

## **ART103**

general health series

### **STRENGTHENING THE IMMUNE SYSTEM**

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**ACCORDING TO THE AMERICAN LUNG ASSOCIATION, THE FLU AND PNEUMONIA ARE THE 6TH LEADING CAUSE OF DEATH AMONG ALL AMERICANS.** It is very important to keep the immune system in top condition so that it can effectively fight invaders (antigens) like: microbes, toxins, bacteria, viruses, fungi, parasites, allergens and cancers.

**THE IMMUNE SYSTEM IS A COMPLEX PROTECTION MECHANISM DISPERSED THROUGHOUT THE BODY, THAT WORKS TO RECOGNIZE, ELIMINATE AND DISPOSE OF ANTIGENS IN A HIGHLY DISCRIMINATORY WAY.** The thymus, located above the heart, is the major gland of the immune system. Some of the other major team players in the immune system are: lymph, lymph nodes, bone marrow, spleen, tonsils, adenoids, appendix, areas in the small intestines, white blood cells, lymphocytes, macrophages, hormones, proteins (interferon), various phagocytic scavenger cells, antibodies, specialized destructive T (thymus derived) and B (bone marrow derived) cells, skin and mucous membranes. This dynamic system varies from day to day, so a person's susceptibility varies depending on the condition of their immune system in general and on that given day.

**OCCASIONALLY THE IMMUNE SYSTEM MISSES AND AN INFECTION MAY OCCUR.** The immune system may also react against its own tissue and produce antibodies to attack itself. This phenomenon is called autoimmune disorder. Type 1 Diabetes, Graves Disease, Pernicious Anemia, Addison's Disease, Chronic Active Hepatitis, Rheumatoid Arthritis, Multiple Sclerosis, Lupus and Myasthenia Gravis are a few diseases that are classified as autoimmune diseases. Asthma, allergies chronic fatigue, fibromyalgia irritable bowel syndrome are all related to malfunctioning immune systems.

**THE TWO MOST COMMON ILLNESSES THAT THE IMMUNE SYSTEM FIGHTS ARE THE COMMON COLD AND INFLUENZA.** The U.S. Center for Disease Control (CDC) estimates that 35 - 50 million Americans will become infected during flu season (November 1 - March 4). And, the National Institute of Health states that the average American will suffer from 2-4 colds per year. Influenza (flu) is an acute infectious disease caused by several viruses that have the ability to mutate, so, becoming infected by one type leaves little if any protection against another. Flu usually occurs in epidemics. Symptoms include: sudden onset, fever, headache, fatigue, generalized aching, and almost always includes respiratory symptoms. Recovery time tends to be prolonged with accompanying weakness and depression. The common cold is also

caused by a virus. The National Institute of Allergy and Infectious Diseases states that more than 200 different viruses cause symptoms of the common cold. A cold's symptoms are similar to flu but less severe. A cold almost always includes a stuffy nose, sneezing and sore throat. Treatment of colds and flu usually includes: rest, fluids, over the counter medications, prescription medications, antibiotics and flu shots (as a preventative).

**SUPPORTING THE IMMUNE SYSTEM REDUCES SUSCEPTIBILITY.** Germs are everywhere. Living in a bubble is not much fun. Strengthening the immune system makes more sense. Ways to strengthen the immune system include: getting enough rest and sleep, eating a balanced diet of natural whole foods, avoiding sugar and animal fats, staying adequately hydrated, and washing hands frequently.

**REST AND SLEEP ARE CRITICAL FOR OPTIMAL IMMUNE FUNCTION.** 15 years of extensive research conducted by James Krueger of the University of Tennessee, suggests that sleep deprivation enables bacterial growth which makes the body more vulnerable to infection and that sufficient sleep impedes this bacterial growth. Sleep seems to change the state of our immune system.

