



Harvard Heart Letter

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Wag more: A tale of healthy living

Canine companionship yields heartfelt benefits for many people.

Sometime around the Stone Age, a few docile wolves crept out of the woods to warm themselves by the human campfire. The rest, as they say, is history. Today, nearly half of U.S. households include at least one canine family member. For most owners, the responsibilities and costs are easily outweighed by the unmatched love and devotion that dogs can offer.

Cuddly puppy pictures and gushy sentiments aside, can canine companionship make a real difference in your cardiovascular health? According to Dr. Elizabeth Frates, assistant professor at Harvard Medical School, the answer is an emphatic “yes”—a conclusion backed by the American Heart Association’s 2013 scientific statement on the benefits of pet ownership.

Go for walkies?

Dr. Frates admits that she wasn’t always a dog lover. It was through her research into lifestyle and behavior change that she became a fan of the furry creatures. “We’re in the midst of a diabetes and obesity epidemic in this country. Research shows that people who have a dog are far more likely to get the recommended 150 minutes of moderate physical activity each week,” she says.

It’s pretty easy to see how dogs work their magic. Your dog is the ultimate exercise partner. Unlike a human walking buddy, a dog will never choose to grab a cup of coffee instead of going for a brisk walk, no matter how miserable the weather. Dog owner-



Animal companions offer emotional, social, and health benefits to their humans. Research suggests that dog owners are more likely to meet recommended physical activity goals and tend to have lower blood pressure than people who don’t have dogs.

ship can even encourage physical activity among people who traditionally get less exercise. Walk-

ing with a dog may lessen an obese person’s feelings of embarrassment about his or her appearance and ability to walk. Being out and about with a dog may also enhance your sense of social connectedness by providing opportunities to meet and interact with other people. Finally, a tired dog is a happy dog. You and your pup will likely both sleep soundly through the night after a good day of sniffing and fetching.

Blood pressure and beyond

In multiple studies, dog owners have been shown to have lower blood pressure than non-owners. One small study went so far as

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NEWLY RELEASED:

The Sensitive Gut: Managing gastrointestinal disorders

www.health.harvard.edu/gut

FIVE THINGS TO DO THIS MONTH

1 Walk the dog (yours, your neighbor’s, or a shelter pup).

Canine companionship has heart benefits beyond the extra exercise. (page 1)

2 Learn if you might be a candidate for the new cholesterol drugs.

A biweekly or monthly injection might slash your LDL in half. (page 3)

3 Try tai chi.

This gentle, flowing exercise may help people with heart failure. (page 4)

4 Put more plant-based protein on your plate.

Beans and nuts also provide fiber and healthy fats that are good for your heart. (page 6)

5 Avoid long-term exposure to traffic noise.

It may slightly raise your risk of stroke and shorten your life. (page 8)



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ASK THE DOCTOR

by DEEPAK L. BHATT, M.D., M.P.H., *Editor in Chief*

Should I worry about my fast pulse?

Q My pulse tends to run a little higher than average, usually in the low 90s. Should I be concerned?

A For adults, a normal pulse rate ranges between 60 and 100 beats per minute. So while a value in the low 90s is a little higher than average, it's still considered normal. In people who are otherwise healthy, you generally don't need to worry about a high heart rate unless it is consistently over 100 while you're at rest.

However, if your resting pulse had been lower until very recently, a sudden rise might signify a problem.

There are many possible causes, including a fever, a low red blood cell count (anemia), anxiety, or an overactive thyroid. Dehydration can cause the heart rate to rise, as can consuming too much caffeine. Certain over-the-counter decongestants, including those that contain oxymetazoline (Afrin, Dristan), phenylephrine (Sudafed PE), or pseudoephedrine (Silfedrine, Sudafed) can increase both blood pressure and heart rate. Finally, being out of shape or in poor physical condition is another possible cause.

