



Harvard Heart Letter

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Muscle aches from statins: Real, but sometimes imagined?

The “nocebo effect” may explain why some people believe they can’t tolerate statins.

For more than 20 years, cholesterol-lowering statin drugs have been a mainstay for preventing and treating heart disease. But up to half of people prescribed these drugs are no longer taking them within a year or two. The reasons vary, but some people experience what they believe to be statin-related side effects—most often muscle pain. Others avoid statins altogether because of worries over side effects.

“Far too many people think they cannot tolerate statins when they actually can,” explains Dr. Jorge Plutzky, director of preventive cardiology at Harvard-affiliated Brigham and Women’s Hospital. To be clear, muscle problems are a known side effect of statins. However, serious muscle-related complications are extremely rare (see “What is rhabdomyolysis?” on page 7). And when people experience the more common—but less worrisome—muscle-related symptoms, those issues usually resolve with a lower statin dose or a change to a different statin, Dr. Plutzky says.

Statin myalgia: How common?

The muscle aches, soreness, or weakness people experience when taking statins are referred to as statin-associated myalgias. But the true incidence of these symptoms has

proved hard to pin down. In studies of people who are randomly assigned to take a statin or a placebo (but don’t know which one), about 5% to 7% of people in both groups report muscle-related side effects. Together, these randomized, blinded studies included more than 170,000 people followed over several years. But in observational studies and in real-world settings (that is, clinics and doctor’s practices), more people taking statins say they have muscle aches or pains, with rates ranging from 10% to as high as 29%.

The reason behind those higher real-world rates is unclear. One possibility is that people who volunteer for studies may be different from those who don’t. And people who are prescribed statins may have other health conditions that can cause aches and pains, including obesity, arthritis, or just aging.

The nocebo effect

Yet another possible explanation is the dark side of the placebo effect—the nocebo effect. The nocebo effect occurs when people experience negative effects from a drug, placebo, or other treatment based on an expectation of harm. Many factors can fuel that expectation,

continued on p. 7 ►►



Cholesterol-lowering statins are among the most frequently prescribed medications.

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FIVE THINGS TO DO THIS MONTH

- 1 Try a subscription meal delivery kit.** They’re often less expensive and healthier than your average takeout meal. (page 3)
- 2 Take a yoga class.** The benefits may include more flexibility and balance—both physical and emotional. (page 5)
- 3 Learn the warning signs of deep-vein thrombosis.** This condition is most likely to occur soon after surgery or hospitalization. (page 6)
- 4 Sleep at least seven hours a night.** Poor or insufficient sleep is linked to early signs of atherosclerosis. (page 8)
- 5 Strive for at least 10,000 steps per day.** This habit seems to be associated with healthier, more flexible arteries. (page 8)



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ASK THE DOCTOR

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

What happens if my stent stops working?

Q I just got a stent placed in my heart artery and feel great again. If it develops problems, can it be treated?

A Stents, the tiny wire-mesh tubes used to prop open blocked arteries, are useful for treating heart attacks and chest pain that occurs with physical activity. They're placed during a coronary angioplasty and stenting procedure, which usually involves snaking a thin tube (catheter) through a vessel in the upper thigh or the wrist up to the heart. After more than two decades of use, today's stents are safer and more effective than the original versions. Problems can still arise, but they are uncommon and treatable.

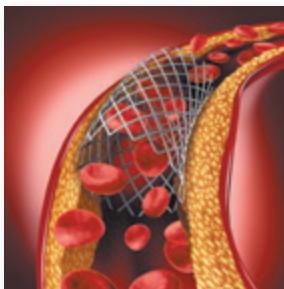
A little history about stents may help you understand the challenges they can pose. The first stents were bare metal. Sometimes, cells in the artery walls multiplied and grew through openings in the stent, blocking blood flow. This process is known as restenosis. Coating stents with a drug that gradually seeps into the surrounding tissue slowed down the overgrowth of those cells.

But another problem soon came to light. The drugs sometimes prevented any cells from covering the stent. Without that protective sheath, blood clots can form on the stent, creating a problem known as stent thrombosis. That's why people who receive a stent take anti-clotting drugs to minimize the risk of a clot forming inside the stent.

