



## IMMUNE FUNCTION & ANTIOXIDANTS

### Ask Your Pharmacist

While you're busy living, lost in your own little world of activity, an army of cells works around the clock to keep you alive. You've probably never noticed this army, but it's there, behind the scenes, as a necessary force; defending your body against foreign invasion. The immune system consists of millions of white blood cells called leukocytes. Some of these cells act non-specifically as front-line defenders, destroying any foreign material that enters the body. Other cells act specifically as messengers, to alert the whole immune system of danger.

Immune disorders occur when something happens to destroy this rather delicate balance. Auto-immune disorders result when immune cells perceive healthy cells to be foreign, and begin killing them. Hypersensitivity disorders (like allergies or asthma) occur when the immune system overreacts to a particular antigen. Gradual failure of the immune system is known as an immunodeficiency disorder.

Proper immune response can be negatively affected or compromised by a wide variety of factors, including fatigue, stress, poor nutrition, disease, too much sugar, too little water, smoking, alcohol, lack of exercise, emotional disturbances, hormonal imbalance, and much more. Any number of these factors can increase the risk of infection by decreasing immune effectiveness.

A person whose immune system cannot operate at optimum levels is said to be "immunocompromised." Keeping the immune system healthy is the first step in

disease prevention. Adequate amounts of sleep, proper nutrition, and a healthy lifestyle are the most important adjustable factors of immune health. Above all, one needs to minimize the impact of free radicals and add to your intake of free radical fighter nutrients called antioxidants.

#### WHAT ARE FREE RADICALS?

Free radicals may have been a political statement at one time, but the term now mainly refers to a process in the body. Free radicals are unstable molecules that react with other compounds to try to become stable. As they attempt to become stable, free radicals damage normal body tissues, and many researchers suggest this to be is our primary aging event.

Oxygen in the air we breathe is essential to life. However, oxygen is very active and combines readily with many compounds in the body. Some of these compounds can cause damage. During the process that creates energy, some oxygen molecules are converted into oxidizing agents, also called free radicals, such as superoxides or hydrogen peroxide.

Our environment is a source of free radicals. Ionizing radiation from industrial exposure, sun exposure, X-rays, and certain kinds of foods contribute to more free radicals.

Heavy metals (like mercury and lead), tobacco smoke, alcohol, saturated fats, and other elements in our water supply, food and air also contribute.

When free radicals enter our body they can react with healthy tissue, setting off potentially damaging reactions. Free radicals are believed to play a role in more than sixty health conditions, including the aging

for your best health

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# IMMUNE FUNCTION (continued)

process, cancer, and atherosclerosis.

Before you start living in a sterile bubble, understand that you cannot escape this action, it is a normal part of our lives, but you can help your body defend itself against this assault.

Reducing your exposure to free radicals is important. Cover up in the sun, or use sunscreen to protect your skin from damage and try not to breathe in smoke of any kind.

Obviously, you should stop smoking tobacco or inhaling second-hand smoke from others. In addition, stay away from paint and other substances that contain lead, mercury, or cadmium.

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In short, these elements are "oxidizing" our bodies, not unlike a metal's "rusting" action. As we rust, we age, and you can see what occurs with rust. It destroys.

Our body has adapted to the assault of free radicals by creating an opposite action to stabilize molecular damage. Using certain vitamins and nutrients, known as antioxidants, we counter the action or prevent it from occurring. These nutrients include vitamins C, E, beta-carotene, and several of the B vitamins play a valuable role in "antioxidizing". Manganese, zinc, and selenium are also great free radical fighters.

The nutrient CoQ10 is becoming well known for its role in protecting the heart against free radical damage. We are also now discovering several plants that may protect us as well. These include bilberry, tumeric, grape seed, and ginkgo biloba. Before you rush out and buy these products, consider your diet. Fresh vegetables and fruits are excellent sources of antioxidants. Nutritionists suggest that the body will make better use of these nutrients in food form than in supplement form.

However, it is suggested that an antioxidant formula will add insurance that you are receiving good stores of these valuable nutrients. A recent study of physicians indicated that most are

taking antioxidant supplements. It is also known that taking these nutrients in a combination formula will allow for better use of the individual nutrients. For instance, vitamin E and selenium work well together. Vitamin A and zinc seem to partner well also.

Free radicals and aging are part of life. Antioxidants are also a part of life. Eat well, consume fresh foods when possible, take your antioxidants daily, and don't worry about the minute actions of the body. While we can't stop the aging clock, we can certainly stall it a bit and enjoy the days by staying healthy and well nourished.

For additional information related to food and antioxidants, stop by our pharmacy. We are trained to help you make wise, healthy choices and provide you with professional services and products for a better quality of life.