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Live. Life. Well.

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Strong Immunity: What Role does Vitamin D Play?

It is well-known that having a strong immune system makes it easier for the body to ward off harmful organisms like bacteria and viruses. Since the arrival of the coronavirus pandemic, there has been a lot of focus on how to strengthen immune function.

A 2021 systematic review and meta-analysis identified vitamin D as being associated with improved clinical outcomes in patients with COVID-19. Conversely, people who were deficient in vitamin D saw a heightened immune response and poorer recovery rates¹

Vitamin D is a fat-soluble vitamin that is mostly known for its role in bone health and calcium metabolism, but it has other functions as well.

A deficiency of vitamin D (a blood level of less than 20 nanograms/milliliter) has been linked to a higher incidence of autoimmunity as well as a higher susceptibility to infection. Similarly, there appears to be an inverse relationship between vitamin D and the rate of infections. What this means is, maintaining adequate levels of vitamin D may offer some additional protection?²

Some of the most common symptoms associated with low vitamin D levels include fatigue, muscle weakness, and mood changes.³

The biggest source of vitamin D is through sun exposure. Sunlight triggers a series of chemical reactions in your skin that lead to the production of vitamin D. Spending as little as 10 to 15 minutes in the sun a few times a week is enough to saturate blood levels.⁴

While there are very few natural food sources for vitamin D, one exception is mushrooms. Certain mushroom varieties, such as oyster and shiitake, are also able to synthesize vitamin D when exposed to sun⁵



If you have concerns that your vitamin D levels may be low, spend more time outdoors, include mushrooms on your menu regularly, and make an appointment with your doctor to share your concerns.

1. <https://doi.org/10.1007/s40618-021-01614-4>

2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3166406/>

3. <https://www.health.harvard.edu/staying-healthy/time-for-more-vitamin-d>

4. <https://doi.org/10.3390/nu10101498>

5. <https://my.clevelandclinic.org/health/articles/15050-vitamin-d--vitamin-d-deficiency>



Phytonutrients That Boost Wellbeing

Phytonutrients are chemicals produced by plants to help them ward off harmful bacteria, fungi, and viruses. Researchers have studied these bioactive compounds extensively, and we now know they have many beneficial effects on human health as well.

These compounds are known to possess anti-inflammatory properties that offer protection against oxidative stressors related to environmental exposures, such as diets that are high in sugar, fat, and processed foods. As a result, phytonutrients are also protective against chronic conditions like cancer, heart disease, cataracts, and Alzheimer's disease.

A 2013 study noted that while more than 5,000 phytonutrients are currently known, it is believed that there are many more yet to be discovered. Because we still have a lot to learn about how these beneficial nutrients work in the body, many health experts suggest focusing on food sources of phytonutrients rather than supplement forms.⁶

Here are a few foods to help you increase the phytonutrients in your diet:

Green Tea. Include an occasional cup of green tea to increase the number of beneficial catechins and polyphenols. (Note: Compounds in green tea can interact with certain medications, so be sure to consult your doctor or pharmacist before changing your usual intake.)

Cocoa. Cocoa, like that found in dark chocolate, contains beneficial procyanidins, theobromine, and catechins.

Spinach. Add some fresh spinach greens to your salad for a boost of polyphenols and lutein.

Red Wine. Drinking red wine (in moderation) can provide beneficial resveratrol. You can also find this compound in red fruits and vegetables.

Phytonutrients, while still somewhat elusive from a scientific standpoint, have been shown to offer a wide range of health benefits for human health. The easiest way to increase the number of phytonutrients in your diet is to include a wide variety of brightly colored fruits and vegetables.⁷



Apples. Fresh fruits like apples, pears, and peaches contain quercetin, a flavonoid that is linked to reduced inflammation.

Blueberries. To increase the amount of lycopene and anthocyanidins in your diet, try adding blueberries to yogurt or oatmeal.

6. <https://www.nal.usda.gov/fnic/phytonutrients>

7. <https://www.nutrition.gov/topics/whats-food/phytonutrients>



Oral Health & Your Immune Systems

Your oral health can either help or hinder your immune system. Bacteria (both beneficial and harmful ones) thrive in your mouth. Gingivitis is a milder form of bacterial overgrowth that can advance into periodontal disease, which poses more serious risks.