Today's third-generation stents use different drugs. They create a layer of cells inside the stent that's not so thick that it causes restenosis, but not so thin that it attracts a clot. But you still need to take anti-clotting medications, such as aspirin and clopidogrel (Plavix), usually for at least six months to one year, though potentially

longer, depending on the reason for the stent in the first place. So be sure to follow your doctor's advice regarding those medications and any others you take for heart disease, such as statins and blood pressure drugs.

Don't forget that your other coronary arteries, and other spots in the same artery, may have cholesterol-filled plaques that could cause blockages. So, do everything you can to keep that atherosclerosis in check: eat plenty of plant-based foods and exercise regularly. Those other arteries are probably more likely to cause a problem down the road than the one you have already had stented.



Artery-opening stents have improved over time.

However, in the event that a stented artery closes up, it can be reopened. Doctors can maneuver a drug-coated stent wrapped around a balloon into the middle of the closed-up stent. Inflating the balloon pushes aside the material obstructing the old stent and opens the new one. Sometimes, it's necessary to first use a tiny drill or laser to cut through the obstruction. Another possible option is bypass surgery, which involves grafting a blood vessel that is taken from the chest, arm, or leg to bypass the blocked heart artery. ♥



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Because of the volume of correspondence we receive, we can't answer every question, nor can we provide personal medical advice.

Meal delivery plans: Should you give one a try?

These trendy programs may encourage healthier eating and even weight loss. But consider the cost and sustainability.

For people who don't have the time, energy, or interest to plan and prepare their own meals, a subscription meal delivery service may be an appealing option. A growing number of companies will deliver partly (or even fully) prepped meals right to your door. Many cater to a variety of dietary preferences, including vegetarian and gluten-free. Some are geared toward people seeking to lose weight or who have diabetes, and at least one provides low-sodium meals.

If you're concerned about preventing or treating heart disease, what

should you consider before trying one of these plans? That depends on your particular situation, says Kathy McManus, director of the Department of Nutrition at Harvard-affiliated Brigham and Women's Hospital.

When you need convenience

"For example, if you have heart failure or are recovering from heart surgery, you may have little energy to shop or cook," she says. If that's the case, meals that require very little preparation beyond simple reheating are your best bet. One such option is BistroMD, a company created by a physician who noticed that many of her patients struggled to plan and cook healthy meals.

This plan can accommodate a low-sodium diet—1,500 milligrams (mg) per day—which is sometimes recommended for people with heart disease. But there are no vegetarian options,

and the plan is primarily focused on helping people lose weight.

Looking to lose weight?

If your main goal is shedding pounds—which will definitely benefit your heart—there are several options. One of the best known is Nutrisystem. Its



Subscription meal kits deliver fresh ingredients and novel recipes. They may encourage people to cook more often and eat more healthfully.

microwavable meals and packed snacks mean you don't have to think about portion size or count calories or carbs. However, the shelf-stable foods are highly processed, with additives to make them last longer. You can add fresh

vegetables and fruits to your meals, but that means you'll still need to go to the grocery store, says McManus. According to the company, the plans provide about 2,000 mg of sodium a day, a good limit for most people.

The similar South Beach Diet also ships pre-packed foods, but the overall diet is lower in carbohydrates, so the meals have slightly more lean protein and vegetables. "They pay attention to saturated fat levels and try to encourage whole grains," notes McManus. The structured aspect of both plans (which provide three meals and two to three snacks daily) may help people avoid unhealthy snacks and takeout meals.

One potential downside is the cost, which is around \$300 per person per month, although that's about the same amount you'd pay for mostly home-prepared meals with a liberal (as opposed to a moderate or thrifty) food budget,

according to the USDA. Other common complaints: people get bored of the packaged meals, and they miss going to restaurants and having friends over for meals, says McManus. And, she adds, "Maybe you'll lose a few pounds, but you won't really learn how to incorporate healthier foods into your diet over the long term."

