GeriZatcoff

Geraldine Zatcoff, M.S.Ed., M.S., C.N.S.

NUTRITION, EXERCISE SCIENCE, WELLNESS COUNSELING

STRESS: NUTRITION & IMMUNE HEALTH

Geri Zatcoff, M.S.Ed., M.S., C.N.S

No one is immune from stress, but how it affects health depends to a great extent on how well a person manages it. In fact, 43% of all adults suffer adverse health effects due to stress and more than half of the visits Americans make to their doctors are stress related. Back pain, poor digestion, depression and asthma are just a few of the problems that stress either causes or worsens.

Recent research has increasingly confirmed the important role of stress in cardiovascular disease, cancer, gastrointestinal, skin, neurologic and emotional disorders, asthma, diabetes, and a host of disorders linked to immune system disturbances, ranging from viral infections like the common cold and herpes, to arthritis, cancer, and AIDS. The diseases that have been most extensively researched are infectious diseases, cancer and coronary heart disease. The effects of stress on risk factors for these diseases – immunosuppression, oxidative stress, and elevations in blood pressure and blood lipids are also well documented.

Myocardial infarction (MI or heart attack) is the best-known example of an acute problem that is usually precipitated by both acute and chronic physical or psychological stress. Studies have shown that people with Type A behavior (unusually aggressive, competitive, work-oriented, and urgent behavior) have a much higher incidence of heart attacks that do Type B people, who exhibit fewer of these traits. In addition, Type A behavior is associated with high cholesterol, triglycerides, and stress hormones. The hormones released in response to stress cause constant changes in blood pressure. Over time, this can lead to chronic hypertension, further straining the heart, damaging the lining of blood vessels, and increasing the likelihood that blood will clot. These changes increase the risk for heart attack and stroke. Psychological stress has also been shown to increase susceptibility to viral infection and sustained, negative stress has been shown to have a significant effect on the immune system.

As research continues the number of specific diseases that can be linked to stress grows. Prolonged severe stress has been shown to result in tissue damage (from oxidative stress) and disease. Oxidative stress may be defined as a ‘cellular or physiological condition of elevated concentration of reactive oxygen species (ROS), or free radicals, that cause molecular damage to vital structures and functions’. There is a mounting body of evidence that oxidative stress contributes to the development of a number of chronic diseases including cancer, cardiovascular disease, chronic inflammatory diseases, neurodegenerative diseases (Alzheimers) and the aging process. The production of ROS or free radicals, is enhanced by disease and environmental stressors, including but not limited to air pollution, industrial toxins, insecticides, anti-cancer drugs and radiation, chlorinated drinking water, preservatives in processed food, assorted chemical solvents, artificial food colorings and flavorings and heavy metals. Psychological and emotional stress can contribute to oxidative stress. Oxidative stress occurs when the available supply of the body’s anti-oxidants is insufficient to handle and neutralize free radicals of different types. The result is massive cell damage that can result in cellular mutations, tissue breakdown, and immune compromise.

The warning signs of stress may be classified as emotional, behavioral or physical. The physical signs include frequent illness, exhaustion, insomnia, headaches, loss of appetite and digestive problems. It is vital, therefore, to do everything one can to promote general good health. Quite often, many people respond to stress by engaging in unhealthy lifestyle habits such as smoking, lack of exercise and adequate rest, eating fast foods and unhealthy foods, and the increased consumption of alcohol and controlled substances. Over time, poor lifestyle habits can weaken your immune system, weakening your resistance to stress even further, making you more likely to develop infections and chronic illnesses.

GeriZatcoff
Geraldine Zatcoff, M.S.Ed., M.S., C.N.S.
Nutrition, Exercise Science, Wellness Counseling

Your body is able to fight stress better when you take the time to eat well-balanced meals. There is good evidence to show that a healthy lifestyle, including a well-balanced, varied, prudent diet, will help prevent disease and promote well-being. Poor nutrition in general contributes to oxidative stress. When the body is fed poorly, it slowly starves and all of its systems suffer. Weak organ systems are prime targets for free radical attack. The better the state of your overall health, the better will be your body's response to stress and stressful situations.

