal protein.

Eat multiple servings of Fruits and Vegetables: If most people don't eat enough protein, there's a lot more that do not get enough fruits and vegetables. Fruits and vegetables are high in vitamins C, A, and phytonutrients that support the immune system. Choose more leafy greens, cruciferous vegetables (broccoli, Brussels sprouts, and cauliflower), peppers, sweet potatoes, and squashes. Aim for 2 servings of fruits and 8 or more servings of vegetables! A serving is half a cup.

Add Spices, Garlic, Ginger and Onions. Spices such as turmeric, oregano, rosemary, thyme and basil come loaded with all sorts of anti inflammatory compounds as well as antimicrobial and antiviral properties.

Eat Fermented Foods. It's been estimated that approximately 80% of our immune system lives within our digestive tract. The digestive tract is home to billions of

bacteria that help to create nutrients, digest and absorb nutrients and protect our body. Fermented foods include kimchi, natto, tempeh, kefir and sauerkraut.

Stay Hydrated. Consuming enough water supports all your bodies' functions including the immune system. If you don't like water then try to make soups and broths (from scratch with fresh vegetables is always best) and have them throughout the week. Drink herbal teas like ginger and turmeric tea. Avoid concentrated fruit juices and sweetened beverages, as the sugar content is harmful for the immune system.

Get Sufficient Sleep. Sleep is absolutely essential to our health and I would suggest getting 7.5 hours or more of good deep sleep.

What Supplements Should I Take?

Let me start by saying that supplements are great to enhance your health and immune system, but they absolutely will not replace a healthy diet and lifestyle.

This means that they do not work if your diet is crap.

In addition, there is an increasing number of health claims on the promotion of supplements and COVID-19 that has little to no objective data to support it. So be careful!

The Basics

A Good Wholefood Multivitamin. This is the foundation for any health support regimen. It's a good way to cover the basic vitamins and minerals your body needs for day-to-day functions. If you aren't on a good multivitamin you should get and stay on one. Look for a high-quality, broad-spectrum multivitamin and mineral.

To learn more about how to pick the right kind of multivitamin, check out this article: https://www.drdaniel.com/articles/is-your-multivitamin-killing-you/

Essential Fatty Acids. Essential fatty acids are critical for cell to cell communication and structure. They absolutely contribute to a healthy immune system and reduce inflammation. Take 1500 to 2500 mg per day.

Probiotics. A healthy gut flora supports a healthy gut, a major barrier against pathogens and integral to the immune system. Look for brands that offer several species of good bacteria and contain at least 10-20 billion organisms per capsule.

Additional Immune Enhancers

Beta Glucans. Research has shown that beta-glucans can up-regulate the function of the innate immune system. This part of your immune system is the first line of defense against viruses and bacteria. It helps your white blood cells bind to and kill viruses and bacteria.

Vitamin D. Adequate vitamin D is critical for optimal immune function and this cannot be achieved without supplementation during the winter months. Studies have shown that people with vitamin D deficiency are 11 times more likely to get a cold or flu, while supplementing with vitamin D can reduce colds and flu by 42%. It is best to get your levels of 25-OH vitamin D checked for accurate dosing. Blood levels should be above 30 ng/dl, however, optimal levels are probably closer to 50ng/dl for most. Many need 5,000 IU or more of vitamin D3 a day in the winter. Start with 2,000 IU for adults, 1,000 IU for children.

Buffered Vitamin C. The role of vitamin C in supporting the immune system has long been known. Take 500-1,000mg throughout the day.

Zinc. Certainly you can supplement with zinc, but I'd say that getting it from food is best. You can do this by consuming one or two oysters a day or supplementing with zinc chelate (not picolinate!)

Eldeberry. This is another time tested extract for boosting immunity and fighting infection. I would suggest anywhere from 700-2000 mg/day of elderberry extract from syrup, capsules or lozenges.

Echinacea. 500-1000 mgs per day divided in 3 or 4 doses.

Astragalus Root. A traditional Chinese medical herb, astragalus modulates immune response, and supports a healthy expression of proteins involved in immune function. Supplement with 1 gram daily.

N-Acetyl-Cysteine (NAC) or Glutathione. NAC is known to increase levels of glutathione and glutathione is the master intracellular antioxidant. In addition, for

someone experiencing respiratory distress, NAC might help them to overcome the illness much quicker!

Things to Be Careful With

Supporting the immune system can sometimes backfire on us. This is known as a cytokine storm.

In short, bacteria and viruses invade our body and this results in our immune system activating.

We know that the coronavirus gets into our cells by hacking a substance known as ACE-2, which plays a strong role in our blood pressure, lung capacity and cardiovascular health.

Normally, vitamins A and D help to build our immune system and fight off infection by producing more ACE-2.

But in the case of the coronavirus, because it uses ACE-2, high doses of these substances might actually make things worse or at least make us more vulnerable.

This is why it's important to know what dosages and frequency you should be supplementing!

Final Thoughts

Much of this information is the same information that I have shared with my Functional Medicine patients when asked.

But it's important for you to know that this is not intended to provide medical advice or any changes to your current healthcare plan. I would leave that up to the doctor you are working with.

My goal is to share as much information as I can, and hopefully open the conversation between you and your healthcare professional.

I want you to know that I'm not afraid, just frustrated with the amount of panic and fear that has spread across our country in so little time. I really hope this helps you in some way and since you're reading this, I am grateful to be connected with you in some way.

If you want additional information or would be interested in additional support, then consider my Functional Medicine services which are 100% virtual and “Social Distancing Certified”.

My goal is to help my patients achieve Health, without a Prescription and to navigate through the madness that has become our failing healthcare system.

Functional Medicine has a proven track record!

I have experience working with dozens of cases ranging from Digestive disorders, Thyroid and Hormone Imbalance, Autoimmunity, Diabetes, Stress and Heart Disease.

Using high tech and high touch methods, we can not only reduce your symptoms, but set you up for sustained health that lasts a lifetime.

SCHEDULE YOUR FREE PHONE CONSULT ONLINE

There’s no need to continue struggling when there are steps you can take to restore your health.