HEALTH KNOWLEDGE

How to Support Your IMMUNE SYSTEM

Let's face it. If your life includes some or all of the following...

- Smoke Cigarettes or Vape
- Constantly Consume Fast Foods
- Sleep Less than 4 Hours a Night
- Drink Alcohol in Excess
- Do Recreational Drugs in Excess
- Do Prescribed Drugs in Excess
- Never Exercise..
- Live Under Continuous Stress
- Maintain Excess Body-Fat 35%+

... then, it's probably no surprise your **immune system** is **compromised.**

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Seriously, Just Think About This...

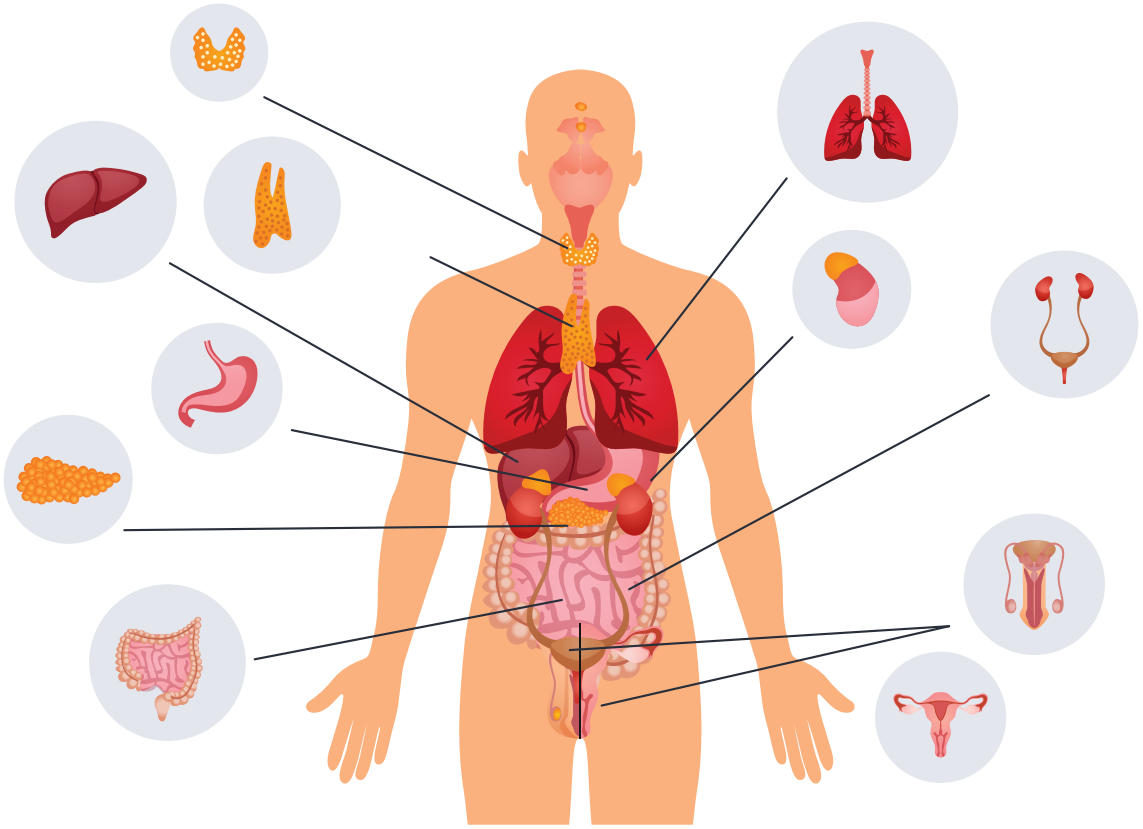
Do you ever ponder how miraculous YOUR body truly is?

For example, under your flesh (and including your flesh) are **11 incredible systems**, each more complex than a super-computer.

And, these systems are all integrated, synchronized and seamlessly working with each other 100% automatically, non-stop, 24/7. It's incredible when you stop and think about it.