On the other hand, meal kits that include fresh foods may actually encourage healthier eating. One company, Blue Apron, recently partnered with WW (formerly Weight Watchers) to create meals that fit with the popular diet plan's "SmartPoints" system. But there are many other companies, such as HelloFresh, Sun Basket, and Plated Joy. The pre-portioned ingredients arrive once a week in insulated packaging, along with step-by-step instructions and photos. You may spend anywhere from 20 to 40 minutes preparing the meals, which cost about \$10 to \$12 per person.

Inspiration in a box?

"Meal kits can help people become more comfortable in the kitchen and try new foods and cooking techniques," says McManus. Look at a few of the sample menus to make sure the recipes seem appealing before you commit, and select a plan with dietitians in charge of the menu, if possible. Choose meals that are plentiful in vegetables, beans, seafood, or poultry rather than those focused on red meat or cheese, she recommends. One that may fill that bill is Terra's Kitchen, which follows the principles of the Mediterranean diet, long recognized as a heart-healthy eating pattern. If you're looking for inspiration to eat more plant-based meals, Purple Carrot offers meals that are 100% vegan.

But for a more affordable option, take advantage of your local supermarket's delivery service. Many offer online ordering options to let you easily choose all the healthy foods you need—and avoid the temptation of the bakery, soda, and candy aisles. ♥

Heart rhythm monitoring with a smartwatch

These wrist-worn devices are better than ever at gathering data. But it's still too early to use them to screen for atrial fibrillation.

The original wristband monitors were pretty basic: they tracked your movement and tallied your daily steps. But before long, these digital devices could also estimate your heart rate, thanks to a sensor that measures changes in blood flow through your skin. Now, there are smartwatches with special sensors that can record a tracing of your heart's electrical signature (electrocardiogram or ECG) and alert you if it detects an irregular rhythm.

Last fall, the FDA granted Apple approval for the ECG sensor and an app that includes an algorithm to detect atrial fibrillation, or afib, the most common heart rhythm disorder (see “What is atrial fibrillation?”). While the Apple Watch Series 4 is the first of its kind to offer this feature, other companies have similar technologies in the works.

Currently, some 50 million people wear activity-tracking devices, a figure that's expected to rise to more than 160 million as smartwatches become increasingly popular. “Using digital technology for personal health applications will soon become ubiquitous,” says Harvard Medical School professor Dr. Peter Zimetbaum, director of clinical cardiology at Beth Israel Deaconess



Some smartwatches can now record a tracing of the heart's electrical signature.

Medical Center. But using a smartwatch to screen for afib is premature, he says.

Limitations to consider

The main reason is that the current algorithms to detect afib are okay but not great, says Dr. Zimetbaum. “Probably 30% of the data are uninterpretable or inaccurate,” he says. This is partly because of factors that affect the ECG reading, including movement (of either the person or the smartwatch), environmental conditions such as lighting and temperature, and skin color. Also, your heart sometimes skips a beat or adds an extra one, and these harmless, so-called ectopic beats can throw off the reading.

What is atrial fibrillation?

Atrial fibrillation (afib) is a heart rhythm disorder that causes a rapid, irregular heartbeat. These bouts may occur for occasional, brief periods or much longer—even permanently in some people. About 2% of people younger than 65 have afib, while approximately 9% of people ages 65 and older have the condition. High blood pressure, obesity, and diabetes also increase the odds of having afib.

Possible symptoms include shortness of breath, fatigue, and dizziness. But sometimes, it goes unnoticed. Recognized or not, this erratic heart rhythm can cause blood to pool in the heart's upper chambers. This increases the likelihood of clots, which can travel to the brain and block blood flow, causing a stroke.

For the average person, it might seem like the more information about your heart, the better. But for physicians, all that data present a serious problem. Doctors simply can't be fully available to review smartwatch ECG tracings sent by their patients. Interpreting the tracings takes time, especially when you need to sort through unusable data, Dr. Zimetbaum says.

Even if your smartwatch correctly pinpoints an episode of afib, you may still face a quandary. It's not clear what burden of afib—that is, how long it lasts and how often it occurs—must be present before the condition becomes worrisome. If an ECG in a doctor's office shows afib, odds are the person has had afib for a while, because it would be highly unusual to randomly catch a short episode during the 10-second test. But if a device that someone wears all the time picks up 15 seconds of afib, we don't know what to do with that information, Dr. Zimetbaum explains.

