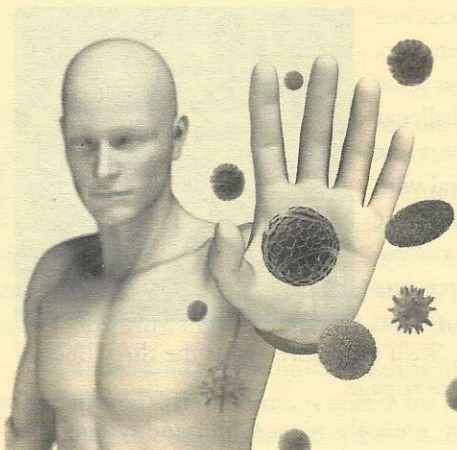




Boost Your Immune System

Stop Worrying About Germs and Stay Healthy No Matter What is Going Around

The discovery of infectious microbes was a major breakthrough for human health. A little over a century ago, infectious diseases like smallpox, typhoid, cholera, dysentery, diphtheria, scarlet fever, yellow fever, and tuberculosis (consumption) were rampant in cities across Europe and North America. In 1900 the leading causes of death were influenza, pneumonia, tuberculosis and gastrointestinal tract infections, not heart disease, cancer and diabetes.

Improved sanitation, food handling and advances in medicine caused rapid declines in death from infectious diseases to the point that today, few people in Western civilization die from infections. The odd thing is that as the rate of infectious disease has declined, the rates of diseases related to immune dysregulation have increased. In fact, the higher the rates of infectious disease, the lower the rates of allergies and autoimmune diseases. The lower the rates of infections, the higher the rates of allergies and autoimmune disease.¹

So, diseases like food and respiratory allergies, asthma, eczema and autoimmune diseases have displaced infectious disease as health concerns for millions of Americans. Currently, "allergic diseases are now affecting 20–40% of the population of highly industrialized, economically advanced regions of the world."²

What's Causing The Increase in Immune Disorders?

Researchers are trying to determine what is causing this increasing immune dysregulation. One possible answer is that we've become too concerned about microbes and not concerned enough about the health of our immune systems. One might say we've become more *germ phobic*, but not more *health conscious*.

One theory researchers have proposed is that the overuse of antibiotics and disinfectants and the lack of exposure to a healthy amount of the microbes found naturally in dirt have caused these immune problems. This theory is known as the *hygiene hypothesis*.^{1,3}

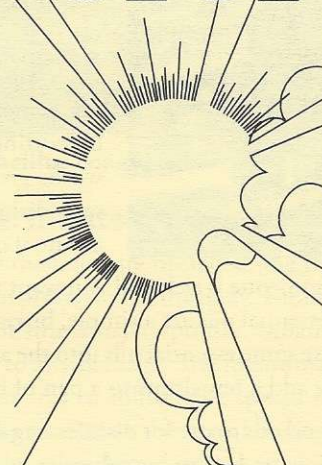
An observation supporting the hygiene hypothesis is that children who grow up in rural environments (like farms) where they are exposed to dirt and animals have dramatically lower rates of allergies and asthma. Conversely, children who grow in extremely clean homes, and especially homes where chemical disinfectants are used, have higher rates of these problems.

Bacteria Are an Important Part of Your Immune System

What the germ theory failed to recognize is that most microbes aren't harmful to human health. In fact, many are actually beneficial and necessary to health. We now know that a large part of natural immunity comes from the friendly microbes that inhabit the digestive tract. Known collectively as the microbiome, these intestinal microbes create a biofilm that lines the mucus membranes and actually helps protect you from infection. The microbiome is made

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SUNSHINE SHARING



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Your guide to better health the natural way.

Important Notice

The information in *Sunshine Sharing* is for educational purposes only and should not be used to diagnose and treat diseases. If you have a health problem, we recommend you consult a competent health practitioner before embarking on any course of treatment.

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Stop Worrying About Germs

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up of over 1000 species of bacteria, various species of fungi and a few other organisms. People living in Western civilization have a less diverse microbiome, because they are either not exposed to as many species of microbes, or they've killed many species off with antibiotics, disinfectants, other chemicals and possibly GMOs.

A healthy microbiome not only inhibits infectious disease, it also helps train and regulate the immune system. So, the imbalances in the microbiome created by an excessive focus on killing germs, may be causing the immune system to overreact to otherwise benign substances, resulting in allergies and autoimmune reactions.

