

## COVID-19: 10 SUGGESTIONS FROM A BUDDHIST AND SCIENCE PERSPECTIVE FOR NATURAL AND BEHAVIORAL INTERVENTIONS

Dr. Harold Hall

- 1. The first suggestion is to see COVID-19 as empty, not real in itself.** Viruses contribute to evolutionary change by creating successful genetic patterns that underlie all living cells. The scientific community saw viruses first as poisons and then as inert up to the mid-1930s, later as life-forms, and today as complex bio-molecules occupying a gray area between living and nonliving. Most known viruses in their merging with the cellular genome are harmless, not pathological to humans. They cannot be understood except in relationship to other things.
- 2. Be at peace with the idea the virus is largely unstoppable until “herd immunity” takes place, a vaccine is developed, or specific antivirals are available.** Research shows that a cough is estimated to contain up to 3000 airborne droplets, each one less than 5 microns in length.. Research by MIT professor Lydia Boruouiba (JAMA, 2020) shows that a sneeze spews out up to 40,000 droplets up to 27 feet away. She has videos in real time to back up her findings. Worse yet, the droplets drift and hang in the air before gravity sets them on various surfaces for different lengths of time (cardboard, up to 24 hours; plastic and stainless steel, 72 hours, and up to 4 days on glass). Covid-19 viruses have been found in ventilator shafts of hospitals. An open window or A/C may cause the droplets drift to persons across the room, infecting them at distant points. Research shows that aerosolized infected droplets are produced by talking or just breathing. Asymptomatic persons make up at least 25% of Covid-19 cases About 5-10% of those “recovered” later test positive for COVID-19 . Absent containment, on average each infected person will infect 2 to 3 others. Fear of death? Here we have the wonderful teachings of Thich Nhat Hanh on birth and death as appearances and not reality, and the Buddha himself who offered us impermanence, nonself, interbeing, and emptiness to experience the true reality. In the process, fear disappears.
- 3. Build robust immunity.** Covered in the last article for Daifukuji, a strong and resilient immune system acts both as the key factor in preventing and reducing the impact of most physical and stress-related conditions, and explains why many people including seniors do not become infected or have

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mild symptoms. Better immunity arises from many causes and conditions, all of which intertwine and lead toward well-being and longevity.

4. **Get plenty of sunlight and outdoor time, for example, walking your dog or working in a garden.** Previous studies have shown that influenza and other viruses can be inactivated by simulated sunlight. Virus viability is rapidly lost at higher temperatures and higher relative humidity (e.g., 38C and relative humidity of >95%).
  
5. **Be aware of the typical negative psychological impact of lockdown and take appropriate action to build in safeguards.** Most studies reported negative psychological including post-traumatic stress symptoms, confusion, and anger. Stressors included a lengthy quarantine, infection fears, frustration, boredom, inadequate supplies, inadequate information, financial loss, and stigma. Feeling relief was reported by only 4% of the individuals on lockdown in a major study. Build in healthy routines for you and your family or others sharing lockdown. Loving-kindness, humor, new learning, and other positive characteristics of your time on lockdown should be included for yourself and others. Many people started ZOOM and other teleconferencing accounts (free!) to communicate with family, friends, or to work at home.
  
6. **Note emergency warning signs which imply you should contact your primary health care provider, call 911, or go to the hospital.** These signs include but are not limited to the following.
  - Difficulty breathing, often sensing the lungs are filled with fluids;
  - Persistent pain or pressure in your chest;
  - Bluish lips, a sign you are not getting enough oxygen
  - Cognitive confusion or inability to arouse
  - Complete loss of smell or taste, affecting up to 70% of persons infected with Covid-19.
  
7. **Be aware that both lockdown and the pandemic will end.** The CDC and WHO states you can leave home isolation if you have **not** had a test and all 3 of the following occur: (1) no fever for 72 hours (i.e. 3 days without symptom-reducing meds), (2) other symptoms improve—reduced cough, shortness of breath; and (3) At least 7 days have passed since symptoms

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first appeared. If you have been **tested positive**, then all 3 above apply plus you need 2 negative tests 24 hours apart.

8. **Continue with your healthy routines; create a “life radius”** of locations and activities associated with maintaining your health and addressing the suffering that pervades their space.
9. **Create a purpose for the rest of your life and know your talents and skills, as well as those of people around you, in order to accomplish it.** People who have a strong sense of purpose **and** can articulate it live an average of 7 years longer.. People who believe in a faith-based tradition **and** go to activities at least 4 times monthly live 4-14 years longer.
10. **Believe that there are no limits to compassionate-wisdom.** Stop wasting time which is better spent on helping others. There is an infinity of ways to serve others and we have figured out only a few of them.