Gum disease has been linked to a number of other conditions, such as diabetes, cardiovascular disease, and even low birth weight. Some experts believe dysfunctions of the oral immune system play a role in the development of autoimmune diseases as well.⁸

Your mucosal immune system, which appears to operate independently from your more centralized immune system, serves as an additional protective barrier from bacteria, helping to prevent foreign organisms from making their way into your bloodstream.⁹



Here are some things you can do to support good oral health:

Brush and floss your teeth daily. Practicing good oral hygiene by brushing and flossing your teeth daily can help reduce levels of harmful bacteria in your mouth.

Avoid smoking. Smoking cessation has been shown to reduce the risk of tooth loss as well as the risk of development of periodontitis. (According to the American Dental Association, vaping may be just as risky as cigarette smoking.)¹⁰

Eat a wide variety of plants. Plant-based foods offer a wide variety of phytonutrients that support healthy immune function. There also appears to be a relationship between the bacteria in your mouth and the bacteria in your gut, so eating a plant-based diet may support your immune system in several ways.

Drink plenty of water. Water dilutes and neutralizes substances that accumulate in your mouth, reducing the number of harmful bacteria that linger.

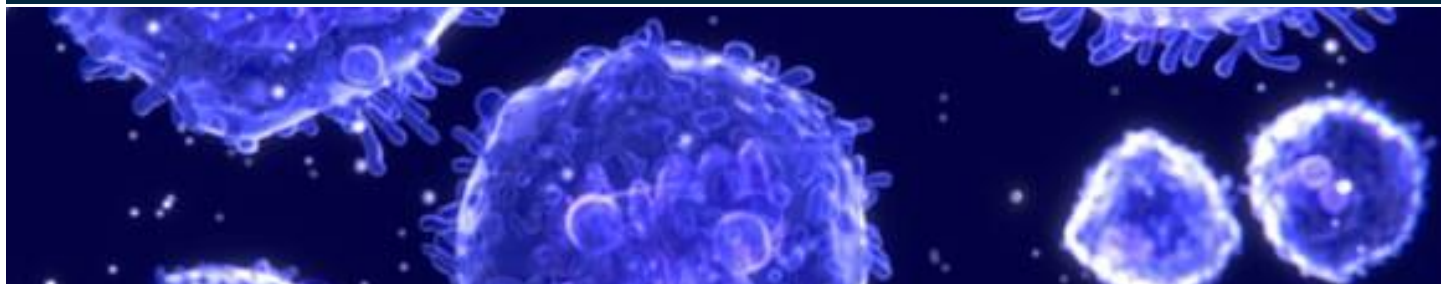
Schedule routine cleanings and check-ups. Be sure to see your dentist regularly, so you can identify issues early and address them before they become a bigger problem.

Practicing good oral hygiene is a simple way that you can help support your immune system.

8. <https://doi.org/10.1038/ijos.2014.48>

9. <https://doi.org/10.3390/biology9060131>

10. <https://www.ada.org/en/press-room/news-releases/2019-archives/october/american-dental-association-statement-on-vaping>



Immune System

A well-working immune system prevents germs from entering your body and kills them or limits their harm if they get in. To keep your immune system healthy, get plenty of sleep, stay active, eat healthy foods, keep your weight under control, reduce your stress and follow other healthful habits.

What is the immune system?

Your immune system is a large network of organs, white blood cells, proteins (antibodies) and chemicals. This system works together to protect you from foreign invaders (bacteria, viruses, parasites, and fungi) that cause infection, illness and disease.

What does the immune system do and how does it work?

Your immune system works hard to keep you healthy. Its job is to keep germs out of your body, destroy them or limit the extent of their harm if they get in.

When your immune system is working properly:

When your immune system is working properly, it can tell which cells are yours and which substances are foreign to your body. It activates, mobilizes, attacks and kills foreign invader germs that can cause you harm. Your immune system learns about germs after you've been exposed to them too. Your body develops antibodies to protect you from those specific germs. An example of this concept occurs when you get a vaccine. Your immune system builds up antibodies to foreign cells in the vaccine and will quickly remember these foreign cells and destroy them if you are exposed to them in the future. Sometimes doctors can prescribe antibiotics to help your immune system if you get sick, but antibiotics only kill certain bacteria. They do not kill viruses.