If any of these conditions applies to you, treating the underlying medical problem or avoiding the culprit substance may help lower your heart rate. Getting in better physical condition will tend to slow your resting heart rate, but check with your physician for advice before starting an exercise regimen.



Getting an MRI if you have a pacemaker



If you have a pacemaker and need an MRI, taking special precautions can minimize the risk.

Q I've had a pacemaker for several years. Does it make sense to replace it with a newer model that is safe during an MRI scan?

A Your concern is valid, given some estimates that many people who currently have an implanted cardiac electronic device will need magnetic resonance imaging (MRI) during their lifetime. Sometimes, computed tomography (CT) scans can be used instead. But MRI is the gold standard for diagnosing certain diseases of the brain and spinal cord.

Implanted cardiac devices (which include both pacemakers and defibrillators) can be damaged by an MRI scan. The powerful magnets can trigger changes in a pacemaker's settings, and this may pose a risk for certain patients, such as those who are completely dependent on their pacemaker.

As you note, several MRI-safe pacemakers have been approved by the FDA in recent years. However, it doesn't make sense to switch your old pacemaker with an MRI-safe model, as the procedure to replace the generator carries some risks. Still, if you end up needing MRI, there are special protocols that doctors can use to minimize the risks. They include setting the pacemaker to a safe mode before the scan, monitoring you closely during the procedure, and reprogramming the pacemaker afterward. You and your physician would need to carefully weigh the risks and benefits of all your options. ♥



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Beyond statins: New medicines for hard-to-manage cholesterol

A novel class of drugs has the potential to pick up the slack where other cholesterol medications leave off.

For decades, statins have been the workhorses of cholesterol-lowering drugs. Now, there's a new kid on the block. In June 2015, an FDA advisory committee recommended approval of two new drugs, alirocumab (Praluent) and evolocumab (Repatha). They belong to a novel category of drugs called PCSK9 inhibitors that are very powerful for treating stubbornly high levels of low-density lipoprotein (LDL) cholesterol, often referred to as “bad” cholesterol.

Despite use of statins and other medications, at least one in five individuals still fails to reach the desired target level for LDL cholesterol. “PCSK9 inhibitors were invented for those people who can't get cholesterol down enough with lifestyle changes and current medication choices,” says Dr. Christopher Cannon, professor of medicine at Harvard Medical School.

A novel approach

PCSK9 inhibitors target a specific protein found in the blood—called proprotein convertase subtilisin/kexin 9—that works to tag the liver's LDL receptors for destruction. When the drug blocks PCSK9, more LDL receptors remain in the liver, where they work to remove more LDL. PCSK9 inhibitors



People with an inherited condition that causes very high cholesterol levels will likely be the first group of individuals to be offered treatment with PCSK9 inhibitors.

can lower blood LDL levels by 50% within just the first week of therapy. Lower LDL generally translates into healthier arteries. But the main objective is to reduce the risk of heart attack, stroke, and death. The results of clinical trials published so far reflect only one to two years of experience with the drugs, so their full cardiovascular benefits probably won't be observed for another few years.

When high LDL runs in families

When the PCSK9 inhibitors enter the market later this year, the first group of people to be treated will likely be those with a condition known as familial hypercholesterolemia (FH), which affects about one in 200 individuals.

Detecting FH

People often don't realize they have FH because they (and their doctors) assume they simply have hard-to-treat high cholesterol. If your LDL cholesterol level was 190 mg/dL or higher before you started treatment, FH is a definite possibility. For children, an LDL of 160 mg/dL may suggest FH. Another red flag is early heart disease (occurring before age 55 in a father or brother or before age 65 in a mother or sister) or very high cholesterol in an immediate family member. If you think you have this condition, have your LDL checked, and if it's very high, seek the advice of a doctor who specializes in lipid disorders.

