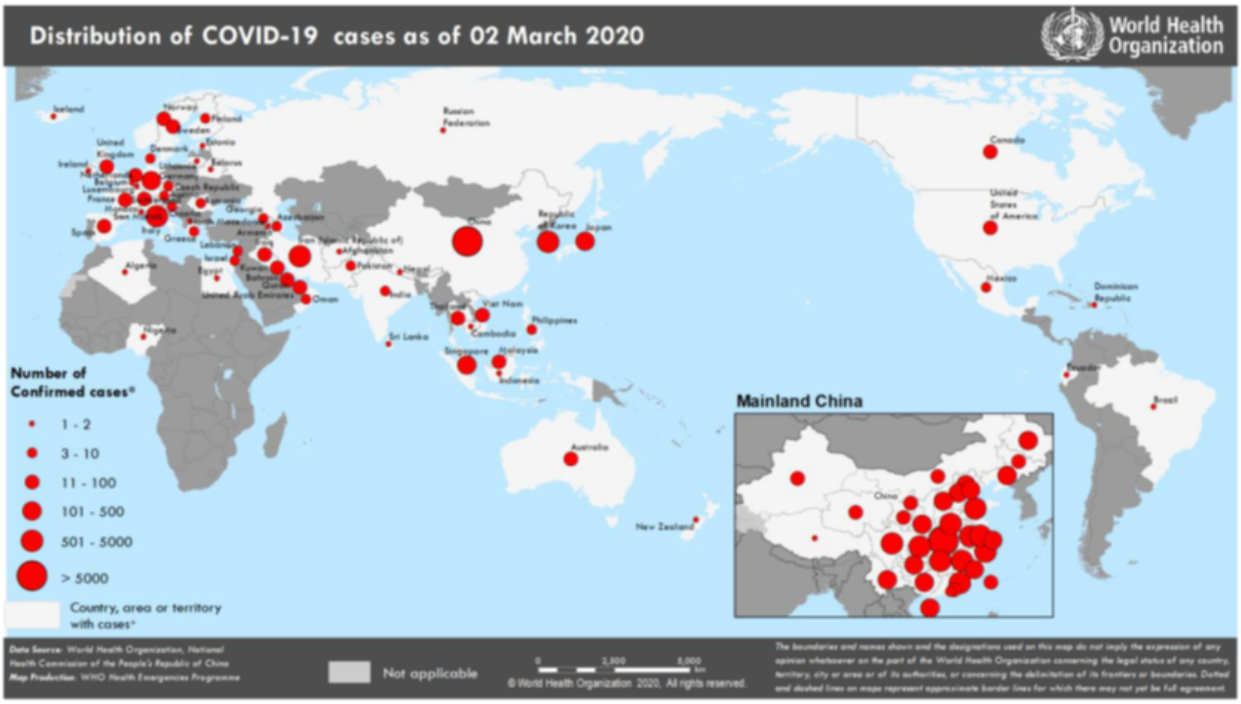
OPTIMIZED WELLNESS CENTER
For your best self

Everything You Need To Know To Prepare For & Prevent COVID-19

This document is comprehensive. Focus on what serves you now and skim the rest.

- Putting slack in the system
- What are the modes of transmission and symptoms of COVID-19
- We are accessing Lab Test Kits, how can you get one
- Prevention, boosting your immune system & infection control
- What should I NOT do
- How to communicate during a disaster
- References 45+

Figure 1. Countries, territories or areas with reported confirmed cases of COVID-19, 02 March 2020



With all the disinformation about the coronavirus out there…….
How can you decipher what is the truth?
Don't Panic - Be Prepared
We are here to help.

Yes, preparing is just simply responsible. Also, having a plan in place of how you'll care for a sick family member - especially someone elderly or immunocompromised is a good idea.

Helping the sick get well and the healthy excel!

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Flu hysteria has now transformed into coronavirus hysteria, and many of you have asked how worried you should really be. News around COVID-19 has taken the world by storm and those of us outside of China are not sure whether to panic or stay calm. Addressing the Munich Security Conference on Feb 15, 2020, the World Health Organization (WHO) Director-General Dr. Tedros Adhanom Ghebreyesus said:

… we're not just fighting an epidemic; we're fighting an ***infodemic*** *…*
This is a time for facts, not fear.
This is a time for rationality, not rumours.

Let's get a few things straight:

- COVID-19 will spread around the world; it is a pandemic
- Some people will die; most will live
- Preparation is critical

Dr. Emma Hodcroft of the University of Basel in Switzerland; Phylogenetics, Molecular Epidemiology says: When considering to continue about your daily routines OR buying every can in the shop are helpful responses to COVID-19, the most important thing is to ***put slack in the system***. This manifests in a few ways:

- Public mentality
- Supply chains & medical systems
- Your personal life

1st - Govt's/health agencies preparing the public allows the public to prepare themselves - physically & mentally. This is concerning because we had considerable notice in the United States and could have learned from China, South Korea, Italy, and Iran but instead, there have been many delays and now restrictions on transparency. This has resulted in challenges between containment and mitigation.

2nd - This is a big one. A slowly increasing number of cases with early discussion of canceling schools/ events & additional possible disruptions means less panic if these things later happen.

Repeats of *'everything is fine'* followed by big jumps in the number of cases & sudden announcement of closures & disruptions, not previously discussed, makes people feel the situation is out of control, that authorities don't understand what's happening ---and--- that it's time to panic.

This leads to panic buying, irrational behavior, mistrust of the advice that's being given ("why did it change so suddenly before?"). Slack in the 'public mental state' helps people feel informed, that they understand the situation & have time to prepare.

Preparing for a serious illness outbreak also means freeing up space in hospitals by doing things like canceling elective medical procedures. This frees up beds, staff, and supplies for incoming disease cases. It also gives hospitals enough time to order more supplies/equipment.

The same goes for pharmacies and medical supply chains. Asking people to refill repeat prescriptions now reduces strain later by giving a few weeks when pharmacies can focus on increased demand from outbreak illnesses.

