

Natural Killer Cells

Recent research has uncovered interesting characteristics about natural killer, or NK, cells. Natural killer cells provide a crucial first defense against infectious agents and diseased cells. Until now, scientists took for granted that NK cells came equipped with the ability to do their job properly. In the February issue of *The Journal of Immunology*, researchers led by Christian Munz, Ph.D. and Guido Ferlazzo, Ph.D. of Rockefeller University, published two separate papers exploring their discovery that NK cells require activation and mobilization from another source to search out and destroy diseased cells. These scientists also hypothesized that natural killer cell function can be “tailored” or “targeted” toward specific healthy immune support activity.

Immune System Basics

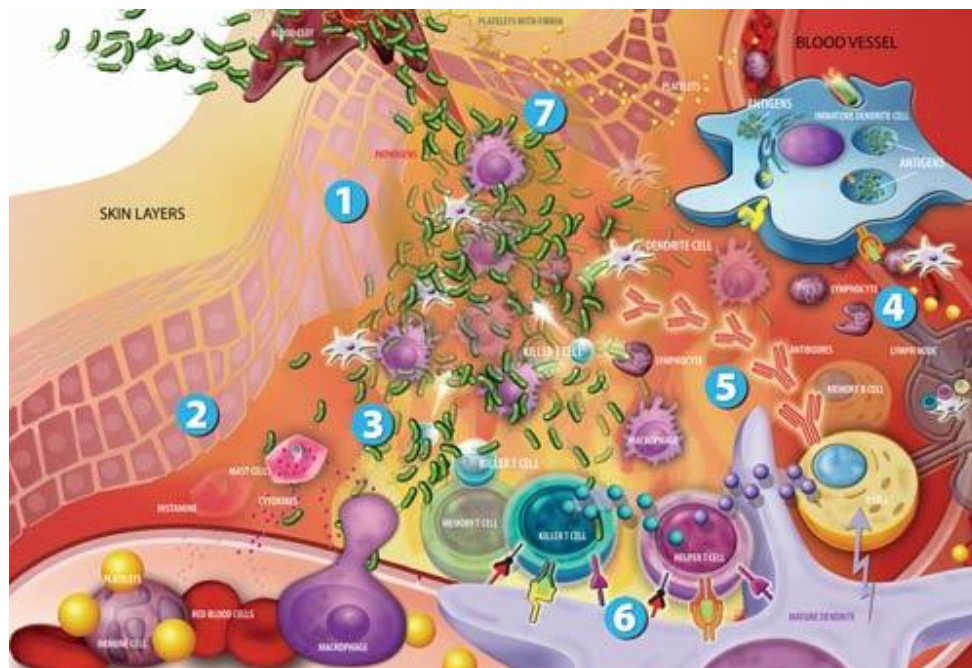
Components of the Immune System: Organs and Cells

Many organs throughout your body have an essential role in the development and structure of the immune system, including your bone marrow, thymus, lymph nodes, spleen, tonsils and adenoids and appendix. These organs are responsible for the growth, development and deployment of lymphocytes, the white cells that are the key laborers of the immune system. The primary lymphocytes are B-cells, T-cells, natural killer cells, macrophages and dendritic cells. Each has a specific role in keeping your body and immune system healthy.

The Immune Response

Primary Immune Response

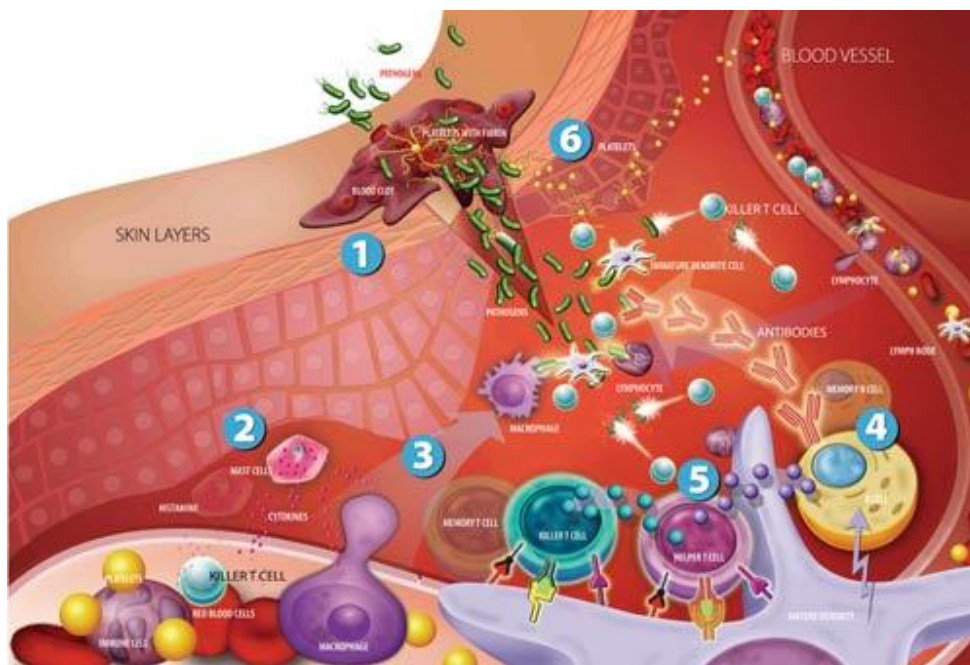
The first time your body is exposed to particular viruses or bacteria, it takes time for your immune system to recognize the invading organisms and to figure out how to kill them. During this elapsed time, bacteria and viruses grow exponentially, thus increasing the amount of time it takes to completely eliminate the infection.



