



Nature trumps nurture for heart disease

Everyone knows that heart disease “runs in families,” cropping up across generations and extended families. Genes play a role, of course. But families are bound together by more than DNA. Family members live together, eat together, and influence each others’ attitudes toward smoking, exercise, weight, and a host of other factors that influence heart health and disease.

Swedish researchers have taken a crack at the nature (genes) versus nurture (family environment) question using Sweden’s detailed registry of adoptions along with the country’s comprehensive health records. They examined health records of all 80,214 children born in Sweden after 1931 who were adopted, along with the records of their biological parents and their adopted parents.

Adoptees were more likely to have had a heart attack, angina (chest pain with exercise), or another manifestation of clogged

coronary arteries if they had a biological parent with one of these conditions than if an adoptive parent did. The odds were even higher if both biological parents had heart disease (*American Heart Journal*, published online, July 18, 2011).



A strong family history of heart disease doesn’t guarantee that you’ll develop it, too. But it should alert you to the possibility. If heart disease shows up often in your family, talk to your primary care provider. He or she may go beyond the standard tests and suggest extra ones like measuring C-reactive protein or having an exercise stress test. You may also want to pay more attention to protecting your heart by switching to a healthier diet, getting more exercise, stopping smoking, and learning to reduce stress or manage anger. Making your efforts a family affair could help your loved ones stay healthy as well.

Water exercise safe for troubled hearts

Exercising in a pool is often recommended for people with stiff or painful joints. The water supports the body, which reduces the impact of stepping or jumping. Its resistance also gives muscles a good workout. Is aquatic exercise also a good option for heart attack survivors, people with heart failure, or others with compromised hearts? That’s been a bit controversial.



Some experts have worried that simply standing in water up to the chest might strain the heart. That’s because water pressure on the legs and arms squeezes blood into the chest, which could make the heart work harder.

French researchers explored the cardiac effects of exercising in water with the help of 48 people with either coronary artery disease or heart failure. Half were assigned to a structured exercise program that included daily calisthenics in a warm pool. The other half completed the same program but did their daily calisthenics on land. After three weeks, both groups experienced similar improvements in left ventricular function, blood pressure, resting heart rate, peak heart rate during exercise, and muscle power (*Journal of Cardiac Failure*, August 2011). Some of the improvements were slightly greater with aquatic exercise, but only a larger, longer study could determine if the difference was due to some additional benefit of exercising in water or to the small size of the study.

If you enjoy the water, and want to or need to work out, the French study indicates that aquatic exercise is an option for people with heart disease. A supervised program is probably the safest way to start, at least until you’ve gotten used to exercising in water.

Repeat “zaps” often needed to stop atrial fibrillation

The common heart rhythm problem known as atrial fibrillation is characterized by rapid, erratic beating of the heart’s upper chambers. It has traditionally been treated with drugs. A new procedure called atrial ablation aims to restore a normal rhythm by destroying patches of heart tissue that generate errant “beat now” signals (see the May 2010 *Heart Letter*).

A doctor does this with small bursts of electricity delivered from inside the heart. There’s no need for surgery—the tissue-zapping device is introduced into the heart from an artery in the groin, much like artery-opening angioplasty.

Sometimes a single ablation session is enough to quell atrial fibrillation. But in a new study from California, one-third of atrial fibrillation sufferers needed a second ablation procedure. (This is consistent with other reports, which show a similar percentage.) When the California researchers combined results from patients who had successful first and repeat procedures, 87% were free of atrial fibrillation three years later. The percentage was higher (95%) for those with intermittent atrial fibrillation, often called paroxysmal atrial fibrillation, and lower (78%) for those with long-standing, persistent atrial fibrillation (*American Heart Journal*, July 2011).

The message from this study is that if you and your doctor decide that ablation is the right choice for treating your atrial fibrillation (it isn’t for everyone), count on undergoing the procedure twice, and then be delighted if once is enough.

Two other caveats: In some people, two or even three ablations don’t stop atrial fibrillation. And how long the procedure keeps atrial fibrillation at bay is still up in the air.

To see how atrial ablation is done, watch Drs. Gregory F. Michaud and Roy John, of Harvard-affiliated Brigham and Women’s Hospital, perform it as part of the American Heart Association’s new video series at health.harvard.edu/174.

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