

Santé!

Holistic Health News from Dr. Sarah Cimperman

June 2007

Article

Inflammation, Exercise and Aging

Research Review

Exercise Improves Life Expectancy

Ask the Doc

Preventing Gestational Diabetes

Recipe of the Month

Minty Melon Gazpacho

Grapefruit Scallion Salsa

Iced Red Tea with Mint

Quote of the Month

"The body never lies."

Martha Graham

Inflammation, Exercise and Aging

Inflammation has been identified as a key factor in aging. While it's true that chronic inflammation leads to disease and dysfunction, from Alzheimer's to atherosclerosis, acute inflammation can have opposite effects. Not only is it normal and necessary for good health, it can actually reverse processes associated with aging. Examining the causes and effects of inflammation makes this complex process easier to understand.

Inflammation Basics

Inflammation is a form of self-defense against invading microorganisms that cause disease, and also a way for the body to heal itself. Inflammation occurs after tissue injury and in response to foreign cells such as viruses, bacteria and cancer cells. Whether you cut your finger, catch a cold or run a marathon, the mechanism is the same.

The inflammatory process is mediated by a variety of immune cells and dozens of chemical messengers called cytokines in the blood. These mediators increase blood flow to affected areas, supplying the white blood cells and nutrients needed to stop tissue damage, destroy foreign elements, remove waste materials, and rebuild tissues. Tissues grow back stronger, more efficient, and more able to withstand future forces.

Exercise and Inflammation

Despite all of the health benefits of exercise – disease prevention, improved immunity, stress reduction, and improvements in sleep, mood, coordination, flexibility, bone density and insulin regulation – it does cause tissue damage. But because tissue damage turns on inflammation, and inflammation promotes growth and renewal, it has a positive effect on the body.

For example, in response to regular exercise, muscles make more cells. And in each cell, there is an increase in the size and number of mitochondria, the components that provide energy and are often referred to the "powerhouses" of cells. Muscle cells become more efficient in their uptake and use of oxygen and fats from the blood. Exercise also increases the proportion of energy derived from fat and lowers lactic acid production, which makes muscle cells less susceptible to fatigue.

Inflammation and Aging

It can't turn back the clock, but exercise can make us functionally younger because growth and renewal inhibits the deterioration and dysfunction associated with aging. As we age, tissues wear out and break down. But exercise can compensate and slow the process. It may cause inflammation acutely, but in the long term, it reduces inflammation.

Research studies have confirmed that exercise plays an important role in controlling inflammation as we get older. A 2004 study at Ball State University observed the effects of exercise on inflammatory markers in the blood of older adults, specifically a type of cytokines called interleukins. Participants included a dozen healthy men between the ages of sixty-five and seventy-five. Researchers found that in comparison to their sedentary counterparts, men who exercised frequently were found to have significantly lower levels of pro-inflammatory interleukin-6 and significantly higher levels of anti-inflammatory interleukin-10.

Another study examined at the effects of exercise over time. Researchers at the Intercollegiate College of Nursing at Washington State University studied twenty participants aged between sixty and ninety years. One group was sedentary while the other group of adults were engaged in physical activity for regular 30-minute intervals over a period of ten weeks. At the end of the study, the exercisers reported significant improvements in stress, mood and quality of life. They were also found to have significantly lower levels of pro-inflammatory interleukin-6. Even adults who had not been active previously benefited from regular exercise. It's never too late.

Essential Inflammation

According to Chinese proverb, the journey is the reward. It's true: individuals who stay active and engaged in life enjoy better health than their sedentary counterparts. Whether you like to play ball, ride your bike, or dance the night away, exercise makes the body stronger and more efficient. The inflammation of exercise is essential for good health.

Exercise Improves Life Expectancy

Researchers in the Netherlands used data from the Framingham Heart Study to evaluate the effects of exercise on life expectancy in adults over the age of fifty. Participants were divided into three groups based

on low, moderate or high levels of regular physical activity and adjustments were made for age, smoking history and illnesses such as cancer, arthritis and diabetes.