These people carry a genetic variant that causes cholesterol levels to skyrocket. Often, people with this condition have LDL levels that exceed 350 mg/dL (or 1,000 mg/dL in a rarer form of the disorder). Even treatment with a high-dose statin combined with a second drug such as ezetimibe (Zetia) cannot bring their LDL levels into the range of 70 to 100 mg/dL recommended for people with heart disease. Untreated, a person with FH has a much higher risk of heart attack compared with an unaffected person. In the presence of other cardiovascular risks, the situation becomes even more dire. The drugs' introduction is likely to shed more light on FH and lead people with the disorder to get properly diagnosed and treated (see box).

As experience with the new drug grows, this therapy may make sense for other groups of people. Some people without a diagnosis of FH have LDL that stays stubbornly elevated even when they take high doses of a potent statin. And some people cannot tolerate even small doses of statins without experiencing severe muscle aches.

The downsides

Unlike statins, which are taken as pills and fairly inexpensive, PCSK9 inhibitors are taken via an injection that you administer to yourself once or twice a month. And the price may be more than \$1,100 per month, although the actual cost will depend on a person's insurance coverage. “The cost-benefit ratio of these drugs remains to be sorted out for the various groups of patients, to try to maximize benefit at a reasonable cost for the health care system,” says Dr. Cannon. Given the high price of the drugs, insurance companies may restrict their use to patients who meet certain criteria—for instance, those who still have high LDL despite using the highest tolerable doses of current drugs and who also have a high risk of serious cardiovascular problems. ♥

Tai chi: A gentle exercise that may help heal your heart

Research suggests benefits for a range of cardiovascular conditions.

For centuries, millions of Chinese have practiced the flowing, meditative exercise known as tai chi. In recent years, tai chi's popularity has risen in the United States, thanks in part to growing evidence for its health benefits. Hundreds of studies dating back to the late 1950s show modest improvements for a wide range of conditions, including heart failure, coronary artery disease, and high blood pressure.

As with other mind-body practices such as yoga, tai chi's rewards are thought to arise from its combined focus on movement, breathing, and relaxation.

"Tai chi is a gentle, easily adaptable exercise that integrates physical activity, breath awareness, and a variety of cognitive skills that include focused attention and imagery," says Peter Wayne, assistant professor of medicine at Harvard Medical School and author of *The Harvard Medical School Guide to Tai Chi* (<http://hvrld.me/PKPAp>).

A unique exercise

Tai chi differs from other types of exercise in several ways. The slow, flowing movements are never forced, and your muscles remain relaxed rather than tensed. In contrast to yoga, you don't fully extend or stretch your joints and connective tissues. And you don't have to get down on the floor—a boon for people with limited mobility. The sequence of poses can be done standing or while seated in a chair.

Tai chi has proven especially beneficial for people with heart failure, who tend to be tired and weak as a result of their heart's diminished pumping ability. The upper- and lower-body movements safely strengthen the heart and major muscle groups. Wayne's research

suggests that for people with heart failure, tai chi may improve stamina on par with traditional aerobic exercise. In one small 12-week-long study, those who did tai chi performed even better on a six-minute walk test than those who did aerobic exercise.

Better breathing, less stress

Tai chi offers other benefits as well for heart patients. The deep breathing enhances oxygen uptake, reducing the shortness of breath that's also common with heart failure. This benefit was also seen in a study comparing heart attack survivors who did tai chi versus those who did stretching exercises.

Tai chi also improves quality of life and mood, likely because of the mind-calming aspects of the practice, which is sometimes described as "meditation in motion." Some of the series of poses have evocative descriptions, such

as "wave hands like clouds" or "white crane spreads its wings," that help people stay centered and focused, yet relaxed.

The resulting stress reduction is vital for people with all types of heart disease, given that stress triggers many physiological changes that may harm the cardiovascular system, notes Wayne.



Described as "meditation in motion," tai chi may foster a sense of relaxation that helps lower stress levels.

Benefits for blood pressure and balance

As is true for meditation and deep breathing exercises, tai chi may help lower blood pressure. A review of 26 studies found average drops of several points

in blood pressure values in people who did tai chi. It's not as much as you'd see from taking medication, but it's similar in magnitude to other lifestyle interventions, such as doing modest amounts of exercise and consuming less sodium.

