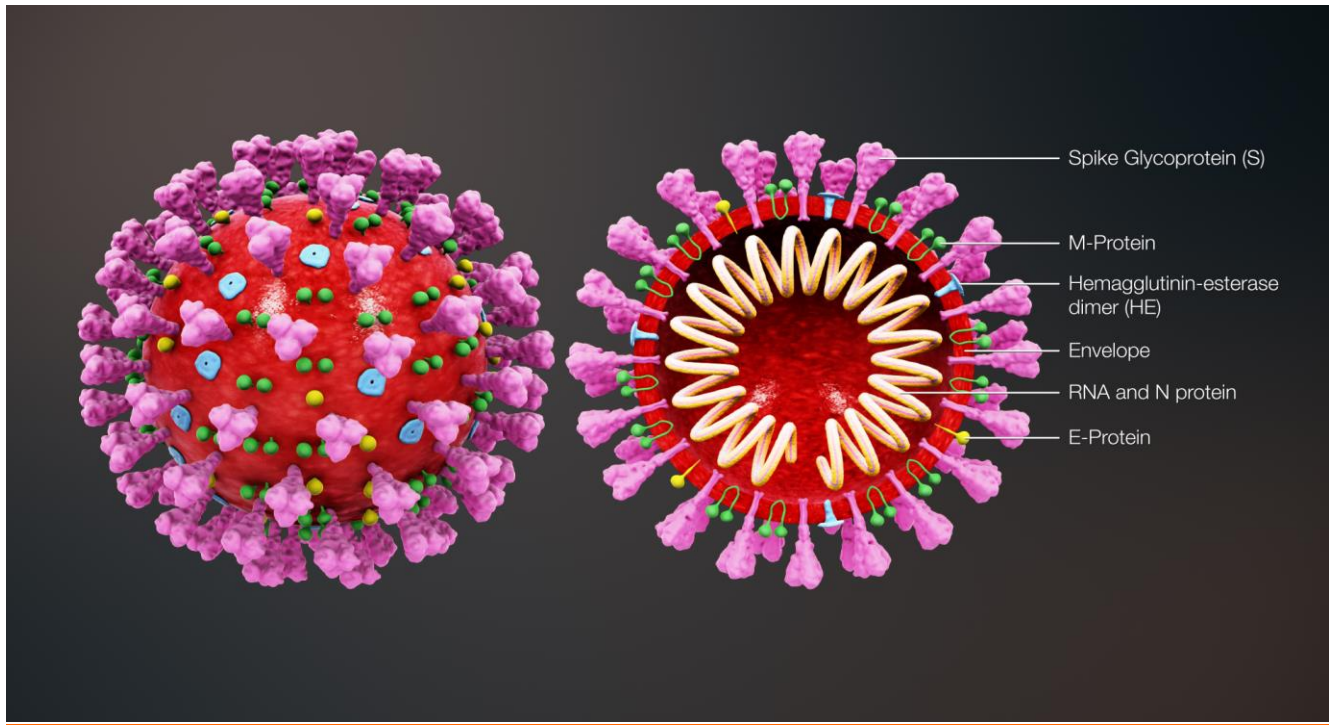


The Truth About COVID-19

Adelena Izold N.D.
Matthew Di Duro D.C.



Objective

The main goal of this guide is to increase awareness on the facts and focus on the big picture of COVID-19.

Answering many of the questions that the population has on this virus while still emphasizing the importance of preventative medicine and re-enforcing healthy daily habits.

Be mindful that since this virus is relatively new, the research and data is ever changing, this is to act as a guide but is not intended to treat or diagnose any conditions, please be sure to follow up with your primary care physician.

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Virus Explained

In microbiology, it is understood that there are two classifications for a virus and they are based on chemical and physical properties of virions. Viruses are classified into major families, which are further subdivided into genera.

The main two families are DNA and RNA viruses, which are also then broken down by positive (+) and negative (-).

We will be discussing [Coronaviruses](#) (COVs), which are enveloped positive-sense rna viruses, they are characterized by club-like spikes that project from their surface, an unusually large rna genome, and a unique replication strategy.

The virus associated with the original outbreak in Wuhan, China, has been designated severe acute respiratory syndrome (sars-cov-2). The disease caused by the virus is officially called COVID-19.

Sars-cov primarily infects epithelial cells within the lung. The virus is capable of entering macrophages and dendritic cells but only leads to an abortive infection despite this, infection of these cell types may be important in inducing [pro-inflammatory cytokines](#) that may contribute to disease.