By advising people to ensure they have a small stock of supplies at home to last a week, we put slack in the food supply. Ex: If fewer truck drivers are working, reorganization is needed for store restocking. If people can last a few days without needing to shop, it's much easier.

It's important to also say this is why panic buying isn't helpful. Pick up a little extra now in every shop you go to & this is easily absorbed by the system. Buy every can of beans in one go & you've stressed the system early before there was any need. Stay calm, stay rational.

Finally being prepared buys you slack in your own systems. If supply chains are disrupted temporarily, if quarantine or other measures come into effect, you know you have enough medicine & supplies to let the systems adjust.

This can be as simple as just knowing you don't have to go to the shop when panic buying is taking place - when full of many people & quickly emptying of most food. Stressful, unhelpful (limited food), & unwise. You can wait until the restock arrives.

If quarantine or other measures happen, this will also require a few days of adjustment to coordinate when people can shop/how deliveries happen/how shopworkers are scheduled, etc.
Avoiding the confusion at the start helps you & helps the system adjust.

To clarify, that experts aren't telling you to stock up on essentials because they think you're going to run out of food & society is going to collapse. It's because a few days of panic buying & high demands cause more panic & stress systems unnecessarily.

Preparedness isn't about doing nothing, but also about not overreacting. It's about doing your part to put the *__slack in our systems__* so any disruptions are smooth as possible, can absorb extra load, & resources remain available for those most in need.
This could last longer than we anticipate, some predict many months and we must be prepared.

If you are sick you should consider quarantining yourself. Here are some thoughts on how to do that.

What is Coronavirus?

According to the WHO (World Health Organization), the coronavirus comes from a family of viruses that can cause illness in animals and humans and can cause COVID-19 (coronavirus disease) and are characterized by a positive-stranded RNA genome, and are encased in a membranous envelope (Geller et al, 2012). In recent history, it has been extensively studied, as this virus family was responsible for the SARS (Severe Acute Respiratory Syndrome) and MERS (Middle East Respiratory Syndrome) outbreaks in 2003 and 2012, respectively.

What is COVID-2019 or Coronavirus disease?

The Coronavirus originally identified in Wuhan, China is categorized as a novel Coronavirus, which WHO has named COVID-19. Multiple patients presenting with symptoms of severe respiratory infection (pneumonia) started showing up in late 2019 and were confirmed by electron microscopy and genome sequencing to be a coronavirus. Given the current spread of the infection, it is likely that the virus is spread through respiration (airways) (WHO, 2020). The origin of the virus is unknown.

What is a Pandemic?

*Let's clarify the terminology. An **outbreak** happens when a disease occurs in greater numbers than expected in a community, and can even be just one case. You can have outbreaks in different communities. An **epidemic** is an outbreak that spreads rapidly to many people. A **pandemic** is an epidemic of global proportions that has become widespread across several countries or continents, essentially considered to be worldwide.*

A 'Pandemic' is especially harmful as it indicates that infection containment measures to keep the illness isolated to a region were unsuccessful. A Pandemic DOES NOT indicate that the disease has mutated, become more dangerous, or changed in any appreciable manner. This is merely an indication of regional spread. Although, in the case of COVID-19, there is evidence of mutation.

As COVID-19 reached pandemic status, multiple countries are implementing pandemic measures. These have included: increasing resources to develop treatments for the disease, improve screening measures to limit the spread of the disease, limiting travel to potential sources of the diseases, and ensuring resources to combat the increasing number of cases. By taking local action, this can help to combat the spread of the disease worldwide. For many countries, pandemic response plans are already developed and just need to be implemented when the time comes.

Please contact your local Public Health Agency or Public Health Organization to find out your local specific Pandemic Response Guidelines.

Transmission

It is now clear that human-to-human transmission of COVID-19 is possible and is occurring. Transmission is mainly through respiratory droplets and close contact – similar to how influenza, yet concerningly, a recent study indicates "that aerosol and fomite transmission of HCoV-19 is plausible, as the virus can remain viable in aerosols for 42 hours and on surfaces up to days,"

- the air by coughing and sneezing
- close personal contact, such as touching or shaking hands
- touching an object or surface (fomite) with the virus on it, then touching your mouth, nose, or eyes before washing your hands
- in rare cases, fecal contamination (CDC, 2020)
    - Concerning for sanctuary cities such as LA and San Francisco

The virus enters the cell via a vesicle called an endosome. Once inside, it releases its RNA into the cell cytoplasm and hijacks the cell machinery to produce more viral proteins and thus virus. It also releases an enzyme called **3CL** (3-chymotripsin-like protease). This enzyme attacks the cells' defense mechanism against the coronavirus inhibitors.

The COVID-19 *incubation period* is at least 24 days according to The Lancet. **This is a problem** because the health departments in the US are releasing people after 14 days.

A Harvard professor predicts that 70% of the global population will become infected. "*I think it is likely we will see a global pandemic. If a pandemic happens, 40% to 70% of people worldwide are likely to be infected in the coming year. What proportion is asymptomatic, I can't give a good number.*"(Epidemiology Prof. Marc Lipsitch, Head of Harvard Ctr. Communicable Disease Dynamics, 2/14/2020)

The head of the CDC predicts outbreaks in the US, we are seeing it already unfold and, not only outbreaks but yearly outbreaks, particularly as the virus mutates (which has recently occurred). The RO value (rate of spread from one person to others) has moved from 3.0 to 6.6 people infected per person. The attack rate may be 3 times and mortality rate 10 times higher than seasonal flu says CEO of the Coalition for Epidemic Preparedness Innovations Dr. Richard Hatchett.

Telemedicine has been around for decades and needs to be leveraged more for its ability to maintain social distance, cost savings and other conveniences. Providers and patients can facilitate improved health through phone or video communication. Telemedicine is an important resource to consider and one such provider is available here.