Here they are:

- **Integumentary System** (hair, skin and nails)
- **Skeletal System** (bones)
- **Muscular System** (muscles, tendons, ligaments)
- **Nervous System** (brain, spinal cord)
- **Endocrine System** (glands and hormones)
- **Circulatory System** (heart, blood, veins)
- **Lymphatic System** (lymph vessels, debris removal)
- **Respiratory System** (lungs, oxygen)
- **Digestive System** (mouth, stomach, intestines)
- **Urinary System** (kidneys, bladder, fluid)
- **Reproductive Systems** (male, female)



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The Amazing YOU!

It's hard not to laugh when you hear people gush over how amazing Amazon logistics operate... or, how artificial intelligence is the most spectacular thing on the planet!

Yet, there **YOU** are. A million times more complex and wonderful.

Here's what else:

- If just **one thing** goes wrong in Amazon's supply chain everything stops.
- If just **one incorrect digit** is input to artificial intelligence it is rendered useless.
- Even your car stops when it runs out of gas or charge.

There is no ***"second wind"*** for any of these so called amazing systems.

But, that's **NOT TRUE** of your BODY!

Look at all the crazy stuff we throw at it (see the list at the beginning of the article) and yet, it keeps on going. Just like the Eveready Bunny.

It's AMAZING... if you ever really stop and think about it.

Pushing the Limits...

Of course, there's a limit. At some point your body will physiologically decline -- if for no other reason than the natural process of aging.

However, aging is **NOT** the main issue or cause of an immune deficiency.

Millions of people put their bodies at risk prematurely for the obvious reasons listed above.

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First Lines of Defense

Your body's first line of defense against disease and infection is your immune system.

Visualize an electric fence surrounding the perimeter of all your bodily functions and systems with the sole purpose of protecting them.

That's your **immune system.**

Fighting Off Disease and Other Maladies...

Without going too deep, the **immune system** is a network of cells, tissues and organs that protect the body from infection and disease.

When invading viruses, bacteria and other

microbes try to invade your body, the immune system targets them, specifically, while leaving other healthy tissues alone.

So, your healthy immune system, once activated, will fight off infection and disease.

That's your **immune system.**

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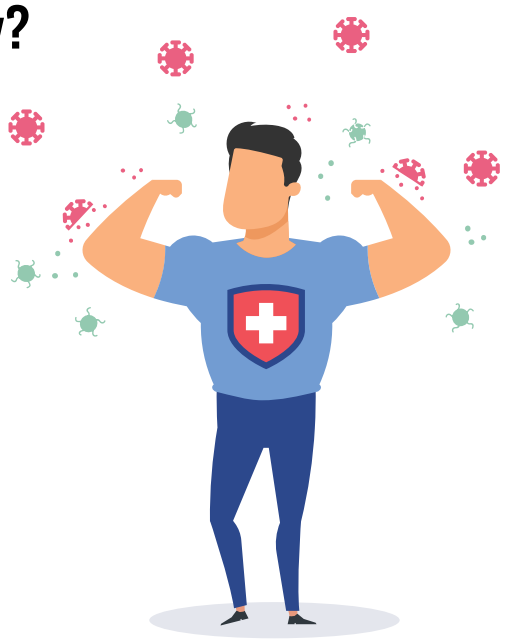
How Do I Keep My Immune System Healthy?



Obviously, an unhealthy lifestyle is a sure fire way to compromise your immune system - which could potentially result in physiological deterioration of all bodily functions and even death.

Keeping with the obvious, it stands to reason, then, that a healthy immune system can **ONLY** be achieved through healthy lifestyle choices.

And, while some lifestyle choices are more difficult than others, most of it can be boiled down to **consistent exercise, proper nutrition** and **sleep.**

There are no shortcuts. **No pills. No drugs. No magic.**

Reality Check: COVID-19...

Nothing in recent history has demonstrated the necessity of a healthy immune system than the COVID-19 pandemic.

Clearly, the elderly were, and still are, at the highest risk due to their already weakened immune systems due to natural aging.

Plus, in many cases, a lifetime of unhealthy lifestyle choices layered on top of their age has resulted in premature deaths throughout the world.

And, when you hear the term, **"underlying conditions"** you can be assured it also means "compromised immune system" resulting in various physiological breakdowns and malfunctions throughout the body.

When a person under age 30 dies from COVID-19, you almost always hear the term **"underlying conditions."**

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Enter the Hucksters...

Throughout history, the silver-tongued, slick talking hucksters never seem to skip a beat when it comes to exploiting a crisis.