**RECENT SCIENTIFIC RESEARCH HAS SHOWN THAT BREATHING, RELAXATION, MEDITATION, VISUALIZATION, POSITIVE AFFIRMATIONS AND HAVING A POSITIVE ATTITUDE CAN HELP STRENGTHEN THE IMMUNE SYSTEM.**

Psychoneuroimmunology (PNI), a term coined by Dr. Robert Adler, University of Rochester, in 1975, is an emerging science that studies the physical connection between the psyche, nervous system, and immune system. Stress adrenaline hormones tend to cancel out immune cells. Well known Yale researcher, Dr. Bernie Siegel, says, "peace of mind creates a healing environment in the body". Other research has shown that being happy, helpful, friendly and cheerful, reinforces a positive attitude and has benefits to the immune system.

**RECENT RESEARCH SUGGESTS A VARIETY OF SUPPLEMENTS HAVE BENEFITS TO THE IMMUNE SYSTEM.** These include Zinc, Echinacea, Garlic, Ginseng, Goldenseal, Astragalus, Colostrum, Elderberry, Green Tea, Shiitake & Reishi Mushrooms, Vitamin C & E. Eating a balanced diet remains the best advice and supplementation should be supervised by a qualified professional. There are contraindications with some supplements and many should not be mixed with certain medications.

**THERE ARE A NUMBER OF FACTORS THAT CAN WEAKEN THE IMMUNE SYSTEM.** The immune system may become weakened because of: nutritionally poor diets that are high in processed foods and sugar, eating on the run, exposure to chemicals, toxic substances and pollutants, smoking, lack of rest and sleep, excessive stress and inadequate fluids. Although antibiotics have their place in treating illness, overuse of antibiotics can weaken the immune system because they destroy all bacteria including those that supports immune function. This creates a dependency on antibiotics which is a concern because super-antibiotic-resistant viruses are emerging.

Destruction of the body's natural "good" bacteria also leads to a proliferation of Candida Albicans (yeast infections). Flu shots also have their place and there are many people especially the elderly who may need immunization. However, flu shots contain varying amounts of mercury. One microgram of mercury is considered toxic. Many over-the-counter drugs tend to mask symptoms and not support immune health.

**ACCORDING TO RECENT RESEARCH MODERATE EXERCISE APPEARS TO BOOST IMMUNE FUNCTION WHILE INTENSE EXERCISE TENDS TO DEPRESS IT.**

A recent study published in the International Journal of Sports Medicine, (vo1. 4, pp. 275-282) showed that after high intensity exercise, blood concentrations of two key types of white cells (NK, natural killer and LAK, lymphokine-activated killer) were suppressed which causes a decline in immune function. In the study group that performed moderate exercise, concentrations of white cells increased with NO DECREASE in NK cells. Another study looked at the number of colds and flu among marathon runners after a main event. Within one week after the marathon, there were more colds and flu reported than in any other time during training. Dr. Leonard Calabrese, from the Cleveland Clinic, recently discussed a study in which three groups of exercisers were compared for risk of catching cold; little or no exercise, moderate exercise, and intense exercise. Members of the moderate exercise group caught fewer colds than the other 2 groups.

**EXERCISE HAS OTHER BENEFITS TO INCREASE IMMUNE FUNCTION.** Exercise increases circulation of oxygen, blood and lymph which supports immune function. Dr. Calabrese also discussed a study which showed that middle aged women who began a moderate regular exercise program experienced significantly less frequent and less severe upper respiratory infections than women who were inactive. The Journal of Gerontology, Medical Sciences, Iowa State University, published a study that demonstrated that older adults who engaged in regular moderate exercise had improved immune response that was higher than adults who were given the influenza vaccine.

**USE EXERCISE SENSIBLY TO IMPROVE IMMUNE FUNCTION.** Encourage your clients and participant to engage in regular moderate activity, eat a balanced diet that includes fluids and get enough sleep and rest. Space high intensity workouts a few days apart, avoid exposure after those workouts and get ADDITIONAL REST/SLEEP between high intensity sessions. The following ideas are created to help you develop an immunocize class or place techniques in your current classes or personal training sessions to create an awareness of enhancing the immune function.

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## **IMMUNOCIZE CLASS IDEAS**

### **KEEP THE AEROBIC INTENSITY MODERATE**

#### **RELAXATION AND BREATHING**

Be quiet. Uncross arms and legs. Take off shoes. Get centered. Focus on breathing. Observe the breathing as it flows in and out of the body. Give your breath full attention as you breathe in and full attention as you breathe out. If attention wanders, gently pull it back to center and focus again on breathing. Breathe slowly and deeply. Continue until you are “just there”.