Natural Products for Basic Home Sanitation

If the hygiene hypothesis is true, then using chemical disinfectants in the attempt to keep your home sterile isn't a good idea if your goal is to have a healthy immune system. Basic cleanliness with soap and water is usually all that's needed.



If you are concerned about disinfecting something (such as a counter top or cutting board) vinegar and water works great. You can also create your own disinfectant soap by mixing some essential oils into a natural liquid soap.

If someone is sick and you want to inhibit the spread of infection, essential oils are a simple, but effective tool. Use a diffuser to disperse some essential oils into the air. If you don't have a diffuser, simply add a few drops to a pan of boiling water on the stove.

Good oils to use for disinfecting surfaces or diffusing to inhibit infection are **lemon, eucalyptus, pine, oregano** and **thyme**. Essential oils will reduce populations of harmful microbes but not destroy all the beneficial ones.

Childhood Infections May Help to Train the Immune System

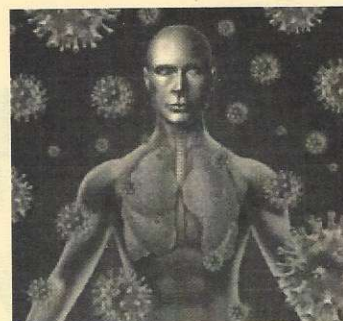
The hygiene hypothesis isn't the only explanation for the increase in immune dysregulation in Western societies. Another theory is known as the *early immune challenge hypothesis*.³

It appears that the immune system has to learn how to fight infections and that childhood diseases help to train the immune system. Excessive use of antibiotics robs the body of the opportunity to practice fighting infection, which may result in a weaker immune response.

An appropriate analogy is exercise, which challenges muscles and makes them stronger. In a similar manner, when the immune system has to contend with a certain amount of infectious organisms in the environment it learns what is truly harmful (and how to eliminate it) and what is benign.

Another issue is the use of symptom suppressing medications to treat acute infections. Symptoms like fever, mucus drainage, coughing and sneezing, and diarrhea are part of the immune system's disease fighting process. Interfering with these processes may actually be confusing and weakening the immune system.

The excessive use of vaccines may be part of this problem, too. Vaccines bypass the first two lines of immune defense and challenge the third, which prevents the body from having to deal with the normal disease process. Since the first and second lines of immune defense help to regulate the third, the immune system is more easily confused. We'll talk more about the three lines of immune defense on the next page.



Whatever the reason, a poorly trained immune system fails to recognize the difference between an actual infection and normal background microbes and irritants. It also fails to balance inflammatory and anti-inflammatory processes, overreacting to relatively harmless substances. The result is allergies and autoimmune reactions.

Let's Not Forget Nutrition and Lifestyle

As suggested before, many people are germ conscious, but not health conscious. Believing that as long as they avoid germs they're OK, they eat junk food, expose themselves to toxic chemicals, and otherwise fail to take care of their health.

It takes nutrients for the immune system to work properly, including vitamins like A, C and D3, and minerals like zinc and selenium. Many of these nutrients are in short supply in modern Western diets and these deficiencies may be a third reason why immune dysfunction is so high in Western civilization.

That's why it is important to focus on building a healthy immune system over being obsessed with avoiding germs. There will always be germs around. You can't avoid them completely and trying to do so doesn't actually improve your health. What does build a healthy immune system is the subject of the rest of this issue of *Sunshine Sharing*.

Footnotes

¹Maintaining health by balancing microbial exposure and prevention of infection: the hygiene hypothesis versus the hypothesis of early immune challenge; *J Hosp Infect.* 2013 Feb;83 Suppl 1:S29-34. doi: 10.1016/S0195-6701(13)60007-9 (<https://www.ncbi.nlm.nih.gov/pubmed/23453173>)

²Skewed Exposure to Environmental Antigens Complements Hygiene Hypothesis in Explaining the Rise of Allergy; *Acta Biotheor.* 2017; 65(2): 117-134. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5418306/>)

³The 'hygiene hypothesis' for autoimmune and allergic diseases: an update; *Clin Exp Immunol.* 2010 Apr;160(1):1-9. doi: 10.1111/j.1365-2249.2010.04139.x. (<https://www.ncbi.nlm.nih.gov/pubmed/20415844>)

