

3 Odd Things About COVID-19 that You Should Know

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Disclaimer: This article is for general informational purposes only and does not constitute medical advice. Contact your health care provider for any questions concerning your health.

When making a COVID-19 survival plan, it helps to know your virus. Your last cold could have been thanks to a coronavirus because COVID-19 comes from an old, distinguished family of viruses (that probably came over on the Mayflower). Unlike its milder cousins, COVID-19 is a more troublesome and annoying relative you can't get rid of fast enough.

How Viruses Behave

Let's start with the basics. Viruses are little pieces of genetic material. This means they are either a string of DNA or RNA. COVID-19 is the RNA type. That's it. No uterus to grow more little viruses. No eggs to incubate their young'uns, just little DNA or RNA strands of genetic code with a protective fat cover. They are so small that some scientists argue that they are not even technically organisms.

Without a way to reproduce themselves, viruses need a host. When a virus finds an organism that can reproduce itself, it inserts itself into the nucleus of one of their cells and takes over that cell. Usually the infected cell will be lining the gut, nose, vagina or lung since these are main the entrance points into the host though the eyes and skin sometimes work.

Once a virus inserts itself into a cell, that cell no longer functions for the host and is permanently a viral replicating machine. Think of the movie, *Alien* on a microscopic scale and you get the picture. The virus starts churning out new baby viruses that infect neighboring tissue. Viruses try to keep a low profile, so the immune system does not notice and evict them. Unfortunately, they replicate like crazy so to fool the immune police, they have to change a little each generation. They are one crime family with many different fingerprints.

COVID-19 is a particularly adept mutator. It shifts quickly and jumps from animal to animal efficiently. We think it hopped from bats to pangolins to humans in a matter of weeks. High adaptability means the virus is trickier for the immune system to catch. Nonetheless, it eventually corrupts so many cells that the immune system notices and kicks them out.

Odd Characteristic #1-Children Seem Less Susceptible

Remember, infected cells are ruined and must be removed. The elimination process is a cold or other viral illness. The reason there will never be a cure for the

common cold is because the common cold IS the cure for the virus. There is not a cure for the cure. The symptoms can be reduced but the common cold can only be prevented.

The severity of a viral illness is usually related to how long it took your surveillance system to notice the problem and the size of the mess it has to clean up. Coughing, sneezing and/or diarrhea, is how the immune system tosses out the corrupted cells while inadvertently helping the homeless viruses find new hosts. A healthy, on-the-ball immune system clears out the virus before it does much damage. The result is a mild or no noticeable illness. People with Covid-19 seem to be most contagious when they are not symptomatic and are chucking out the viruses early. And oddly, children can carry the virus but are less likely to get sick.

There are very few infections that children resist but adults don't. In fact, kids get coxsackie, Fifth Disease, Molluscum and any number of viral illnesses that adults avoid. Their immature, less experienced immune systems somehow protect them. We don't know why they are safer in this case, but we do know mature immune systems are stronger and therefore more capable of aggressive and inappropriate reactions. The danger with this coronavirus is the possibility of a cytokine storm.

Cytokines are messenger molecules that regulate immune and inflammation responses. In a storm, the pro-inflammatory cytokines go crazy. They call for more and more immune help. The immune fighters rush to the lungs, in this case, but the overzealous fighters try to clean up the infection too quickly and end up destroying the very tissue they want to save. The feedback system that usually stops the immune system from overeating breaks down. The inflammation response can clog up the airways so the cells cannot absorb oxygen and/or spill out into the blood stream and cause systemic problems (like low blood pressure and temperature dysregulation).

Odd Characteristic #2- Elderberry Extract May Increase COVID-19 Cytokine Storm

Elderberries have known immune enhancing properties and can help prevent illness. There is a report that elderberry consumption may increase the possibility of a cytokine storm in COVID-19 infections. Cytokine storms are complex biochemical overreactions. We know they involve too many messenger molecules and immune cells panicking but are fuzzy on all the details. They tend to happen when the immune system fails to notice an intruder until it is well entrenched.

If the immune system is a late responder and overwhelmed, be careful how you try to help it. This applies to odd characteristic #3 also. Ask your medical practitioner but if you take supplemental herbal immune support, like elderberry syrup consider using it for prevention and mild symptoms only. If the illness progresses, stop it unless told otherwise by your doctor. We don't understand the myriad of phytochemical and immune modulating chemicals in many of our miracle plants. As we learn more, we can use them more tactically.

Immune supporting vitamins and minerals like vitamin C and zinc, improve immune function without stimulating an overreaction. Research suggests both vitamin C and zinc can ameliorate symptoms of the common cold, for example, so the “cure” is less uncomfortable. Mushrooms also appear to optimize immune function. We don’t know if monolaurin and some of the other herbal extracts marketed as anti-viral are a good idea once the virus has the upper hand. Love and respect them but use with caution if you become symptomatic with this virus.

Odd Characteristic #3- Ibuprofen May Make COVID-19 Symptoms Worse

The World Health Organization recommends avoiding anti-inflammation drugs for coronavirus symptoms. Ibuprofen and cortisone type drugs are singled out, but the same principle could apply to acetaminophen, too. We don’t understand the specifics yet.

What we do know is that fevers help the immune system. When body temperature goes up, the immune cells are more effective. Breaking a fever makes their job harder. But fevers, like a cytokine storm, can start to destroy healthy tissue or cause permanent damage if they climb to 104 degrees or higher. Most invading bacteria and organisms die at 104 degrees, but the host is in danger at that temperature, too. When temperatures go that high, the immune system is desperate and losing the battle. You need outside help.

Inflammation is also part of the immune response. If you curb the inflammation reaction caused by the coronavirus, the immune system appears to get more aggressive and creates more symptoms. Most people do not think twice about popping a few ibuprofens, but when it comes to COVID-19, exercise an abundance of caution and ask your medical practitioner first.

COVID-19 being the adaptive little bugger it is, appears to have a number of tricks up its outer fat layer. A vast majority of people will survive an encounter so try not to worry too much. (As ridiculous as that sounds.) To minimize risk, it is always safe to eat an anti-inflammation diet (with lots of fruits and vegetables), exercise, stay hydrated, avoid smoking, sleep eight hours a night and think loving thoughts. I continue to load up on nutrients, mushrooms and various other supplements because they keep me healthy and happy. And I will also watch for clues so I can effectively adapt my behavior, like the viruses do. If you can’t beat them, learn from them.