Treatment questions

To date, there is no evidence that finding unrecognized or “silent” afib will lead to better health outcomes, even among older people at risk for afib. Treating afib may involve taking anti-clotting medications, which increase the risk of bleeding. Doctors tend to prescribe those drugs when the risk of a stroke outweighs the risk of bleeding. But the stroke risk associated with silent afib isn't fully understood. However, ongoing studies should help clarify the issue, says Dr. Zimetbaum.

In the meantime, using a smartwatch that detects heart rhythms is reasonable for some people, he says. For instance, you could use the watch to record an ECG if and when you have symptoms such as palpitations or a rapid heart rate. (Note that it cannot tell you if you're having a heart attack.) But talk with your cardiologist about whether to use this tool for your particular situation, Dr. Zimetbaum advises. ♥

How yoga may enhance heart health

In addition to boosting fitness and easing stress, yoga may also help you embrace a healthier lifestyle.

Many people think of yoga mainly as an activity that promotes flexibility and balance. But this ancient tradition also includes breathing exercises, relaxation, and meditation. Together, these practices can lead to measurable improvements in factors connected with cardiovascular health, such as lower blood pressure, better sleep, and less artery-damaging inflammation.

“There are four distinct but interconnected areas in which yoga has specific benefits, not just for heart disease but any disease,” says yoga researcher and neuroscientist Dr. Sat Bir Singh Khalsa, assistant professor of medicine at Harvard Medical School. Following are summaries of the four areas.

Better overall fitness

Active forms of yoga, such as power or Vinyasa yoga, are listed as examples of moderate-intensity exercise in the federal exercise guidelines. But the less-vigorous forms of yoga (as well as the active forms) boost muscle strength, flexibility, and balance. These features, which are often overlooked in other forms of exercise, are vital for overall physical fitness and well-being, Dr. Khalsa says. Yoga also encourages deep, slow breathing, which helps lower blood pressure by an average of five points after a few months of regular practice, research suggests.

Sustained self-regulation

The relaxing, meditative aspect of yoga can build up your emotional resilience, helping you to stay calmer during times of stress. Stress—an unavoidable part of our daily lives—activates the body’s fight-or-flight response. This triggers a rise in heart rate, blood pressure, and the release of stress hormones, all of which

are hard on your cardiovascular system. Yoga helps activate the opposite effect, known as the rest-and-digest response. Over time, a regular yoga practice cultivates this “relaxation response,” enabling you to be less reactive to stress and intense emotions, Dr. Khalsa maintains. A single 90-minute session of yoga can lower levels of the stress hormone cortisol, according to one study.



Many yoga classes include breathing exercises, relaxation, and meditation in addition to poses that build strength, flexibility, and balance.

Greater mind-body awareness

In a 2012 survey from the National Center for Complementary and Integrative Health, more than 80% of yoga enthusiasts said the practice decreased their stress. Nearly two-thirds reported that yoga motivated them to exercise more regularly. And four in 10 said they were inspired to eat healthier. These changes may reflect the heightened mind-body awareness that yoga practitioners experience. “You’re more aware of the positive feelings you enjoy when you eat healthy foods and exercise. You’re also more likely to notice the negative effects of eating junk food and sitting on a couch all day,” says Dr. Khalsa. Making healthy lifestyle changes is perhaps the most important thing you can do to prevent heart disease, he points out.

Transformation over time?

After years of doing yoga, some people find that the practice transforms their lives to an even greater degree. “They have a different perspective on the meaning and purpose of their life, and their goals become less materialistic and more spiritual and charitable,” says Dr. Khalsa. While the relevance to heart disease may be tenuous, some research has found that people with a higher sense of purpose in life are less likely to have a heart attack, stroke, or related cardiovascular problem compared with people who have a lower sense of purpose.

