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PND COVID-19 Guide

The information presented here is for information purposes only. While the information may be helpful, even life-saving, it is not to be construed as individual medical advice. Naturopathic guidelines are most effective in the context of a proper evaluation and prescription. Please discuss these interventions with your Naturopathic Doctor to ensure appropriateness and to optimize effectiveness. While SARS-Cov2 causing COVID-19 is new, human physiology and Naturopathic principles to guide people to health, are the same and as effective as ever. The guide will present information about coronavirus and the current situation, prevention, treatment and resources.

*Blessings to your health,
Dr. Todd Ferguson, PND Clinic Director*

Coronavirus -- need to know facts:

- **Is Coronavirus new?** Coronavirus was first discovered in 1937 and causes 15-30% of common cold and 5-10% of all respiratory infections. What is new is a particular strain of coronavirus called SARS-COV-2 which is causing the condition known as COVID-19.
- FYI – Corona Beer has nothing to do with Coronavirus. The word **corona means “crown”** and under the microscope the corona virus has proteins that look like a crown.
- **How is coronavirus spread?** Coronavirus is mainly spread through person to person contact (within 6 feet). Respiratory droplets produced when an infected person coughs or sneezes can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs.
- **Coronavirus is an enveloped virus** which means it doesn't last long outside a human body. Enveloped viruses are more challenging for the immune system once inside the body. Current estimates are the covid-19 virus can survive less than 24 hours and typically survives only around 12 hours outside of a host.
- Coronavirus is killed by soap and hand sanitizer so washing your hands is helpful for prevention.
- **What are the symptoms of COVID-19?** The most common symptoms are fever, cough, sore throat, and shortness of breath. Numerous other viruses can cause similar symptoms.
- **The numbers.** Currently (as of 3/31/20) there have been over 750,000 confirmed cases worldwide of COVID-19 with over 36,000 deaths. The number of deaths due to coronavirus is likely accurate because these end up in the hospital. The number of cases is likely significantly higher than reported because many people who have none or mild symptoms have not been tested. This means the percentage of people who will die from contracting coronavirus is actually much lower than reported. For perspective, the CDC estimates that so far this season there have been at least 38 million flu illnesses, 390,000 hospitalizations and 23,000 deaths from the flu. If a person in your household has corona virus there is a 3-10% chance you'll become infected.
- **The worst effects** in those with COVID-19 have been in elderly with a chronic disease such as cardiovascular disease, diabetes, chronic respiratory disease such as COPD or emphysema, and other chronic disease such as cancer. Pneumonia is the most common severe complication that can lead to fatality.
- **Testing** for coronavirus is currently limited to those who are severely symptomatic with probable exposure (travel to outbreak area or exposure to confirmed case of COVID-19. Supplies in the US are limited and the test only detects whether current infection is present so not everyone seeking a test will be given one. The majority of people who are exposed and infected will not be tested due to mild symptoms. Many will first receive other tests first such as a test for influenza. If you are experience symptoms call us right away to evaluate.
- **Flatten the curve.** The idea of implementing social distancing, self-quarantines when sick, and limiting gathering of groups is to spread out over time the number of severe cases so as to not overwhelm the hospital system. This is important in that care in the hospital for the severely ill is important.



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PREVENTION – Naturopathic guidelines for prevention of Respiratory Infection during COVID-19 pandemic:

