

# The Truth About Immunity



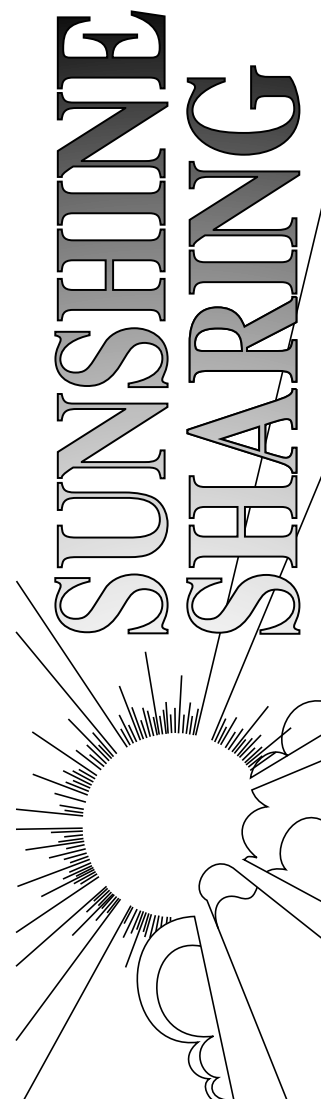
## How To Enhance Your Immune System Naturally

Just a little over one hundred years ago, infectious disease was the leading cause of death. With the discovery of microbes came improved sanitation, antibiotics, disinfectants and vaccines. Modern medicine and proper sanitation have dramatically reduced the risk of dying from infectious disease. However, people have come to place so much trust in these wonders that they never think about the need to maintain a strong immune system.

That's why people often experience fear, and even panic, when some new disease for which there is no vaccine or medication threatens society. In recent years there have been concerns about Ebola, West Nile virus, antibiotic resistant bacteria, and new strains of the flu. People don't trust their own innate immunity because they don't understand how their immune system ultimately keeps them healthy. Here are a few important facts about immunity that you should be aware of:

- 1) The overuse of disinfectants and antibiotics is breeding microbes that are more resistant to their effects. That's why highly sterilized hospitals are one of the places where people catch serious infections.
- 2) A large part of your immunity is regulated by the friendly microbes in the intestinal tract, known as probiotics or the microbiome. Your microbiome can be seriously disrupted by the overuse of antibiotics and disinfectants. An unhealthy microbiome can weaken and confuse your immune system, making you not only more susceptible to infection, but also more prone to disorders involving immune dysregulation like allergies and auto-immune diseases.
- 3) Your immune system is what makes you immune to a disease. Vaccines only serve to present a challenge to your immune system giving it a chance to mount a response to a disease. This means that if your immune system is too weak to mount an effective response you may actually get sick from the vaccine.
- 4) The real hero in preventing contagious disease is ultimately your immune system. A healthy immune system is the best way to not only reduce your risk of infection, but also to reduce your risk of allergic reactions, autoimmune diseases and even cancer. A healthy immune system requires good nutrition, a healthy intestinal biome and the ability to handle stress effectively.
- 5) Your immune system consists of three layers of defensive capability that protect you from microbial invasion. If the first line of defense fails, then the second line of defense takes over. If that also fails, the third line of defense makes the body's last stand against the invader. When it mounts a successful response, the immune system memorizes that response, which is what makes you immune from that infection in the future.

That's why this issue of *Sunshine Sharing* is so important. In it, you'll learn how your immune system works and how to strengthen it with good nutrition, probiotics and stress management.



Your guide to better health the natural way.

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### Important Notice

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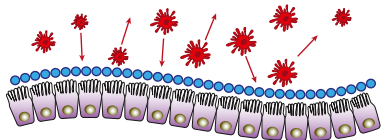
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# How Your Immune System Works

Here's how each line of defense works and what can be done to strengthen each layer of protection.

## The First Line of Immune Defense: Protective Surfaces

The skin forms a physical barrier to protect from invading microbes. Once the skin has been injured this first line is breached, opening the door to infection. That's why it's important to clean wounds. Applying a colloidal/ionic **Silver Gel** will also help to prevent infection. The Silver Gel can also be used as a hand sanitizer to avoid the spread of germs.