- 1 A cut in the skin damages cells and allows bacteria into the body signaling an immune response from macrophages and other scavenger immune cells.
- 2 Mast cells release chemicals that trigger inflammation, allowing other immune cells to rush to the problem area.
- 3 Before reinforcements arrive, macrophages and other pre-stationed immune cells start attacking bacteria, chop them up into bits called antigens.
- 4 They are then transported to lymph nodes where these macrophages attach to B cells and T cells. B cells begin producing antibodies specifically for the particular antigens or germs the body is exposed to.
- 5 The antibodies trigger responses from certain immune cells like NK cells, macrophages and killer T cells to engulf and kill the bacteria-infected cells.
- 6 Helper T cells signal the antibodies and killer T cells to go directly to the wound.
- 7 While the immune cells are taking care of the germs, other cells called platelets begin healing the wound by forming clots which close the wound.

Secondary Immune Response

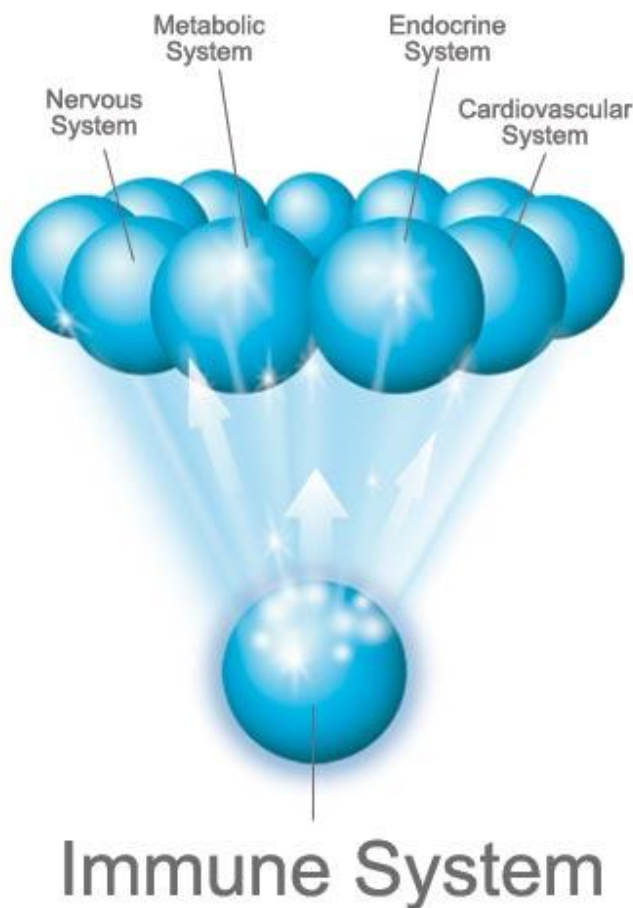
The second time the body is exposed to a particular virus or bacteria, the immune system recognizes the invading organism more quickly and immediately knows how to fight it off. Because the amount of time in these steps is shorter, the infection can be eliminated more quickly. Transfer Factor triggers a secondary immune response by borrowing the immune memory of the cow or the chicken.



- 1 A cut in the skin damages cells and allows bacteria into the body signaling an immune response from macrophages and other scavenger immune cells.

- 2 Mast cells release chemicals that trigger inflammation, allowing other immune cells to rush to the problem area.
- 3 Before reinforcements arrive, macrophages and other pre-stationed immune cells start attacking bacteria, chop them up into bits called antigens.
- 4 B cells, set in motion by previous immune responses, begin producing antibodies specifically for the particular antigens or germs the body is exposed to. The antibodies trigger responses from certain immune cells like NK cells, macrophages and killer T cells to engulf and kill the bacteria-infected cells.
- 5 Helper T cells signal the antibodies and killer T cells to go directly to the wound.
- 6 While the immune cells are taking care of the germs, other cells called platelets begin healing the wound by forming clots which close the wound.