In fact, any cytokines and chemokines are produced by these cell types and are elevated in the serum of Sars-Cov infected patients.

Signs and symptoms of Coronavirus include:

- Fever and/or new cough
- Shortness of breath
- Sore throat
- Muscle aches
- Rhinorrhea/nasal congestion
- Abnormalities in smell and/or taste.

INFECTED?

Learning from regions that have dealt with the overwhelming burden of COVID-19 to date, it is essential for hospitals and health systems to develop task forces to manage patients admitted with this disorder. This involves, but is not limited to, designating COVID-19-specific intensive care units (ICUs) and ICU teams, creating back up and expanded staffing schedules, utilizing detailed protocols for infection prevention and medical management, accessing research trials for patients with COVID-19, ensuring adequate personal protection equipment (PPE) supplies and training, forecasting demand, and prioritizing diagnostic lab testing.

STEP-BY-STEP GUIDE TO EMERGENCY TREATMENT

If you were to demonstrate any of the signs and symptoms listed above, and found yourself at the Emergency Department, what would happen?

- Initial intake for clinical findings and to assess for Acute Respiratory Distress Syndrome (ARDS) as the timing is critical.
- Laboratory testing includes basic blood work, reverse-transcription polymerase chain reaction (RT-PCR nasal pharyngeal swab) testing for COVID-19 and [IgM/IgG antibodies \(serum\)](#).
- Imaging (Bronchoscopy, X-Ray and CT of lungs)

Specific aspects of respiratory care relevant to deteriorating patients with COVID-19 before admission to the intensive care unit (ICU). These include oxygenation with low flow and high-flow systems, noninvasive ventilation and the administration of nebulized medications. For hospitalized patients who develop progressive symptoms, early admission to the ICU is prudent when feasible.

What are ventilators?

Ventilators gently pump air through a breathing tube into the patient's lungs and allow the patient to exhale. This gives patients oxygen and removes carbon dioxide, which can damage the patient's organs if not expelled. In some cases, air with higher oxygen content is used. Settings are tailored to patient needs. They are connected three different ways:

- Non-invasive oxygen mask
- Endotracheal tube
- Tracheotomy

Different respiratory care is given to patients whether they intubated or non-intubated. The decision to intubate in patients suffering from acute respiratory distress symptoms caused by COVID-19 will warrant intubation and mechanical ventilation.

Out of Hospital Care

Essential steps & measures to mitigate the spread of COVID-19, which include:

1. Screening and evaluating workers who exhibit signs of illness, such as fever over 100.4 degrees Fahrenheit, cough, or shortness of breath;
2. Requiring workers who exhibit signs of illness to not report to work or to seek medical attention;
3. Enhancing sanitation of the workplace as appropriate;
4. Requiring hand washing or sanitation by workers at appropriate places within the business location;
5. Providing personal protective equipment as available and appropriate to the function and location of the worker within the business location;
6. Prohibiting gatherings of workers during working hours;
7. Permitting workers to take breaks and meals outside, in their office or personal workspace, or in such other areas where proper social distancing is attainable;
8. Implementing teleworking for all possible workers;
9. Implementing staggered shifts for all possible workers;
10. Holding all meetings and conferences virtually, wherever possible;
11. Delivering intangible services remotely wherever possible;
12. Discouraging workers from using other workers' phones, desks, offices, or other work tools and equipment;
13. Prohibiting handshaking and other unnecessary person-to-person contact in the workplace;
14. Placing notices that encourage hand hygiene at the entrance to the workplace and in other workplace areas where they are likely to be seen;
15. Suspending the use of Personal Identification Number (PIN) pads, PIN entry devices, electronic signature capture, and any other credit card receipt signature requirements to the extent such suspension is permitted by agreements with credit card companies and credit agencies;
16. Enforcing social distancing of non-cohabitating persons while present on such entity's leased or owned property;
17. For retailers and service providers, providing for alternative points of sale outside of buildings, including curbside pickup or delivery of products and/or services if an alternative point of sale is permitted under Georgia law;
18. Increasing physical space between workers and customers;
19. Providing disinfectant and sanitation products for workers to clean their workspace, equipment, and tools;
20. Increasing physical space between workers' worksites to at least six (6) feet.

Further, "no business, establishment, corporation, non-profit corporation, organization, or county or municipal government shall allow more than ten (10) persons to be gathered at a single location if such gathering requires persons to stand or be seated within six (6) feet of any other person."