A low-stress diet is low in refined vegetable oils, margarine and shortening, typically found in commercial baked goods and "snack chips". These harmful fats should be re-placed with natural, cold pressed oils like olive and nut oils. Naturally saturated fats like food grade, unrefined coconut oil and organic butter are excellent choices for cooking as they are rich in certain fatty acids that have proven activity against bacteria, harmful yeasts and fungi, and tumor cells. Polyunsaturated fats like vegetable oils should be limited in the diet because of their chemical instability and susceptibility to oxidation and rancidity.

A low-stress diet is also low in simple sugars. Excessive sugar intake can contribute to free radical damage. Even if from natural sources, excess simple sugars (white and brown sugars, fruit and fruit juices, maple syrup, honey, etc.) get converted to triglycerides by the liver and are subject to free radical damage. These damaged fats then promptly attack your arteries and directly contribute to cardiovascular disease. Additionally, cancer and tumor cells feed off of sugar. It is for this reason that excessive sugar intake correlates very strongly with heart disease, cancer and a host of other ailments. On top of this, excessive dietary sugars temporarily "stun" the immune system and prevent it from reacting to invading microbes.

In general, the best diet for combating stress is the diet that affords the most protection against oxidative stress; a diet of whole, organic, unprocessed foods and a wide variety of vegetables and fruits. At present the dietary guidelines advise people to eat at least five (optimally five to nine) portions of vegetables and fruits daily. The basis for this advice is the finding from numerous epidemiological studies that diets rich in plant foods are associated with a reduced risk of certain chronic diseases, particularly heart disease and cancer. In Canada, the guidelines have been elevated to nine to eleven servings per day. Such a diet is rich in micronutrients, including folate and anti-oxidant vitamins, as well as fiber. Also, plant foods are known to contain a considerable number of chemicals which do not have nutrient function, but may be beneficial for health. These include several hundred carotenoids, phytochemicals and plant sterols and sterolins. Here is a list of the main antioxidants and where best to get them:

CoQ10 (ubiquinone): Beef heart and liver, sardines, spinach, peanuts.
Betacarotene: All orange and yellow fruits and vegetables; dark green vegetables.
Zinc: Oysters, herring, lamb, whole grains.
Selenium: Butter, meats, seafood, whole grains.
Vitamin A: Cod liver oil, butter, liver, all oily fish.
Vitamin E: Cold-pressed, unrefined nut and seed oils.
Vitamin C: Berries, greens, broccoli, kale, kiwi, parsley, quava.
Glutathione (GSH): Fresh fruits and vegetables (very small amounts), freshly cooked meats. For vegetarians, a low-heat dried whey protein supplement will provide the amino acids required by the body to make GSH. Cysteine-rich foods (all animal foods) also provide these amino acids.
Bioflavonoids: Most fruits and vegetables, buckwheat.
Polyphenols: Green tea, berries.

The current RDAs do not take into account the metabolic effects of any form of stress. It has been documented that physiological stress affects the metabolism and blood levels of several micronutients.

GeriZatcoff
Geraldine Zatcoff, M.S.Ed., M.S., C.N.S.
Nutrition, Exercise Science, Wellness Counseling

Therefore, there is broad agreement that, within the context of the overall healthy dietary pattern advocated by the dietary guidelines, eating more plant foods is beneficial.

The first step is to avoid as much as possible the various stressors mentioned earlier. The next step is to adjust one's diet to include those foods and herbs rich in antioxidants. The last step is to consider supplementation. Supplementation is recommended if one lives in a polluted environment, is subject to extreme stress, smokes or has a condition associated with oxidative stress.

Studies have shown that antioxidants are best gotten in food and work best in combination as different antioxidants neutralize different free radicals. You can slant the antioxidant effect towards a particular ailment or organ if the nutrient has a particular affinity to them, i.e., glutathione for Parkinson's, AIDS or liver disease; vitamins E and C for arteriosclerosis; CoQ10 for heart disease; alpha lipoic acid for diabetes, etc. See your health care professional to find the best antioxidant "cocktail" for you.

The effects of stress and micronutrients overlap in many areas of physical and mental well-being, and it is reasonable to assume that they have a synergistic effect and that each impacts on the other. It is evident from research that a healthy lifestyle, including diet, exercise, adequate relaxation, social support and abstinence from harmful substances, is beneficial.