Immune System and Other Body Systems



The immune system is closely connected to virtually every other system of the body. When it isn't functioning at its best, the rest of your body suffers and you're left vulnerable to a host of foreign invaders. And like every other part of your body, the immune system needs nutrients to function optimally. If you treat your body badly with junk food, little or no exercise and a stressful lifestyle, your immune system has to work overtime to protect you.

The Role of Inflammation

Inflammation is an immediate response by the immune system to an infection or injury, such as when you get a cut on your arm. In most cases, as the immune system deals with the problem, the immune cells then retreat from the area and inflammation and swelling go down. But occasionally, the immune cells do not withdraw and the inflammation continues, creating a chronic problem within the body.

Chronic inflammation has gained recent attention with the medical and scientific communities because of its role in driving many of the most feared illnesses of middle and old age. Scientific research supports that managing the inflammatory response and supporting the immune system in the first place is the best approach for life-long health.

Other Body Systems

Allergies and the Immune System

Alzheimers and the Immunes System

Diabetes and the Immune System

Heart Disease and the Immune System

The Immune System Connection: Allergies

Q: What are allergies and who do they affect?

A: Allergies are caused by a mistake within the immune system, referred to as an autoimmune condition. In allergic situations, the immune system strongly reacts to something that would otherwise be totally harmless. Every year, more than 50 million Americans suffer from allergies, including food and seasonal allergies and asthma. It is the sixth leading cause of chronic disease in the United States. (American Academy of Allergy, Asthma and Immunology) Allergies occur when the body reacts inappropriately to an otherwise harmless substance. Allergic symptoms include: runny nose, watery eyes, sneezing, hives, headaches, coughing, nasal congestion, fatigue and wheezing.

Almost 17 million doctor office visits a year are attributed to seasonal allergies. (American Academy of Allergy, Asthma and Immunology)

More than 20 percent of the US population suffers from some type of allergic disease. (American Academy of Allergy, Asthma and Immunology)

Q: How does the immune system work?

A: The immune system's ability to protect your body is both instinctive and learned—in other words, it fights invasions with both innate and acquired responses. Each individual is born with innate immunity—the ability of the immune system to generally recognize foreign invaders. Along with passive defenses like skin, stomach acid and mucus, the innate immune system also contains active immune response mechanisms that include Natural Killer, or NK cells, and macrophages. Like all innate front line defense agents, NK cells do not need prior exposure to an infectious microbe in order to act. They simply recognize foreign cells and go to work.

Any substance that triggers an immune response is called an antigen. Sometimes a germ makes it past your immune system and you catch a cold, the flu or worse. An illness is a visible sign that your immune system failed to stop the germ. But you do get better; and that's proof that your immune system is doing its job. It gathered knowledge about the invader, mounted a defense and eliminated it properly. If your immune system didn't do anything, the infection would eventually overrun your body.

Unfortunately, even the strongest innate immune system can't handle all the various microbes we encounter daily. That's where acquired immunity comes in. Immune cells learn new skills and build new tools to deal with ever-increasing microbial invaders. But for this system to adapt for attack, it first must recognize a threat before it can build the tools to fight, which is why you sometimes feel like you're "coming down with something" for several days. The good news is that after the acquired immune system builds the tools for a specific infection, it remembers it and is ready for the next attack.

Inflammation is an immediate response by the immune system to an infection or injury, such as when you get a cut on your arm. In most cases, as the immune system deals with the problem, the immune cells then retreat from the area and inflammation and swelling go down. But occasionally, the immune cells do not withdraw and the inflammation continues, creating a chronic problem within the body. Researchers are beginning to discover a link between chronic inflammation and a host of conditions, including

cardiovascular disease, diabetes and Alzheimer's disease.

Sometimes the immune system makes a mistake and acts inappropriately to a certain situation. One such mistake is autoimmunity. For reasons not entirely understood by scientists, the immune system begins to attack the cells, tissues, and organs of the body the same way it would normally react to a germ. Autoimmune conditions include allergies, fibromyalgia, rheumatoid arthritis, chronic fatigue syndrome and many others.

Q: How are allergies and the immune system connected?

A: As previously discussed, allergies are an autoimmune disorder, or a situation in which the immune system makes a mistake. In allergic situations, the immune system strongly reacts to something that would otherwise be totally harmless. The immune system incorrectly identifies the allergen as an invader, and immune cells overreact and cause harm to the body. The allergen might be a certain food, a certain type of pollen or a certain type of animal fur. For example, a person allergic to bee pollen may experience a runny nose, watery eyes, sneezing or even hives, whenever he or she is in the vicinity of the pollen. Some other common allergy symptoms include headaches, coughing, nasal congestion, fatigue and wheezing.

Q: What are some important nutrients to combat allergies?

A: Scientific research has uncovered several important nutrients that can support the immune system and protect your body against the damaging effects of allergies.