The mucus membranes that line the respiratory system, digestive system and urinary passages are also physical barriers to infectious organisms, but they are less effective than the skin. They are aided by two things. First, they secrete a thin, watery substance called mucus, which traps dust, pollen, bacteria and viruses. Mucus also contains substances that inhibit infection.

Staying properly hydrated to allow for a normal, healthy production of mucus is important to making sure this system works properly. It's also why drinking lots of water in the early stages of infection helps the body flush the infection out more quickly.

In the intestinal tract, which is the most vulnerable area of the first line of defense, there is another layer of protection. The friendly microbes, or probiotics, colonize the mucus membranes

forming a thin layer of biofilm. An example of a biofilm is the plaque which adheres to your teeth.



A biofilm containing beneficial probiotics forms a physical barrier to infectious organisms. The friendly bacteria also directly inhibit the growth of infectious microbes. A healthy microbiome also balances the immune system, inhibiting allergies, asthma, autoimmune diseases, mood disorders and other ailments.

Overusing antibiotics and disinfectants hurts this probiotic barrier decreasing resistance to disease. In contrast, eating fermented foods (like yogurt, kefir and sauerkraut) and/or taking **Probiotic Supplements** can strengthen the immune system by supporting the friendly bacteria. It will also improve digestive health and prevent GI tract inflammation.

## The Second Line of Defense: Innate Immunity

When the protective surfaces of the body are breached, the innate immune system provides the next layer of immune protection. The first weapon in the innate immune process is the inflammatory response. Inflammation causes swelling at the site of injury that slows circulation to the area, thus allowing any microbes or toxins that enter the damaged area to be contained.

Inflammation also activates macrophages, the "big eaters" of the immune system. They are drawn to the inflamed area where they search for invaders and debris from damaged cells. They engulf this material and digest it (pictured right). Macrophages are always present in large numbers in the mucus membranes

## Antibiotic Abuse

Antibiotics are designed to kill bacteria. They do not work on viral or fungal infections, nor do they help parasitic infections. Medical doctors know this, yet these medications are routinely prescribed for conditions for which they have little or no effect.

This is bad for two reasons. First antibiotics are an important tool for combating bacterial infections and because of overuse bacteria are developing resistance to them which make them less effective when you really need them. Second antibiotics harm your microbiome leaving you more susceptible to future infections.

Colds and flu are viral infections, so why do doctors prescribe antibiotics when someone has a cold or the flu? It's usually in response to a patient's expectations, which means they're largely being dispensed as placebos.

The justification often given for this improper use of antibiotics is that they prevent secondary infections. The idea is that since you're already sick with a virus, you might develop a bacterial infection, too. This isn't a good reason to prescribe antibiotics.

In addition to colds and flu, the majority of all sore throats, ear infections, bronchial problems and sinus infections are also viral in nature. Some problems, like chronic sinus infections may also

have a fungal component, which means antibiotics make them worse.

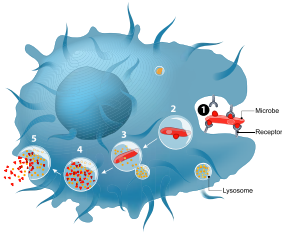


So, if you're not going to use antibiotics for these conditions, what can you use? Fortunately, there are many natural remedies that are antiviral, antifungal and antibacterial. This is because they support the body's natural immune defense, rather than just killing the germs. Here are some options to consider:

You can boost immune defenses against viruses using a **Viral Immune Boosting Formula** containing herbs like elderberry, echinacea and astragalus. Vitamin C, Vitamin D3 and zinc are also helpful as viral-fighting ingredients. The best way to take this is every two hours with plenty of water until symptoms subside.

Raw **garlic**, or a garlic tablet with stabilized allicin, can be used for respiratory infections, ear infections and sore throats. **Yarrow** can be helpful for viral infections with fever. Many people have also found **olive leaf** extract helpful for viral infections.

**Liquid Silver** using the Aqua Sol Technology is an alternative to antibiotics. It is also antiviral and antifungal. Take 1-3 Tablespoons every two hours. For antibiotic resistant bacteria take 4-8 ounces daily for at least a week. It can also be used topically.



where infection is most likely to enter the body.

