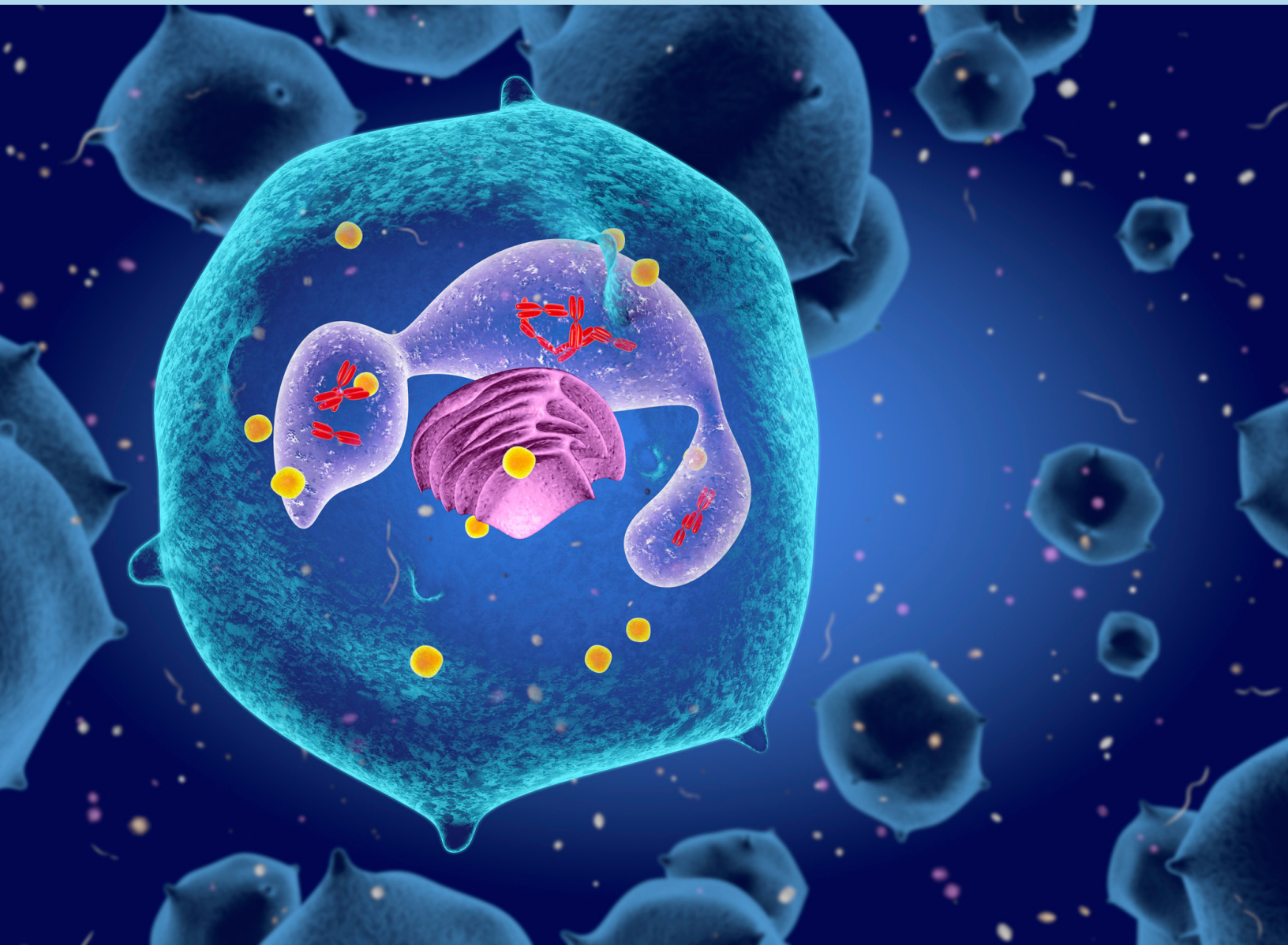


BALANCING IMMUNITY

By Dr. Peter Kan, DC, DACNB,
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Your immune systems are comprised of all parts of the eco-system you know as yourself, and include not only every part of you, from your conscious and subconscious thoughts to your physical body systems, but also how you live and function in relationship with the larger ecosystems that surround you. - Author: Robin Rose Bennett