**Species immunity (aka “herd” immunity).** Before partial species immunity for Covid-19 is established for 2/3rds of the population, modeling suggests that all households must reduce their contact with schools, workplaces and the public by 75%. UK epidemiologists predict that at least 60% of the population must be infected. Developing species immunity to diphtheria, the portion of the population infected was about 75% and for measles, 91%.

Israeli scientists are on the cusp of developing the first vaccine against Covid-19. If all goes as planned, the vaccine could be ready within a few weeks and available in 90 days, according to a release according by Science and Technology Minister Ofir Akunis Israeli COVID-19 treatment shows 100% survival rate - preliminary data. Not only have all the patients survived but four of them showed improvement in respiratory parameters.

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**By MAAYAN JAFFE-HOFFMAN**

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Research in the November 2019 issue of *Obesity* looked at 473,000 people, ages 65 and older who were part of a national health screening exam in South Korea. After 6.5 years, 13% had been newly diagnosed with dementia. Among the men with a healthy BMI, rates of dementia rose consistently along with waist sizes of 35.5 inches and larger.

1. Research from China quite clearly showed that severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus particles could be found in the ventilation systems in hospital rooms of patients with COVID-19". (Ong SWX, Tan YK, Chia PY, et al. Air, surface environmental, and personal protective equipment contamination by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) from a symptomatic patient. *JAMA*. Published online March 4, 2020. doi:[10.1001/jama.2020.3227](https://doi.org/10.1001/jama.2020.3227)) Dr. Harvey Fineberg, Chariman of the NAS standing committee on Emerging Infectious Diseases and 21st Century Health Threats, March 2020). Fineberg relates that research at a hospital in China shows that the virus was found in patient's rooms substantially more than 6 feet away. The droplets can hang in the air and infects someone who walks by later, depending on circulation and the amount of virus put off by the infecting source.
2. Recent evidence indicates that droplets can travel up to 27 feet, based on research by MIT researcher Lydia Boruouiba, PhD, the findings published in the *Journal of the American Medical Association* (March 26, 2020, Published free online. Doi:[10.1001/jama.2020.4756](https://doi.org/10.1001/jama.2020.4756)) in an article entitled: "*Turbulent gas clouds and respiratory pathogen emissions: Potential implications for reducing transmission of COVID-19*". Because of its massive implications, this article will be quoted in detail.

Dr. Boruouiba stated: "*Recent work has demonstrated that exhalations, sneezes, and coughs not only consist of mucosalivary droplets following short-range semiballistic emission trajectories but, importantly, are primarily made of a multiphase turbulent gas (a puff) cloud that entrains ambient air and traps and carries within it clusters of droplets with a continuum of droplet sizes. The locally moist and warm atmosphere within the turbulent gas cloud allows the contained droplets to evade evaporation for much longer than occurs with isolated droplets. Under these conditions,*

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*the lifetime of a droplet could be considerably extended by a factor of up to 1000, from a fraction of a second to minutes”.*

And

*“Owing to the forward momentum of the cloud, pathogen-bearing droplets are propelled much farther than if they were emitted in isolation without a turbulent puff cloud trapping and carrying them forward. Given various combinations of an individual patient’s physiology and environmental conditions, such as humidity and temperature, the gas cloud and its payload of pathogen-bearing droplets of all sizes can travel 23 to 27 feet (7-8 m)”. In her study, video feeds shows the droplet clouds moving 27 feet following a sneeze.*

Top exhalation speeds can reach up to 33 to 100 feet per second (10-30 m/s), creating a cloud that can span approximately 23 to 27 feet (7-8 m), according to data collected by Dr. Boruouiba. She opined that protective and source control masks, as well as other protective equipment, should have the ability to repeatedly withstand the kind of high-momentum multiphase turbulent gas cloud that may be ejected during a sneeze or a cough and the exposure from them. She noted that currently used surgical and N95 masks are, however, not tested for these potential characteristics of respiratory emissions”.