Symptoms	Coronavirus Symptoms range from mild to severe	Cold Gradual onset of symptoms	Flu Abrupt onset of symptoms
Fever	Common	Rare	Common
Fatigue	Sometimes	Sometimes	Common
Cough	Common* (usually dry)	Mild	Common* (usually dry)
Sneezing	No	Common	No
Aches and pains	Sometimes	Common	Common
Runny or stuffy nose	Rare	Common	Sometimes
Sore throat	Sometimes	Common	Sometimes
Diarrhea	Rare	No	Sometimes for children
Headaches	Sometimes	Rare	Common
Shortness of breath	Sometimes	No	No

Sources: World Health Organization, Centers for Disease Control and Prevention

Common progression of symptoms that vary in severity:

- Starts with a dry sore throat for 3-4 days before it enters the lungs
- Upper respiratory symptoms (sore throat, malaise, headache, muscle aches)
- Dry cough without a runny nose
- Mild pneumonia starting typically after 5 or 6 days
- Difficulty breathing
- Fever (which may not be present in the very young or very old, or immunocompromised)
- Severe pneumonia
    - COVID-19 pneumonia is now named Severe Acute Respiratory Infection (SARI)
- Nasal congestion where you feel like you are drowning
- Acute Respiratory Distress Syndrome (ARDS)
- Sepsis and Septic shock
- Death

**If you or your child have cold or flu symptoms,
chances are that you have a cold or the flu!**

DO NOT rush to your doctor's office or hospital to get tested at the first sign of fever or cough unless your health is declining and you need urgent medical attention.

If a person develops symptoms of COVID-19 and has reason to believe they may have been exposed, they should *call* their health care provider or local health department *before* seeking care. Contacting them in advance will make sure that people can get the care they need without putting others at risk.

Testing

If you are concerned you or a family member is sick & don't know if it could be COVID-19:
Check the distinguishing symptoms listed in this document, consider if you have come in contact with someone who may have been identifiably sick, and check your temperature regularly.

Currently, the genome is sequenced, and available on the WHO website. On February 3, 2020, the CDC submitted to the FDA an expedited Emergency Use Authorization package to permit the use of the test kit called "Centers for Disease Control and Prevention 2019 (SARS-CoV-2) Real-Time Reverse Transcriptase-PCR Diagnostic Panel". We have just been informed that **we can get lab test kits!**

We are securing COVID19 lab kit testing outside of the state health departments. This will be offered as a swab performed while remaining in your car. These kits are likely to be very limited in supply. Please sign up for our newsletter for updated information on how to request your lab kit.

How can you protect your family from COVID-19? Prevention

Remember, the vast majority of people appear to have a ***mild illness***, especially children. Researchers are investigating what makes certain populations more vulnerable to severe illness. However, we know from other viral illnesses that ***there are ways to reduce our susceptibilities*** to serious illness.

Infection + Susceptibility = Symptoms

If we can reduce our individual susceptibility to serious illness, our likelihood of only developing mild symptoms if we are infected is much higher. So let's take a look at some of the possible ways that we can reduce our susceptibilities to protect our families.

Given the evidence available, it is recommended individuals prevent COVID-19 (or any other) infection with strategies developed for both the SARS-CoV and MERS-CoV. Without a known animal origin of the virus, there is currently no indication for eliminating any animal sources to prevent further zoonotic transmission. Previous outbreaks were likely a result of failure/breaches in Infection Prevention and Control Practices and may have occurred with COVID-19 (WHO, 2020).

Vaccines – No current vaccines are available, but candidates against MERS-CoV are in development, which may assist in preventing the development of a COVID-19 vaccine. There is some discussion of vaccines becoming available within 1+ years. Dr. Tony Fauci, the director of the National Institute of Allergy and Infectious Diseases and arguably the smartest member of Trump's task force says the flu vaccine will not work for COVID-19 and may increase the risk of getting Coronavirus.

Personal Protective Equipment - to prevent coming in contact with airborne or aerosolized diseases.

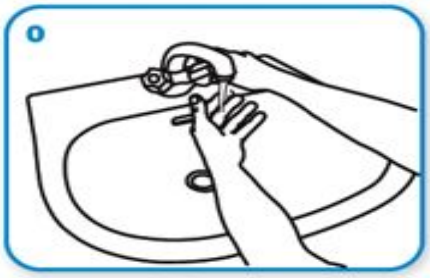
There are common-sense measures to protect yourself from COVID-19 that you should be practicing regardless of whatever virus is circulating at the moment. The only unique recommendation with COVID-19 is to avoid unnecessary contact with non-domesticated animals due to presumed animal-human transmission.

Things you can do:

- **FIRST** - Have your ***paper towels*** ready to shut the water off, to open the doors, and to hold on to public surfaces, railings and the like.
- **THEN** - ***Wash hands frequently & vigorously***, especially before eating or touching your face. Washing hands with warm soap and water for at least 30 seconds is the best option. Studies found that washing hands even with plain running water without soap was more effective than ethanol-based hand disinfectants at killing the Influenza A virus! Scrub between your fingers, don't forget your thumbs, under your fingernails and up to your wrist. No need to take rings off.
- ***Cut your nails***. Women, you may not want to, but to be safe and to keep your family safe the CDC recommends to keep your nails short and clean.
- ***Alcohol-based sanitizer*** (60%+) helps kill viruses on your hands. DIY demo here.
- ***Wipe your phones*** with alcohol a few times a day. Pointless to wash our hands and touch our Germy Devices!

How do I wash my hands properly?

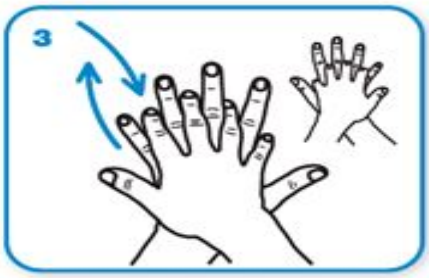
Washing your hands properly takes about as long as singing "Happy Birthday" twice, using the images below.