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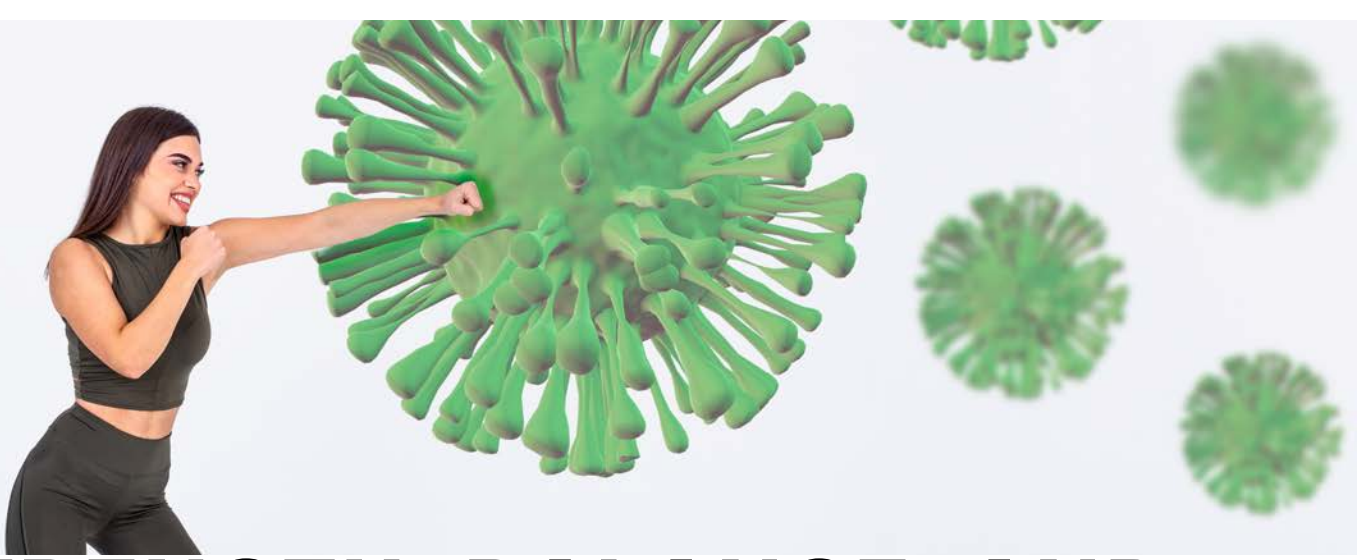
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STRENGTH, BALANCE, AND THE IMMUNE SYSTEM

Having a balanced immune system means having a healthy immune system.

The immune system is a key component to human health, with its main function being to protect the body from any foreign or harmful cells, tissues, and various substances. When the immune system is overactive it can have significant negative effects on the immune system which causes it to become out of balance.

Autoimmunity can occur when the immune system gets out of balance causing it to not only fail to properly protect the body, but instead, cause it to attack the body by mistaking the “self cells” for invading pathogens; this allows for the potential of more debilitating autoimmune diseases such as rheumatoid arthritis and lupus. Allergies, for instance, are a result of the immune system mistaking an innocuous particle (such as pollen, or dander) for an oncoming, unwelcome parasite.

In addition to these examples, several years of chronic low-level inflammation, another indicator of the immune system being out-of-balance, contributes to certain diseases such as cardiovascular disease and cancer.

It's also important to remember that the immune system is highly sensitive to the stresses of normal, everyday life. In fact, strenuous exercise, relationship issues, personal problems, and even changes in your diet can all cause disturbances and imbalance in the immune system, which ultimately can affect your health overall.

Having and maintaining a healthy immune system is a critical way to protect your body from illnesses. The stronger your immune system is, the better it is at recognizing and identifying infection or injury in your body. And because our immune response to fighting infections, viruses and diseases is so complex, there is a lot yet to be learned about why some people's immune response is much more balanced than others.