When your immune system is not working properly:

When your immune system can't mount a winning attack against an invader, a problem such as an infection, develops. Also, sometimes your immune system mounts an attack when there is no invader or doesn't stop an attack after the invader has been terminated. These activities result in such problems as autoimmune diseases and allergic reactions.

How can I keep my immune system healthy?

Just like the rest of your body, your immune system needs nourishment, rest, and a healthy environment to stay strong. Certain lifestyle changes can boost your immune system and help you avoid illness. To keep your immune system running smoothly, you should:

Refrain from smoking, lose weight or maintain a healthy body mass, eat a healthy diet that includes lots of fruits and vegetables, avoid alcohol or use it only in moderation, get enough sleep, exercise regularly, wash your hands often and try to stress less and focus on mind/body wellness. Make sure you are up-to-date on vaccines as well.

EMPLOYEE WELLNESS SPOTLIGHT

Glenn Parks

Process Analyst



before



after

A Year of Change

"It is health that is real wealth, not pieces of gold or silver."
-Gandhi

I am astonished at all the changes that have taken place everywhere this year. I am still mystified at the adjustments that I managed to accomplish to improve my own lifestyle. It has been a process and had I been told that I had to make all these changes at once, I probably would have taken the easier and softer solution by simply filling a prescription.

In the summer of 2020, my doctor informed me that I was pre-diabetic. This started an interesting journey, and the first stop was self-pity and gaining more weight. However, the positive changes started during a retreat that my brother encouraged me to attend. Additionally, I attended a 9-week health course. In April, through a partnership with the District, I enrolled in a yearlong wellness course for pre-diabetics offered through Holy Cross Hospital. I would encourage anyone to enroll by visiting [holy-cross.com/diabetes](https://www.holy-cross.com/diabetes).

Through all of this, I now eat very little sugar, no sweeteners, corn, gluten, caffeine, and I avoid drinking soda (thank goodness for seltzer water and lean meats). I am moving about 90 minutes a day which sounds better to me than the ominous "exercise." In fact, bowling counts as moving!

Some other modifications have been shopping at the local farmers market for "fresh food." I am even cooking, a little. Can you imagine my shock when I learned that my oven is not self-cleaning after my second attempt at baking chicken and veggies? These changes have been gradual. I am motivated and fortunate as I have enjoyed the process. While I do not cheat on myself, I do have an occasional treat. What I am proud of is that I remain mindful and moderate and am 30 pounds lighter!



Peachy Mint Iced Green Tea

INGREDIENTS

- 6 green tea bags
- 6 cups water
- 2 peaches, sliced
- 2 tablespoons honey
- 6 sprigs fresh mint

INSTRUCTIONS

1. Bring water to a boil in a sauce pan. When boiling, remove from heat.
2. After water has been removed from heat for 1-2 minutes, carefully add sliced peaches and tea bags. Let the tea bags steep for 2 minutes then remove. Allow the peach slices to steep an additional 3 minutes, then remove to a separate container.
3. Add honey to tea and finish cooling. Once cool, transfer to a pitcher or some other container, and refrigerate for a couple hours or until chilled.
4. Place ice, a few peach slices, and fresh mint in a tall glass. Pour tea into glasses and enjoy a refreshing, chilled beverage!
5. You can also leave mint sprigs and peach slices in with the tea while refrigerating and it will continue to flavor the tea!

Note: Nutrition information is calculated with peach slices consumed - nutrition information will vary if steeped peach slices are discarded. Substitute agave for honey to make vegan.

Prep Time

15 Minutes

Chill Time

2 Hours

Servings

6



Nutrition Facts

Calories	14
Carbohydrates	10g
Protein	0g
Fat	0g
Sodium	13mg
Potassium	95mg
Sugar	9g
Calcium	13mg
Iron	0.2mg

Source:

[Peachy Mint Iced Green Tea - Nutrition to Fit](#)



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