- Transfer factors

Transfer factors, tiny molecules that transfer immunity from one entity to another, can boost or balance the immune system, whatever your body's particular situation requires. They promote the immune system's ability to remember past invasions, allowing your body to more quickly respond to similar health threats. Transfer factors also educate naïve immune cells about a present or potential danger in your body, along with a plan for action, as well as speed up the recognition phase of an infection.

Because of the unique immune situation surrounding allergies, ingredients that simply boost the immune system response will not help remedy the problem. In fact, it could make the problem worse by helping the immune system continue to overreact to an otherwise benign substance. What is needed is something to calm down the overactive immune system and restore balance. Transfer factors have the unique ability to suppress the immune system and help it stop overreacting to a particular substance. Transfer factors can be extracted from a variety of sources, the two most powerful and most abundant being cow colostrum (first milk) and chicken eggs. Combining these two sources of transfer factors provides a broad spectrum of support, utilizing the strength of two animals for maximum power for your immune system.

- Acidophilus

Acidophilus is a probiotic, or good bacteria. Probiotics help us fight disease, metabolize hormones and nourish new cells. Sensitivities to food can be caused by a lack of good bacteria. Acidophilus replenishes the levels of good bacteria within the body and works to prime the immune system against dysfunctions like allergies.

- Digestive enzymes

Enzymes help your body break down the proteins, sugars, carbohydrates and fats that you absorb every day. As we get older, our ability to properly digest foods decreases. Enzymes can be of particular help for people suffering from food allergies by breaking down undigested proteins into smaller pieces, reducing the chance of allergic reactions.

Success Stories

Alvaro B.

New York, New York

Ever since I was a child I have suffered from allergies and asthma. I had a very weak immune system. Things only got worse as an adult. I had constant pain in my throat, nose, muscles and joints. I also had chronic fatigue. When I moved to New York I was treated by professionals in the medical field. They gave me everything under the sun to treat my problems. Nothing they tried made a difference. Every time the seasons changed my situation would get worse.

One day I was in class with a friend and she suggested a transfer factor product for my allergies. I started taking the product and by noon that next day, I had changed a hundred and eighty degrees. I started taking it regularly. I have never felt better in my whole life. I no longer have to go to my doctor for my allergy problems.

Vincent H.

Red Hill, Pennsylvania

I have suffered with allergies for many years. I was allergic to grass, dust, pollen, ragweed, molds and perfume. I also developed food allergies. During allergy season, I couldn't eat anything with tomatoes, chocolate or cola. I went to the doctor, got allergy shots every other week, eye drops, nose sprays and allergy medication. I got to the point where I had to carry a box around in my car with all different types of sprays, atomizers, etc., just to make it through the day. I was tired. I had to sleep in a chair at night. I couldn't lay down in bed. I was irritable. I had a lack of energy.

I started taking a product containing transfer factors. After a few weeks—what a difference! It's so hard to explain to people! I'm so used to sneezing at work all the time. I don't do that anymore. I don't carry four handkerchiefs around anymore. I don't carry a box of tissues anymore. I don't have that box of medication anymore. And I have not been back to my allergy doctor since!

Kiya C.

Walnut Creek, California

For the better part of my life I have struggled with allergies to food, pollen, dust, animals, etc. I sometimes feel that I just landed in a body that wasn't quite up to dealing with life. Being involved in the holistic field and energy balancing, I really made it a priority to focus on my health and well-being. Over the years, I have made wonderful progress, except for two areas that were causing me major difficulty, my allergies to cats and dogs. It was challenging for me, socially, and I felt that I really needed to limit my interaction with people, which was very unfortunate.

I started taking a product containing transfer factors two years ago. One weekend, my daughter invited me to come stay at her house. She has two dogs and I said yes. She was stunned that I would even consider it. I went to her house and I noticed my nose didn't run and my lungs didn't get tight. There wasn't any difficulty at all. My daughter watched me with absolute amazement. I was not only tolerating the situation; I was comfortable in it. I was so excited.

The Immune System Connection: Alzheimer's Disease

Q: What is Alzheimer's disease and who does it affect?

A: Alzheimer's disease is a degenerative condition of the brain involving gradual loss of brain cells that is characterized by abnormal plaque formations within the brain. The disease progresses to the point where the person loses the ability to speak, control movement and respond to events occurring around them. Some warning signs for Alzheimer's include memory loss, difficulty performing simple and familiar tasks, communication problems, disorientation and changes in personality. Increasing age is the greatest risk factor for the disease.

In the United States, over four million people have Alzheimer's disease, with that number expected to rise to 16 million by the year 2050 (Alzheimer's Association). The World Health Organization reports that

approximately 37 million people worldwide live with dementia, with Alzheimer's disease making up a majority of the cases. Symptoms for dementia include disorientation, problems with reasoning and inability to perform simple tasks.

Gradual memory loss, long thought to be just another part of growing older, can be a symptom of a more serious condition.

Q: How does the immune system work?