Special Groups

Pregnancy & Children

All pregnant women should follow the regular preventative measures as any other individual and be monitored for development of symptoms and signs of COVID-19, particularly if they have had close contact with a confirmed case or persons under investigation.

Since the outbreak is relatively new there is limited data and ongoing studies are being conducted to investigate patients that are currently pregnant and experiencing symptoms of COVID-19. Patients with suspected or confirmed COVID-19 are normally instructed to wear a face mask, including during labor and delivery, which may be difficult during active pushing

SARS-CoV-2 has not been detected in vaginal secretions or amniotic fluid. It should be noted that while in labor, and particularly pushing, often causes loss of feces, which can contain the virus and spread the infection.

The infants of mothers with COVID-19 are considered COVID-19 suspects, and they should be tested, isolated from other healthy infants, and cared for according to infection control precautions for patients with confirmed or suspected COVID-19.

Pregnant women with children should exercise caution. COVID-19 in children is usually mild and may be asymptomatic, although severe cases have been reported. Given the possibility of transmission of SARS-CoV-2 from asymptomatic individuals, the Centers for Disease Control and Prevention recommend that children:

- Not have play-dates with children from other households;
- That they remain ≥ 6 feet from people from other households when playing outside;
- Wear cloth face coverings in public settings where other social distancing measures are difficult to maintain

Cancer/Chemotherapy

Delivering cancer care during the COVID-19 crisis is challenging given the competing risks of death from cancer versus death or serious complications from infection, and the likely higher lethality of COVID-19 in immunocompromised hosts, including those with cancer. Other challenges include cancellations of in-office visits, surgery postponements or cancellations, social distancing in the office, and the transition to telemedicine for many visits.

The management between cancer patients with known exposure and/or symptoms is differently than those without any respiratory symptoms. For positive COVID-19 patients with cancer the literature states to discontinue any immunosuppressive therapy at this time.

Post-Pandemic health

During this turmoil, we are seeing the healthcare system attempt to maneuver this unique and ever-changing virus. We need to applaud these essential workers in the healthcare field that are combatting the effects of this disease, from the waiting room to the operating room. They are following their Hippocratic oath to fulfill medicine to the best of their ability and judgment.

Times like these, when seeing the correlation, , between certain diseases and [co-morbidities with COVID-19](#); we are seeing many of these co-morbidities and diseases being lifestyle diseases such as obesity and Diabetes Mellitus Type 2. The distinct delineation between preventative care and emergency care has been cast. This demonstrates the need for other health care fields that emphasize primarily on preventative care and education such as, chiropractic care, naturopathic care and [acupuncture](#) amongst many.

The ultimate goal of [naturopathic medicine](#) is the preservation of health through preventative measures. Treatment is focused on restoring the whole person to a healthy balance and resilience. Similar to mainstream clinicians, naturopaths help patients to avoid unhealthy habits, may prescribe medications and perform minor surgery. In addition, naturopathic doctors (NDs) focus on health promotion, including:

- [Anti-inflammatory diet](#) (increase water intake, dairy-free, high in fiber and micronutrients, and free of pesticides, herbicides and gluten-free)
- Physical activity (movement therapy/[green exercise](#))
- Stress reduction and [proper sleep hygiene](#)
- Holistic approach to mental emotional disturbances

Naturopathic physicians use a variety of tools to treat the root cause of disease. The evidence from this pandemic alone is showing our nation, United States of America, in specific, has a necessity for effective preventative care.

Ways to manage your health and keep your immune system healthy include:

- Routine blood-work to assess overall immune function with additional markers such as [Vitamin D 1-25](#). Research is stating that low or deficient vitamin D status has been linked to onset of COVID-19.
- [Intravenous Vitamin C therapy](#) to support your immune system and by passing the gut and allowing immediate absorption. Research is supporting the use of this therapy for preventative and treatment options.
- [Unfocused shockwave therapy](#) to aid with stem cell activation, modulating inflammation, improvement of blood flow, antibacterial, anti-viral and dilution of phlegm.

Life After COVID-19

The healthy building movement

Covid-19, in all its terribleness, could usher improvements to the great indoors. Urban planners and architects are planning practical improvements for homes and offices.

- **Improved airflow:** adding better ventilation and filtration could make hospitals, movie theaters, prisons, and other enclosed spaces healthier places to inhabit.
- **Dividers:** plexiglass-enclosed desks turned apart from one another might be the future of the open floor plan office.
- **Hygienic surfaces:** covid-19's ability to survive on surfaces could make antimicrobial polymer and copper alloy surfaces more attractive.

