

## **The Reason to Exercise in the Time of Quarantine**

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According to Dr. Anthony Fauci, Director of the National Institute of Allergy and Infectious Diseases, the most effective method for limiting the spread of COVID-19 is social distancing. Social distancing is defined as maintaining sufficient physical separation between human beings to prevent the spread of the COVID-19 virus from one person to another by direct contact or by inhaling respiratory particles expelled from an infected person. Practically, this means wearing masks, washing our hands regularly, sanitizing our homes and cars, and avoidance of public spaces where people tend to congregate such as churches, restaurants, senior centers, and gyms.

There are a number of reasons why this virus, COVID-19 is so dangerous. First, is the ease it is spread from one person to another. Most airborne illnesses require a very heavy “viral load” to cause infection. Viral load is the number of particles inhaled which contain the virus. Typical flu or colds require a relatively large amount of material inhaled in order to result in infection. Research indicates that only a few viruses of COVID-19 inhaled may result in infection. This disease is very contagious. Second, unlike most airborne illnesses, persons who are asymptomatic, not showing any signs of illness, may be infected with COVID-19 and thereby are able to spread the disease. That could mean that the healthy-appearing runner, the child playing on the sidewalk, the cashier at Wawa, could all be contagious and feel perfectly well. This is why the Centers for Disease Control strongly recommends everyone wear a mask. Third, this particular virus appears to “explode” in persons with chronic illnesses such as emphysema, diabetes, cancer and heart disease. That makes many of us particularly vulnerable to COVID-19. And lastly, this is not a typical flu. A larger percentage of persons infected with COVID-19 become very sick.

Therefore, we are all socially distancing ourselves in our homes. Instead of mornings at the gym it is mornings on the sofa watching CNN. Instead of long walks with friends in parks or the mall we walk alone to the refrigerator. For some reason quarantine makes us crave comfort foods like potato chips, cake, and ice-cream. This is not good.

The purpose of this article is to encourage daily exercise. Exercise is called vitamin EX for a reason; it is a natural and ongoing requirement for our bodies to remain healthy. Exercise has a number of benefits including strengthening our muscles, preventing bone loss (osteoporosis), keeping our weight down, countering the effects of aging on our hearts by lowering blood pressure, easing stress, and as new research is showing us, improving cognitive abilities.

Strong muscles help us with everyday activities from loosening a tight pickle jar lid, to getting up off the floor after picking up a piece of lint, to climbing steps, to carrying the groceries, to

flipping the mattress, and to preventing falls. Muscles are very active biological tissues. If we do not use them, they get smaller and weaker. If we use them regardless of age, they will get larger and weaker. Exercise is the only way to build muscle mass.

Osteoporosis affects everyone to some degree after age 35. Women tend to be affected at a greater rate than men due to different circulating hormones. Osteoporosis is the gradual weakening of bones which increases the risk for fracture. 70% of women over the age of 60 will fracture a bone during the remaining years of their lives. The most commonly fractured bones due to osteoporosis are the wrist, the hip and the spine. There are three components to preventing or limiting osteoporosis. The first is eating foods rich in calcium. These items include dairy products and vegetables. The second is, if osteoporosis has been diagnosed by a physician, to take all prescribed osteoporosis medicine regularly. And the third is exercise. Weight-bearing exercise- such as walking- is a primary preventive activity for osteoporosis. Exercise directly strengthens our bones and muscles which helps prevent falls which helps prevent fractures.

Exercise keeps our weight down which keeps us healthier. Weight can be defined as an equation:

(Calories taken in by eating) minus (metabolic rate: the calories you burn just by living) plus (calories burned by exercise).

Our metabolic rate is what it is; we cannot change it. It is a constant. The two factors of the equation that we can change are how many calories we take in and how many calories we burn by exercising. If our diet remains constant but we do our usual exercise, we gain weight. If our calories burned by exercise exceeds the calories we eat, we lose weight. It is as simple as that. If we exercise, we can enjoy that high calorie treat (once in a while!) without guilt.

Since the 1930's we have known that ongoing exercise is an effective partner to medication in lowering blood pressure. Lowering blood pressure is significant for decreasing cardiovascular risk. Regular exercise decreases many cardiovascular risk factors.

Exercise eases stress. As the old adage reads: when the body is tired exercise the mind; when the mind is tired exercise the body. Stress is often called the "unforeseen" complication of COVID-19. This virus causes us to worry about our families. We worry about our friends. We are bombarded via the 24-hour news cycle by bad news. This leads to stress. Exercise is the most effective counter to stress. Exercise releases chemicals which calm the mind and also frees our mind from all the negative news of the day.

Lastly, much recent research has shown that exercise improves cognition in healthy persons of all ages. The effect is small but significant. There are also ancillary studies which show that exercise may slow the cognitive loss associated with Alzheimer's disease. The reason for these cognitive improvements is not clear; it is postulated that exercise may improve blood flow to

parts of the brain associated with cognition, decreases inflammation associated with aging, and facilitate the movement of glucose (energy) into brain tissue.

As we see, exercise- vitamin EX- is an important and powerful ingredient to maintain health and well-being. Why is exercise so important during this period of quarantine? Gyms and senior centers where persons exercise are closed; people are not able to exercise as part of their usual routines. Interestingly, most of our exercise is considered secondary exercise. Primary exercise is when we actually put our mind to an exercise routine such as going to the gym or attending fitness classes at Generations. Secondary exercise is the exercise we receive when we shop and browse around a large store, when we walk from our car to the restaurant, when we play with our grandchildren, when we ride our bikes on vacation, or when we tour sites such as Longwood Gardens. Not only is the quarantine preventing us from attending gym or exercise classes it is preventing us from doing the activities we love to do which include a fair amount of activity. Therefore, we sit.

My advice, if you are able, is to simply walk every day. Walking is free. It does not require a gym membership. It can be done almost anywhere. Spring is the best time to walk in our area. The temperatures are cooler, the trees and shrubs are blooming, and the grass is as green as Ireland. Start slowly with a short 10-minute walk. Walk daily. Increase the duration of your walk by five minutes a week until you get to 30 minutes. Wear comfortable shoes. Take a cane if needed. If you are limited in function and require a walker you can still walk for exercise.

One of my favorite writers is Bill Bryson. Here is a favorite quote about walking:

***Life takes on a neat simplicity, too. Time ceases to have any meaning when walking. It's quite wonderful, really.***

***You have no engagements, commitments, obligations, or duties when walking; no special ambitions and only the smallest, least complicated of wants; you exist in a tranquil tedium, serenely beyond the reach of exasperation, "far removed from the seats of strife," as the early explorer and botanist William Bartram put it. All that is required of you is a willingness to trudge.***

***There is no point in hurrying because you are not actually going anywhere. However far or long you plod, you are always in the same place, at one with yourself.***

**— Bill Bryson, *A Walk in the Woods: Rediscovering America on the Appalachian Trail***

Yes, my friends from Generations, walking is easy to do. All you need is a "willingness to trudge."