Wet hands with water

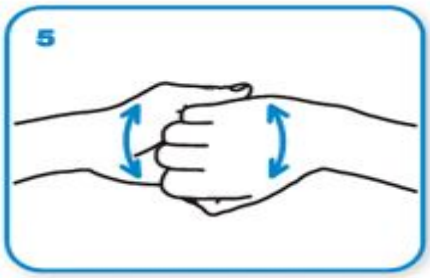
apply enough soap to cover all hand surfaces.

Rub hands palm to palm



right palm over left dorsum with interlaced fingers and vice versa

palm to palm with fingers interlaced

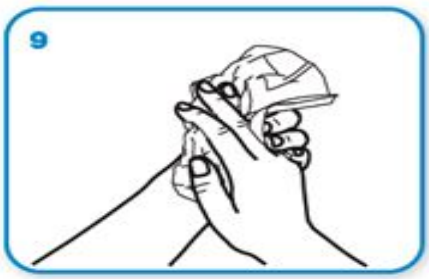


backs of fingers to opposing palms with fingers interlocked

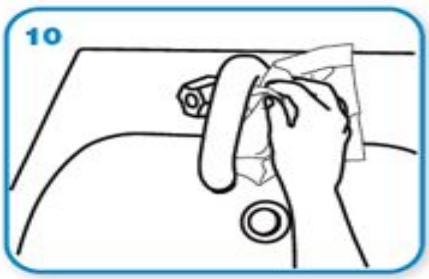
rotational rubbing of left thumb clasped in right palm and vice versa

rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa.

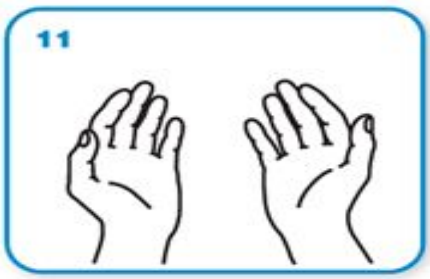
Rinse hands with water



dry thoroughly with a single use towel



use towel to turn off faucet



...and your hands are safe.

Helping the sick get well and the healthy excel!

- ***Avoid touching your eyes, nose, and mouth!*** Do your best to keep those little fingers away! There is a chance your unwashed fingers will have a virus on them. The first step is helping children (and adults) be mindful of how often we actually do touch our faces! Varying studies have shown that we touch our faces on average 23-50 times per hour. So help your children notice when they're touching their faces so they can pay attention to not touching their faces even when you're not with them. Practice this; get others to call you out when you forget. Make it a game.
- ***Get a bidet and stop hoarding the toilet paper.*** Turns out bidets are much more hygienic than smearing poo all along your backside. Consider adding a squatty potty too.
- ***Keep air circulating*** with a fan or open a window. This helps spread out any floating droplets – just in case they are a risk. This reduces any chance of being exposed to enough to cause illness. Consider using an air purification system that can catch viruses.
- ***Stay home when you're sick unless you need urgent medical attention***. You may increase your possible exposure to COVID-19 if you don't have it, or exposing others unnecessarily if you do. Call first if you are considering to go to the doctor.
- ***Cover your cough with your elbow or tissues***. Teach your kids proper cough etiquette. Immediately throw tissues into the trash with a liner and wash your hands.
- ***Keep your distance.*** Social Distancing: Try to stay at least 6 feet away from anyone who is coughing, sneezing or obviously sick with fever and/or respiratory symptoms.
- ***Irrigate your nose.*** While we do not know if nasal irrigation makes a difference for prevention of COVID-19, I believe that one of the MOST preventive things you can do for any viral respiratory illness is to irrigate your, and your children's, nasal passages with Xlear nasal spray at the end of every day and after any potential exposure (work, school, playgroups, plane travel, etc.). This is a saline nasal spray with xylitol and grapefruit seed extract, both of which have antimicrobial properties. You cannot overdo it, and will not get "addicted" to it. Other options for nasal irrigation are a regular saline spray or a Neti pot.

  Apart from regular hand washing, I believe that daily and frequent nasal irrigation is one of the MOST important things that we can do to prevent influenza and other viral respiratory infections from taking hold.*

  This is because, after exposure to a virus, the influenza virus tries to invade and multiply in your nasal passages for at least 1-2 days before you develop any symptoms. Nasal irrigation can wash away viral particles before they have the opportunity to take hold, and thereby prevent many infections from happening in the first place!
- ***Heat yourself up*** - COVID-19 is NOT heat resistant and will die at approximately 80.7 degrees Fahrenheit. Drink hot water or tea to help increase your core temperature.
- ***Gloves*** should ideally be nitrile and have long cuffs.

- ***Masks*** will do you a little good while outside unless you are in a crowded space. There's limited supply, use them sparingly. Donate extras to First Responders.
- ***Surgical Masks*** should have high fluid resistance, good breathability, internal and external faces should be clearly identified, structured design that does not collapse against the mouth (e.g. duckbill, cup shaped).
    - While a mask *seems* like a good idea, and when used by professionals it does protect from infection, it can actually give inexperienced users a false sense of security. There isn't a lot of good evidence (still!) that shows a mask to reliably prevent infection when worn by the public at large.
    - They *are* useful to put on a sick person to reduce their spreading of the virus, and are actually meant to protect others from *your* cough or sneeze.
- **Particulate Respirator Mask** Most commonly folks are familiare with P95, R95 or N95 filters at least 95% of small particles. Better yet use a Filtering Face Piece 3 (FFP3) respirators *protect against viruses and bacteria* and used by the military.
    - A properly fitted respirator mask should be worn over BOTH the nose and mouth, and form a tight seal so that you can't smell any ambient odors. A good test is to after washing hands, put on the mask covering your mouth and nose. Mold, don't pinch the mask across the bridge of your nose, then spray scented spray (5 drops peppermint or lavender essential oil to 1 ounce water), and a sweet water spray (1 packet stevia/ artificial sweetener to 1 ounce water) in front of your face. You should not be able to smell or taste any of the sprays in your nose or mouth.
    - Perform a *FIT TEST* to determine the size and positioning with these 5 exercises. With a new mask and washed hands:
        - Spray 5-10 times of both essential oil and sweet water - Nod head up and down continuously. Whilst nodding repeat sprays of both.
        - Spray 5-10 times of both essential oil and sweet water - Turn head side to side like you are saying "No". Whilst turning head repeat sprays of both.
        - Spray 5-10 times of both essential oil and sweet water- Bend at the waist/ knees as if you are picking up something from the ground. Whilst making bending movements repeat sprays of both.
        - Spray 5-10 times of both essential oil and sweet water - March in place bringing knees up high. Whilst marching in place repeat sprays of both.
        - Spray 5-10 times of both essential oil and sweet water - Sing "*Happy Birthday*" or a song known to you. Whilst singing the song a few more times, repeat sprays of both.
- **Gowns**
    - Should be single use, fluid resistant, disposable, length mid-calf to cover the top of the boots, light colours preferable to better detect possible contamination,

