

NEWS From the HEART BEAT

February is Heart Month, so take a moment to reflect on the health of your heart, and check out these findings from the American Heart Association meeting PAT RICH

SMART HEARTS START EARLY



A growing number of today's youngsters have cardiovascular risk factors and need to be treated now. "Children with high blood pressure, obesity, diabetes and high blood cholesterol already show the signs of early subclinical atherosclerosis," said Dr. Sanaz Piran, an internal medicine resident at Hamilton, Ont.'s McMaster University. Atherosclerosis is the obstructive deposition of fatty plaque on the inner walls of the arteries, a condition usually associated with middle age and potentially causing heart attacks and strokes. Piran and her colleagues reviewed 26 international studies of 3,630 children ages 5 to 18. The studies used various non-invasive methods to compare arterial health and blood flow in youngsters both with and without risk factors. The studies documented significantly more artery-clogging plaque and decreased blood flow in children with risk factors for heart disease and stroke. Piran's message? Parents and doctors need to target cardiovascular risk factors in children by ensuring healthy diets rich in fruits, vegetables and whole grains, regular exercise programs and non-exposure to smoking. Parents with family histories of high cholesterol should have their children's cholesterol tested.

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Full of Beans

An overview of studies evaluating the benefits of non-soy legumes shows that other dried beans and peas have beneficial effects on blood cholesterol levels comparable to those of soybeans. A meta-analysis by researchers from Tulane University School of Medicine in New Orleans examined the results of 12 studies involving nearly 300 men and women eating several types of non-soy legumes such as navy and kidney beans, which are more popular than soybeans in North America.

In those with elevated blood cholesterol levels, consuming the equivalent of one half cup (125 mL) of cooked beans daily for at least three weeks resulted in a reduction in both total cholesterol and low-density lipoprotein (LDL), or “bad,” cholesterol. Total cholesterol in those who ate a legume-rich diet dropped by an average of 14 points compared with those on a placebo. Dr. Lydia Bazzano, of Tulane’s internal medicine and epidemiology departments, said the findings provide support for dietary guidelines that call for eating three cups (750 mL) of dried beans and peas weekly – a target that most North Americans are currently “very, very far behind” in reaching. (For tasty and healthy legume recipes, see “Intelligent Eating, Pod Power,” p. 43.)

Flower Power

Move over green tea and make room for herbal. Three cups of hibiscus tea daily can lower blood pressure to the same degree as antihypertensive drugs such as beta-blockers and diuretics — and, by implication, reduce deaths from heart disease and stroke. Nutritional scientist Dr. Diane McKay led a study of the blossom-based tea at the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University in Boston. “Hibiscus is one of the most common ingredients found in herbal tea blends in Western countries,” she said, discussing the results of her study. Experimental studies of the biochemicals found in hibiscus show that it has a variety of protective flavonoid and phenolic compounds, which have antioxidant and blood-pressure-lowering properties.

McKay’s investigation studied 65 healthy men and women ages 30 to 70 who were taking no blood pressure medications and had either pre-high blood pressure or mildly raised blood pressure readings (systolic BP: 120 to 150 mm Hg; diastolic BP: 95 mm Hg or less). They were randomly assigned to drink either an eight-ounce (250-mL) cup of hibiscus tea three times daily or the same amount of an inactive placebo drink that tasted like hibiscus. After six weeks, systolic blood pressure (the top number) was reduced by an average of 7 mm Hg in those drinking the hibiscus tea. The placebo group had only a one-point drop. (This study was funded in part by Celestial Seasonings, the Boulder, Colo.-based company that produces an extensive range of herbal and green teas.)



A VALEDICTORY TO VITAMINS?

The notion of getting antioxidants from a tablet or capsule just took another hit. Regular vitamin C or E supplements provide no protection against cardiovascular disease or stroke, according to a large American study of almost 15,000 physician participants, ages 50 and over, who took the supplements for an average of eight years.