Tai chi also improves balance and lowers the risk of falling, especially in older, frail people. People who've had a stroke (who fall seven times more often than healthy adults) might lower their risk of falling with regular tai chi practice, according to a small study. ♥

Finding a tai chi class

The best way to try tai chi is to take a class at a senior or community center, health club, or hospital. Classes are available at many of the 58 academic health centers throughout the United States that have integrative health programs. Tai chi is also incorporated into many cardiac rehabilitation programs, including those affiliated with several Harvard teaching hospitals. And many assisted living facilities offer tai chi classes free for their residents.

Hour-long classes typically cost around \$15, and some centers allow you to pay by the week, month, or several months. Wear loose, comfortable clothing, and supportive shoes like sneakers. Or you can go barefoot, if you prefer. If you can't locate a class that's convenient for you, you can buy a DVD or search online for a video. The National Center for Complementary and Integrative Health has a short video demonstration of tai chi at www.nccih.nih.gov/video/taichidvd-full.



Images: Thinkstock

Managing a leaky mitral valve

Even if you don't have symptoms, repairing the valve sooner rather than later may be a wise choice.

The four valves of your heart work like one-way swinging doors, opening and closing in a perfectly timed sequence to propel blood through your heart and the rest of your body. But the leaflets (flaps of tissue that make up the valves) and nearby structures don't always function as they should. Perhaps because of the higher pressures in the heart's left side, the valves there are particularly vulnerable to problems. That includes the mitral valve, which separates the left upper and lower chambers of the heart (see illustration).

If the mitral valve is misshapen or misaligned, it can't close tightly between heartbeats, letting some blood spurt backward with each contraction. This backflow, known as mitral valve regurgitation, creates a whooshing sound (called a heart murmur) when heard through a stethoscope. Some people with mitral regurgitation have no symptoms, while others feel breathless or very tired (see box, upper right).

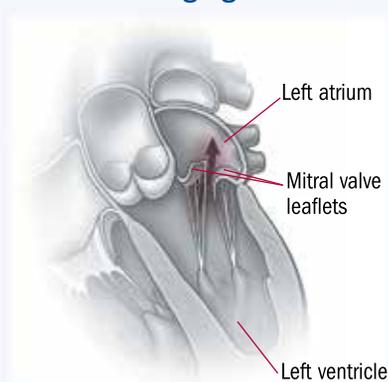
Severe mitral regurgitation can strain the heart and lead to atrial fibrillation or heart failure. That's why many heart surgeons say it's better to fix the valve earlier rather than later—even if you don't have symptoms. "If you have mitral regurgitation, it's not going away. Medications may ease the symptoms, but they can't address the structural problem," says Dr. Lawrence Cohn, professor emeritus at Harvard Medical School.

What causes a leaky mitral valve?

In the past, rheumatic fever, a bodywide infection caused by the bacterium responsible for strep throat, was a leading cause of mitral valve damage. The infection left scar tissue on the leaflets that kept the valve from opening properly or sealing shut. But rheumatic fever is now uncommon in the United States.

Today, most cases occur when the leaflets are deformed or elongated, a condition called mitral valve prolapse or degenerative mitral valve disease. This problem may run in families and affects about 2% to 3% of the population. Over time, the tissue of the valve weakens and stretches, preventing the leaflets from closing properly or from opening fully. Most people with this problem have only trace amounts of harmless regurgitation. But some develop more severe regurgitation.

Mitral valve regurgitation



When the mitral valve can't close tightly, blood flows backward (see red arrow) up into the heart's left atrium.

Another growing cause is known as functional mitral valve regurgitation. It occurs in people with certain types of heart failure or heart muscle disease (cardiomyopathy), in which the heart's left ventricle grows larger than normal. In response to that enlargement, the ring of tissue surrounding the valve leaflets (called the annulus) dilates, explains Dr. Cohn. If the annulus isn't securely anchored in place, the leaflets can't close tightly.