A helpful analogy is to think of the first line of immune defense as a fence or wall surrounding a protected area. This physical barrier is then patrolled by guards. This is the second line of immune defense, the macrophages. They're there to protect you when the outer wall is breached.

If invaders are present in large numbers, macrophages call for back up. They signal other immune cells, neutrophils and natural killer (NK) cells to leave the blood stream and offer additional infection-fighting support. None of the immune cells in the innate immune system are targeted to any specific pathogen. They destroy all types of invading microbes and viruses, including those diseases for which vaccines and/or other treatments have yet to be created.

### Strengthening the Innate Immune System

Innate immunity can be boosted using herbs that stimulate or activate the macrophages, natural killer cells and neutrophils. Herbs that do this include echinacea, astragalus, and medicinal mushrooms like cordyceps, reishi, maitake, chaga and shiitake. Beta-glucans (found in medicinal mushrooms) and arabinogalactan are also helpful for boosting innate immune responses.

Nutrients also help keep the innate immune system strong, including vitamins A, C and D3 and the minerals zinc and selenium. Omega-3 and omega-6 essential fatty acids are also needed to modulate immune responses.

When infection is going around it can be helpful to take a **Medicinal Mushroom Blend** containing the mushrooms described above or an **Immune Boosting Formula** containing herbs and nutrients that boost immune responses. This can keep your innate immune system on alert so that it will recognize and destroy microbes you are exposed to before they can make you sick.

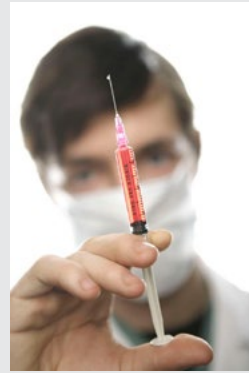
A blend of several species of echinacea in an **Echinacea Blend** or a **Viral Immune Boosting Formula** containing elderberry, echinacea and astragalus can be helpful for boosting children's immune systems during cold and flu season. Unlike

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### Additional Help and Information

For more information about strengthening your immune system contact the person who gave you this newsletter. You can also consult the following resources:

- Beyond Antibiotics* by Michael A. Schmidt, Ph.D.
- The Immune System Recovery Plan* by Susan Blum, MD
- Dissolving Illusions: Disease, Vaccines and the Forgotten History* by Suzanne Humphries, MD and Roman Bystryanyk
- Millers Review of Critical Vaccine Studies* by Neil Z. Miller
- Herbal Antibiotics: Natural Alternatives for Treating Drug-Resistant Bacteria* by Stephen Harrod Buhner
- The Autoimmune Epidemic* by Donna Jackson Nakazawa



## Understanding Vaccines

Although we talk about vaccines making people immune to various diseases, that's not what a vaccine is actually doing. It's not boosting immunity, like herbs and nutrients do, it's challenging your immune system. When your immune system successfully mounts a response to the vaccine and creates those antibodies, that's where the immunity comes from. So, the real hero isn't the vaccine, it's the adaptive immune system.

This distinction is important because it means you have to have a healthy, functioning immune system in order for a vaccine to work properly. Unfortunately, this simple fact is easily overlooked.

Whether or not you choose to vaccinate or not is ultimately up to you and is an important issue you that you should study out for yourself. Whatever you choose you should be aware that vaccines don't replace the need for a healthy immune system. In fact, they require it.

It's not wise to vaccinate people whose immune system may be compromised in any way. Don't get vaccines when you're already sick, or when you're weak or malnourished. Avoid getting too many vaccines in a short period of time as this can overwhelm the immune system, causing adverse reactions.

Understanding this, many parents are adopting modified, less aggressive vaccine schedules for their children. There are also people who choose to not vaccinate at all, focusing there efforts entirely on building a healthy immune system.

If you do chose to vaccinate, you can reduce the risk of adverse effects by boosting the immune system prior to the vaccination. This can be done with a Medicinal Mushroom Blend, Immune Boosting Formula or Echinacea Blend (discussed right). These remedies put the immune system on alert, which improves the body's ability to react properly to the challenge.