Additional Help and Information

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

Herbal Defense by Robyn Landis and Karta Purkh Singh Khalsa

Medicinal Mushrooms by Christopher Hobbs and Harriet Beinfeld

Herbal Antibiotics by Stephen Harrod Buhner

Healing Power of Echinacea and Goldenseal and Other Immune System Herbs by Paul Bergner

Building a Healthy Immune System



A healthy immune system not only helps you fight infections effectively (which results in a more rapid recovery) it can keep you from getting sick in

the first place. A healthy immune system also means you don't experience food and respiratory allergies, asthma, eczema, rheumatoid arthritis, fibromyalgia and other autoimmune reactions.

To understand how to build a healthy immune system, it helps to understand that the immune system has three major parts. Think of these as three lines (or layers) of defense. If the enemy (infectious organisms) breaches the first line of defense, it comes up against the second line of defense. If it gets past that line of defense, it's met with a third defensive perimeter. Let's look closely at each of these lines of defense and what you can do to enhance each one.

The First Line: Protective Surfaces

The first line of defense you have against disease is the physical protection offered by the skin and mucus membranes. These outer surfaces of the body are designed to prevent microbes from entering the body in the first place.

Healthy Skin

The skin forms a natural barrier against infection, but when it becomes injured this protective barrier is compromised. This is why it is important to keep your skin healthy and to take proper care of injuries. Harsh disinfectant soaps actually damage the protective layer of the skin and can make you more prone to skin infections. Just plain soap and water is better.

For cuts, scrapes, abrasions and other injuries, a **Colloidal Silver Gel** can be applied to prevent the wound from being infected. Silver gel can also be used as a natural hand sanitizer. A **Disinfectant Essential Oil Blend** containing oils like **clove**, **eucalyptus**, **cinnamon**, **lemon**, **pine**, **rosemary** and **thyme** can also be helpful.

Healthy Mucus Membranes

The mucus membranes lining your lungs and digestive tract also form a physically protective barrier against infection. They secrete mucus, which mechanically traps bacteria and viruses and prevents them from entering the body. When your sinuses drain or you cough up mucus, this is actually part of this physical immune protection. The membranes are mechanically flushing irritants away. Staying properly hydrated by drinking plenty of water, aids this process.

To add to this protective barrier, friendly bacteria and fungi colonize the mucus membranes (mucosa) forming a thin layer of biofilm as shown in the illustration to the right. The friendly lacto bacteria in a healthy biofilm secrete lactic acid, which inhibits the growth of harmful bacteria and fungi. It also adds to the physical protection offered by the mucus.

Eating excessive amounts of refined carbohydrates (sugars and simple starches) stimulates the growth of bad bacteria in the gut, which may contribute to immune dysregulation and increased susceptibility to infection. Conversely, eating fresh vegetables and

naturally fermented foods can promote the growth of bacteria that both prevent infection and calm down excessive immune reactions.

Irritating substances and the wrong kind of bacteria in the intestines can cause intestinal membranes to become excessively porous, a condition known as leaky gut. Leaky gut compromises your first line of immune defense and increases the likelihood of both infections and hyper-immune reactions.

To improve gut health, start by taking a **Gut Balancing Formula** that helps to regulate the intestinal biome. Key herbs and nutrients to look for in such a formula include **black walnut**, **garlic**, **oregano**, **pau d'arco**, **cinnamon** and **berberine**. Follow this up with a **Gut Toning Formula** containing l-glutamine, inulin and dietary fibers like psyllium hulls.

Lastly, take **Probiotic Supplements** containing Lactobacillis and other friendly bacteria to help repopulate the microbiome. An especially good probiotic to take that helps shift the health of the microbiome is **Bacillus coagulans**.



