

COVID-19 Education: Dealing with Stress and Anxiety

With the current Corona Virus climate, increased levels of stress and anxiety can be seen throughout society. With Toilet Paper and Hand Sanitizer flying off of shelves, the world can be filled with additional stressors, which can create more anxiety. Worrying about the safety and health of our family and friends, market instability, the loss of jobs or work hours, and the constant inundation of information from the media can be some of the major stressors that are currently affecting our lives.

Stress can affect you mentally, physically, and emotionally in a variety of different ways:

Hormonal Response - The best-known acute stress response is the “fight or flight” reaction that happens when you feel threatened. This causes the body to release several stress hormones, such as [cortisol](#) and [adrenaline](#) (also known as epinephrine), into the bloodstream. These hormones increase your concentration, ability to react, and strength. Also, your heart rate and blood pressure increase, and your immune system and memory are sharper. After you have dealt with the short-term stress, your body returns to normal.

- Chronic or long-term stress, however, can be a problem. If your body is constantly producing higher levels of stress hormones and does not have time to recover, these hormones over time can cause serious health problems, such as:

1. **DIGESTIVE SYSTEM**

- Stomach pains, due to a slow-down in the rate that the stomach empties after eating; also, diarrhea due to more activity in the colon.
- Amino acid loss from muscle

2. **OBESITY**

- Poor blood sugar management and insulin resistance
- Increase in appetite, which can lead to weight gain. Being overweight or obese puts you at risk for diabetes and cardiovascular disease.
- Carbohydrate craving

3. **IMMUNE SYSTEM**

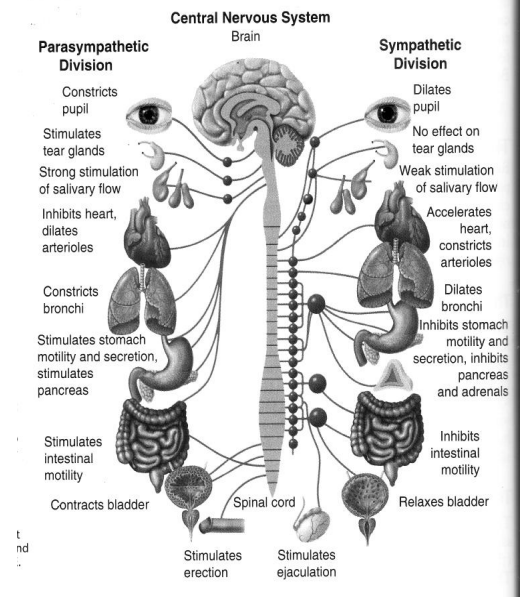
- A weakened immune system, so that you are more susceptible to colds or other infections.
- Decreased thyroid hormone output and a reduced metabolism

4. **NERVOUS SYSTEM**

- Anxiety, depression, loss of sleep, and lack of interest in physical activity. Memory and decision-making can also be affected.
- Altered sex hormone activity

5. **CARDIOVASCULAR SYSTEM**

- Increase in blood pressure, heart rate, and the level of fats in your blood (cholesterol and triglycerides). Also, increase in blood glucose levels, especially in the evening, and appetite. All of these are risk factors for heart disease, atherosclerosis (hardening of the arteries), stroke, obesity, and diabetes.



Meditation as Medicine: by Dr. Amit Hiteshi

Research has long established a link between anxiety and health issues as grave as cancer and heart disease. In today's world, stressors are everywhere. But thankfully, so are the antidotes to stress.

From yoga studios in your local shopping center to mediation apps on your phone, there are no shortages of ways to decompress, de-stress and simply breathe. And it seems that more people are aware of the health benefits and necessity of meditation and mindfulness.

Still, the term "mindfulness" can elicit puzzled looks from people. What does it mean to be "mindful" and how exactly is mindfulness medically beneficial? Western philosopher John Kabat-Zinn has a definition that I find helpful, "Mindfulness is awareness that arises through paying attention, on purpose, in the present moment, non-judgmentally."

It isn't as tricky as it sounds. There are guided meditation apps that can help you incorporate healthful meditation into your life every day, and yoga poses can be struck at home right after you wake up. And the effects these small changes can have on your health can be enormous.

- **Pain:** In a study of 342 people who had experienced significant lower back pain for at least one year, 43% of people who attended a weekly mindfulness training session experienced a meaningful reduction in pain, versus 26% of people who maintained their usual pain treatment regimen.
- **Depression:** A small, but sound study of adults suffering from major to moderate depression found that an eight-week hatha yoga intervention resulted in statistically and clinically significant reductions in depression severity.
- **Memory and brain health:** Harvard researchers discovered that meditating for 30 minutes every day for eight weeks actually increased gray matter in the hippocampus, an area important for learning and memory.

If it still seems strange to focus on breathing as a complement to modern medicine, consider that how we breathe changes drastically over the course of our lives. When we are babies and toddlers, our breathing center is in our bellies. As we become adults, we begin breathing from our chests, resulting in less diaphragmatic breathing. When we are ill, we often experience shallow breath. The healthier we are during the course of our lives, the slower and deeper our breathing.

By "relearning" how to breathe, we can reduce that "fight or flight" response that causes our bodies to go into stress overdrive. This can help us to better control our mood and our responses to stress.



Background: The autonomic nervous system is comprised of the sympathetic and parasympathetic nervous systems. Our *sympathetic nervous system is responsible for our fight or flight response, while our parasympathetic nervous system is where our rest and digest occur.*

Why is this important? The job of a firefighter is inherently stressful and due to this, firefighters are constantly susceptible to traumatic stressors. The sympathetic nervous system can be turned on during stressful situations such as going on calls in response to emergency situations and/or fires. Along with these situations, other common stressors that can contribute to over activation of the sympathetic nervous system include sleep disturbances, exposure to hazardous materials, fear of injury, and boredom on the job. When this happens some bodily responses that occur include blood pressure increases, heart rate increases, muscles tense, pupils dilate, thoughts race, and mind becomes anxious.

What is diaphragmatic (belly) breathing? Diaphragmatic breathing is a tool that can be utilized to activate the parasympathetic nervous system. During diaphragmatic breathing the midsection expands during inhalation which allows the diaphragm to contract and move down, creating more space for the lungs to expand. Inhalation through the nose allows for the air to be warmed, humidified, and filtered before entering the lungs. The slow focused pace of diaphragmatic breathing, roughly 6 breathes per minute, can allow for the respiratory sinus arrhythmia to cue the parasympathetic nervous system to kick in.

Steps to Follow:

1. Get comfortable and relax your neck and shoulder muscles. You can lie down. Sit or stand to practice this type of breathing.
2. Place one hand on your upper chest and place the other hand at the bottom of your ribs, just above your waistline. Use your hands to feel the movements as you breathe.
3. Take a breath in through your nose and feel your hand on your stomach move outward. Do not let your shoulders move up. You should not feel movement of your hand on your chest. Think of expanding your lungs down toward your toes.
4. Breathe S-L-O-W-L-Y and gently through your mouth with pursed lips, as if you were going to whistle or blow out a candle. The hand on your stomach moves in as you breathe out. You may need to pull in your stomach muscles at first to help move your diaphragm up. Exhale at least twice as long as you inhale. Inhale 4-6 seconds, hold 4-6 seconds, exhale 8-12 seconds. Begin with shorter times, progress to longer.
5. Practice diaphragmatic breathing for at least 10 to 15 minutes each day. Rest as needed between breaths. Learning diaphragmatic breathing takes patience and practice.