3. A recent article read “Iceland lab’s testing suggests 50% of coronavirus cases have no symptoms” (Tara John, CNN, April 1, 2020). This was based on comprehensive testing of than 17,500 Icelanders or about 5% of the 360,000 person population. Importantly, the screening program at the National University Hospital by deCODE Genetics tested people who were not currently showing symptoms and not on quarantine. Less than 1% were positive. Intriguingly, minor mutations for the virus were found from infected persons that came from Italy, Austria, UK and the West Coast of the U.S. These geographic-specific mutations may account for some of the differences for how people respond to the virus. Because of their ability to track active cases and preparation which started in early February, Iceland chose not to implement a lockdown. Iceland has 1086 confirmed active infections, 927 people in isolation, while more than 5000 have left quarantine. it has banned gatherings of 100 people or more and closed

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schools. Less than 10 people have died from the virus. DeCode Genetics plans on testing around 50,000 people, about 13% of the population, before the virus has run its course. All this has been done without dismantling the economy and other sectors of society, suggesting Iceland's response could be used as a template for other nations.

4. Recall the literature on past pandemics. The Marburg outbreak came from bats (Uganda, 1967), Ebola was thought to originate from bats (DRC, 1976), SARS, from bats and was mostly passed on to humans through cat-like civets, a subtype of feline found principally in Asia and Africa, H5N1-Bird Flu from poultry (China, 2003), swine flu from pigs (Mexico and U.S., 2009), and MERS from camels (Saudi Arabia, 2012).

Humans can infect animals as well. Experts from the Univ of Hong Kong and World Organization for Animal Health confirmed the first known case of human-to-animal transmission after a Pomeranian dog in Hong Kong was found to have been infected with low levels of Covid-19 (Anne Gulland, Global Health Security Correspondent, 4 March 2020). The 60-year old owner was hospitalized after he tested positive for Covid-19. Danielle Dos Santos, president of the British Veterinary Association, said that during the SARS outbreak in Hong Kong a small number of cats and dogs picked up the virus.

5. **Pets and other animals.** A myth is that humans cannot become infected by animals and animals cannot transmit the Covid-19 to humans. Actually animals and humans can cross-infect between and within species. Fecal contamination of this can be an effective route of transmission of the disease. Cat droppings should be cleaned up. Clean up dog poop as dogs to avoid fecal contamination which you should do anyway. -Fecal contamination of this virus may thus be an effective route of transmission of the disease. Contaminated sewage talks of a case study. The experts that they did not wish to contribute to pet abandonment, but urged that pet owners adopt good hygiene practices before and after handling pets and to avoid kissing them. Since this article, a new case of human-to-animal transmission arose in Belgium, where a cat contracted the disease from a Covid-19 infected owner. One week after the own was diagnosed with the disease their cat started showing symptoms of the disease, including breathing problems and diarrhea.

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Cats can infect each other with coronavirus, a study found (Sam Raskin, April 3, 2020). A study at Harbin Veterinary Research Institute in China found that cats can become infected with Covid-19, but can pass it on to some mammals including other cats via respiratory droplets.

Overall, the ownership of pets has many health benefits which override the rare cases of infection, as discussed below.

11. Pets can infect humans and each other with Covid-19; humans can infect pets and other persons. Recall the literature on past pandemics. The Marburg outbreak came from bats (Uganda, 1967), Ebola was thought to originate from bats (DRC, 1976), SARS, from bats and was mostly passed on to humans through cat-like civets, a subtype of feline found principally in Asia and Africa, H5N1-Bird Flu from poultry (China, 2003), swine flu from pigs (Mexico and U.S., 2009), and MERS from camels (Saudi Arabia, 2012). Humans can infect animals as well. Experts from the Univ of Hong Kong and World Organization for Animal Health confirmed the first known case of human-to-animal transmission after a Pomeranian dog in Hong Kong was found to have been infected with low levels of Covid-19 (Anne Gulland, Global Health Security Correspondent, 4 March 2020). The 60-year old owner was hospitalized after he tested positive for Covid-19. Danielle Dos Santos, president of the British Veterinary Association, said that during the SARS outbreak in Hong Kong a small number of cats and dogs picked up the virus. Research has shown that cats pass on the virus to others and humans through respiratory droplets and saliva.

6. **How long do we have to stay cooped up?** We don't know. Most likely a lockdown will be in effect for another month or two with release in a staggered manner. Low risk groups such as youth may be released first as well as those who have developed immunity to the disease as shown by antibody testing. It is estimated that countries and specific areas targeted for containment within countries may need multiple lockdowns/extension of existing lockdowns in order to contain the virus, to flatten the curve until a cure or vaccine is found.