Commenting on the study, nutrition expert Dr. Barbara Howard, senior scientist at MedStar Research Institute in Washington, D.C., said that people should save their money and get their vitamins from foods. "Given these results, it is prudent to follow the guidelines," she said. "People need to balance their calories and activities to maintain a healthy weight and need to eat plenty of vegetables and fruits and whole grains. This is the best way to reduce cardiovascular disease."

Harvard University cardiologist Dr. Michael Gaziano, chief of the Division of Aging at Brigham and Women's Hospital in Boston, led the study (known as Physicians' Health

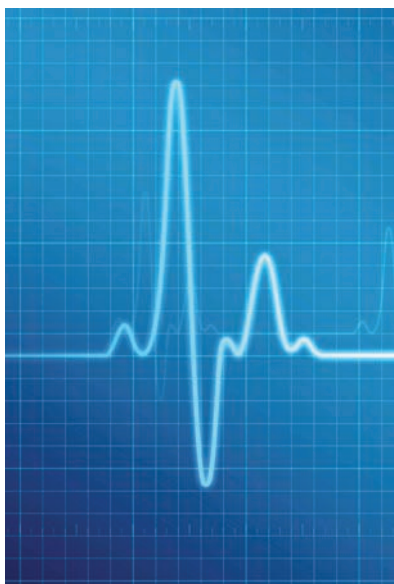
Study II). It was undertaken because vitamins E and C are among the supplements most widely used by the general population. While other studies have also failed to show a definitive beneficial effect for vitamin E against heart disease — despite basic research suggesting it could be protective — this study was the first large-scale trial to study vitamin C alone in a low-risk population.

Participants were randomly assigned to one of four regimens: 400 international units of vitamin E every other day with 500 milligrams of vitamin C every day; vitamin E every other day with a placebo vitamin C; placebo vitamin E with vitamin C; or placebo vitamins E and C. When major cardiovascular events such as heart attacks and strokes were analyzed at the end of the study, no differences among the four groups emerged.

"These data provide no support for the use of these supplements in the prevention of cardiovascular disease in middle-aged and older men," the researchers wrote. And although the subjects were male, added Howard, "nothing suggests that the results are not equally valid for women."



The best way to reduce cardiovascular disease? A healthy weight and plenty of vegetables, fruits and whole grains.




HARVESTING HEART ENERGY

The mechanical pumping of the heart could one day provide the electricity to run its own implanted pacemaker or other cardiac device. In a proof-of-concept animal experiment, U.K. scientists found that a microgenerator powered by heartbeats provided almost 17% of the energy required to run a pacemaker. According to Dr. Paul Roberts, an electrophysiologist from Southampton General Hospital, it should be possible to modify the device to generate all the power needed to keep a pacemaker or defibrillator operating. Although it will be years before such a device is available, he speculated that it could provide a trickle charge at a slow, steady rate to keep pacemaker batteries charged at full capacity and allow them to last longer and offer more functions. "This is very much a prototype and a first study," said Roberts, "but it is important because as more sophisticated pacemakers and other implantable cardiac devices are developed, they will have increasing energy requirements — which, at the moment, means larger batteries." The device was easily implanted in a pig and drew only a fraction of the total energy provided by the heart.



Headphones HAMPER Pacemakers

If you have an implantable cardiac device such as a pacemaker or a cardioverter defibrillator, don't put the headphones for your portable MP3 in your chest pockets or drape them over your chest. According to investigators from the Medical Device Security Center at Beth Israel Deaconess Medical Center in Boston, neodymium, a magnetic substance in headphones, can interfere with cardiac devices when placed within three centimetres (1.1 inches) of them.

They tested eight different models of MP3 headphones — including both clip-on and in-ear varieties — on 60 patients with defibrillators or pacemakers. Placing the headphones on the patients' chests directly over their devices, they found that one brand of clip-on headphones with a high magnetic-field strength caused 23% of patients to experience detectable magnetic interference — those with defibrillators more than those with pacemakers. Another brand caused interference in 3%. Such electromagnetic interference may inhibit a defibrillator's ability to detect a cardiac arrhythmia and shock an abnormally beating heart back into an organized rhythm. Brands with low magnetic-field strength caused no interference. Other studies found no such negative interference from the MP3 players themselves, electric blankets and certain cellphones. 

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