A: The immune system's ability to protect your body is both instinctive and learned—in other words, it fights invasions with both innate and acquired responses. Each individual is born with innate immunity—the ability of the immune system to generally recognize foreign invaders. Along with passive defenses like skin, stomach acid and mucus, the innate immune system also contains active immune response mechanisms that include Natural Killer, or NK cells, and macrophages. Like all innate front line defense agents, NK cells do not need prior exposure to an infectious microbe in order to act. They simply recognize foreign cells and go to work.

Any substance that triggers an immune response is called an antigen. Sometimes a germ makes it past your immune system and you catch a cold, the flu or worse. An illness is a visible sign that your immune system failed to stop the germ. But you do get better; and that's proof that your immune system is doing its job. It gathered knowledge about the invader, mounted a defense and eliminated it properly. If your immune system didn't do anything, the infection would eventually overrun your body.

Unfortunately, even the strongest innate immune system can't handle all the various microbes we encounter daily. That's where acquired immunity comes in. Immune cells learn new skills and build new tools to deal with ever-increasing microbial invaders. But for this system to adapt for attack, it first must recognize a threat before it can build the tools to fight, which is why you sometimes feel like you're "coming down with something" for several days. The good news is that after the acquired immune system builds the tools for a specific infection, it remembers it and is ready for the next attack.

Inflammation is an immediate response by the immune system to an infection or injury, such as when you get a cut on your arm. In most cases, as the immune system deals with the problem, the immune cells then retreat from the area and inflammation and swelling go down. But occasionally, the immune cells do not withdraw and the inflammation continues, creating a chronic problem within the body. Researchers are beginning to discover a link between chronic inflammation and a host of conditions, including cardiovascular disease, diabetes and Alzheimer's disease.

Sometimes the immune system makes a mistake and acts inappropriately to a certain situation. One such mistake is autoimmunity. For reasons not entirely understood by scientists, the immune system begins to attack the cells, tissues, and organs of the body the same way it would normally react to a germ. Autoimmune conditions include allergies, fibromyalgia, rheumatoid arthritis, chronic fatigue syndrome and many others.

Q: How is the immune system connected to Alzheimer's Disease?

A: Recent research has shown that much like the cardiovascular system and metabolic disorders, the brain can be susceptible to problems associated with inflammation. Inflammation is a normal response generated by the immune system to threats by invading bacteria or germs. As mentioned above, occasionally, the immune cells do not withdraw and the inflammation situation continues, creating a problem within the body. Chronic inflammation in neurological pathways can decrease blood flow to the brain, placing dangerous stress on the brain and reducing oxygen utilization. When your brain is under stress, it expends precious energy trying to defend itself, rather than focusing its efforts on optimal function. When the immune system is working properly, it will be able to protect the brain against harmful inflammatory conditions and reduce strain on the brain so it can function at peak performance.

Q: What are some nutrients to protect against Alzheimer's Disease and other brain disorders?

A: Science has uncovered some important nutrients that can support the immune system and help protect your body against Alzheimer's disease and other debilitating brain disorders.

- **Transfer factors**
Transfer factors, tiny molecules that transfer immunity from one entity to another, can boost or balance the immune system, whatever your body's particular situation requires. They promote the immune system's ability to remember past invasions, allowing your body to more quickly respond to similar health threats. Transfer factors also educate naïve immune cells about a present or potential danger in your body, along with a plan for action, as well as speed up the recognition phase of an infection. Transfer factors can be extracted from a variety of sources, the two most powerful and most abundant being cow colostrum (first milk) and chicken eggs. Combining these two sources of transfer factors provides a broad spectrum of support, utilizing the strength of two animals for maximum power for your immune system. In the case of Alzheimer's disease, transfer factors can suppress an overactive immune system and turn off the inflammatory response. Once the inflammation is under control, the brain can function normally again.
- **Vinpocetine**
In studies, vinpocetine has been shown to enhance blood circulation and oxygen utilization in the brain, increase tolerance of the brain toward diminished blood flow, and inhibit abnormal platelet aggregation that can interfere with circulation or cause a stroke. In a clinical trial to study the effects of vinpocetine in the treatment of acute ischaemic stroke, the National Institute of Health Stroke Scale score was significantly better in the vinpocetine treated group after three months of follow-up.
- **Phosphatidylserine**
Phosphatidylserine (PS) is a naturally occurring phospholipid or "good fat" that is essential to the functioning of all cells in the body. Brain tissues are especially rich in PS, which functions as a brain cell regulator with regard to neurotransmission and synaptic communication, both key elements in maintaining memory, the ability to learn and sustained concentration.
- **Huperzia serrata**
Huperzia serrata (Huperzine A) works by inhibiting the enzyme that breaks down acetylcholine, an important brain chemical for learning and memory. Research shows that people with common brain dysfunction often have less than normal acetylcholine levels.