7. **The Collaborating Center for Infectious Disease Modeling** says up to 40m could die this year, 2.2 million of those in the U.S. Revised models tuned to actual data from the outbreak have downward estimates. Now 60,000 deaths are predicted for the U.S. In Hawaii, the new estimates predict that

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>>>>>>> will die from Covid-19 or its complications. The Big Island may have only a few deaths at the present rate. This prediction may not hold if Covid-19 takes hold in nursing, boarding or care homes, or correctional facilities, in concordance with the experience of other locations.

Seniors are the hardest hit by the virus and the focus of this article, accounting for 80% of the deaths in both China and the U.S. There are almost 50 million seniors living in the U.S. Covid-19 has killed about 3.4 % of confirmed cases globally since the first death on Jan 9.

8. **BEFORE INFECTION:** Hope for the best and plan for the worst. Whether or not you are on lockdown, you can do the following or gather the following in addition to adequate food and other supplies:

Make your home safe. Clean all surfaces in the home with at least soap and water, or agent such as Clorox, etc

Masks for use outside safe environment. Wash cloth masks after every use; disposable masks can be used only once.

As soon as you return from a trip away from home for food, provision of essential services, or whatever, put your clothes in the washer and take a shower. Any packages you brought home should be washed.

Have medicines on hand for several months. Optionally, but especially if you are a senior or have underlying conditions, have nebulizers (i.e., rescue inhalers) and other respiratory aids on hand.

Have a list of people and organizations to contact posted on your fridge in case you or a significant other becomes ill.

Psychological impact of quarantine. Assume you are on lockdown. The indeterminate nature of lockdowns with unpredictable extensions with loss of jobs and means of support is highly distressing to most people.

Lockdown measures according to WHO and other sources need to last 2-3 months and ideally 6 months. The rationale is that too soon a release from lockdown increases the chances of a second, rebound wave. Advocates point to the lower initial Covid-19 infections in countries with mandatory lockdown (e.g., South Korea, Japan).



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You can expect that the net impact of lockdown will be decidedly negative unless you build in safeguards. Samantha Brooks and colleagues reviewed extant studies on the psychological impact of quarantine. Of 3166 papers found, 24 were included in the review. Most reviewed studies reported negative psychological including post-traumatic stress symptoms, confusion, and anger. Stressors included longer quarantine duration, infection fears, frustration, boredom, inadequate supplies, inadequate information, financial loss, and stigma. Some form of fear or anxiety was reported in 38% of the samples, and symptoms of depression such as sadness or guilt was found in 28% of the cases. Feeling relief was reported by only 4% of the individuals on lockdown.

9. Sooner or later people make trips outside the home for food, the bank for cash, or to provide essential services. As suggested above the virus is most everywhere. Assume you make contact with Covid-19 infected surfaces and then touch your nose, mouth, or eyes which then allows the virus to enter your body. Or that you inhale the virus through airborne routes. No one knows how much is enough to infect you.

Some initial studies have suggested it can take up to 30 hours from the first cells being infected, to the point where the virus bursts out to infect more cells. During the next 2-14 days, starting with an incubation period averaging 4 days, the following are frequent symptoms—fever with or without headache, dry cough, often starting at the back of the throat, shortness of breath, fatigue, and loss of appetite. Often an infected person loses their sense of smell and taste. Up to 70% of people who test positive for Covid-19, even those who are otherwise asymptomatic, experience loss of smell or taste. Keep in mind, however, that loss of smell leads to loss of taste, and that about 13% of people over 40 have a significant impairment in their sense of smell.

Mark your calendar for the day the symptoms you think first appeared and set a suspense date 2 months. The typical recovery time (2 weeks) if one has a mild case, according to WHO, and 3-6 weeks for those who are moderate or severely ill from Covid-16. Two months will cover both mild to severe symptoms to run their course.

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**Get plenty of sunlight:** Previous studies have shown that influenza and other viruses can be inactivated by simulated sunlight. -Virus viability was rapidly lost at higher temperatures and higher relative humidity (e.g., 38C and relative humidity of >95%).

**Regular hot baths:** Obtain a thermometer. Raising body heat through regular sitz baths, etc. Stop A/C. Not proved, this TX is based on research that shows that SARS CoV does not like heat as well as has seasonal fluctuations, disappearing in the summer. A caution here is that raising your core body temperature to 104F can lead to heat stroke.