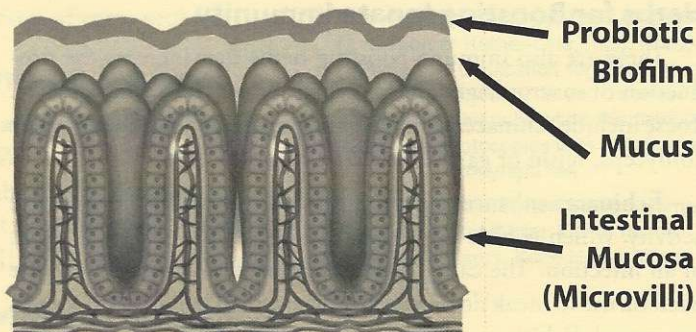
The Second Line: Innate Immunity

If the protective surfaces of the body are breached, the innate immune system is the next line of protection in the body. The innate immune system begins with inflammatory responses. Inflammation is the body's first reaction to any damage. The inflammatory process sequesters the damaged area to inhibit the spread of an infection or toxin that might be present at the site of damage. It also activates the most important white blood cells in innate immunity—macrophages.

Macrophages are the "big eaters" of the immune system. They are able to engulf and digest cellular debris, bacteria, viruses and other materials to eliminate them. They are present in large numbers in the mucus membranes as this is the primary way infection can enter the body.

Macrophages are drawn to sites of inflammation. They determine if something harmful has bypassed the first line of immune defense. If so, they go on high alert and start gobbling up the offending material. They can also call for backup from neutrophils and natural killer (NK) cells from the blood stream.

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Nutrients for Boosting Innate Immunity

Enhancing innate immune function is where natural medicine excels. There are many herbs and nutrients that boost this second line of defense, which stops an infection before it even has a chance to get started. If your innate immune system is doing its job properly, you'll probably never get a cold or flu, even if you're exposed to it. Here are some specific supplements to consider.

Ever wondered why infections are more common in winter than they are in summer? One possible explanation is lower levels of **vitamin D3**, which is created in the skin by exposure to sunlight. D3, along with Vitamin A, is critical to the health of mucus membranes and the innate immune system.

As winter approaches, it's a good idea to start supplementing with vitamin D3. It may also help to take **vitamin A & D** together.

Because it's also harder to obtain fresh produce in the winter, vitamin C intake is also lower. Along with zinc, vitamin C helps the innate immune system fight off viral infections. Again, if you're prone to colds and flu in the winter, try increasing vitamin C intake and possibly supplementing with zinc. If you do start to come down with a cold, flu or sore throat, sucking on **Natural Cold Lozenges** with zinc and vitamin C can speed recovery.

Herbs for Boosting Innate Immunity

There are also immune-boosting herbs that increase the production of macrophages and put them on a higher state of alert. These include echinacea, astragalus and medicinal mushrooms like cordyceps, reishi or ganoderma, and miatake.

Echinacea enhances innate immunity by increasing macrophage activity, which gobble up viruses and bacteria in the early stages of an infection. The caffeic acid in echinacea inhibits an enzyme bacteria use to break down connective tissue so bacterial infections can spread. Echinacea works best as a preventative remedy. Take it

alone or as part of a formula whenever colds or flu are going around. Echinacea is contraindicated in autoimmune disorders however.

Astragalus is another herb that increases innate immune activity and has been used in China as a wintertime tonic to prevent infection. It aids resistance to viral infections and is safe to take daily.

Medicinal mushrooms, like **cordyceps**, reishi and miatake are also very good at enhancing innate immunity. Because they tend to balance immune functions they can also be helpful for allergies, asthma and other problems with immune dysregulation.

When colds and flu are going around you can protect yourself by taking an **Immune Boosting Formula** containing any of the herbs and nutrients we just discussed. These formulas can also be used at the first sign of a cold or flu to promote rapid recovery by boosting your body's ability to fight the infection naturally.

The Third Line: Acquired Immunity

The third line of immune defense is acquired immunity. This part of the immune system targets specific pathogens. White blood cells called B-cells recognize a specific invader in the blood stream that has bypassed the first and second lines of immune defense. They create antibodies, which target that specific invader.

The antibodies attach to the specific virus, bacteria or other invader (called an antigen) and tag it for T-cells to recognize and destroy. Once the body has successfully fought off the invader, this part of the immune system is primed to recognize it again and destroy it before it can spread.

Autoimmune disorders occur when the body starts making antibodies that attach to the body's own tissues, marking them for destruction. Since this activity is regulated by the first and second lines of immune defense, it is possible that the lack of development of a healthy microbiome and the lack of innate immune experience in fighting real infections may be why autoimmune diseases develop.

All of the herbs and nutrients listed for boosting innate immunity can also help to boost acquired immunity, too. So, this winter, stop worrying so much about what's "going around" and start boosting your body's natural defenses.