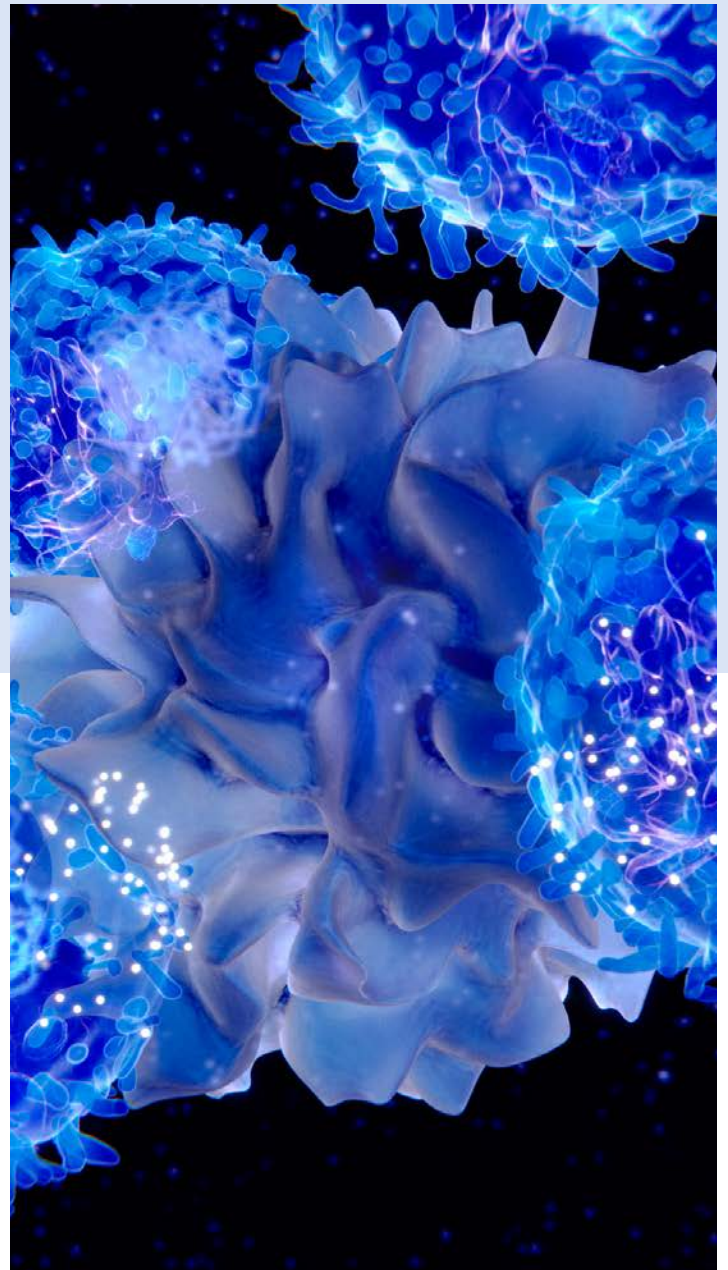
7 WAYS TO BOOST YOUR IMMUNE SYSTEM

- 1. Maintain a healthy diet. As with most things in your body, a healthy diet is key to a strong immune system.**
- 2. Exercise regularly.**
- 3. Hydrate, hydrate, hydrate!**
- 4. Get plenty of sleep.**
- 5. Be sure to minimize stress.**
- 6. Reduce chronic infection burden**
- 7. Minimize and detoxify environmental toxins**

INNATE IMMUNE SYSTEM

The immune system is essentially made up of two parts: the innate (general) immune systems and the adaptive (specialized) immune system. These two systems work simultaneously while taking on separate tasks.

The innate immune system, otherwise referred to as the “nonspecific” immune system due to its response to all germs and foreign substances being the same, is considered the first line of defense against germs entering the body. It acts very rapidly: For example, any bacteria that enters the skin through a small wound would be detected and destroyed within only a few hours. However, the innate immune system has limited power to stop germs from spreading...



The innate immune system consists of:

- Protection offered by the skin and mucous membranes
- Protection offered by the immune system cells (defense cells) and proteins

ADAPTIVE IMMUNE SYSTEM

When the innate immune system is unable to destroy germs, the adaptive immune system steps in to take over. This system is capable of specifically targeting the type of germ that is causing the onset infection. However, to do that it first needs to identify the germ, causing it to be much slower to respond than the innate immune system, but is much more accurate once it does. It also has the ability and advantage of remembering germs, so any time a known germ is encountered in the future, the adaptive immune system is able to respond even faster.