Success Stories

Charles D. Kansas

My wife is 79 years old and was diagnosed with Alzheimer's disease several years ago. She got so bad that she couldn't even remember her own name. My son ordered certain nutrients from all over the world. As long as she was on these nutrients she could recognize people and interact fairly successfully. The problem was that when these ingredients are purchased individually they cost my son more than five hundred dollars per month. She started taking a product that contains transfer factors, vinpocetine and huperzia serrata. This product is amazing. If she doesn't have it just for a few days, she is lost. I realize it is not a cure but it is nice to have my wife alert as long as possible.

Cathy H. Washington

My son has problems with depression and hyperactivity. I started giving him a product containing transfer factors, phosphatidylserine and huperzia serrata. Within days, he was getting positive feedback from his teacher in regard to his concentration level. About a month later I added a second capsule (one in the morning and one at night) and his grades went from percentages in the 50s to the 80s and 90s. I really credit this product with this increase in his ability to focus, retain and concentrate.

Kay B. Kansas

I began having problems with my thinking process in 1989. At the time, I worked as manager of a health club. My boss had to reassign me to other duties. He is heavy into research and began ordering cutting edge nutrients to help me with my problem. Slowly my mind improved so that I could take on the management responsibilities. Then I found a product that contained several of the individual ingredients I had been taking. This product included ingredients such as transfer factors, vinpocetine, phosphatidylserine and huperzia serrata. I can tell a major difference when I don't take the product for a couple of days. I am still the manager at the health club.

Feigin VL, Doronin BM, Popova TF, Gribatcheva EV, Tchervov DV: Vinpocetine Treatment in Acute Ischaemic Stroke. Department of Epidemiology and Preventive Medicine Institute of Internal Medicine Siberian Branch of the Russian Academy of Medical Science Novosibirsk. Eur J Neurol 2001 Jan;8(1):81-5

The Immune System Connection: Diabetes

Q: What is diabetes?

A: The World Health Organization reports that 177 million people around the world are afflicted with diabetes, a disorder of the metabolic and endocrine systems. In the United States alone, 18 million people live with the disorder, according to The National Institute of Diabetes and Digestive and Kidney Diseases. The World Health Organization predicts that by the year 2025, at least 300 million people worldwide will live with the disease.

Most of what you eat everyday is broken down into glucose, the main source of energy for your body. Insulin, a hormone produced by the pancreas, allows your body cells to accept glucose and utilize it for energy and growth. When someone has diabetes, their body fails to use the glucose from food efficiently. Too much sugar builds up in the body and can lead to symptoms of diabetes, which include: frequent urination, excessive thirst, extreme hunger, unusual weight loss, increased fatigue, irritability and blurry vision.

Diabetes is divided into two major subgroups: Type 1 and Type 2. The sugar level problem in Type 1 diabetes is thought to be caused by an autoimmune response of insulin deficiency. Insulin deficiency means there is not enough, or any, insulin being made by the pancreas due to a malfunction of its insulin producing cells. In Type 2 diabetes the problem is generated by insulin deficiency and/or resistance. Insulin resistance occurs when insulin is being made by the pancreas but the cells of the body are resistant to its action, which results in sugar levels being too high.

The National Institute of Diabetes and Digestive and Kidney Diseases estimates that of the 18 million people who have diabetes in the United States, five million do not even know they have the disease yet.

People with diabetes are two to four times more likely to have heart disease or a stroke and their heart disease tends to be more severe. (American Heart Association)

Q: How does the immune system work?

A: The immune system's ability to protect your body is both instinctive and learned—in other words, it fights invasions with both innate and acquired responses. Each individual is born with innate immunity—the ability of the immune system to generally recognize foreign invaders. Along with passive defenses like skin, stomach acid and mucus, the innate immune system also contains active immune response mechanisms that include Natural Killer, or NK cells, and macrophages. Like all innate front line defense agents, NK cells do not need prior exposure to an infectious microbe in order to act. They simply recognize foreign cells and go to work.

Any substance that triggers an immune response is called an antigen. Sometimes a germ makes it past your immune system and you catch a cold, the flu or worse. An illness is a visible sign that your immune system failed to stop the germ. But you do get better; and that's proof that your immune system is doing

its job. It gathered knowledge about the invader, mounted a defense and eliminated it properly. If your immune system didn't do anything, the infection would eventually overrun your body.

Unfortunately, even the strongest innate immune system can't handle all the various microbes we encounter daily. That's where acquired immunity comes in. Immune cells learn new skills and build new tools to deal with ever-increasing microbial invaders. But for this system to adapt for attack, it first must recognize a threat before it can build the tools to fight, which is why you sometimes feel like you're "coming down with something" for several days. The good news is that after the acquired immune system builds the tools for a specific infection, it remembers it and is ready for the next attack.

