

Staying Healthy

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Supporting Your Immune System in the Era of the Pandemic

This week's article discusses the various ways to create a healthy immune system from a basic physiologic perspective. In the following weeks, we will take each one of the components of good health per week and discuss specific steps and methods to integrate healthy habits into our lives. The focus over the next seven weeks is how to make good health and a good immune system happen for us.

Currently, there is no vaccine or any known cure for coronavirus COVID-19. That makes it important to have a healthy immune system that can fight this virus successfully.

It is paramount to note at the outset that the immune system *is* a "system" of the body. This means that for the immune system to function well, the whole body needs to be in a healthy balance. Generally, if body systems are unhealthy because what we eat is not nutritious or our lifestyle is high stress or we are sleep deprived, the immune system will be negatively impacted.

When we choose to support our immune system, we choose to commit to a healthy lifestyle that positively impacts our whole body, since we cannot isolate our immune system and make it healthy without our whole body being healthy. Good health is achievable. There are strategies to make it achievable.

When we begin to make changes, we need to start slowly and keep the focus on one area at a time, i.e. don't try to make too many changes too quickly. The goal is to make healthy changes. The pathway is continued progress not perfection.

During this Pandemic, the importance of a good immune system cannot be ignored. A first step to improve our immunity is for each of us to think about what will work to reach our goals and improve our health and immune system. Know that during these weeks when we focus on the components and strategies to improve our immune system, we can make successful changes that contribute to a healthy immune system.

Keep in mind that any change, big or small can make a positive difference in our health and immune system. Any change that benefits our body's health, benefits our immune system. Also, remember that any positive change, no matter how small, is significant and merits celebration.

HEALTHY LIVING STRATEGIES TO PROMOTE A HEALTHY IMMUNE SYSTEM

Recognizing the Importance of a Good Night's Sleep

“One of the best ways to optimize your immune system is to get a good night's sleep.”¹ Research studies have shown that lack of sleep impacts our ability to fight off a virus and slows the rate of recovery when we are ill.

Physiologically, our immune system releases cytokines while we are sleeping. Cytokines are a category of molecules that mediate and regulate immunity. Certain cytokines need to increase in order for us to get well when we are ill. It is known that cytokines may decrease rather than increase when we are not sleeping well. Not sleeping well also results in a decrease of infection fighting antibodies and cells.

Among other things, sleep deprivation weakens our immune system, and is also known to negatively impact memory, make us moody or quick tempered, affect the body's release of insulin increasing the risk of type 2 diabetes, increase the risk of accidents, hypertension, heart disease, and falls due to poor balance.²

Lack of sleep can keep us from moving forward in a healthy way in our lives. When we are moody and easily annoyed, we generally are not very productive.

Next week, we will discuss some methods to begin to sleep better.

Eating Healthy Promotes a Healthy Immune System

“Good nutrition plays an important role in maintaining a healthy immune system. For example: ‘Fiber will positively affect the gut microbes that aid immunity.’”³

Nutrition is a known critical determinant of good immune responses. The most common cause of immunodeficiency is malnutrition. Deficiency of single nutrients results in an altered immune response. This altered immune response is seen even when the deficiency state is relatively mild.

The micronutrients: zinc, selenium, iron, copper, vitamins A, C, E, and B-6 plus folic acid have important influences on our immune responses.

¹ “Crucial ways you can support a healthy immune system,” *Harvard Health Letter*, Vol. 45, No. 8, June 2020, pg. 1.

¹ The Effects of Sleep Deprivation on Your Body, Healthline, May 2020.
<https://www.healthline.com/health/sleep-deprivation/effects-on-body>.

³ “Crucial ways you can support a healthy immune system,” *Harvard Health Letter*, Vol. 45, No. 8, June 2020, pg. 7.

Over-eating, even when we eat nutritious food is not healthy. Obesity reduces the immunity response.⁴

Exercising Regularly Supports Our Immune Systems

“Exercising regularly is another key to support your immune system.”⁵

Exercise results in a brief rise of our body temperatures. During this rise of body temperature (during the period of exercise and after exercise) the body heat may prevent bacteria from growing.

This is similar to when we have a higher temperature during illness. A higher temperature is the body’s way of trying to kill the bacteria or virus. A fever comes from our bodies with no efforts by us. However, exercise comes from our specific actions and does require an effort by us. Both result in helping the body fight an infection.

Exercise also slows down the release of stress hormones. Some stress hormones increase the chance of illness. Lower stress hormones are thought to improve our immune response.

Exercise has a lot of positives - including helping our bodies regulate blood sugar and insulin levels, control weight, improve mental health and mood and reduce heart disease all through our efforts/actions.

Minimizing Stress Maintains Our Immune Systems

“Chronic stress has many negative effects on health, and a suppressed immune system appears to be one of them.”⁶

“Some experts claim that stress is responsible for as much as 90% of all illnesses and diseases, including cancer and heart disease.”⁷

Corticosteroid, known as the stress hormone, suppresses the immune system by lowering the number of lymphocytes.(Lymphocytes are white blood cells that help fight infection.) Suppressing lymphocytes results in our not being able to fight illness well.

⁴ R.K. Chandra, Nutrition and the Immune System: An Introduction, National Institute of Health (1997).

⁵ Ibid.

⁶ Ibid. pg. 1 and 7.

⁷ Andrew Goliszek, Ph.D., “How Stress Affects the Immune System,” *Psychology Today* (2014).

We all experience times of stress in our lives. When we get to this component, we'll discuss ways, such as meditation, to reduce stress.

Avoiding Environmental Pollutants that Can Damage Our Immune Systems

“[R]esearchers found that air pollution exposure suppressed the immune system’s regulatory T cells and that the decreased level of the function of regulatory T cells was linked to greater severity of asthma symptoms and lower lung capacity.

These regulatory T cells are responsible for putting the brakes on the immune system so that it doesn’t react to non-pathogenic substances in the body that are associated with allergy and asthma. When the regulatory T cell function is low, the cells fail to block the inflammatory responses that are the hallmark of asthma symptoms.”⁸

The researchers noted that regulatory T cells are important for other autoimmune disorders, so the implication of this study goes beyond just asthma.⁹

Discussing other Areas that Support a Healthy Immune Systems

In week 7, we will talk about some other ways to support our immune system. Examples are: 1) staying up to date with immunizations, 2) not smoking, 3) drinking alcohol only in moderation, 4) maintaining a healthy weight, and 5) trying to get underlying health conditions under control.”¹⁰ We will also review certain supplements that might be helpful.

During this first week, consider getting a notebook to record goals and daily efforts to reach those goals. Plan to do a weekly review of your efforts. Spend some time reflecting on these healthy areas and their inclusion in your life. Think about what to do during times when you are not compliant with your goals, etc. Consider what might be missing in your health system, In other words, make a plan for beginning to improve your immune system.

⁸ Sarah Yang, “Air Pollution alters Immune Function,” Worsens Asthma Symptoms, *Berkeley News* (2010).

⁹ Ibid.

¹⁰ “Crucial ways you can support a healthy immune system,” *Harvard Health Letter*, Vol. 45, No. 8, June 2020, pg. 7.

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