This “memory” is also the key component for why you can only get certain illnesses once in your lifetime, because afterwards your body becomes “immune.” Again, it may take a few days for the adaptive immune system to respond when it first encounters a germ, but any time after the first encounter, the body is able to react instantly. Resulting in the second infection typically not even being noticed, or at least being much more mild in severity.

The adaptive immune system is made up of:

- **T lymphocytes in the tissue between the body's cells**
- **B lymphocytes, also found in the tissue between the body's cells**
- **Antibodies in the blood and other bodily fluids**



Immunity, Autoimmunity and Immune Balance

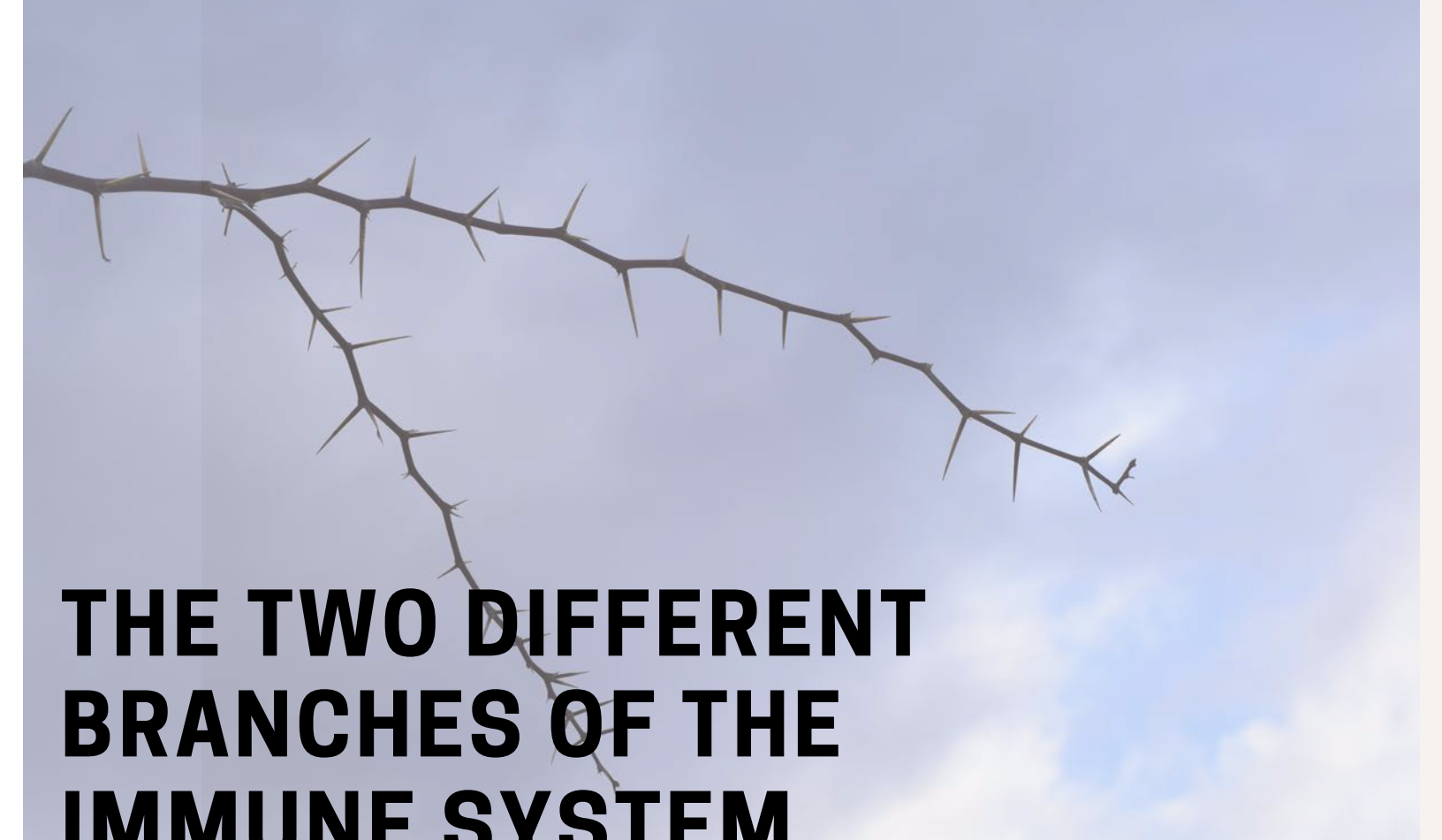
What is balance?