Inflammation is an immediate response by the immune system to an infection or injury, such as when you get a cut on your arm. In most cases, as the immune system deals with the problem, the immune cells then retreat from the area and inflammation and swelling go down. But occasionally, the immune cells do not withdraw and the inflammation continues, creating a chronic problem within the body. Researchers are beginning to discover a link between chronic inflammation and a host of conditions, including cardiovascular disease, diabetes and Alzheimer's disease.

Sometimes the immune system makes a mistake and acts inappropriately to a certain situation. One such mistake is autoimmunity. For reasons not entirely understood by scientists, the immune system begins to attack the cells, tissues, and organs of the body the same way it would normally react to a germ. Autoimmune conditions include allergies, fibromyalgia, rheumatoid arthritis, chronic fatigue syndrome and many others.

Q: What is the immune system connection to diabetes?

In both types of diabetes, the immune system plays a crucial role. Type 1 diabetes, or juvenile onset diabetes, is an autoimmune condition where the body's immune system overreacts and attacks the pancreas, effectively shutting off insulin production, the important link to utilizing glucose within the body. There is also increasing evidence that low-grade inflammation is involved in the progression of Type 2 diabetes and associated complications. Elevated levels of some inflammatory cytokines, such as tumor necrosis factor (TNF)-[alpha] and interleukin (IL)-6, may predict the development of Type 2 diabetes. Several drugs with anti-inflammatory properties lower such markers, as well as blood sugar levels, while possibly decreasing the risk of developing Type 2 diabetes. This mild state of inflammation may be the common precedent of both Type 2 diabetes and atherosclerosis (hardening of the arteries). Diabetics, both Type 1 and Type 2, are often more susceptible to infections as a result of their bodies not being able to properly utilize glucose. These diabetes-related complications include problems of the heart, kidneys, eyes, feet and skin, nerves, teeth and gums.

Q: What are some nutrients to combat the problems associated with diabetes?

A: Scientific research has uncovered several important nutrients that can protect your body against the damaging effects of diabetes.

- **Transfer factors**
Transfer factors, tiny molecules that transfer immunity from one entity to another, can boost or balance the immune system, whatever your body's particular situation requires. They promote the immune system's ability to remember past invasions, allowing your body to more quickly respond to similar health threats. Transfer factors also educate naïve immune cells about a present or potential danger in your body, along with a plan for action and speed up the recognition phase of an infection. Transfer factors can be extracted from a variety of sources, the two most powerful and most abundant being cow colostrum (first milk) and chicken eggs. Combining these two sources of transfer factors provides a broad spectrum of support, utilizing the strength of two animals for maximum power for your immune system.

Transfer factors have the ability to suppress an immune system that is overreacting and help restore balance, as in the case of Type 1 diabetes. Transfer factors can also lend important support for Type 2 diabetes, helping to combat inflammation. Diabetics, both Type 1 and Type 2, are often at a higher risk of infection as a result of their bodies not being able to properly utilize

glucose. Transfer factors can greatly boost the immune response, allowing the body to respond quickly and efficiently to health threats.

- **Pterocarpus marsupium (Indian kino)**
Pterocarpus marupium has been used for centuries in India specifically for the treatment of diabetes. It regenerates and revitalizes the insulin-producing beta cells of the pancreas.
- **Momordica charantia (bitter melon)**
Bitter melon has become a widely used traditional supplement for diabetes. It acts as a mediator between the body's cells and insulin already produced by the pancreas. It blocks the formation of glucose in the bloodstream and breaks down the barrier that prevents cells from using their own natural insulin.
- **Gymnema sylvestre**
Gymnema sylvestre is well known for its ability to balance blood sugar levels within the body. Like Indian kino, gymnema sylvestre also works to rejuvenate and regenerate function within the insulin producing beta cells of the pancreas.
- **Alpha lipoic acid**
Alpha lipoic acid (ALA), known as the metabolic antioxidant, helps support the body against the often damaging secondary effects of diabetes, such as nerve damage, optical damage and heart complications. Alpha lipoic acid has also been shown to decrease insulin resistance and thus help control sugar levels within the body.

Success Stories

Mike W. Branford, Connecticut

For a guy who once dreamed of getting his morning blood sugar reading below 150, imagine my excitement when I began taking a product for diabetes containing transfer factors, Indian kino, gymnema sylvestre, and bitter melon. Here are my morning readings for the last ten days: 117, 83, 76, 69, 97, 116, 76, 62, 71, 77, for a ten-day average of 84.4. Anything between 80 and 120 is considered an excellent morning reading. My doctor indicated he had to cut back on my normal medication because my readings are "too low." Wow, after being on the new product just five weeks, have we got a tiger by the tail here or what?