- Prevention, from a Naturopathic perspective, focusses on the terrain, your systems or “soil” and your environment. Poor soil leads to poor health of the plant. Historically hygiene has played a pivotal role in disease and health. Areas that had terrible sanitation practices regarding water quality and sewage disposal resulted in numerous bacterial and viral diseases. As sanitation practices improved, disease rates related to these bacteria and virus dramatically declined. It is interesting to think that this respiratory condition emerged from a place with significant air pollution and hence poor air quality. Infectious agents thrive when the body is weakened and tissue is irritated. I once stayed in a city in China where breathing the air was equivalent to smoking 2 packs a day. Poor air quality results in irritated lung tissue and reduced oxygen exchange weakening the systems -- hence a good breeding ground for infectious agents. The natural body response to infectious agents is fever and to that which the body wants to expel from the lungs is to cough. The body also learns from exposures to infectious agents in building the appropriate protection to respond better and quicker in the future. The better your terrain the better your body will handle a new exposure. While there is no COVID-19 vaccine and “no known specific treatment available”, know that there is much you can do to improve your outcomes during this pandemic.
- What can you do that is safe and helpful?
 - **Wash your hands** with soap before eating or touching your face. The most common entry points are eyes, nose, and mouth. Antibacterial soap is NOT required NOR recommended – just use regular soap. Even washing hands with just water can be helpful if no soap is available – but best to use soap.
 - **Cover your cough** with your elbow or tissues. This helps as long as you don’t touch your face or others with your elbow and the tissues.
 - **Wear a mask?** For those who are coughing and sneezing, wearing a mask can help to limit spread to others. Unfortunately mask supplies are now very limited. Healthcare workers may wear a N95 mask which can help as long as it is properly fitted and taken on/off (ineffective for those with a beard).
 - **Get adequate sleep**, which is very important for keeping the immune system functioning properly. Missing even a few hours of sleep can result in lower production of infection-fighting antibodies and cells. Sleep is also critical in creating immunological memory. For most adults the goal is 7.5-9 hours of sleep per night.
[Am J Clin Exp Immunol](#). 2017; 6(6): 92–96.
[Pflugers Arch](#). 2012 Jan; 463(1): 121–137
 - **Manage Stress well.** Excessive stress response over time can weaken our immune response. Many are concerned about coronavirus and the socioeconomic effects that are occurring. A few simple practices to reduce stress and improve your physiology and immune response:
 - Practice gratitude. Each day think of three things that you are grateful for.
 - Give and receive hugs.
 - Sit up right, breath in through your nose slowly and then out slowly while saying a prayer, phrase, or word (“Jesus I trust in you” or “Thy will be done” or “Beautiful” or “Love”, repeat...*For more information see The Relaxation Response by Herbert Benson, MD*
 - **Eat colorful vegetables and fruits**, which contain flavonoids such as quercetin. Flavonoids have antiviral properties against other coronavirus strains (such as those that cause MERS) and can be protective to the lungs. Helpful foods may include capers, blueberry, elderberry, blackberry, raspberries, onions and garlic.
[Chem Biol Drug Des](#). 2019 Dec;94(6):2023-2030
[J Enzyme Inhib Med Chem](#). 2020; 35(1): 145–151.



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- **Eat food spices.** Numerous herbs in the spice drawer provide nutrients and substances that improve health and may have antimicrobial activity. Spices to consider peppermint, thyme, oregano, lemon balm, garlic, cinnamon, ginger and basil. In vitro studies (done in a petri dish which may or may not translate to effectiveness in humans) have shown activity against some coronaviruses -- in one particular study peppermint, thyme, and lemon balm were found to be most effective.
[BMC Vet Res](#). 2019; 15: 178.
- **End showers with cold water.** Studies have shown that ending your shower with cool/cold water results in a stronger immune response. At first start with shorter periods and build up to 30-120 seconds. One study showed a 29% reduction in sickness absence from work in the group that ended showers with 30-90 seconds of cold water.
[PLoS One](#). 2016; 11(9): e0161749.
- **Receive Immune activating therapy at PND.** Our Immune activating Physiotherapy treatments can boost immune cell activity and production and allow us to successfully treat most infections with pharmaceuticals. Treatments are generally immune boosting but may also be modified to specific circumstances for optimal effect.
- **Get moving.** Moderate exercise improves circulation and movement of lymphatic fluids helping with nutritional and immune cell distribution throughout the body. Running a marathon, however, can lead to lowered immune response resulting in many to get sick following the completion of a marathon. During a pandemic keep the exercise moderate unless of course you are running to get the last roll of toilet paper. A brief note on that –during this time the water will continue to flow – so a spray of water dried with a washable cloth will suffice if need be. Just make sure to wash your hands.
- **Avoid simple sugars and highly processed food (ie junk food).** Eating refined sugars lowers your immune cell activity for up to 5 hours. Elevated blood sugar levels also results in lowered immune function and hence why poorly controlled diabetics are more susceptible.
- **Get adequate nutrition.** Nutrients such as vitamin C, vitamin A and D, zinc, and selenium are critical for a proper functioning immune system. When your immune system is more active you go through zinc faster and hence your need for it increases. **Zinc** ionophores (substances that improve zinc uptake into cells) are being studied for their effect on cancer and other conditions. One drug that is being studied for effectiveness on COVID-19, chloroquine, is a zinc ionophore. Other natural zinc ionophores include ECGC (green tea), quercetin, and molybdenum. There is such thing as too much vitamin A, D, zinc, selenium and molybdenum (ie too much can be harmful), so make sure to work with your Naturopathic Doctor on the appropriate amounts.
- **Drink Tea.** Green tea contains catechins, which have antiviral activity interfering with the viral replication cycle. Animal studies with animals given green tea show better survival rates when exposed to influenza and bovine coronavirus. Herbs discussed above are available as tea over the counter at PND (such as Peppermint Licorice, Echinacea Elderberry...). Traditional Medicinals and Yogi Tea are also good brands for tea.
Mahmood et al., Afr J Tradit Complement Altern Med. (2016) 13(2):176-184
- **Optimize vitamin D levels.** People with low vitamin D levels are 40% more likely to have a respiratory infection. A simple test with the proper interpretation and prescription can normalize your levels to reduce your risk.
[Arch Intern Med](#). 2009 Feb 23;169(4):384-90.
- **Vitamin A.** Vitamin A is very important for optimal immune and lung health and has been found to reduce incidence of a variety of infections. **Cod liver oil is a good source of Vitamin A and D.** Another good source is **Liver**, for example liver pate. Mmmmm. We also frequently dose vitamin A drops. Dosing beyond 10,000 IU needs to be under the direction of your Naturopathic Doctor, especially if pregnant.