thumb/finger loops or elastic cuff to anchor sleeves in place. Generally, these are worn if you are around someone who is known to be infected.
    - Option 1: fluid penetration resistant
    - Option 2: bloodborne pathogens penetration resistant
- **Face Shields**
    - should be made of clear plastic and provides good visibility to both the wearer and the patient, Adjustable band to attach firmly around the head and fit snugly against the forehead, Fog resistant (preferable), Completely cover the sides and length of the face, May be re-usable (made of robust material which can be cleaned and disinfected) or disposable.
- **DIY Masks and Shields**
    - Supplies are very limited, in a pinch, here are instructions to make your own.

Other things to consider

We may see a big impact on our elderly population, both in terms of hospitalisation and death. Residential aged care is likely to suffer and visits to loved ones may be restricted to keep them safe. If you have loved ones in an aged care facility, ask the facility about its plans for keeping their residents safe from flu (a similar situation) and whether they have thought about what they will do if COVID-19 is spreading widely.

It will be important to check that your parents and grandparents have prepared a Will and have considered an **Enduring Power of Attorney** in case they are unable to make care-based decisions for themselves. These aren't fun to organise or think about, but they're important whether we see a COVID-19 pandemic or not, so just use this as a reminder to get it done.

What matters most is our ability to protect ourselves.

The healthier you are and the more proactive steps you take, you minimize your chances of catching and/or dying from the coronavirus.
Let's use this situation to improve our overall health habits and wellbeing by:

1) Deepening our connection with a higher power.
2) Getting chiropractic adjustments.
3) Getting enough sleep. If you are not going out, sleep in.
4) Minimizing stress.
5) Staying hydrated - really!
6) Associating with loving people - do a video call.
7) Exercising moderately.
8) Doing breathing exercises every day (pranayama & diaphragmatic breathing).
9) Utilizing our **Immune Protection Protocol**.

Helping the sick get well and the healthy excel!

Looking for some additional natural ways to support your immune system? We've got you covered.

Other common-sense measures to protect yourself and prevent spread of illness include:

- ***Chiropractic adjustments have been proven to improve your immune system.*** Research has shown that chiropractic care helps clear the signals from your brain to your body, including your immune system. Regular adjustments are not just for aches and pains, they also enhance the way all the systems in your body communicate and thereby function better.
- ***Take off your clothes***. After being in a public space, take off your shoes and outer clothes. Leave them outside and/or in the direct sun since COVID-19 doesn't like heat or sunlight.
- ***Load up on foods and spices with antiviral properties.*** Consider coconut oil, raw garlic, oregano, ginger, fermented foods, walnut, pomegranate, green tea, and apple cider vinegar.
- ***Eat lots of colorful fruits and vegetables.*** They are full of *antioxidants* which will destroy the free radicals that weaken our immune system and are responsible for making us feel sick when we catch a bug. Each color provides different antioxidant power – so be sure to eat a rainbow every day. If you're kids aren't the hugest vegetable eaters yet, give them their antioxidant dose with a smoothie packed with fruits AND veggies, use that smoothie to make jello with grass-fed gelatin or popsicles, sneak pureed vegetables into your spaghetti sauce, soups, chilis, or whatever other way you can think of – be creative!
    - After testing millions of people it is clear the majority are antioxidant deficient. Unless there is a dramatic change in dietary habits, lifestyle, environment, etc most will remain deficient of the best defense mechanism of your immune system and therefore will benefit from the most potent antioxidants available, LifePak. This has a combination of multi - antioxidants/vitamins/minerals your body needs.
    - *Citrus fruits* are an excellent source of vitamin C and are high in antioxidants. Vitamin C helps with stabilization of mast cells and basophils. Often when we experience an allergic response, cold/flu, there is a histamine response. This increases permeability in the body which contributes to a running nose, watery eyes, and low-grade fever. Excellent sources of immune boosting citrus fruits are grapefruit, oranges, tangerines, limes/lemons and clementines.
    - *Red bell peppers* contain twice as much vitamin C than ordinary citrus fruits. They are also rich in beta carotene. Beta carotene is converted to vitamin A in the body which will aid in healthy skin and mucous membranes, as well as improve eye health and vision. Those that are smokers or have a history of smoking should obtain beta carotene naturally and not in synthetic form as it may increase the risk for lung cancer.
    - *Broccoli* is rich in fiber, antioxidants and is packed with vitamins A, C and E.