-The dried virus on smooth surfaces retained its viability for over 5 days at temperatures of 22-25C and relative humidity of 40-50%--typical air-conditioned walled environments.

-According to Chan & gang, this may facilitate its transmission in community in subtropical areas (such as Hong Kong) during the spring and in conditioned environments. "It may explain why some Asian countries in tropical area (such as Malaysia, Indonesia or Thailand) with high temperature and high relative humidity environment did not have major community outbreaks of SARS".

-Chan & gang: "...we have demonstrated that the SARSCoV can survive at least two weeks after drying at temperature and humidity conditons found in an air-conditioned environment. The virus is stable for 3 weeks at room temperature in a liquid environment but it is easlly killed by heat at 56 [degrees] C for 15 minutes. This indicates that SARS CoV is a stable virus that may potentially be transmitted by indirect contact or fomites". [Fomites are any agent , as clothing or bedding, that is capable of transmitting the infecting organism of a disease]. ] "These results may indicate that contaminated surfaces may play a major role in transmission of infection in the hospital and the community".

The overall death rate for COVID-19 is about 1.4% but for persons in their 70s is 8-15% and for seniors over 80 it is 15% (in some countries such as Italy up to 20%). The CDC found that a 10.4% death rate of those hospitalized for ages 75-84 in this country.

The high percentage for seniors is raised by underlying conditions—hypertension, cancer, diabetes, chronic lung disorders, and kidney disease.

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“Among the oldest patients, though, Italy and China part ways. The 70-79 age group in Italy had a case fatality rate of 12.8%, while China’s was 8%. For the over-80s, the difference was more pronounced still: Italy’s was 20.2% and China’s 14.8%. The reason for this discrepancy is still a bit of a mystery, the researchers note”.

Black Chicagoans account for half of all coronavirus cases in the city and more than 70% of deaths, despite making up 30% of the population.

In Michigan, African Americans make up 14% of the population, but they account for 33% of the coronavirus cases and 41% of deaths, figures from the state health department showed on Monday.

"By end the of the first wave of the epidemic, an estimated 97% of the population of the United States will still be susceptible to the disease, so avoiding reintroduction of COVID-19 through mass screening, contact tracing, and quarantine will be essential to avoid a second wave," IHME writes

Nearly 20% of its uniformed workforce is out sick.

A total of 81% of the global workforce of 3.3 billion people have had their workplace fully or partly closed.

The outbreak is expected to wipe out 6.7% of working hours across the world during the second quarter of 2020.

That is the equivalent of 195 million full-time workers losing their jobs.

The worst-hit region is predicted to be the Arab states, with an 8.1% decline in working hours (five million full-time workers).

A total of 43.2% of people in the Americas and 42.1% in Europe and Central Asia work in high-risk sectors.

For comparison, a recent forecast for the impact on the US economy was on the same scale. Bank of America calculated that there could be a 30% drop in output during the second quarter of 2020, followed by a 30% rebound in the fourth quarter.

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Antibody tests detect the traces of an immune response to the virus and reveal who has had an infection. Those tests are the game-changers that could reveal who has developed immunity to the virus and can safely return to daily life without risk of infection or of spreading the virus.

The CDC and WHO (not verified) states you can leave home isolation if you have **not** had a test and all 3 of the following occur: (1) no fever for 72 hours (i.e. 3 days without symptom-reducing meds), (2) other symptoms improve—reduced cough, shortness of breath; and (3) At least 7 days have passed since symptoms first appeared. If you have been **tested positive**, then all 3 above and 2 negative tests 24 hours apart.

### **AFTER THE INFECTION PASSES:**

About 5-10% of those “recovered” last test positive for COVID-19 (Wu & Leung, Univ Hong Kong).

Hawaii government officials estimate that 80% of all goods consumed in the state are imported, and 98% of that comes by ship.

Anticipate that your full recovery may take weeks or months of physical, mental and cognitive problems.

The world will take years to recover from the [coronavirus pandemic](#), the Organisation for Economic Co-operation and Development has warned.

The financial impact of coronavirus will stop almost 24 million people from escaping poverty in East Asia and the Pacific, according to the World Bank.

Under its worst-case scenario, the bank predicts that almost 35 million people would be expected to remain in poverty, including 25 million in China. It defines the poverty line as living on \$5.50 a day or less.

The United Nations warned that Covid-19 and the government’s reaction will around the world lead to “enhanced instability, enhanced unrest, and enhanced conflict”.