Dorothy H. Washington

I am a 65 year-old mother and grandmother. I was diagnosed in 1993 with diabetes. In 1998 I suffered a heart attack. From the time I was diagnosed, I experienced extreme differences when monitoring my sugar count. In addition to medication, I tried to regulate my blood sugar levels with diet, stress relief and sufficient rest. Because these efforts were fruitless, I was put on three medications, one of which caused even bigger differences in my daily sugar counts. I was very exhausted. I lost the ability to get an energetic start to my day and started sleeping in later and later. I felt like passing out at least three to four times during a typical week and would grab peanut butter to prevent from falling on my face. Under any kind of stress extremes, my count would read 400+.

I apprehensively agreed to try a product for diabetes containing transfer factors, Indian kino, alpha lipoic acid, and bitter melon. For the first time in 11 years, my sugar counts began to respond favorably. On my husband's birthday, we went to a restaurant and I decided to eat my favorites. Later that night, the family gathered for chocolate cake with chocolate sauce and ice cream, cheese and ritz crackers. I took my blood count at 10:00 p.m. and feared the worst. My blood sugar was at 195! In the past, this type of day would have produced numbers of 350+. I no longer get extreme light headedness and dizziness and see spots to the point of nearly passing out. I no longer need my peanut butter fix and I am back to rising early in the morning! My highest count on a regular day has been 125!

- **Antioxidants: Co-enzyme Q10, zinc, Vitamins A, C and E**
The process that brings oxygen into our bodies brings a negative by-product called free radicals. The heart uses oxygen on a daily basis, always pulsating and pumping oxygen in and out. Substances called antioxidants can help protect the heart against the damaging effects of free radicals. Vitamins A, C and E are potent antioxidants, as well as CoQ10 and zinc.
- **B vitamins, Folic Acid**
Homocysteine is an amino acid produced by the body that has shown the potential of being more correlated with cardiovascular disease than cholesterol. High homocysteine levels have been linked to increases in the degradation of arterial walls, LDL cholesterol and blood clot formation. Current research indicates that getting enough B vitamins, especially folic acid, B6 and B12, and antioxidants such as selenium, copper, zinc and vitamins A, C and E, is highly effective in promoting healthy homocysteine levels.
- **Arginate**
Arginate is an important ingredient shown to promote proper function of the inner lining of the blood vessels and aid in boosting the production of nitric oxide, the agent in your body that widens blood vessels and promotes proper blood flow.

Success Stories

Phillip Paramore Anchorage, Alaska

In the fall of 2001 I was having acute angina, or chest pains. I had a cardiac catheterization done and my cardiologist found three posterior coronary arteries clogged up to 80 percent. I started taking a product containing transfer factors, B vitamins and arginate, and within about two to three weeks, I noticed that a lot of the pain was subsiding. I went back to the cardiologist six months later. He ordered another catheterization and to my surprise the occlusions were "no more than 30-40 percent". He was amazed. I was happy and NO surgery was needed. I was elated, to say the least. I feel like I've gotten my heart back.

Dr. Ben Melbourne, Australia

A patient of mine is 89 years old and suffers from ischaemic heart disease and congestive cardiac failure. Her main complaints were severe shortness of breath on mild exertion and coughing. She had to be wheeled around whenever she was taken out. She started taking a product containing transfer factors, red rice yeast, vitamins and minerals. After only three weeks she noticed some improvement in her breathing. After five weeks she said the new capsules she was taking were number one, indicating with her right thumb up. Now she is able to walk further with much less shortness of breath. Soon after the introduction of the new supplements she was taken to the zoo and a wheel chair was made available for her to use. After a short journey in the wheel chair she decided to walk by herself. In spite of being advised that the walk would be too much for her heart she insisted, and so she was allowed to push the wheelchair around the zoo. She completed the walk around the zoo without any shortness of breath! This 89 years old lady has derived other benefits from taking this product: both her appetite and weight have increased! Everyone is extremely happy that the product has helped her.

Kerry Tyler Ritzville, Washington

I've been on medication for high blood pressure since 1996. My average blood pressure reading was 140/90 to 140/110. I also suffered from debilitating migraines, three to four a week. In February of 2003 I started taking a product that contains transfer factors, red rice yeast and antioxidants. Within two months, my blood pressure lowered to 127/70 average and I was able to stop taking my blood pressure medication. Also, my migraines pretty much disappeared. I only get one every four months or so. I definitely feel better, have less stress and have more energy since starting on this product.

Heber D, Yip I, Ashley JM, et al. Cholesterol-lowering effects of a proprietary Chinese red-rice yeast dietary supplement. Am J



Clin Nutr. 1999; 69:231-236.

Greenberg, Steven M.D., and Frishman, William H., M.D., "Co-enzyme Q-10: A New Drug for Cardiovascular Disease." J Clin Pharmacol 1990; 30:596-608: p. 596.

© Transfer Factor Institute All Rights Reserved

Brought to you by 4vidas.com : an Independent 4life Research Distributor.



<http://www.4vidas.com>