#### **VISUALIZATION, GUIDED IMAGERY, POSITIVE AFFIRMATIONS**

Use visualization throughout your class or exercise session. Have participants create their own images of their white blood cell and T-cell defense team. Watch them working to maintain a strong defense and fight off invaders. Know that they are doing their job and feel the health and strength. Supplement the visualization with relaxing music that has strong sounds. Imagine the removal of viruses and bacteria. See the body cleansing and detox. The visualization must be unique to the individual. Keep instructions general.

#### **CHAKRA BALANCE**

The thymus gland is located at the level of the fourth chakra (heart/chest). During relaxation focus on that area of the body; relaxing, calming. Breathe deeply and imagine the breath coming into the body at the chest. Relax and breathe out. Repeat several times. Next imagine visualizing the breath as white light entering the chest, cleansing and purifying. On the out breath, visualize breathing out any darkness or impurities.

#### **YOGA POSTURES**

Cobra, Pidgeon, Fish, Boat, Bow and Bridge help to open the chest and stimulate the thymus and thyroid.

#### **LYMPH DRAIN - THE GORILLA**

From a standing position, gently tap the tops of all 5 fingers at once alternately on the upper chest. Continue with vigor and move the hands all over the upper chest area gently, alternately pounding. Breathe in and make a sound “AAAAAAH” on a slow out breath.

#### **SELF MASSAGE ACCUPRESSURE**

Several acupressure points can reinforce immune function. Gently rub or press the following areas for 10 to 30 seconds. Remember to stimulate both right and left side or stimulate at the same time.

- SEA OF VITALITY - With both hands behind the back at the lower back, spread your fingers out near the second and third lumbar vertebrae approximately two to four finger widths away from the spine.
- THREE MILE POINT, four finger widths below the kneecap, one finger width to the outside of the shinbone
- BIGGER RUSHING, top of the foot, in the valley between the big and second toe
- SEA OF TRANQUILLITY, center of the breastbone, three thumb widths from its base

**MEDITATION**

Relax in a comfortable position. Close your eyes. Just listen. Listen to the sounds all around the room. Continue. Eventually allow your focus flow inward until you eventually hear nothing.

**AROMATHERAPY**

Use mint, lemon, eucalyptus, grapefruit, peppermint, tea tree or thyme.

**LAUGH-I-SAN**

Lie on your back. Comfortably flex your elbows and knees in the air (feet off the floor). Gently fist your hands and begin to alternately pump your hands and feet a very short distance (3-4 inches). Continue. Now start laughing...out loud...Continue until you are belly laughing...Slow down..relax.

**CLEANSING ALTERNATE NOSTRIL BREATHING**

Close off one nostril with your index finger. Breath in and out several times. Repeat on the other side



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## **ART103 QUIZ**

In the body of an email to [askesaoffice@gmail.com](mailto:askesaoffice@gmail.com), place your first and last name on the first line and number the page from 1 to 10. **DO NOT SEND AS AN ATTACHMENT.** Answer TRUE or FALSE to the accuracy of each of the 10 statement below based on the information in this ESA article. You will be emailed a CEC validation certificate of completion, which you must keep for your records. ESA cannot replace lost forms and the article would need to be resubmitted.

- 1 - The thymus, located above the heart, is the major gland of the immune system.
- 2 - The immune system may also react against its own tissue.
- 3 - More than 200 different viruses cause symptoms of the common cold.
- 4 - A cold's symptoms are similar to flu but less severe.
- 5 - One way to strengthen the immune system is to get enough rest and sleep.
- 6 - Dr. Bernie Siegel, says, "peace of mind creates a healing environment in the body."
- 7 - Supplementation should be supervised by a qualified professional.
- 8 - Overuse of antibiotics can weaken the immune system.
- 9 - Many over-the-counter drugs mask symptoms and not support immune health.
- 10 - Moderate exercise may boost immune function while intense may depress it.