The definition by Merriam-Webster's dictionary is as follows: "the ability to move or to remain in a position without losing control or falling. A state in which different things occur in equal or proper amounts or have an equal or proper amount of importance."

Balance is essential in our everyday lives, from decision making, to relationships, to the foods we eat, and so on. It is also critically important to maintain balance in the immune system.

We don't want an overactive immune system because that would lead to allergies and autoimmunity; but we don't want a compromised immune system either, because that would lead to getting infections easily.

Instead, the word we are looking for here is resiliency. You want to be resilient, adaptable - and the immune system is adaptable, but sometimes things can get out of balance, it may get separated, or polarized to one side or the other.



THE TWO DIFFERENT BRANCHES OF THE IMMUNE SYSTEM

The two branches of the immune system can be broken down into the T-helper-2 System and the T-helper-1, otherwise referred to as TH2 and TH1.

T-helper-2 (TH2) is composed of B-cells which make antibodies, the antibodies are how your immune system remembers the invaders, and is also how your immune system attacks these invaders. These “invaders” could be something as simple as a specific food.

T-helper-1 (TH1) is your innate immunity made up of your natural killer cells, including things like your cytotoxic T cells. These are the immune cells that respond immediately and kill the actual invader. Imagine the T-helper-1 as the snipers of Navy SEALs of the body, pulling the trigger to kill the actual bad guy, while T-helper-2 is more like the intelligence officer, the CIA, remembering who the bad guys are and tagging them to remember for the times that follow.

Working together in synchrony, the Yin and Yang, much like everything in the body works...

...Everything has a balance within the body.

CHRONIC CONDITIONS

What if you have a chronic condition such as leaky gut? (Leaky gut is a digestive condition in which bacteria and toxins are able to “leak” through the intestinal wall.)

When a person has leaky gut it basically pushes the T-helper-2 system into overdrive, which causes you to make an excessive amount of antibodies. Whenever you get this surge of antibody response, the immune cells become even more active. And because the two T-helper systems work much like a teeter totter, this overactivity will actually suppress the T-helper-1 cells. Remember, the Yin and Yang...one side goes up, the other goes down. And as your innate immunity goes down, obviously you will be unable to fight off infections, viruses, Candida, bacteria or even parasites.

And this includes the infections in hollow spaces such as your sinus cavity, your lungs, your gut, your bladder, and so on.

Inability to clear these hollow space infections can result in chronic sinusitis, upper respiratory infections, strep throat, SIBO, candida, urinary tract infections - the list goes on and on. And if you are struggling with these kinds of hollow space infections, you should consider that it has started with an immune imbalance like leaky gut or otherwise, where your TH2 cells are overactive and the TH1 cells are suppressed. This is telling the body that you can't fight the infections, in turn, allowing the infections to be there.

MAINTAIN THE TERRAIN

Much like a beautiful landscape, the body has its own internal terrain - the environmental state in which your body is in. Toxicity, nutrient status, stress, hormones, and pH balance, all of these things combined determine the state of your internal terrain.



MAINTAIN THE TERRAIN

You may be familiar with the terrain that exists in geography. It tells us whether or not the soil is fertile enough for crop growth, if the foundation is solid, rocky or cavernous, or if the land has access to enough natural sunlight, water and minerals. When combined, these things can determine the types of plants and wildlife that will be able to flourish on the land. If the land is healthy, well-nourished and able to maintain the correct amount of minerals and nutrients - a variety of life forms will be able to thrive there.