    - *Garlic* is excellent in lowering blood pressure, lipids and reducing the risk for arteriosclerosis. Garlic contains allicin, which is high in sulfur. Phytochemical Allicin possesses antimicrobial properties which can inhibit bacteria and viruses.
    - *Ginger* can help decrease overall systemic inflammation and can help with a sore throat, nausea and can reduce cholesterol and chronic pain.
  - Other immune supporting foods are spinach, yogurt, almonds, turmeric, green tea, papaya, kiwi, chicken, sunflower seeds, and shellfish.
- ***Herbal remedies*** can destroy the virus's venum (3CL) and thus enhance your cell's innate ability to protect against the coronavirus. The best herbs for destroying 3CL is epigallocatechin gallate, and there are a variety of easily obtained herbs and spices listed **here**.
- ***Stay well-hydrated.*** **Stick to water**, coconut water, herbal teas, and bone broth. No soda or sugary drinks. Divide your body weight (in pounds) in half and drink that number in ounces!
- ***Drink your bone broth!*** Bone broth has amazing immune-supporting properties.
- ***Eat fermented foods.*** The probiotics contained in fermented foods have tremendous immune-boosting powers. In fact, the fermented Korean cabbage, kimchi, was found to have significant effects in preventing and fighting the H1N1 influenza virus! Other examples of delicious fermented foods include sauerkraut, pickles (try "real" pickles without added vinegar-like Bubbies), miso, kefir, and kombucha. Eat them, but in moderation as they may raise TGF Beta.
- ***Avoid simple sugars and processed/junk food.*** Did you know that your blood shows evidence of lowered immune system within 30 minutes of eating simple sugars (like glucose, refined sugar, and fructose), and causes a 50% reduction in your white blood cells' abilities to kill germs? White blood cells are our "army" cells that fight off germs. This effect is most noticeable 2 hours after ingestion, but is still present 5 hours later! Keeping blood sugar levels healthy has been shown to improve immune system activity.
    - Interestingly, some recent research shows that reducing sugar, which generally seems like a good thing to do, proved only beneficial for bacterial conditions and NOT for viral. So, maybe continue to consume lots of phytonutrients and notably fruits as to maintain appropriate energy stores.
- ***Get fresh air and moderate daily exercise.*** Moderate exercise can boost the production of macrophages, the kind of white blood cells that "eat" bacteria and viruses. However, intense exercise can actually temporarily decrease immune function – so don't overdo it!
- ***Get adequate sleep.*** An increase in sleep actually increases the number white blood cells. On the other hand, loss of sleep even for a few hours at night, increases inflammation in our body which makes us more susceptible to catching the flu and having more severe symptoms. So make sure your whole family is getting enough zzz's. For tips on getting a good night's sleep, see **our tips on how to Fix a Broken Circadian Rhythm and Proper Sleep Hygiene.**
- ***Minimize stress.*** Emotional stress creates physiological stress in our bodies that lower our immune defenses and makes us more vulnerable to illness. Stress has been shown to lower

our white blood cells' abilities to kill germs, and actually creates more inflammation that may make us feel even sicker. For guidance on how to help manage stress naturally, here are **some tips on how to manage when you're Stressed Out**.

Essential Oils to protect you from COVID-19:

These are some of the most important essential oils, which were key for prevention and healing during the bubonic plague are:

- eucalyptus
- clove
- grapefruit
- cinnamon
- tea tree
- lemongrass
- frankincense
- olive leaf extract (oleuropein)

Add these into your overall prevention system. The key concept is prevention.

But don't panic buy and don't hoard!

Most of the world is not seeing widespread transmission of COVID-19, but there are other natural disasters like fires, earthquakes, tsunamis, etc. So now is a great time to make a "**Disaster Go Bag**" so you are prepared at a moment's notice. You can watch a video on **how to prepare here**. Moreover, start to prepare a Disaster Stash Box and begin to slowly fill it with items that won't go bad and that you won't touch unless needed. Buy a few of the things each time you go shopping. Don't buy things you won't eat later, don't hoard and don't buy more than you'll need for a 2 week period. We're not talking zombie apocalypse and we very probably won't see power or water interruptions either. Folks at The Prepared have some great and detailed suggestions.

We recommend trying to get food that fulfills **your daily requirements** for carbohydrate, protein, and fiber. We also want supplies to care for the sick (or if you get sick yourself) and cleaning supplies to try to reduce the spread of any bacteria, viruses or other unwanted pathogens.

Below we list things we recommend in case of a more major interruption to supply; a stock that will last two weeks. This is a figure based on other professional sites like Australia's New South Wales Government and Ready.gov in the United States. Local authorities have ongoing updates. Stay tuned.

Supplement Protocol To Keep Your Immune System Strong

Consider keeping your immune system fully supported with nutritional supplements to give your body even more antiviral defense and enhance your natural immunity. There is strong evidence that those who have the healthiest immune systems are better equipped to resist infection. No matter your starting point, we all have the ability to improve. This protocol was compiled through the collaboration of medical doctors, nurse practitioners, dietitians, doctors of chiropractic, functional medicine providers, naturopathic doctors and traditional Chinese medicine doctors. **Click here** for the most up to date and detailed list of supplements and herbal remedies needed today. This **Immune Protection Protocol** is specifically designed for viral defense and details products, dosages and alternatives to keep you and your family healthy and Coronavirus free.

Treatment

If you or a loved one becomes sick, follow the practices of the day. **Call ahead** before going to a doctor, clinic or hospital and get advice on what to do. Western medicine treatment of coronaviruses is mostly supportive in nature and must run its course. Chloroquine is a medication that has powerful antiviral properties that have been shown effective against the SARS-COV, HCoV-229E in cultured cells and HCoV-OC43 in mouse studies, however, it has not shown efficacy against COVID-19. Tamiflu will NOT work for this. There are currently no specific antiviral medications known to treat COVID-19, treatment is supportive with rest, fluids, oxygen, and more intensive care if needed.

Avoid medications that suppress the immune system, such as prednisone. Smoking and drinking worsen the chance of pneumonia developing.

If you or your child does get sick…

If you DO start to feel a fever and cough coming on, remember – it is very likely the common cold, influenza, or one of the other more commonly circulating viruses and NOT COVID-19 – so DON'T PANIC. And even if it is COVID-19, remember that ***most*** people appear to have MILD symptoms. Again, isolation is the best practice and suggestions of what to do can be found here.