Moreover, there’s good evidence dating back to 1990 that a lifestyle that includes yoga as one of its four key components (along with a low-fat vegetarian diet, moderate exercise, and the maintenance of loving, supportive relationships) can actually shrink blockages in arteries, without the use of medication. In fact, the Ornish Lifestyle Medicine program (www.ornish.com) is so well accepted that Medicare has been reimbursing participants since 2010.

Getting started with yoga

If you’re new to yoga, seek out a beginner or “gentle” class, especially if you’re over 65 or have any medical conditions. To reap the greatest reward, find a class that features all four pillars of yoga: postures, breathing practices, deep relaxation, and meditation. In addition to dedicated yoga studios, many health clubs and community or senior centers now offer classes.

You might need some persistence to find a teacher and style of yoga that resonates for you. It’s like buying a car, says Dr. Khalsa. “You wouldn’t walk onto a car lot and buy the first car the dealer recommends. You shop around.”

For more information on starting a yoga practice and its other health benefits, see the Harvard Special Health Report *An Introduction to Yoga* (www.health.harvard.edu/yoga). ♥

Deep-vein blood clots: What you need to know

Learn how to recognize and prevent this dangerous condition, known as venous thromboembolism, or VTE.

When a blood clot blocks an artery supplying the heart or the brain, the result is a heart attack or stroke. Most Americans are familiar with these two serious health threats. But they're probably less familiar with the dangers of venous thromboembolism, or VTE—a clot that forms in a vein.

A clot in the leg or arm, known as deep-vein thrombosis, can cause pain, swelling, and redness in the affected limb. But the real threat occurs if the clot breaks off and travels to the lungs, causing a pulmonary embolism.

“Venous thromboembolism is the third most common cardiovascular cause of death,” says cardiologist Dr. Gregory Piazza, assistant professor of medicine at Harvard Medical School. Most VTE fatalities are due to pulmonary embolisms.

Shared risks

There's a growing recognition that the same things that make people prone to heart attacks and strokes also leave them vulnerable to venous clots, says Dr. Piazza. A recent study found that three factors that raise cardiovascular

risk—older age, smoking, and being overweight or obese—are also strongly linked to a higher likelihood of VTE.

But a number of other factors can trigger a VTE, which occurs in an estimated one in 1,000 people in the United States each year (see “What puts you at risk for VTE?”). If you have one of those factors, it's known as a “provoked” VTE.

Treatment trends

People with VTE usually receive injected anti-clotting medications for a few days, followed by pills known as direct oral anticoagulants; examples include apixaban (Eliquis), dabigatran (Pradaxa), and rivaroxaban (Xarelto). Normally, people take these drugs for at least three months. People who have an “unprovoked” VTE (meaning they had no obvious risk factors) have up to a 50% chance of having a second VTE over the following 10 years, says Dr. Piazza. They're usually advised to stay on anti-clotting drugs long-term, provided they have a low risk for bleeding, an uncommon but serious side effect from these drugs. That advice also

What puts you at risk for VTE?

Anyone can develop venous blood clots, but the following factors leave you more vulnerable:

- ▶ **Family history.** Certain inherited conditions make the blood more likely to clot; the most common is factor V Leiden, which affects about 5% of whites.
- ▶ **Age.** The risk increases as people grow older.
- ▶ **Decreased blood flow.** The underlying reason is usually inactivity due to extended bed rest, prolonged travel, paralysis, or stroke.
- ▶ **Hospitalization.** Being hospitalized for any reason raises your risk.
- ▶ **Injury to a vein.** This most often results from a broken bone, surgery, or a severe muscle injury.
- ▶ **Increased estrogen.** Pregnancy or the use of birth control pills or hormone therapy increases risk.
- ▶ **Chronic medical conditions.** These include obesity, cancer, lung disease, kidney disease, and inflammatory bowel disease.

Source: American Society of Hematology.

might extend to some people with provoked VTEs, because certain provoking factors (such as inherited clotting disorders and obesity) don't go away, says Dr. Piazza.

Symptoms of venous thromboembolism

Deep-vein thrombosis

The affected area may be

- ▶ tender or painful, with no known cause and worsening over time
- ▶ swollen, red, and warm to the touch.

