2011 YEAR OF THE RABBIT

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TO YOUR HEALTH

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YOUR'RE ONLY AS OLD AS YOUR ARTERIES

By Barbara Chenoweth, NP

It may turn out that the changes in our arteries take place long before we experience any symptoms of heart disease. Just as we measure cholesterol, in the future we may be able to measure the "stiffness" of our vessels and prevent heart events. Current research is pointing to the importance of artery "stiffness" that leads to high blood pressure, heart attack, stroke and cognitive decline.

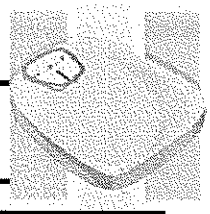
In a recent article, *Nutrition Action Health Letter* reviewed the state of our knowledge about artery stiffness and offered some suggestions for ways to prevent it, (October 2010). We've known that as people age, the flexibility of the arteries declines and the arteries become more stiff. This seems to happen as collagen builds up in the artery walls and makes the walls more rigid. As we age, the elastin proteins tend to stretch out, also making the vessels less flexible.

In addition, the inner lining of the arteries, called endothelium, that regulates the blood flow and maintains the fluid state of the blood, produces less nitric oxide. Nitric oxide is a gas that relaxes and dilates blood vessels. Although it is not fully clear why nitric oxide declines, age seems to play a role as well as life style behaviors. All of these factors result in a build up of plaque, the substance known to cause heart attacks and most strokes, along the artery walls.

As plaque builds up, it narrows the arteries. Narrowed arteries can lead to angina, a type of chest pain that often occurs with exertion when the heart is not getting enough oxygen. Sometimes angina does not produce pain but can cause "atypical" symptoms like shortness of breath, nausea, tingling, sweating, dizziness or pain in the teeth, (*John Hopkins Health Letter, Health After 50,* April 2010). If the supply of oxygen to a certain part of the heart is completely blocked off, a heart attack occurs. Some researches are suggesting that artery "stiffness" may be just as important to measure as LDL (bad) cholesterol.

Artery stiffness produces high blood pressure because the heart must work harder to pump the blood throughout the body. The Baltimore Longitudinal Study showed that measurements of artery stiffness could predict the development of high blood pressure. One third of men and women who had normal blood pressure developed high blood pressure over the following twelve years. This group had stiffer arteries when they entered the study than those who did not develop high blood pressure, the only difference between the groups at the beginning of the study.

Likewise cognitive or brain changes can occur if the arteries cannot easily expand and contract. In the context of high blood pressure, regular bursts of high-pressure from the heart affects the small vessels in the brain. If the small vessels are stiff, they cannot accommodate the bursts of high pressure. This, unfortunately, paved the way for declines in verbal learning skills and memory over the next ten years in the Baltimore Longitudinal Study, (*Nutrition Action Health Letter,* 10/2010).



To date, tests are not available to measure artery stiffness outside of the research setting. However, from the Baltimore Longitudinal Study, we have learned that certain preventive measures can slow down the development of artery stiffness.

Of all measures that a person can take, aerobic exercise has been found to be the most effective for preventing and reducing artery stiffness. Although it is not clear how aerobic exercise works, some think that it may cause the entothelial cells to release nitric oxide that relaxes the vessels. One study found that men who walked briskly for 50 minutes a day, six days a week for eight weeks had a 50% improvement in endothelial functioning. For some reason, the same benefit did not occur in women. Nonetheless, another study showed that physically active women has less artery stiffness than those who were sedentary.

Of dietary measures, sodium and saturated fat were the most highly associated with artery stiffness. In a short experiment, a person ate an appetizer from the Cheesecake Factory, a burger from Applebe's, and dessert from Uno Chicago, consuming 6190 calories! Two hours later the blood was discolored with fat and narrowing of the arteries could be picked up on a research sensor. If more proof is needed about the value of fruits, vegetables and low-fat protein, this is it. Loosing weight, especially in the stomach area, can improve artery stiffness. All of these lifestyle practices are well-known to most of us but the new focus on artery stiffness is yet another reason to make serious lifestyle changes. The good news is that some artery stiffness can be reversed. It's never too late to the change dietary habits or get back to regular exercise.

Weight Management Support Group

Look for information about a new Weight Management Support Group that will be offered in February. Pearl Pressman, a certified weight management consultant and fitness trainer, will lead the 10 week group. The group will focus on goal setting, controlling the environment, portion control as well as coping with emotional eating, cravings and eating out. The emphasis will be on making changes in one's eating behaviors and life style rather than a specific "diet." To sign up, call the Clinic at extension 1380 or, for more information, contact Cherie Asgeirsson, Registered Dietitian, at extension 1102.

HEALTH EDUCATION LECTURE
Thursday, February 3

Sensei Jim True of Shorin Ryu Karate Academy will give a health education talk on *Tai Chi for Wellness and Balance* at 10:30 a.m. in Center Auditorium. Sensei Jim True is the instructor who is leading the new CWV Tai Chi class.