What should we NOT take:

Should I worry about my supplements triggering a cytokine storm? No.
Out of an abundance of caution many providers got caught up in some of the potentially overblown evidence of certain things causing excessive immune stimulation, otherwise known as a cytokine storm (an end stage immune system overreaction causing increases in IL-6 and TGF Beta damaging lungs, kidneys and heart vasculature). It has since become apparent that this is rare and likely only in the most isolated of instances. Notably, there was concern with taking elderberry. Taking a species of

elderberry (sambucus formosana nakai) daily can have anti-influenza activity and against human coronavirus NL63 (HCoV-NL63). Elderberry's main anti-viral actions do not even involve cytokine responses at all, and rather involve its neuraminidase inhibition, similar to the drug Tamiflu. It also has an amphoteric effect (not in the strict acid-base definition, but in that it can correct from both sides of a metabolic process) on cytokines, meaning it upregulates then when necessary, and downregulates them when necessary.

Also, **AVOID NSAIDS with COVID-19!** NSAIDs will increase the body's Th1 response. As Dr. Peter D'Adamo says the 'drug' Aspirin's main mechanism of action is the suppression of the innate immune response, or in other words "inflammation". That is what they do! Do you want a key element of your immune response dampened when you are trying to recover from a serious viral infection, even if it may alleviate some of your symptomatic discomfort? No. So instead they advise to use Tylenol, but is this wise?

"Use Tylenol (Acetaminophen) Instead" Issue:

Western medicine has fallen into a very lazy reactive situation when it comes to fever, and this flies in the face of the understanding of physiology, common sense, and certainly naturopathic medicine principles. The minute a person spikes a fever we should not be advising them to immediately reach for a bottle of Tylenol (acetaminophen)! Yes, it is an analgesic (pain reliever) and anti-pyretic (fever reducer), and may make you feel a bit less symptomatic. However, your body is spiking a fever for a reason! Your immune system is working hard to produce that elevated body temperature with a plan in mind, which is to make it too hot for the pathogen infecting you to want to stay around, or for it to survive in you. Why would you want to immediately sabotage your own immune response like that? We all understand that an uncontrolled and excessive fever can be deadly, but that does not mean we should immediately attempt to suppress any level of fever. We need to "control" a fever, not eliminate it. The magic number here is 103 degrees, as anything above that can become life-threatening. Keeping a fever in control by the use of hydrotherapy using a tepid bath with sponging or immersion in water lower than the temperature of the body (85–90 degrees Fahrenheit, or 29.4–32.2 degrees Celsius). This works just fine in most situations. Resort to fever lowering medications and seek medical attention only when there is difficulty in keeping the beneficial fever in a safe range.

Takeaways:
If you want to believe the unsupported rumor mill on the internet then immediately stop taking anything that may enhance your immune response and body's ability to fight infection, including viruses. That's got all kinds of inherent problems and issues though. Is Elderberry, or other herbs such as Andrographis, dangerous in viral infections? Not that we know of, and we have plenty of scientific evidence and hundreds, if not thousands, of years of traditional use to back up their value in

such circumstances. If you are still not comfortable with the use of botanicals/herbals, then I would at least advocate that you consider taking some key vitamins and nutrients that support healthy immune function, a full list can be **found here**. I would not use Ibuprofen or other NSAIDS if you think you may be suffering from COVID-19 infection. I would also not immediately use fever-suppressing therapies, such as Tylenol (acetaminophen), but instead manage the fever with tepid baths and only resort to medical suppression of a fever if it becomes necessary. Finally, I would really advocate that everyone relax and take a few deep breaths!

As a disclaimer, we are not in any way recommending natural treatments as a replacement for standard medical care or vaccination, but until that time that effective medical treatments or vaccination for COVID-19 are developed and approved for use in kids and adults, we will be using all the tools we have that we know can work for other viral respiratory illnesses, like the flu.

Is airplane travel safe right now?

As we see more outbreaks in countries, the CDC has added several countries to its travel advisories. If you are planning international travel, keep informed with the **CDC's COVID-19 geographic risk assessment page**. Whether you choose to travel or cancel any upcoming plans is a completely personal decision. I personally am limiting international travel and limiting even my domestic travel especially since several TSA agents at San Jose, CA airport recently tested positive for COVID-19.

Window seat, please ?. If you have to take some form of public transit or fly, consider sitting along the windows to avoid lots of people rubbing against you repeatedly.

The alerts below are as of early March, 2020:

- **Level 3** (Warning: avoid all nonessential travel) – China, Iran, South Korea, Italy.
- **Level 2** (Alert: consider postponing nonessential travel) – Japan
- **Level 1** (Watch: practice usual precautions – Hong Kong
- Other destinations with community spread: Singapore, Taiwan, Thailand, Vietnam

Infection Control & Cleaning Products

Given the rapid spread of the illness, all suggested cleaning and disinfection methods are based on the efficacy of these products against similar viruses. As more direct evidence is published, it will be updated on this list. **Contact the manufacturers and your local public health agency for local regulations and use instructions.** Brands are listed only for reference and do not represent a complete list. Products are listed in alphabetical order and not in order of efficacy, as it is still inferred

at this point. If there are any omissions, please contact info@IC.tips. Only relevant organisms to Coronavirus are listed.

Here is an extensive list of all of the known commercial Novel Coronavirus (COVID-19)—Fighting Products compiled by the Center for Biocide Chemistries.