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- **Colostrom.** In one study “Colostrum, both in healthy subjects and high-risk cardiovascular patients, is at least 3 times more effective than vaccination to prevent flu and is very cost-effective.”
[Clin Appl Thromb Hemost.](#) 2007 Apr;13(2):130-6.
[Panminerva Med.](#) 2010 Dec;52(4):269-75.
- **Astragalus** is an immune modulating herb that has been used for building a stronger immune system for centuries. Astragalus has been shown effective against avian coronavirus.
[Microb Pathog.](#) 2018 Jan;114:124-128.
- **Echinacea** is an immune stimulating herb with antiviral properties against influenza and coronaviruses.
[Pharmaceuticals \(Basel\).](#) 2011 Jul; 4(7): 1019–1031.
- **Other antiviral herbs** – licorice (not the red rope candy – the actual herb), elderberry, lemon balm, milk thistle, Ashwaghandha.....many more!

TREATMENT

Below are general guidelines and are not to be considered medical advice. If you are experiencing respiratory symptoms please schedule to see a Doctor right away. Your Naturopathic Doctor will prescribe with specific instructions the most appropriate intervention. These guidelines are not meant to be exhaustive and do not constitute the entirety of your Naturopathic Doctors options but are meant to provide some basics that are important during the course of an infection. The following guidelines have been modified from a version by Eric Blake, ND MSOM, Dipl. Ac.

General Infection Guidelines and Fever Instructions

It's important to remember that a **fever is a protective mechanism of the body to fight infection**. Most Bacteria and viruses cannot replicate at higher temperatures and cells of the immune system are activated by higher temperatures. Mild fever is associated with better prognosis in viral and bacterial infections (Kluger 1986). Redness and swelling are examples of local fever. Medications used to reduce fever, such as Tylenol/acetaminophen or Aleve/ibuprofen (also referred to as NSAIDs – non-steroidal anti-inflammatory drugs), have been proven to *prolong* viral illness and enhance its ability to spread to others. These drugs also show *no benefit* in reducing the length of viral illness (Geisman 2002). There is also a dose dependent relationship of these drugs and asthma when used with children. Meaning the more frequently and the higher the dose the higher the likelihood of eventually developing chronic asthma (<http://eurpub.oxfordjournals.org/content/23/4/706>). These medications should be used minimally and should not be your first treatment.

1) Fresh Air

- Get fresh air every hour or two while awake via an *open window*. The body requires over 13% more oxygen for every degree of body temperature elevation (Beers and Berkow 1999).

2) Diet

- During infections a simple diet of easily digested foods such as steamed vegetables, chicken soup, etc. are the rule. Avoid sugary foods, sweets, pastries, breads, heavy foods, or the hard to digest foods from your food intolerance report.
- It is very important to understand that feeding can be very counterproductive during a fever. The body produces chemicals (called interleukins) that halt digestion. Feeding solid foods will drive the fever higher because the foods do not digest under these conditions. The old saying is actually: “If you feed the cold, then you will have to starve the fever”.
- **Refrain from solid foods with a temperature over 100°F**- ingest only water, diluted fruit juices, lemonade sweetened with honey, herbal teas, etc. (exceptions include people who are diabetic, pregnant or breastfeeding [the child should continue to breastfeed]). This may be required for several days.



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- When the temperature is *99.5°F or below*, begin to break the fast by eating vegetable broth. This is very important. The body has not been producing digestive enzymes during the fever- remember the body shut down digestion (actually digestive enzymes are largely proteins, and the body used these proteins to make immune chemicals. It also harvests proteins from muscles- which is why fevers ache so much).
- *Vegetable Broth Recipe*- Carrot and Celery: ½ cup of each in 2 cups water. Simmer until brown, strain, and drink ½ cup every 30 minutes. If fever does not return after consuming the two cups, eat the carrots and celery. If the fever still does not return then continue on to solid foods, something like a piece of meat or fish for proteins to replenish those used during the fever. Continue to eat as directed by hunger. If fever returns again, discontinue solid foods as before.

