



A very simplistic overview of

THE HUMAN IMMUNE SYSTEM

Every day your body is bombarded by germs. And every day, your immune system protects you from them. An intricate, body-wide network of cells, chemicals and organs, your immune system is what keeps you well – so you can work, play, and live your life!

When your body is in tip-top shape, your immune system is primed to provide just the right response when needed. Maintaining a healthy body, however, is often a challenge today and it's easy to take your immune system for granted. After all, when it is working the way it's supposed to, you feel strong, healthy...invincible. But your immune system is not so different from a car. If you don't take care of your car, it won't perform optimally. For top performance, you must properly maintain your car. The same is true with your immune system. Unfortunately, most of us don't think about our immune system until it's challenged...or simply not working.

Three lines of defense make up the Human Immune System

Like a football team, the human immune system has an offense and a defense team that continually work simultaneously to keep you healthy. There are two parts that make up the human immune system – the innate immune system and the adaptive immune system.

The Innate Immune System – Seek & destroy!

The innate immune system, or 'non-specific immunity', responds very quickly, but less specifically, than the adaptive system. Within the innate immune system, there are basically two lines of defense. The first line of defense, or surface line, is made up of physical barriers which prevent pathogens from entering the body. Nearly all body cavities with openings to the outside world – including the digestive, respiratory, urinary, and reproductive tracts – are lined with mucous membranes. If your mucosal barrier is strong, it traps foreign invaders and prevents them from entering the body. If it's weak, they slip right through and the second line of defense must kick in.

The Adaptive Immune System – The big guns!

If the innate immune system is not successful in eliminating the pathogens, the adaptive immune system finally takes over. One of the most important players of second level immunity is the natural killer (NK) cell. Considered the “guard dogs” of the immune system, NK cells hunt down and kill attackers.

The Acquired or Specific Immune System

This third and deepest level of immune defense is your acquired or specific immunity, which is activated when immune enemies get past your second line of defense. Although this response is delayed, it provides a more specific, deeper attack against the pathogens and is only activated when immune enemies get past the second line of defense. This is when the big guns come out: human T cells and human B cells. These powerful white blood cells produce specific antibodies that neutralize attackers.

Line 1: Physical Barrier	Line 2: Search & Destroy	Line 3: Antibody Manufacture
Skin	Macrophages	T Lymphocytes (T cells)
Mucous Membranes	Granulocytes	B Lymphocytes (B cells)
	Natural Killer (NK) Cells	

Balance is best!

Having a balanced immune system helps it to make the appropriate response at the right time. Too great an immune response can lead to allergies and inflammation and over time may contribute to the development of certain auto immune disorders. And chronic inflammation has been associated with some serious health conditions such as: arthritis, cancer, and cardiovascular disease. Alternatively, an immune system that is suppressed increases the chances that the body will succumb to infection, resulting in sickness. As with most things in life, balance is best, and this is especially applicable for maintaining immune health.

Good news!

Today – and every day after - you can take steps to keep your immune system healthy and enhance its performance. Eating healthily, getting regular exercise, drinking plenty of water, giving your body the sleep it needs, and practice stress-relieving activities to help reduce stress are all things that, if practiced on a daily basis, will help keep you healthy. They do a body good! Every day you make conscious decisions, by the choices you make, on what challenges you may be setting your immune system up to face in the future. And since it's impossible to do the right thing 100% of the time, it may make sense to give your immune system extra support – by taking a nutritional supplement. Prior to beginning any exercise or supplementation program, however, it is wise to consult with a nutritionally aware health care practitioner. In doing so, you will ensure that you get the most out of the program, and your body will thank you for it.