IMMUNE SYSTEM STRENGTH

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The immune system is not any one part of the body; it is the entire brain and body, it functions as one. The immune system defends us against invading bacteria, viruses and inflammatory responses. The immune system guards us against tumor cell formation. We depend on it to combat infectious agents that come in through our gastrointestinal tract, or through our skin when we get a cut.

The immune system kills off invading infections or cells, or the body can be overwhelmed by infection or a tumor. If the immune system does not take swift action, then the infection spreads and death can occur. There are two types of immunity: natural immunity, which is a generalized attacking mechanism that rids the body of germ invaders, and then we have specific immunity, which generates an immune response against a very particular group of molecules. The specific, acquired immunity allows you to recognize those same molecules again and again and attack whenever they come in.

The immune system has a wonderful memory and can generate responses to past illness that have shown up before. The brain that records all past experience links together with the immune system and they can communicate with each other extensively.

This 24 hour safeguard system must be fed because without nourishment its function diminishes. While the immune system is protecting us it burns amino acids that it metabolizes from supplements or protein.

The lifespan of white blood cells is greatly shortened when curing an infection. Cells which normally last four to five days may need to be replaced after only a few hours. Amino acids can slow the breakdown, keeping the infection fighting cells active.

Good food, fruit, vegetables, nuts, seeds, lean meat and dairy is wonderful fuel for a healthy immune system. Although individual needs vary, the RDA is 45 to 65 grams of protein daily. More may be needed to fight illness or infection. If there is not sufficient protein available, the immune system will rob it from the body, particularly from muscle tissue.

Not surprisingly, over consumption of both sugar and fat can inhibit immune function. One hundred gram portions of simple carbohydrate (say 25 teaspoons of sugar, a little more than that in two sodas) can significantly decrease the ability of certain white blood cells to devour harmful substances in the body for up to five hours and longer. It can also decrease the transformation of other white blood cells into the fighting T-cells.

Simple carbohydrates include glucose, fructose, sucrose, honey, and fruit juices, especially orange juice. The average American consumes 150 grams of sugar daily, constantly putting the integrity of the immune system into jeopardy.

A diet high in saturated fats may suppress some functions of the immune system by interfering with the production of prostaglandin E1. One of the important functions of prostaglandin is to help regulate the activity of T-cells. Gamma-linolenic acid is the key to this mechanism. Both saturated fat and hydrogenated vegetable oil have a deleterious effect on the production of GLA while vitamin E has a significant beneficial effect on its metabolism.

The New York Times reported that although diets high in polyunsaturated fatty acids (corn, safflower, and soybean oils) have been widely recommended as replacements for artery-clogging saturated fats, they can when consumed in large amounts, disrupt the immune system. This may explain why in some large studies that diets high in polyunsaturated oils diminished heart attacks but not overall death rates. Researchers now recommend that their intake be kept below 10 percent. The best idea is to make the bulk of our fat intake monounsaturated oils (olive and canola).

You can make sure you get your basic nutrients from a daily multivitamin-mineral supplement. Although the immune system needs the same basic nutrients as the rest of the body, there are a number of nutrients that are especially supportive of the immune system. You may chose to reinforce your daily vitamin-mineral with some of these.

Several of the nutrients we will discuss are antioxidants. Briefly, antioxidants conserve oxygen and retard cell damage induced by toxic compounds from both internal and environmental sources. The nutrients and mechanisms used to combat these toxic elements are a part of the immune defense system. Providing the body with antioxidant nutrients reinforces necessary immune system nutrition.

Ester C: Best known as an antioxidant and free radical scavenger, vitamin C circulating in the blood and tissues scavenges the oxygen radicals formed as a by-product of the body's fight against any disease invasion and keeps them from harming healthy cells.

Vitamin C seems to play a role at almost every stage of immune function. It actually works inside the fighting cells where it helps convert glucose to energy, stimulates movement to the site of an infection, makes invading viruses and bacteria more susceptible to attack and makes them more receptive to chemical stimulation by other parts of the immune system.

Demonstrating both antiviral and immune-enhancing effects in pharmacological doses, vitamin C can kill the microorganisms that cause hepatitis, measles, mumps, viral pneumonia, herpes zoster, herpes facialis, and certain types of meningitis. It is also being used as an integral part of a controversial natural therapeutic program for AIDS.

Bioflavonoids: Plant substances often found in nature along with vitamin C, can have antiviral activity and are sometimes recommended to be taken with C. Quercetin, found in rutin, has potent antiviral effects. It is an antioxidant and has been found active against herpes virus. Amounts of 300 milligrams daily with food have been recommended.

Vitamin E: Time magazine reported that vitamin E appears
to boost the immune system in healthy older people. We know it induces a three to five fold increase in T-cells, and that it is required for the synthesis of coenzyme Q10 and for the formation of prostaglandins. (The prostaglandins are the regulators of the immune response.) Other antioxidants include selenium which increases the activity and retention of vitamin E and may reduce the incidence of cancer; and the amino acids methionine and cysteine. A combined deficiency of these amino acids reduces the effectiveness of antibodies and may lead to degeneration of the thymus gland, the gland of paramount importance to the immune system.

Free form amino acids can be very useful as a protein source when the body is fighting illness. Since a blend of free form aminos is ready for use by the body, some practitioners assign their nutritional worth as one gram of essential amino acids to ten grams of food protein. Recent research reports has demonstrated that adding the nonessential amino acid arginine to the diet enhanced immune function in patients whose immune system was undermined by disease or surgery.