This pandemic is no exception.

Conduct a quick online search and you'll find hundreds of **"Immune Booster"** and **"Immune Defense"** type products including powders, pills and liquids.

It's always the same pitch. Just take this -- despite your unhealthy habits -- and everything will be just fine.

Nope!

The Real Science

There are literally hundreds of studies and research papers that document this fact:

The absolute best way to strengthen and support the immune system is through nutrient rich foods in combination with consistent exercise and/or physical activity.

Period. Full Stop.

Here's the simplified logic behind all of these studies.

Your body is much better at absorbing the necessary vitamins, minerals and other nutrients from foods rather than pills, powders or liquids. It's the way your body is set-up to function.

Next, is your circulatory system. Blood is the "transport vehicle" that delivers all of these nutrients to your various organs, skin and muscles. It is the **"transport system"**. But, it must be activated.

There is no better way to "activate" this **"transport system"** than consistent physical exercise. The pumping of blood through your arteries, veins and capillaries to and from your muscle tissue and other organs is key to this process.

When you feel your body heating up during exercise you can be sure your **"transport system"** is in full gear delivering the needed nutrients throughout your body -- and thus, strengthening and supporting your immune system.

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There is a Role for Supplementation

While this may sound hypocritical, there really is a role for supplementation.

But, it is a secondary, supportive role and appropriate protocol for athletes and active fitness/lifestyle enthusiasts.

The physical demand put on an athletic body requires more of everything including the quality and quantity of caloric intake.

No matter how hard you might try, it's often difficult to optimize a nutrition plan without including some sort of nutritional supplementation in order to fill in the gaps due to over-processing of our foods through technology and industrial farming.

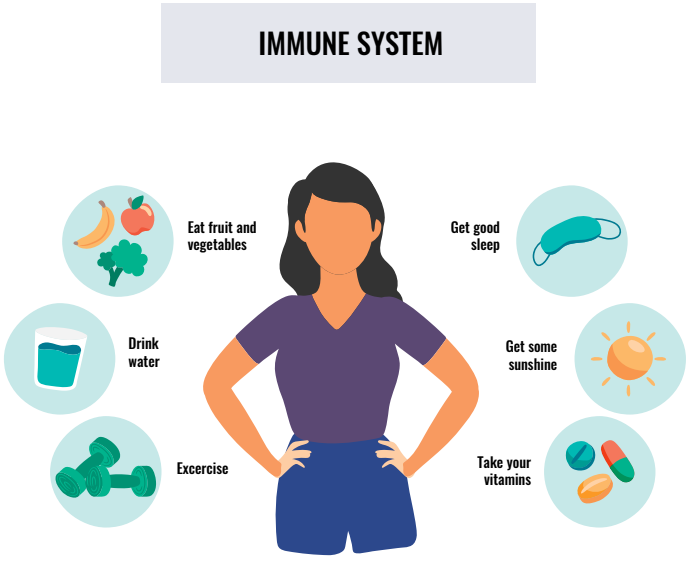
In other words, supplementation is "**cheap insurance**" that your body is receiving everything it needs to fully recover after a prolonged period of physical stress.

And, a fully recovered body ensures a **healthy immune system!**

In Summary...

In the final analysis, keeping your immune system is a simple proposition:

- Eat Right - The #1 priority is to optimally fuel your body.
- Exercise - Activate your delivery system through physical activity
- Sleep - Allow your body to recover
- Supplement - Provide your body with some cheap insurance



These four principles will do way more than keep your immune system in a healthy and "ready" state.

It is a holistic approach to healthy living, in general, and will result in a physical, mental and spiritual feeling of wellbeing.