If these symptoms linger for more than a few hours, call your doctor for advice.

Pulmonary embolism

Symptoms may include

- ▶ difficulty breathing that happens suddenly, without an explanation
- ▶ chest pain or discomfort, which usually worsens with a deep breath or coughing
- ▶ a fast or irregular heartbeat
- ▶ very low blood pressure
- ▶ coughing up blood
- ▶ feeling lightheaded or faint.

If you have these symptoms—especially if they worsen quickly over a period of hours or persist—call 911 right away.

Take-home advice

To lower your odds of VTE, habits that lower your risk of heart disease (such as not smoking, eating a healthy diet, and being active) will help. The vast majority of venous clots occur in people recently discharged from the hospital, says Dr. Piazza. During your recovery at home, don't sit on the couch all day; follow your doctor's advice to be as active as you can, he says. And be sure to know the warning signs (see “Symptoms of venous thromboembolism”). ♥

Muscle aches from statins ... from p. 1

including the side effects listed on a prescription bottle, an anecdote from a friend or family member, or an article found on an Internet search for “statin side effects.”

Dr. Plutzky sees this phenomenon among his lipid clinic patients, and there’s also documented evidence of this effect. For a study comparing two non-statin drugs, evolocumab (Repatha) and ezetimibe (Zetia), researchers recruited about 500 people with a history of statin intolerance. But before the actual study started, they gave half the participants a statin while the other half took a placebo for 10 weeks. Then, after a two-week washout period, those on statins took placebos and vice versa for another 10 weeks. This blinded study was done to confirm that the participants could not tolerate statins.

Only about 43% were truly statin intolerant; that is, they had muscle symptoms while taking the statin but not while taking the placebo. Some had no muscle symptoms on either treatment, while others experienced symptoms only while taking the placebo—on both treatments.

Intolerant or not?

These findings suggest that a fair number of people who think they can’t tolerate statins may be mistaken, says Dr.

Plutzky. But the findings also reaffirm that some people are truly statin intolerant. If you develop muscle pain while taking a statin, how can you tell if the drug is responsible? The statin may be causing the problem if the ache or pain

- ▶ is recent: the ache or weakness usually begins within a few weeks of starting the statin (but usually not right after the first dose or two)
- ▶ was not present before the statin was started
- ▶ is symmetrical: the muscle problem affects both sides of the body (if the ache is in one leg, for example, it’s less likely to be from the statin)
- ▶ is unexplained: there is no other obvious reason for the muscle ache or weakness, like a day’s worth of gardening or an injury.

If you suspect a statin may be to blame for your muscle aches, talk to your doctor, says Dr. Plutzky. He or she might advise you to stop taking it, wait until the issue resolves, then try taking it again. If the muscle symptoms return, your doctor may have you try a lower dose or a different statin. If necessary, another option is taking the statin every other day, or even just once a week. “Without a doubt, statins have contributed to the drop in heart attacks and strokes over the past two decades. Think twice before you decide to forgo a drug that has benefited millions of people,” he says. ♥

What is rhabdomyolysis?

Rhabdomyolysis is a potentially serious form of muscle disease that occurs when muscle tissue breaks down and releases the contents of muscle fibers into the blood. These substances can damage the kidneys, sometimes causing kidney failure. Symptoms include muscle pain, marked weakness, and brown or tea-colored urine.

Rhabdomyolysis can be caused by many different things, including muscle injury, very intense exercise, certain infections, and some medications—including statins. According to the FDA’s Adverse Event Reporting System database, the incidence of statin-associated rhabdomyolysis is less than 13 cases per one million statin prescriptions. Taking statins with other medications that are cleared by the liver, including certain antibiotics, HIV medications, and some other lipid-lowering drugs, increases the risk of this very rare complication.

Legume of the month

Red beans

Unlike most bean varieties, which come in earthy, neutral hues, red beans can add a bit of color to your cooking.

Like all beans, they’re a good source of potassium, a mineral that promotes healthy blood pressure.