List of COVID-19 Surface Disinfectants

Product	Commercial name(s)	Registration	Efficacy*	Notes
Accelerated Hydrogen Peroxide	Oxivir (Diversey)	EPA	*Human coronavirus, Hep C, Influenza A, Swine Influenza A (H1N1)*	60 second contact time
Ethanol	Ethanol	Not required	Most viruses	
Silver dihydrogen citrate	Pure Hard Surface (Clearly Better)	EPA	*Human coronavirus, Rhinovirus, Rotavirus, Respiratory Syncytial Virus (RSV), Hep B, Hep C, Influenza A (H1N1); Swine flu A (H1N1)*	30 to 60 second contact time for viruses
Sodium dichloroisocyanurate (NaDCC)	Klorkleen (Kersia) PurTabs/Pur: One (EvaClean) Defender (Lighthouse) C. diff tablets (3M), BruTab (Brulin)	EPA	Hep A, Hep B, Porcine Epidemic Diarrhea virus (PEDs), Influenza Virus H1N1, Norovirus	Kill time of 1 min at 4,000 PPM
Sodium hypochlorite	Bleach Clorox Healthcare Fuzion (Clorox)	EPA	Most enveloped viruses	
Ultraviolet C (UVC)	Surfacide UV	Not required	MERS-CoV, *Pseudorabies virus* (PRV), *Porcine reproductive and respiratory syndrome virus* (PRRSV), *Porcine epidemic diarrhea virus* (PEDV), *Bovine viral diarrhea virus* (BVDV), *Classical swine fever virus* (CSFV), *Swine influenza virus* (SIV)	>5 log10 reduction in 5 minutes
Ultraviolet C (UVC)	Sanuvox (PrescientX)	Not required	MERS-CoV, *Pseudorabies virus* (PRV), *Porcine reproductive and respiratory syndrome virus* (PRRSV), *Porcine epidemic diarrhea virus* (PEDV), *Bovine viral diarrhea virus* (BVDV), *Classical swine fever virus* (CSFV), *Swine influenza virus* (SIV)	>5 log10 reduction with >20 mJ/cm2 UV dosage for most viruses
Chlorine dioxide (ClO_2)	Prokure V (Prokure)	EPA	*Hepatitis A, Rhinovirus type 37, Coronavirus, Influenza A, Influenza A.*	

*Only relevant organisms to Coronavirus are listed. Please contact the manufacturers and your local public health agency for local regulations and use instructions. Click here to download PDF version

Ozone is used as a cleaning agent for the air, surfaces and even internally. Also, as many of the natural oils listed above can be fogged into an environment. *Click to learn how we can help with* **Ozone**.

Communication Applications To Use During a Disaster

During a national disaster, contacting someone for help can be tricky. Luckily, in the digital age, there are emergency apps you can use without Wi-Fi, or cellular data, during a disaster. While some of these apps are also great hacks for free messaging during international travel, many were actually developed to help people in disaster zones call for help.

If you need to call for help once winds subside, these emergency apps you can use without Wi-Fi, or cellular data, can provide a port in the storm — literally. Source: www.bustle.com

1. The Serval Mesh (Android Only)

With humans digitally dependent in 2017, being disconnected during a disaster can leave you feeling totally helpless. The Serval Mesh Project spent six years working with the New Zealand Red Cross on a solution in the form of free software that allows smart-phones to communicate with each other, even in the face of catastrophic failure of cellular networks.

2. ZombieChat (iPhone Only)

Similar to The Serval Mesh, ZombieChat lets iPhone users connect to those around them without a cellular network, or Wi-Fi, during the zombie apocalypse, or any other emergency. ZombieChat creates a peer to peer network with nearby devices using Bluetooth, peer-to-peer Wi-Fi, and infrastructure Wi-Fi.

The app also notifies you when others nearby are trying to connect, which can help you call for help, or just feel less alone when disconnected during a disaster. Both ZombieChat and The Serval Mesh can only connect with other chat and mesh users nearby. They can not connect to users far away and are designed to alert people in your vicinity that you need help.

3. FireChat

FireChat is a free messaging app that works even without internet access or cellular data for both Android and iPhone users. While this sounds like a dream come true, the one caveat is that you need to create a group to chat with people more than 210 feet away. FireChat uses MeshKit technology, which connects smartphones to one another and lets users of your app download, share, and forward data, similar to an old school game of telephone.

In an emergency, FireChat lets you reach people even when they are not online, have no signal, or cellular data; share and deliver important information to disconnected users and communities; and source information and images in critical locations.

4. Zello

Zello has been getting a lot of buzz after being featured in the *Houston Chronicle* in a story about the "Cajun Navy" of volunteers who have been using the app to coordinate their efforts in the wake of Hurricane Harvey, the app hit the top of the U.S. app store, TechCrunch reported. Six million people have downloaded the app since Sept. 4 ahead of Hurricane Irma.

5. Nextdoor

Nextdoor is a social network app that can help keep you connected to what's going on in your neighborhood. More than 150,000 neighborhoods in the U.S. are on Nextdoor. If your community is on the network, you can use the app to get updates about what's happening in your specific area, which is not only helpful during a disaster but in everyday life. However, you will need either Wi-Fi or cellular data to use Nextdoor.

6. No Data Or Wi-Fi Needed To Call 911

You can use any cell phone to call or text 911 even without an active cell phone plan, *USA TODAY* reported. However, once winds reach 55 mph, emergency services can no longer respond to calls. Once the storm is over, you can contact 911 with your cell phone.

Because you could be waiting for an extended period of time for help during a disaster after you call 911, it's a good idea to download some of the above disaster apps if you need immediate assistance. Additionally, if you don't have a waterproof phone case you might want to put your phone in a Ziploc bag, or wrap it in plastic wrap, to keep it safe from water damage.

Here are some additional resources:

- Real-Time stat tracking
- How to prepare for a lot of time under quarantine
- Good old fashion contingency planning
- How can families prepare?
- Up to date information

We hope this document has proven helpful for you, your family, loved ones, colleagues, and neighbors. Please feel free to share it. We have done our best to make it as up to date and thorough as possible, borrowing from many sources for which we have tried to cite. Please let us know of any updates and sources that could improve this document for the benefit of others.

Helping the sick get well and the healthy excel!

The information provided here is only for teaching purposes. Without an intake medical professionals, including myself are restricted by law to not diagnose, prescribe or treat a medical condition. If you have a specific condition and/or want more detailed instructions, please contact us. If you believe that you may have been exposed to the coronavirus or are having a medical emergency, please call your provider for medical attention immediately or 911. Dr. Tim Heath DC, MBA, CCEP

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