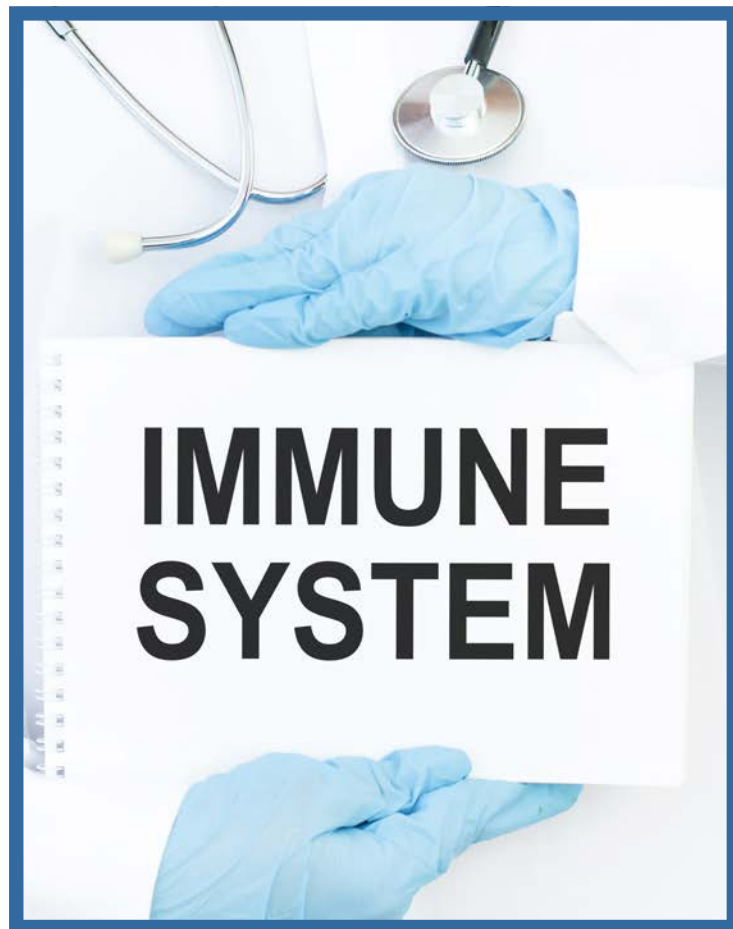
Much like the terrain in the geographical sense, our body has a terrain that describes us. Consisting of all of our personal history: physically, genetically, any choices we have made, any toxins we may have been exposed to, the amount of water we drink, the amount of sunshine we get, vitamins, fats, proteins, minerals, chemicals, etc. All of these things affect how our bodies perform and determine if we are able to resist infections, grow harmful or beneficial bacteria, prevent cancer cells from growing, and resist diseases of all kinds.

Essentially, you can think of your gut as a "gut garden" - you can recover your ecosystem; even if you don't have the "green thumb" for knowing how to improve and recover your microbiome on your own - there are people out there who do. Again, there is always an opportunity to improve.

And If your terrain is unhealthy and toxic, your immune system will be more compromised, therefore, incapable of warding off infection. We must be adamant that when we experience immune system problems, we shouldn't just shrug it off and blame it on whatever "bug" you may have caught, the "bugs" have always been there! There will always be viruses, bacteria, Candida, and parasites - but they aren't necessarily the problem here - it's your immune system that isn't working correctly. This means that we need to look deeper than the surface and observe *why* the immune system is off balance and unable to fight off the germs.

Truth is, it's always about how you can improve your immune system.