3) Fluid Intake

- Hydration is important in infections. Water, Teas, Diluted fruit juices, lemonade, etc.
- Dehydration is the biggest concern with a fever. If not pregnant or diabetic, ingest only water, diluted fruit juice, lemonade sweetened with honey, herbal teas, etc. This may be required for several days. Breastfeeding children should continue to breastfeed.

4) Rest

- Rest as much as possible. Stay home. This will allow the body to focus on fighting the infection, it will also help prevent spreading the illness to others.

5) Medicines

- A specific regimen will be advised by the doctor to improve immune function and to fight the infection. Natural herbal and homeopathic medicines are customized to the person and individual symptom picture.
- Common fever homeopathic medicines are listed below. They are safe and can be useful for fevers.
 - Belladonna: For fever where a person is red and hot.
 - Aconite: For fever accompanied by chills.
 - Gelsemium: For fever with heavy eyelids and headache described as a band around the head.
- Homeopathic remedies that may be more specific to symptoms being reported during this pandemic:
 - Arsenicum Album, Lobelia, Antimonium Tart.
- There are numerous antiviral herbal medicines. The individual condition and current medications need to be taken into account for safe administration. Naturopathic Doctors are experts in the safe and effective administration of herbal medicines and can work with people who are taking medications. Some herbs that have shown antiviral activity against previous coronavirus strains can be found in studies. If you

[J Tradit Complement Med.](#) 2014 Jan-Mar; 4(1): 24–35.

[Chin J Integr Med.](#) 2020 Feb 17.

6) Naturopathic Physiotherapy (NPT)

- Immune activating NPT treatments at PND clinic will be advised if you have an infection. These treatments will improve immune function, increase circulating white blood cells. We use specific electrotherapy currents and wavelengths that specifically help to fight infections – viral, bacterial, or fungal.

7) Home Hydrotherapy for safe fever management:

- These treatments help to encourage heat radiation and maintain the fever at a safe and beneficial temperature. They also improve the ability of the body to fight the infection and should be considered a valuable tool to fight infections. These methods have over 200 years of practical clinical use internationally in colds, flus, pneumonia, cholera, smallpox, polio, and other epidemics as a very effective method. Do not discount their import.
- **For fevers 99.6-101°F - Wet Sock Treatment:**
Use a pair of cotton socks (crew/tube/sports socks) and wring them out in cold tap water.



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Put on the wet socks. Put on over the cotton socks a pair of thick wool socks. Relax for 20 minutes or until the wet socks are warmed to body temperature, then remove. This will gently modify a fever by 0.5 F degree and reduce head congestion.

- **For fevers 99.6-102°F – Abdominal/Neptune's Girdle:**

Wring a thin bath or hand towel in cold water. Fold in half lengthwise so it is two layers thick and wrap around your torso, covering from chest to hip bone. Use a thick blanket of vellux or wool to wrap around tightly and compress the cold towel "girdle". Wear this for 10-20 minutes until it is warmed.

- **For fevers 102-104°F – Torso Pack**

Apply a thin cotton linen which has been wrung out in cold water from the armpits to the buttocks, such as a bed sheet or opened pillow case. This may wrap once or twice around the body. Around the cool, wet sheet you will wrap them in a thick blanket of wool or vellux, making sure to seal the wet sheet from the air. This will help dissipate the fever and cool the core of the body. Leave this wet sheet on the body until warmed and the sheet has been dried, then remove.

Coronavirus Resources:

- **National:** CDC coronavirus site -- <https://www.cdc.gov/coronavirus/2019-ncov/>
- **CDC travel info:** Information for travelers -- <https://www.cdc.gov/coronavirus/2019-ncov/travelers/index.html>
- **Minnesota:** information hotline: 651-201-3920 <https://www.health.state.mn.us/diseases/coronavirus/index.html>
- **North Dakota:** toll-free hotline: 1-866-207-2880
<https://www.health.nd.gov/diseases-conditions/coronavirus>
- **South Dakota:** toll-free hotline: 800-997-2880
<https://doh.sd.gov/news/coronavirus.aspx>
- **Wisconsin:** Outbreak info site -- <https://www.dhs.wisconsin.gov/outbreaks/index.htm>
- **A few other articles used in this document**
- <https://www.sciencedirect.com/science/article/pii/S0042682214004723>
- <https://www.dmu.edu/news/2020/01/what-is-the-coronavirus/>
- <https://www.nature.com/articles/d41586-020-00154-w>

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