Vitamin A, beta-carotene, zinc, the B vitamins, manganese and copper are all synergistic to the antioxidants and support immunocompetence. The skin and the mucous linings form the first line of defense against would be invaders.

Vitamin A: Vitamin A is imperative to the health of these barriers. Although an excess may depress some immune functions, a deficiency may decrease the size of lymph organs and the thymus. A deficiency can also increase the risk of infections, particularly of the eyes and respiratory and gastrointestinal tracts.

Beta-Carotene: Beta-carotene is called the single most important nutrient for the immune system. Beta-carotene provides the body with a vitamin A storage system. The body can make vitamin A on demand from beta-carotene reserves without the threat of immune suppression or other symptoms of vitamin A toxicity.

Zinc: Zinc is the most widely studied essential mineral. With respect to immunity, zinc is found in marginal or low intakes in the diets of many Americans. The result of these insufficient amounts is depressed immune response. Zinc is essential to the production of thymic hormones, needed to foster maturation of immune cells. In fact Lancet has reported that zinc deficiency causes a wasting away of the thymus gland.

A deficiency during prenatal or infancy can permanently damage immunological function. The elderly and people who eat little or no meat and lots of fiber are also at risk. Eggs, poultry, and seafood contain sizable amounts of zinc. Excellent vegetable sources include peas, soybeans, mushrooms, white grains, most nuts, and seeds, especially pumpkin. Zinc picolinate and zinc citrate are recommended at 15-30 milligrams daily (J.A.M.A. reported immune depression when people were given 300 milligrams daily.)

Iron: Iron is a critical component in a number of enzymes involved in the killing of infectious organisms. Iron is deficient in the diets of an estimated 10-15 percent of Americans. Iron deficiency during prenatal or infancy can result in long term immunological deficiencies that are not correctable with subsequent iron supplementation.

CoEnzyme Q10: In a human study, patients with diabetes, cancer, and cardiovascular disease were administered 60 milligrams of CoQ10. The results showed a significant increase in immunoglobulin O, the principal substance in human blood capable of acting as antibody. Animal studies indicate that this nutrient may be useful in counteracting the deterioration of the immune response typical of aging.

Magnesium: The stress mineral of life, stress of any type depletes magnesium. Every muscle in the body feeds on available magnesium. Magnesium plays an important part in brain communication. Magnesium must be taken daily, it can not be stored. Mag Link dissolves in the intestines where it is more readily absorbed. Take magnesium for a healthy and happy heart. Without magnesium your heart works overtime.

Herbs To The Rescue

In recent years, the power of herbs to reinforce and support the immune system has been rediscovered.

Echinacea: Long recognized as a superior healer in naturopathic circles, echinacea has been called "the most effective and accessible immune enhancing herb available today." This indigenous herb has been marketed for 15 years in Germany where it is approved by the government for treatment of chronic infection and for the prophylactic treatment of flu. Echinacea contains compounds found to be antibacterial and antiviral.

Ashwagandha: Ashwagandha is commonly used in many ayurvedic formulas as well as by itself for health enhancement and for the treatment of disease. The herb strengthens the deeper tissues of the body - muscle, bone, nerve and reproductive - including the connective tissue. It increases quality body weight by building high quality tissues, particularly muscle. Ashwagandha is good for restoring energy in convalescence from disease or for people who have chronic low energy. Plus, it is an excellent herb for chronic fatigue syndrome.

Reishi Mushroom: This rare and difficult to culture mushroom has been known to Oriental medicine for over 2,000 years. Its active ingredient is lentinnan, one of six substances authorized for clinical testing at the International A.I.D.S. Treatment Conference in Tokyo.

Published reports of clinically tested Chinese therapies for immune system deficiency didn't appear in English language journals until 1983. However, potent immune enhancing formulas using Chinese herbs are now widely available. The most commonly used herbs are astragalus, eleutheroginseng, codonopsis, white atractylodes, and ligustroid.

Exercise, Relaxation, And A Good Laugh

Stress reduces immune response while stress reduction improves the ability to prevent disease. Exercise, relaxation, and a good laugh all reduce stress and elevate mood, resulting in a positive effect on immune response. Studies suggest that the natural painkillers produced by the brain during a strenuous workout can increase immune system activity. Endorphins enhance the activity of T-cells and other killer cells. Exercise also stimulates the growth of the thymus gland (where lymphocytes taken from the blood stream are trained to function as T-cells). Elevated body temperatures produced by exercise have also been shown to boost immune activity, and exercise has enhanced the
effects of vitamins A and C. In addition, the activity of interferon doubled in otherwise sedentary individuals after an hour of steady exercise.

Based on the findings of doctors and scientists, here are seven basics to develop super immunity and prevent illness:

1. Feed your immune system top level nutrition.
2. Develop the power of positive feeling.
3. Take a vacation from stress with a relaxation technique.
4. Program your immune system for optimum power with visualization techniques.
5. Set up an exercise program you will do.
6. Regenerate your immune system with sleep.
7. Take control of your personal environment.

Your immune system loves deep breathing and positive thinking. Take time daily to go to your most favorite place in the world and give your immune system a shot of total relaxation.

For more information, read *Healing and the Mind* by Bill Moyers.

References

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