Because vaccines contain toxic chemicals (which are used to weaken or kill the infectious organisms), it's a good idea to do some gentle detoxification following a vaccination. This can be done with a **Blood Purifier Formula** containing herbs like red clover, dandelion, burdock, pau d'arco and milk thistle.

If a child or adult gets feverish or irritable within 24 hours of a vaccine, you can administer the same types of herbs or nutrients you'd use to help the body fight an acute infection or fever. These remedies include herbs like yarrow, elderberry, chamomile and feverfew. If it's a viral vaccine, you can use a **Viral Immune Boosting Formula**.

Don't expect vaccines to keep you healthy if you're living an unhealthy lifestyle. Don't feed your family an empty calorie, chemical laden diet. Make sure they have healthy, natural foods, get adequate sleep and exercise, and otherwise care for overall health. That's the best way to ensure you have a healthy immune system that protects you from all infectious diseases.



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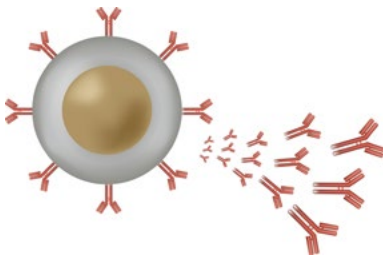
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a vaccine, which simply challenges the immune system (See *Understanding Vaccines* page 3), formulas like these actually boost the immune system.

Reducing stress will also aid the innate immune system. Stress causes the adrenal glands to secrete the anti-inflammatory hormone cortisol. This reduces the inflammatory responses that are part of the innate immune system, making the body more vulnerable to infection. That's why an **Adaptogen Formula**, containing ingredients like eleuthero root, rhodiola, ashwaganda and schizandra can also help to boost your innate immune responses and reduce your chances of getting sick from infection.

## The Third Line of Immune Defense:



### Adaptive Immunity

When invaders get past the first two layers of defense, they enter the blood and lymph and begin circulating throughout the body.

In response the adaptive immune system utilizes specialized white blood cells such as B-Cells to identify these invading organisms. Once identified they replicate and start producing specific antibodies (Y-shaped proteins depicted above) that will tag that invader. It's like putting out wanted posters so the invaders can be recognized and destroyed. At this point, other specialized white blood cells, such as T-Cells, find the tagged invaders and eliminate them.

Once the immune system has learned how to tag a specific invader, it retains the memory of that invader. It is now primed to recognize it quickly if it enters the body again. Thus, it can destroy it before it does serious damage. This is why adaptive immunity is also called acquired immunity.

Vaccines bypass the first and second lines of immune defense and directly challenge to adaptive immune system by introduc-

ing a dead or weakened microorganism directly into the blood stream. When the adaptive immune system recognizes the presence of this weakened invader from the vaccine, it builds up the necessary antibodies needed to tag and destroy it. This can only happen when the adaptive immune system is healthy.

## Enhancing Adaptive Immunity

Fever is an important part of the third line of immune defense. The body elevates the temperature to slow the replication of viruses while the immune system builds up the antibodies and white blood cells necessary to fight it. Therefore, as long as the fever stays around 102 degrees or below, it's best to let the fever run its course. Don't give aspirin, willow bark or other analgesics to try to bring it down as this gives the infection an advantage over the immune system.

Since the innate immune system helps regulate the adaptive immune system, all of the remedies that boost innate immunity can also be used to boost adaptive immunity. These include the **Medicinal Mushroom Blend**, **Immune Boosting Formula** and **Echinacea Blend** mentioned on page three.

Mushrooms can be helpful when a low grade infection is avoiding detection by the immune system. The compounds in mushrooms can improve the ability of immune cells to tag both microbes and defective cells. This includes cancer cells. This helps the adaptive immune system react more efficiently.

Mushrooms may also help modulate immune responses in autoimmune diseases, by helping the body tag microbes rather than body tissues. However, it is best to start with very low doses of mushrooms and see how you respond. If you have an autoimmune disease you want to avoid overstimulating the immune system.

Adaptogens also appear to beneficially influence the function of the adaptive immune system. An **Adaptogen Formula** can be helpful when the body is fighting low grade infections or when the immune system is confused, as in autoimmune disorders.