Diagnosis and tracking

Your doctor may suspect you have mitral regurgitation if you have a heart

LEAKY MITRAL VALVE SYMPTOMS

- ▶ Shortness of breath, especially with exertion or when lying down
- ▶ Fatigue, particularly with increased activity
- ▶ Cough, especially at night or when lying down
- ▶ Sensations of a rapid, fluttering heartbeat (palpitations)
- ▶ Swollen feet or ankles

murmur or symptoms of the condition. You'll get an echocardiogram, a test that uses sound waves to create pictures of the heart in action. It measures blood flow back and forth through the mitral valve as well as the diameter of the heart at the end of a heartbeat. People with only trivial amounts of regurgitation don't need routine monitoring. But those with moderate amounts should see their physician once a year, or sooner if they develop symptoms. People with severe regurgitation should be checked every six months.

Fixing the problem

When mitral regurgitation causes symptoms, surgery is definitely in order. But even if you don't have symptoms, your heart's left side may slowly enlarge and lose its ability to pump effectively. "If your heart is enlarging and you wait until you're really sick to have your mitral valve repaired, you may be in big trouble by that point," says Dr. Cohn. As recommended by national guidelines, you should have the surgery at a center that specializes in mitral valve repair, where the likelihood of a successful repair is more than 90%.

When possible, repairing the valve is the best option. The surgeon may trim, shape, or rebuild the tissue leaflets and reinforce the annulus with a prosthetic ring, usually made of cloth-covered metal. But irreparably damaged valves may need to be replaced, either with a mechanical valve or a tissue valve from a cow or pig. ♥

Protein: Which sources are best for your heart?

The types of fat and other nutrients found in plant- and animal-based protein foods should guide your choices.

It's often said that most Americans eat too much protein, but is that really true? A report in the June 2015 *American Journal of Clinical Nutrition* estimates that the average person gets about 16% of his or her daily calories from protein. That's actually on the lower end of the range suggested by the Institute of Medicine, which is 10% to 35% of calories.

"The exact amount of protein that's optimal for people to eat remains unclear and probably varies by age," says Dr. Walter Willett, professor of epidemiology and nutrition at the Harvard School of Public Health. A general rule of thumb is to multiply your weight by 0.36 for the recommended number of grams per day, or use the USDA's calculator at <http://hvrld.me/PXgLh>.

Protein: Plant vs. animal

But it's just as important—perhaps even more so—to focus on the source rather than the amount of protein you're eating. Plant-based protein sources (beans and nuts) also include healthy unsaturated fats and fiber, both of which help lower harmful LDL cholesterol levels. Fiber also helps lower blood pressure, and most Americans are woefully short on this key nutrient. Most animal-based protein sources contain saturated fat, which is less healthy than unsaturated fat. Red meat and eggs also contain a compound called carnitine that, when broken



Fiber-rich and low in fat, beans are one of the best sources of heart-healthy protein.

down by gut bacteria, forms a substance that's been linked to hardening of the arteries. Certain types of fish, on the other hand, are rich in omega-3 fatty acids, which may help prevent blood clots, calm dangerous heart rhythms, and lower blood pressure.

Below are additional tips on various protein-rich foods.

► Legumes (beans and peas).

If it grows in a pod, it's a legume. Choose from black beans, garbanzos, pintos, split peas, and many more—including soybeans, which come in a variety of forms, such as fresh whole green beans (edamame), soy milk, and tofu. Eating beans has been linked to a lower risk of heart disease. Add them to soups, stews, or salads, or try bean-based dips such as hummus.

► **Nuts.** These include walnuts, almonds, cashews, pistachios, and a host of others, including peanuts (though they're technically a legume). People who eat nuts regularly may be less likely to die of heart disease than those who rarely eat nuts. Eat a small handful (about a quarter-cup) a day.