Red beans are used throughout the world in a variety of dishes. Red beans and rice is a common meal in the southeastern United States. This Creole-inspired dish features red beans simmered with bell peppers, onions, celery, and spices served over rice. Similar versions are found in Latin American cuisine. In Northern India, *rajma chawal* is made with red kidney beans, onion, tomato and a blend of spices, including ginger, garlic, coriander, cardamom, and cumin. Chili recipes often include red kidney beans, and they are a key ingredient in three-bean salad, along with garbanzo beans and fresh green beans.

But red beans aren’t just for savory dishes. Many East Asian cultures use reddish-brown adzuki beans—which have a strong, nutty, sweet flavor—to make a sweet paste that’s used in different confections. *Yokan*, a traditional Japanese sweet, consists of jellied red bean paste. In China, steamed buns filled with red bean paste are called *dou sha bao*; in Korea, they are known as *jjinppang*.





RESEARCH WE'RE WATCHING

Sleep shortfall linked to higher risk of clogged arteries

Too little sleep may be hard on your blood vessels, according to a study in the January issue of the *Journal of the American College of Cardiology*.

For the study, 3,974 healthy, middle-aged people wore watchlike devices called actigraphs for a week to track how long they slept and how often they woke up and moved during the night. The participants also received three-dimensional ultrasounds of arteries in their necks and upper legs and special scans to check their heart arteries.

People who slept less than six hours nightly



were 27% more likely to have early signs of cholesterol-laden plaque (atherosclerosis) in their neck and leg arteries than those who got seven to eight hours of sleep a night. And the 20% of people with the worst-quality sleep (the most waking and movement) were 34%

more likely to have atherosclerosis compared with those who got more restful sleep.

While this observational study doesn't prove that poor sleep causes clogged arteries, the findings add to growing evidence that at least seven hours of shut-eye per day is important for your health.

Moderate drinking may raise the risk of atrial fibrillation

Both heavy drinking and binge drinking (consuming large amounts of alcohol in a single session) are known to increase a person's risk of atrial fibrillation (afib). But even moderate drinking may leave people more prone to the rapid, irregular heart rhythm, a new study suggests.

The report, published online January 9 by the journal *Heart Rhythm*, included 75 people with afib. Twenty-five were lifelong nondrinkers, 25 were light drinkers (two to seven drinks per week) and 25 were moderate drinkers (eight to 21 drinks

weekly). Each participant underwent special tests that generated a three-dimensional map showing electrical and structural changes in their left atria, the heart's upper-left chamber. These changes reflect the severity of afib.

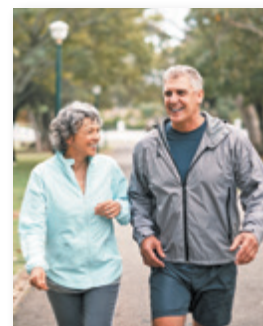
Researchers found that moderate drinkers had more evidence of scarring and electrical signaling problems in their atria than nondrinkers or light drinkers. The findings suggest that even moderate drinking can harm the heart—and that people may lower their risk of afib by limiting their alcohol use.

Walk your way to more flexible arteries?

The more steps you take per day, the more flexible your arteries may be, a new study suggests. Elastic, flexible arteries are a sign of a healthy cardiovascular system, while stiff, inflexible arteries are a harbinger of heart disease.

Researchers pooled findings from 10 studies that measured people's daily step counts and their arterial stiffness, using a technique called pulse wave velocity. With every heartbeat, a wave of blood travels through the body's network of arteries. Measuring the speed of the pulse wave provides information about how stiff or how flexible the arteries are. The stiffer the arteries, the faster this wave travels.

People who were highly active (those who took more than 10,000 steps per day) had the lowest pulse wave velocity measurements, suggesting their arteries were more elastic than those of less active



people. In general, the fewer steps people took per day, the stiffer their arteries. Adding just 1,000 steps daily may lead to measurable improvements in pulse wave velocity, say the authors, whose study appeared in the February issue of *Hypertension*. ♥

What's coming up:

- ▶ Sex hormones and heart disease: An update
- ▶ Fiber: The missing link for better heart health
- ▶ Cardiac rehab puts your heart in the right place
- ▶ How ethnicity and race affect cardiovascular risk