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References

- Calder PC. Feeding the immune system. Proc Nutr Soc. 2013;72(3):299-309. doi: 10.1017/S0029665113001286.
- Hendry C, Farley A, McLafferty E, Johnstone C. Function of the immune system. Nurs Stand. 2013;27(19):35-42.
- Delves, PJ. Overview of the immune system. Merck Manual for Healthcare Professionals Online Edition. http://merckmanuals.com/professional/immunology-allergic-disorders/biology-of-the-immune-system/overview-of-the-immune-system. Updated January 2017. Accessed July 30, 2017.
- How does the immune system work? PubMed Health website. https://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0072548/. Updated September 21, 2016. Accessed July 30. 2017.
- What does and doesn't affect immune system. Michigan State University ScienceDaily website. http://sciencedaily.com/releases/2008/02/080204172208.htm. Published February 8, 2008. Accessed July 30, 2017.
- Medications that weaken the immune system and fungal infections. CDC website. cdc.gov/fungal/infections/immune-system.html. Updated January 25, 2017. Accessed July 30, 2017.
- Wiseman AC. Immunosuppressive medications. Clin J Am Soc Nephrol. 2016;11(2):332-343. doi: 10.2215/CJN.08570814.
- Besedovsky L, Lange T, Born J. Sleep and immune function. Pflugers Arch. 2012;463(1):121-137. doi: 10.1007/s00424-011-1044-0.
- Cannizzo E, Clement CC, Morozova K, et al. Age-related oxidative stress compromises endosomal proteostasis. Cell Rep. 2012;26(1):136-149. doi: 10.1016/j.celrep.2012.06.005.
- How to boost your immune system. Harvard Health Publications website. http://www.health.harvard.edu/staying-healthy/ how-to-boost-your-immune-system. Updated June 15, 2016. Accessed July 30, 2017.
- Chandra RK. Nutrition and the immune system; an introduction. Am J Clin Nutr. 1997;66(2):460S-463S.
- 12. Protecting your health with immune boosting nutrition. Academy of Nutrition and Dietetics website. http://eatright.org/resource/health/wellness/preventing-illness/protect-your-health-with-immune-boosting-nutrition. Published May 31, 2017. Accessed July 30, 2017.
- Ross CA. Vitamin A. In: Coates PM, Betz JM, Blackman MR, et al, eds. Encyclopedia of Dietary Supplements. 2nd ed. London and New York: Informa Healthcare; 2010:778-791.
- Fulgoni VL, Keast DR, Bailey RL, Dwyer J. Foods, fortificants, and supplements: where do Americans get their nutrients? J Nutr. 2011;141(10):1847-1854. doi: 10.3945/jn.111.142257.
- Wintergerst ES, Maggini S, Hornig DH. Immune-enhancing role of vitamin C and zinc and effect on clinical conditions. Ann Nutr Metab. 2006;50(2):85-94.
- Edfeldt K, Liu PT, Chun R, et al. T-cell cytokines differentially control human monocyte antimicrobial responses by regulating vitamin D metabolism. Proc Natl Acad Sci U S A. 2010;107(52):22593-22598. doi: 10.1073/pnas.1011624108.
- Horlick MF. Vitamin D deficiency. N Engl J Med. 2007;357(3):266-281. doi: 10.1056/NEJMra070553.
- Balk SJ. Council on Environmental Health, Section on Dermatology. Ultraviolet radiation: a hazard to children and adolescents. Pediatrics. 2011;127(3):588-597. doi: 10.1542/peds.2010-3501.
- Looker AC, Johnson CL, Lacher DA, et al. Vitamin D status: United States, 2001-2006. NCHS Data Brief. 2011(59):1-8.

- Marko MG, Ahmed T, Bunnell SC, et al. Age-associated decline in effective immune synapse formation of CD4(+) T cells is reversed by vitamin E supplementation. J Immunol. 2007;178(3):1443-9.
- Prasad AS. Zinc in human health: effect of zinc on immune cells. Mol Med. 2008;14(5-6):353-357. doi: 10.2119/2008-00033.
- Prasad AS. Clinical, immunological, anti-inflammatory and antioxidant roles of zinc. Exp Gerontol. 2008;43(5):370-377.
- Zinc: fact sheet for healthcare professionals. National Institutes of Health Office of Dietary Supplements website. http://ods.od.nih.gov/factsheets/Zinc-HealthProfessional/. Updated February 11, 2016. Accessed July 30, 2017.
- McQueen C, Orr K. Natural products. In: Krinsky D, Ferreri S., et al, eds. Handbook of Nonprescription Drugs.18th ed. Washington, DC: American Pharmacists Association; 2015.
- What can you do to improve your immune system? Harvard Health Publications website. http://health.harvard.edu/healthy-eating/what-can-you-do-to-improve-your-immune-system. Published September 2016. Accessed July 30, 2017.