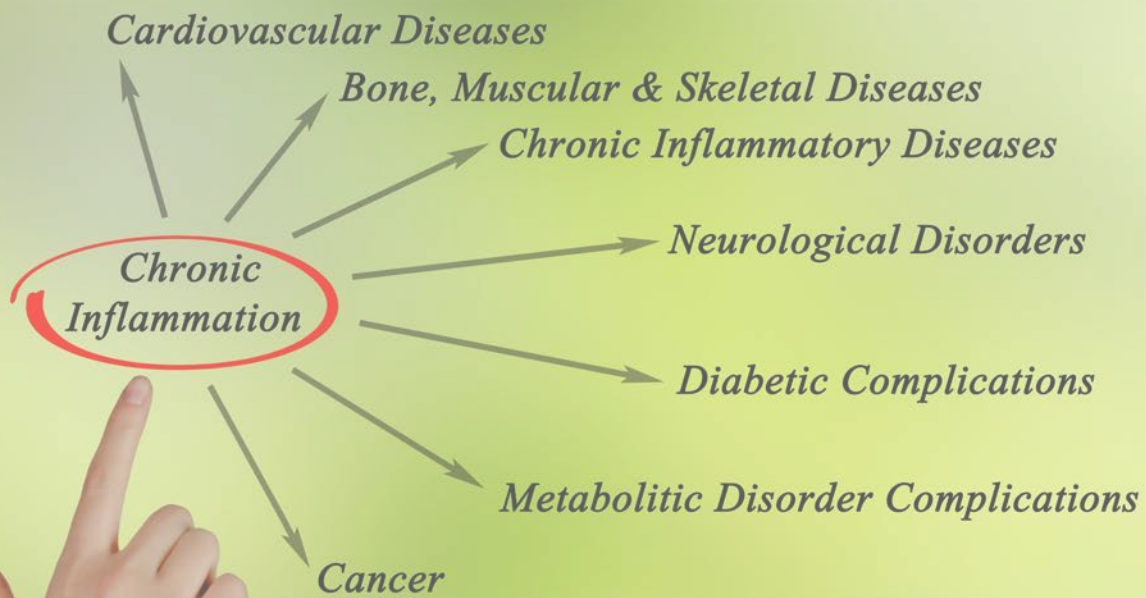
But what happens when you have immune dysfunction and infections, again, let's say in one of the hollow spaces in the gut? Basically it becomes this kind of vicious cycle, it goes away, it comes back over and over until the root cause is treated. Now, as you develop leaky gut, you will also be susceptible to many other conditions and infections because your immune system is compromised. Most especially, chronic inflammation. Let's not forget that leaky gut is a combination of mal-absorption and inflammation, and this inflammation is not localized, but systemic. It goes EVERYWHERE. Suddenly you are experiencing joint pain, immune system challenges, brain fog, thyroid inflammation, and so forth.



The outcome of the chronic inflammation can result in a process of another group of T-helper cells called T-helper-17, which basically triggers autoimmune flare ups. It is the cell that actually causes the tissue destruction in autoimmune disease. For example, in people with Rheumatoid arthritis, it's the joint that is being destroyed as a result of the T-helper-17 cell.

And as it turns out the T-helper-17 doesn't only cause autoimmune flare ups, it is also quite useful for clearing infections. Your body's response to infection is to increase T-helper-17 because it's purpose is to destroy things; but they can also destroy your own tissues if you have autoimmune disease, while trying to destroy the infection.

As your body gets inflamed, cortisol is triggered and begins to rise because cortisol is a hormone that helps with inflammation. But, as a result of raised cortisol levels, your insulin levels will begin to increase and suddenly you've got increased insulin resistance. This is one of many ways that you may experience high blood sugar levels - even if you follow a perfect diet.



CHRONIC INFLAMMATION

Remember that chronic inflammation is systemic therefore it can actually cross the blood-brain barrier and even cause brain inflammation, which can then decrease and suppress the Vagus nerve function; when this happens, it can decrease your brain function.

Basically you are well on your way to getting SIBO, candida, and various other gut infections that wouldn't typically be there; but as you get these infections it requires more and more T-helper-17 activation.

I'm sure you realize by this point things are pretty muddled and out of balance.

So what exactly is driving all of this chaos within our body's system? Is it the infection itself?

The reality is that immune dysfunction is driven by multiple factors, such as the Standard American Diet of sugar and processed foods, stress, poor sleep, overtraining, leaky gut, gut dysbiosis, and environmental toxin exposure. These factors often suppress immune function which opens the door to chronic infections.

So the key to improving immune function is not a magic immune supplement, but a holistic approach to cleanse and detoxify the internal terrain.

LIFESTYLE CHANGES

Have you considered that perhaps your immune system is compromised because it is actually stuck in a pattern that leaves it compromised? In order to reset this pattern, you'll need to make some significant lifestyle changes.



LIFESTYLE CHANGES

So what kind of lifestyle choices have been made to cause this kind of issue? In the end, it's going to likely be things like blood sugar imbalances, which is a serious driver of inflammation.