► **Fish and shellfish.** Fatty fish such as salmon and tuna are a good way to get heart-healthy omega-3 fatty ac-



ids, and people who eat fish may have fewer heart attacks than those who avoid it. For this reason, the American Heart Association recom-

mends eating at least two servings a week. Other varieties of fish and seafood are good sources of protein as well and often low in fat.

► Dairy products (milk, yogurt, and cheese).

Because dairy contains saturated fat, experts have long recommended choosing low-fat or nonfat versions. However, most studies show no link between heart disease risk and dairy products, regardless of milk fat levels. The national dietary guidelines recommend two to three servings of dairy products daily, but Dr. Willett advises sticking to one to two servings daily. With such limited amounts, full-fat versions are okay, he says. "The worst are low-fat dairy products that include added sugar, which includes most low-fat yogurts," he adds.



► **Eggs.** Eating an egg a day appears to be neutral as far as heart disease risk goes. But for people with diabetes, eggs appear to elevate heart disease risk. So if you have diabetes, limit yourself to no more than three eggs a week.



► **Poultry (chicken and turkey).** Compared with red meat, poultry has fewer calories and much less satu-

continued on p.7 ►►

to explore if dog ownership could serve as a treatment for high blood pressure. Thirty people with borderline hypertension were assigned either to adopt a dog from a shelter or defer adoption to a later date. Blood pressure was similar in both groups at the start of the study. But over five months, systolic blood pressure (the first number in a reading) was significantly lower in the dog-adoption group. Later, blood pressure also declined for the other group, once they took their dogs home.

Stress busters

Interacting with a dog is calming for humans (and for the dogs, for that matter). People with dogs appear to have less cardiovascular reactivity when they are mentally stressed, meaning their heart rate and blood pressure go up less and return to normal more quickly. Researchers attribute this effect to a reduction in levels of the stress hormone cortisol. Among older adults in particular, dog ownership seems to confer a sense of well-being.

Dogs may also soothe loneliness and combat anxiety and depression. These positive responses may result from the release of oxytocin, a powerful hormone and brain chemical secreted by the pituitary gland during

How to walk a dog in 5 easy steps

1. Set your goal. Dogs need to exercise at least once a day. A good rule of thumb is to walk a dog a minimum of two blocks for every 10 pounds of the dog's body weight.

2. Chart your course. Choose a walking route that's fun and safe for both you and your dog. Avoid busy roads if your dog is fearful around traffic. Also, climbing hills or traversing uneven terrain may be too challenging if you or your dog are out of shape or have physical limitations.

3. Practice leash skills. To make walking work as a form of exercise, teach your



dog to heel on a leash, or you'll spend most of your time wrangling the dog and not getting up to walking speed.

4. Design your regimen. As with other aerobic activities, begin with a five- to 10-minute warm-up, then proceed to at least 10 minutes of brisk walking. Finish up with a five-minute cool-down period to let your heart rate return to normal.

5. Cool off and check in. Fill a water bowl after each outing so your dog can drink freely. Be aware of signs of overexertion in your dog, such as heavy panting, limping, or excessive sleeping.

Source: Harvard Medical School Special Health Report, Get Healthy, Get a Dog (www.health.harvard.edu/DOG)

social bonding activities. Because the power of touch appears to be a major component of this “pet effect,” cat owners should not despair. Time spent with feline friends may offer a comparable heart-calming payback.

Not a pill

If you think getting a dog may be just what the doctor ordered to improve your heart health, Dr. Frates says it's essential to understand what makes the

canine connection so powerful. “A dog is not a pill like a cholesterol-lowering agent. The advantage comes out of the behavior changes that need to take place in order for you to walk and care for your dog,” she says. If your living space or work schedule doesn't accommodate dog ownership, there are other avenues for achieving canine camaraderie. You can offer to take a neighbor's dog out for a daily jog or volunteer your dog-walking services at a local animal shelter. ♥

Protein... from p. 6

rated fat, so it's a healthier choice. There's no need to remove the skin before cooking, as it seals in moisture. The fat in chicken skin is mostly unsaturated, so feel free to eat it if you enjoy it, says Dr. Willett.