Compared to those engaged in the lowest levels of physical activity, the life expectancy of women who were most active rose by 3.5 years and the life expectancy of men rose by 3.7 years.

Those who exercised the most really did gain the most. Women lived an extra 3.3 years and men lived an extra 3.2 years, free of cardiovascular disease, compared to those who exercised the least. Exercise really can add years to your life.

Franco Oscar H al. Effects of physical activity on life expectancy with cardiovascular disease. *Archives of internal medicine*, 165:2355-2360.

Ask the Doc: Preventing Gestational Diabetes

I developed gestational diabetes when I was pregnant with my son. I am planning another pregnancy, is there any way to prevent a recurrence?

*Michelle
New York City*

Thinking about prevention is a good idea, as women who have a history of gestational diabetes (GD) are at increased risk for recurrence with subsequent pregnancies. Other things that increase risk of GD include being overweight prior to becoming pregnant, previously giving birth to a baby weighing more than 9 pounds or a stillborn baby, and having a family history of diabetes.

Because regular exercise improves insulin sensitivity, it is one of the best ways to reduce risk of gestational diabetes. Get approval from your doctor before you start and consider working with a personal trainer who can develop an appropriate routine and adjust it as needed during your pregnancy.

It's also important to eat protein with every meal and choose complex carbohydrates (whole grains, vegetables, fruit, legumes) over simple carbohydrates (sugar, flour, processed foods) to stabilize blood glucose levels and insulin demand.

Choosing organic foods may be another way to prevent gestational diabetes. It is always a good idea to reduce exposure to toxins, but we have new reason to believe it is especially important during pregnancy. Researchers at the National Institute of Environmental Health Sciences followed over 11,000 women through their pregnancies to study the effects of pesticide exposure. Women who worked with pesticides during the first trimester of their pregnancy had an increased risk of developing gestational diabetes mellitus, compared to unexposed women.

Although exposure to pesticide residue on non-organic foods can be minimal compared to occupational exposure, choosing organic foods is still a good way to reduce pesticide exposure and risk of illness, including gestational diabetes.

Minty Melon Gazpacho

This cool, minty melon soup is refreshing on hot summer days. Serve it as an appetizer or dessert. Chilling the soup changes the flavor, so it is best eaten immediately at room temperature. For an icy twist, replace the fresh raspberry garnish with frozen berries.

Juice of ½ lemon

2½ cups cubed, chilled, ripe watermelon

2½ cups cubed, chilled, ripe cantaloupe

1 tsp honey

1 pinch sea salt

1 to 2 tsp minced jalapeno pepper, to taste

1 handful mint leaves, plus more for garnish

Fresh raspberries to garnish, or finely diced cantaloupe

Add the lemon juice, melon cubes, honey, salt, jalapeno and mint leaves to a blender. Purée until smooth and adjust seasoning if desired. Serve immediately, garnished with fresh raspberries and a sprig of mint.

Grapefruit Scallion Salsa

This salsa pairs well with white fish. Use the whole jalapeno pepper for a spicy salsa, or remove the seeds and membranes before you mince it for a milder version.

1 grapefruit, peeled and diced
1 jalapeno pepper, minced
2 scallions, thinly sliced
1 generous handful fresh cilantro, chopped
Pinch salt

Combine all ingredients in a mixing bowl and toss together. Taste and adjust seasoning if necessary.

Iced Red Tea with Mint

Roobios, or red tea, comes from South Africa. It is caffeine-free and contains high levels of antioxidants. It can be served hot or cold. If you are using fresh mint, save a sprig or two to garnish.

5 Roobios tea bags or 5 tsp dried Roobios leaves
1 generous handful fresh mint leaves, or 2 mint tea bags or 2 tsp dried mint leaves
1 cup boiling water
7 cups cold water
Ice to serve

Pour the boiling water over the Roobios and mint leaves or tea bags and steep for 5 to 10 minutes, depending on preferred strength. Add 7 cups cold water to a large pitcher. Strain the tea into the pitcher, stir to combine and chill. To serve, pour over ice and add a sprig of mint.