Obviously food sensitivities could also be responsible, perhaps even gluten. Gluten can actually bind to the intestinal junction receptor and trigger what is called Zonulin Release, which causes leaky gut. Whenever this happens, you begin to develop antibodies against various foods as well as gluten. Meaning that everytime you eat those specific foods, you are triggering even more inflammation and the whole cycle begins all over again.

You can also have chemical toxicities. Chemicals bind to various receptors and also create an antibody response, much like gluten. You should note that it is not uncommon to have antibody response to specific chemicals.

Another thing, hormones. Problems with hormones, particularly Insulin and Cortisol, can cause blood sugar problems and inflammation - not to mention the effect they can have on your brain; cortisol is especially damaging for the brain.

When a person is chronically inflamed they experience red blood cell destruction. It's like taking a torch to the curtains in your home and watching the house burn down. Everything gets destroyed. The chronic inflammation isn't only destroying specific tissue or joints, it's destroying your cells, including your red blood cells.

And these are only some of the causes of that pattern. But once you understand this part, a lot of things should start to come to fruition, it should begin to make a little more sense. We now know that we need to enter the immune system and begin to implement change.

THE EXCEPTIONS

It's very important to understand that everyone's bodies are different, and the systems work differently for them. But the patterns are typically similar from person to person. However, for some people, instead of the T-helper-1 cells becoming weak, they may become overactive while the T-helper-2 cells become work.

Because there are always exceptions depending on circumstance, it's advised that you work with a healthcare professional in order to get the right tests.

Once again, you need to identify the underlying cause of the problem.

When your body becomes inflamed and that inflammation drives immune dysfunction, autoimmune and immune weakness, you need to know what steps you should be taking in order to get to the root of the problem rather than the symptoms.

You need to be ready to take the steps to heal the immune system and bring it back into balance, beginning with supporting the T-helper-1 cell to get your immune system up, then dampening the T-helper-2 cells to reduce sensitivities and allergies. By implementing these changes you will begin to notice a wide ranging impact, much like you would when you have low blood pressure and have some salt - it has an enormous impact. This impact may still not be enough to heal the leaky gut and clear infections, so you will still need to detox and so forth in order to really get things moving in the right direction.

There are many different herbs, vitamins and the like that impact the T-helper cells including, but not limited to:

- **Ginger**
- **Zinc**
- **Perilla Extract**
- **Bioflavonoids**
- **Turmeric**
- **Glutathione**

**IT IS RECOMMENDED THAT YOU
SPEAK WITH A MEDICAL
PROFESSIONAL BEFORE STARTING
ANY NEW SUPPLEMENT OR DAILY
REGIMEN.**

FINAL THOUGHTS...

In closing, it's important to note that there is certainly a sequence that you will need to go through in order to reset this pattern, and improve the immune system overall. In order to achieve the balance that your body requires to work optimally, you will need to recognize and begin to fix the root cause of the problem, rather than simply focusing on the symptoms. The underlying cause may not always be what you think it is, so it's imperative to work with a professional who can supply you with the tools that you need and the testing to help you find out the causes behind any symptoms you are experiencing.



Dr. Kan believes that there are no accidents in life and everything happens for a reason. Although the family illnesses were difficult and stressful, his family's health was transformed through it all. Thousands of hours of post graduate training and over 5,000 clients later, Dr. Kan is committed more than ever to use what he has learned to help those who has lost hope and lost in the insurance-based, profit-motivated, and pharmaceutically-driven system that is failing people with chronic conditions.

Dr. Kan supports and manages patients with chronic conditions using a comprehensive approach by merging the exciting advances of functional neurology and functional medicine. Patients from across the country have come to seek out his holistic approach that is changing the lives of those suffering from chronic conditions. Dr. Kan regularly consults with other physicians on the methods he uses.

Born in Taiwan and immigrated to America at the age of 13, Dr. Kan has deep appreciation of the Eastern wisdom and Western advances in natural healthcare. He believes in the God given ability of the body to heal and regulate itself, and that the body, mind, and spirit must be in alignment for healing to take place. It is his faith in God that gives him the passion and commitment to help patients with chronic pain find hope and healing.