And of course, adding more outdoor space to urban housing is a top priority.

Will it actually happen? We'll give it a firm "probably," considering there's plenty of historical precedent. Outbreaks of the bubonic plague, cholera, smallpox, and the spanish flu were all followed by advancements in urban planning, like indoor plumbing and waste management.

Innovation and ingenuity

Today, covid-19 could catalyze a wave of smart city upgrades as governments turn to digital infrastructure to guard against future crises.

Cities moving from containment to recovery offer a glimpse of what could come.

In wuhan, china, factory operators register workers' temperature daily. Returning employees are working alongside more robots than when they left. And to get on a train, residents display app-based "health codes" ranking them by infection risk levels.

Those methods have some privacy advocates bucking like an unbroken colt. But not all solutions have to come at the expense of personal liberty.

- In Antwerp, Belgium, workers at Europe's second-largest port are testing bracelets that buzz if workers are too close. They don't collect data or track movements.

Covid-19 could also accelerate tech not tied to virus tracking, including...

- **Automation.** Fewer hands = less transmission. Companies could deploy more robot workers in factories/stores or autonomous vehicles and drones in delivery networks.
- **Connectivity.** As more workers go remote, internet connections need to improve outside cities. Governments may double down on broadband and 5g buildouts.

Reality check: smart cities aren't cheap, and governments are facing severe budget shortfalls from covid-19 that could hamstring funding for tech-savvy initiatives.

Social distancing

The coronavirus pandemic strikes at the heart of a city's engine: its social interactions. As cities ease lockdowns, they'll have to ensure those face-to-face experiences can occur while keeping everyone healthy.

Transportation: public transportation is an essential service, but safety measures can be put in place to protect passengers and workers. Think social distance markings and quotas on the number of riders in a single train car. Also, bye-bye uber pool.

Retail: things will get weird. As hybridization accelerates, a store could be a showroom, a delivery warehouse, a restaurant, and a pop-up market all in one.

Culture: when sports and theater do return, capacity at venues will be limited with chairs left open in between people.

Design: the pandemic showed we need to be prepared to construct new buildings in a hurry and transform others from their original uses.

Opening streets for alternative transportation

Milan, Italy, one of Europe's most polluted cities, is leading the charge to reimagine urban transportation. Its ambitious strade aperte plan intends to transform 22 miles of streets by adding temporary biking lanes, 20 mph speed limits, and wider pavements.

Former NYC transportation commissioner janette sadik-khan told the guardian, "the Milan plan is so important...because it lays out a good playbook for how you can reset your cities now."

- Like a good rookie qb, NYC is studying that playbook—the city council introduced a measure that would temporarily open up 75 miles of streets to cyclists and pedestrians.

Bottom line: as much as the pedestrianizing of streets is gaining momentum, the reality is that the private car presents the most isolated means of transportation for a nervous public

Spring Detox

The following are general lifestyle recommendations that will establish a healthy routine as well as promote detoxification mainly through your digestive system, liver, kidneys, skin and lungs. There are two main goals alongside our additional recommendations:

1. **Establish a routine to promote a healthy lifestyle:** It's often the simplest interventions in life that can have the greatest impact on our health. The following are basic, foundational activities that can facilitate healthy elimination as well as maintaining a vital environment within our bodies.
2. **Enhance your body's ability to detoxify in order to promote wellness:** In this day and age, our bodies are bombarded with many different variables that can affect our health. We live in a dynamic and often toxic world. As life goes on, we build up a "burden" of toxins and stressors that can negatively impact our health. It is critical to encourage elimination of these toxins, metabolic byproducts and other stressors on a daily basis. We produce urine through our kidneys, stool through our gastrointestinal tract, gas through our lungs and sweat via our skin; all of these organs are known as *emunctories*, or organs of elimination. Achieving a healthy balance between our vital organs and stimulating elimination will enable a powerful additive alongside our other recommendations. In addition, stimulating blood and lymph flow will propel the emunctories even more!

Primary Recommendations:

- **Adequate sleep:** Most adults need 7-9 hours a sleep in order to feel rested or renewed. Below is a great chart from the National Sleep Foundation on sleep recommendations by age. Try to go to bed and wake up at the same time everyday to help manage your natural circadian rhythm. Sleep hygiene is also critical, as it is important to avoid electronics at least 1-3 hours before bedtime, as well as not eating large meals before bedtime or drinking alcohol/caffeine.

