



Stress And Immune Health

BY MICHELE FERCHOFF, ND

Everyone experiences stress. Whether it is from everyday hassles, such as being stuck in traffic, or from more serious experiences, such as pain or trauma, stress plays a part in everyone's lives. Stress is also a major contributing factor to one's immune health.

A stressor is any stimulus that causes a nonspecific physiological response in an individual, otherwise known as stress. There are two main categories of stress: acute and chronic. Acute stressors include uncontrollable situations, physical illness, surgery, threats to self-esteem, and traumatic experiences. Chronic stressors include sleep deprivation, daily "hassles," work overload, social isolation, and chronic disease, among others.

Individuals differ in their response to stress due to genetics, developmental and environmental factors, and experience. Some people may cope well with stress, rising to the challenge and meeting their goals. Others may be more adversely affected by stress, leading to physical and mental fatigue.

The immune system protects the body from disease causing organisms and other foreign antigens. The first lines of immune defense are local barriers, such as the skin and gut lining, and inflammation involving antibodies. If those fail to block or destroy the foreign antigens, the cell-mediated immune response and the humoral immune response kick in. The cell-mediated response involves sensitized T cells (white blood cells derived in the thymus) that recognize, attach to, and render antigens inactive. Other types of T cells, helper T cells, aid in production of antibodies by B cells (bone marrow) cells. Suppressor/cytotoxic T cells inhibit antibody production. Helper T cells are called CD4 cells and suppressor T cells are called CD8 cells. Studies show that psychological stress induces cell division among CD8 cells, thereby suppressing immune function. When the immune system is suppressed, the body cannot defend itself properly and latent pathogenic organisms can resurge.

Psychological stress has been shown to increase susceptibility to viral infections. Subjects exposed to mental stress showed increases in infection rates

ranging from 74 to 90 percent, and the incidence of clinical colds rose from 27 to 47 percent. This is supported by studies showing that colds and other infections manifest themselves on weekends after busy and stressful work weeks.

To maintain a healthy immune system in the face of everyday environmental stress, one must incorporate immune enhancing and supporting nutrients into their life.

Thymus gland derived from a bovine source is often used as a nutritional supplement to help strengthen the human thymus gland for immune support. The thymus gland is important for proper immune function. It produces T cells, which protect the body from infection. These white blood cells coordinate the body's immune response against viruses, parasites, and bacteria.

Desiccated adrenal gland is a source of nutrients necessary for adrenal function. These nutrients are extremely important in the initial phases of adrenal repair. The catecholamines *epinephrine* and *norepinephrine* are secreted by the adrenal gland as a normal response to stress. However, with constant daily stress, the adrenals work overtime and require appropriate nutrition to support their functioning. Vitamins B complex and C complex provide support for adrenal function and repair as well as general support for metabolism and energy production.

Adaptogenic herbs provide support and nourishment to the adrenal gland. Cordyceps is a Chinese mushroom used for adrenal gland support. Ashwaganda has been used as an adaptogenic tonic in India for over 3,000 years. It is unique as a tonic in that it has calming properties and therefore is ideal for people who are "stressed-out." It is commonly used to increase vitality, recover from chronic illnesses, and manage pain in arthritic conditions. Licorice and *Rehmannia* rejuvenate the adrenal gland and enhance immune system functioning.

Supporting glandular function in the body is fundamental to health, but the immune system needs to be enhanced in order to function effectively in the face of daily stress. Certain herbs have been used for

years to accomplish this.

Andrographis paniculata has been used successfully in treating upper respiratory infections, fever, sore throat, herpes, and many other infectious and chronic diseases. Many cultures use it today to prevent and treat the common cold.

Astragalus membranaceus is most commonly used as a tonic specifically for immune enhancement. Most research on *Astragalus* has focused on its immunostimulatory activity and its seemingly remarkable ability to restore the activity of a suppressed immune system.

Both *Echinacea purpurea* and *Echinacea angustifolia* modulate the body's immune system, increasing the chances of fighting off any disease infection. *Echinacea* is considered an effective therapeutic agent in many infectious conditions including upper respiratory infections, such as the common cold and sinusitis. It also aids in the production of interferon, which increases antiviral activity against influenza, herpes, and inflammation of the skin and mouth. It may reduce the severity of symptoms such as runny nose and sore throat and reduce the duration of illness.

In conclusion, the stress of daily life has significant effects on the immune system. It raises catecholamine and cytokine levels, which in turn may suppress immune function. This suppression raises the risk of infection.

Supporting the glands involved in the functioning of the immune system through nutrition and herbal support is fundamental to fighting off viruses and other diseases. Enhancement of the immune system using whole food supplements and herbal remedies decreases the likelihood of illness and leads to a faster recovery to full health.

About The Author

Michele Ferchoff earned her B.S. in biology from the University of Wisconsin, La Crosse and then attended the Southwest College of Naturopathic Medicine and Health Sciences, one of four accredited naturopathic medical schools in the country, where she graduated as a N.M.D. in 2002. Michele has several years of practical and clinical experience. She was selected as one of two residents for the National College of Naturopathic Medicine/Standard Process residency program, the first naturopathic residency in Wisconsin's history, beginning in September 2002. Michele is one of only five naturopathic physicians in Wisconsin who have graduated from a four-year accredited naturopathic medical school.

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