► **Red meat (beef, lamb, and pork).** Because other protein options are

healthier, Dr. Willett recommends eating red meat only occasionally—or at least limiting yourself to one serving a week. The proposed 2015 federal dietary guidelines also advise limiting red and processed meat, noting that a plant-based diet is “more health-promoting.” Also, if you care about your contribution to climate change, limiting red meat intake is one of the most important steps you can take, he adds.



► **Processed meat (bacon, sausage, hot dogs, and deli meats).** Compared with fresh meat, processed meat has preservatives, slightly more fat and calories, and four times the salt.

These differences may explain why research finds that people who eat processed meat once a day have a higher risk of heart disease and diabetes than those who pass up processed meats. ♥





RESEARCH WE'RE WATCHING

Higher blood levels of unsaturated fats linked to longer life

A diet rich in polyunsaturated fats—found mainly in vegetable oils and fish—seems to protect people against cardiovascular disease. A new study that measured blood levels of these fats in older adults now lends further support to this observation.

The report, in the June 17, 2015, *Circulation*, included more than 4,200 Swedish men and women without heart disease who were 60 years old when they joined the study. Researchers then tracked the participants'



deaths over the following decade and a half. People with the highest blood levels of these beneficial fats were less likely to die from heart disease or any other cause than those with the lowest levels. Measuring the blood levels of these fats may be more reliable than asking people to recall what they ate, the researchers note.

Good sources of polyunsaturated fats include vegetable oils such as soybean, canola, safflower, and sunflower oils and fatty fish like salmon, tuna, and herring.

Coronary artery calcium score may predict odds of dying

A noninvasive test called a coronary artery calcium (CAC) scan, which measures specks of calcium in the heart's arteries, can help predict a person's risk of heart disease. New research suggests that a CAC score (which ranges from 0 to 1,000 or more) also can accurately predict a person's risk of dying over the following decade and a half.

The study included 9,715 people who were referred to a cardiology clinic and underwent CAC scans. All had risk factors for heart disease (such as high blood pressure, diabetes, or a family history) but no symptoms. During the nearly 15-year

follow-up, people with scores of 400 or greater had a 20% risk of dying of any cause. By comparison, the risk of death was only 3% for people with no signs of calcium in their arteries (a CAC score of 0). The study appears in the July 7, 2015, *Annals of Internal Medicine*.

Despite the possible benefits of a CAC scan—which include more aggressive treatments to lower heart disease risk for people with high scores—the tests are not risk-free. There's theoretically a very small cancer risk caused by radiation exposure from the test, estimated to potentially affect 12 of every 10,000 people screened.

Traffic noise may raise stroke risk

A constant drone of low-level traffic noise may slightly raise your risk of cardiovascular disease, according to British researchers.

The study included data from the nearly 450,000 people admitted to London hospitals with cardiovascular disease over an eight-year period. Researchers estimated how much traffic noise these people were exposed to, day and night.

Compared with an average noise level below 55 decibels, levels above 60 decibels were linked to higher rates of being hospitalized for a stroke—about 9% higher among those 75 and older and 5% higher in people ages 25 to 74. Deaths from

all causes were 4% higher for people in noisier neighborhoods. The results were adjusted for socioeconomic factors, smoking, air pollution, and other measured confounding factors.

Sixty decibels is comparable to the sound in a crowded restaurant, so not especially loud. But the cumulative effect over years could raise stress hormones, which can contribute to cardiovascular risk, the authors say. The study was published online June 23, 2015, by the *European Heart Journal*. ♥



Images: Thinkstock

What's coming up:

- ▶ Heartburn vs. heart attack
- ▶ Validating the new statin guidelines
- ▶ How to add more fruits and veggies to your diet
- ▶ Abdominal aortic aneurysms: What you need to know