See below for the **National Sleep Foundation's** comprehensive recommendations:

- Newborns (0-3 months): 14-17 hours each day (previously 12-18)
- Infants (4-11 months): 12-15 hours (previously 14-15)
- Toddlers (1-2 years): 11-14 hours (previously 12-14)
- Preschoolers (3-5): 10-13 hours (previously 11-13)
- School-age children (6-13): 9-11 hours (previously 10-11)
- Teenagers (14-17): 8-10 hours (previously 8.5-9.5)
- Younger adults (18-25): 7-9 hours (new age category)
- Adults (26-64): Sleep range did not change and remains 7-9 hours
- Older adults (65+): 7-8 hours (new age category)

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- **Exercise/spend time outside:** Everyone knows this, however it is important to understand that exercise helps improve circulation and remove wastes and stress from your body. It also enhances metabolism, which can play a large role in the way your body functions. 30 minutes 5x a week at a minimum is the amount needed to decrease cancer risk by half according to the American Cancer Society, and to put you at lowest risk for dementia according to the Journal of Neurology. Aim to exercise 5-7 days a week, at least 45 minutes each time. Fresh air and sunshine are also important for obtaining vitamin D; get outside more often.
- **Sweat:** Research has shown that using an infrared sauna 3 times a week can drastically reduce cardiovascular events. It is also an important mechanism for your skin to detoxify and get rid of wastes. Aim for 3 times a week, for 20-30 minutes each time.
- **Water:** Aim for ½ your body weight in ounces. Use glass or BPA-free water bottles to avoid phthalates from plastic. Water bathes our cells, and has the ability to carry wastes out of our body. In addition, if you drink coffee or alcohol, it is important to match that amount in extra water intake for the day.
- **Deep breathing:** Take some time everyday to consciously breathe deeply, using your abdomen. A good rule of thumb is 4-4-4-4 (4-square), inhale for 4 seconds, hold for 4 seconds, exhale for 4 seconds and hold for 4 seconds, and repeat. Aim for 50 conscious breathes a day, space them throughout the day. It may seem like a lot, but if you space them in sets of 10, you will get used to that routine. ☺
- **Diet:** You will go over much valuable information with our awesome Registered Dieticians. In general, for food hygiene, make sure you chew your food, avoid drinking fluids with food (will dilute digestive juices), and eat in a relaxed, non-stressful environment.
- **Fun:** When was the last time your doctor told you to laugh? Maybe in Patch Adams? We encourage you to have fun everyday, smile and have a positive outlook, and make sure you laugh daily!

Specific Home Recommendations:

Castor oil packs: These wonderful concoctions help stimulate the liver specifically and enhance detoxification. Ideally, aim for these 3 times a week, 30-45 minutes each time, typically when you are winding down at night. *Do not do this over an open wound or during menses. The following is the protocol:

1. Fold a cloth flannel or old T-shirt 3 layers thick (the size of your abdomen), and saturate with room temperature castor oil
2. Lie on your back with feet elevated (place pillow under knees) and place cloth over your liver area on the mid to right upper abdomen; place a plastic bag or saran wrap over the cloth, then place a hot water bottle on the top
3. Cover entire abdomen with an old towel for insulation (caution that the oil does stain, so watch for leaks or lay on an old towel underneath your body)
4. Leave pack on for 30-45 minutes
5. When finished, remove the pack and wash the area with warm soap water (save the pack in a Ziploc bag for future use, until it is discolored)

Dry skin brushing: Using a natural fiber brush (or loofa), brush the surface of your skin starting at your extremities and working towards your heart. You should brush for approximately 1 minute before entering the shower. This will help move your lymph primarily; as well as open skin pores.

End your shower on cold: Contrast hydrotherapy is a powerful tool that can awaken your body and jump-start your day. End your shower with cool water (not freezing cold) for 30-60 seconds, especially on your kidney/adrenal gland area on the mid/lower back.

Conclusion

In conclusion, we are able to see all the changes that have occurred with the virus and what life after the virus will resemble. Basically, in a nutshell this is an ever-changing virus and may seem everyone is stating different theories and hypotheses. The main take away from this guide should be to educate yourself, so that you in turn, can educate others. Do not get caught up by the conspiracies and headlines but focus on the data and treat this like any other major virus/disease with precautions and prevention. You would not catch yourself near immune-compromised patients with a cold/flu without protective gear so why would you attempt to do that now?

Once these lockdowns get lifted and buildings re-open be sure to exercise caution, especially those with co-morbidities or in a special group (i.e. pregnancy, children). Be aware of the guidelines that are being set in place and make sure the areas you choose to enter are following those guidelines.

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