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Can You Recognize a Heart Attack or Stroke?

What To Do When Every Moment Counts

Know the Symptoms

Don't hesitate to call 9-1-1 if you see these symptoms of heart attack or stroke. Every minute counts.

Heart attack:

- Chest pain or discomfort
- Pain, stiffness, or numbness in the neck, back, or one or both arms or shoulders
- Shortness of breath
- Cold sweat, nausea, dizziness

Stroke:

- Sudden numbness or weakness of the face, arm, or leg, especially on one side of the body
- Sudden severe headache, dizziness, confusion
- Sudden difficulty with vision, balance, speech

How would you react to a medical emergency? When it comes to life-threatening conditions like heart attack or stroke, every minute counts. Get to know the signs and symptoms of these health threats. If you think you or someone else might be having a heart attack or stroke, get medical help right away. Acting fast could save your life or someone else's.

Heart disease and stroke are 2 of the top killers among both women and men in the U.S. Nationwide, someone dies from a heart attack about every 90 seconds, and stroke kills someone about every 4 minutes, according to the U.S. Centers for Disease Control and Prevention. Quick medical help could prevent many of these deaths. Fast action can also limit permanent damage to the body.

Heart attack and stroke are caused by interruptions to the normal flow of blood to the heart or brain—2 organs that are essential to life. Without access to oxygen-rich blood and nutrients, heart or brain cells begin to malfunction and die. This cell death can set off a series of harmful effects throughout the body. The changes ultimately lead to the familiar symptoms of a heart or brain emergency.

You might know the most common symptoms of heart attack: sustained, crushing chest pain and difficulty breathing. A heart attack might also cause cold sweats, a racing heart, pain down the left arm, jaw stiffness, or shoulder pain.

Many don't know that women often have different heart attack symptoms than men. For instance, instead of having chest pain during a heart attack, women may feel extremely exhausted and fatigued or have indigestion and nausea.

“Many women have a vague sense of gloom and doom, a sense of ‘I just don't feel quite right and don't know why,’ ” says Dr. Patrice Desvigne-Nickens, an NIH expert in heart health.

The symptoms of stroke include sudden difficulty seeing, speaking, or walking, and feelings of weakness, numbness, dizziness, and confusion. “Some people get a severe headache that's immediate and strong, different from any kind you've ever had,” says Dr. Salina Waddy, an NIH stroke expert.

At the first sign of any of these symptoms, fast action by you, someone you know, or a passerby can make a huge difference. NIH-funded research has helped ensure that more people survive heart attacks and strokes every year. We now have medicines, procedures, and devices that can help limit heart and brain damage following an attack, as long as medical help arrives quickly.

If the heart is starved for blood for too long—generally more than 20 minutes—heart muscle can be irreversibly damaged, Desvigne-Nickens says. “You need to be in the hospital because there's a risk of cardiac arrest [your heart stopping],” which could be deadly. At the hospital, doctors can administer clot-busting drugs and other emergency procedures.

With stroke, Waddy says, “The longer you wait, the more brain cells are dying,” and the greater the chance for permanent damage or disability.

Emergency treatment for stroke depends on the kind of stroke. The most common type, ischemic stroke, is caused by a clot that clogs a blood vessel in the brain. The clot-dissolving drug tPA works best when given soon after symptoms begin. NIH research shows that patients who received tPA within 3 hours of stroke onset were more likely to recover fully.

Other strokes are caused by a hemorrhage—when a blood vessel breaks and bleeds into the brain. “The patient can have a larger hemorrhage within the first 3 hours,” Waddy says. A hospital medical team can help contain the bleeding, so every moment counts.

Even if you're unsure, don't feel embarrassed or hesitate to call 9-1-1 if you suspect a heart attack or stroke. “You should not go get your car keys. Your spouse shouldn't be driving you to the hospital,” advises Desvigne-Nickens. “The emergency crew is trained to treat these symptoms, and it could mean the difference between life and death.”

Heart attack or stroke can happen to anyone, but your risk increases with age. A family or personal history of heart attack or stroke also raises your risk. But some risk factors for heart attack and stroke are within your control. Treating them can dramatically reduce your risk.

“If you have high blood pressure, high cholesterol, or diabetes, work with your doctor to get these conditions under control,” Waddy says. “Know your numbers [blood pressure, blood sugar, and cholesterol] and what they mean.”

You can also prepare for a medical emergency, to some degree. A hospital may not have access to your medical records when you arrive. Keep important health information handy, such as the medicines you’re taking, allergies, and emergency contacts. It would be important for the medical team to know, for example, if you’ve been taking anticoagulants to help prevent blood clots; these blood thinners put you at increased risk of bleeding. You might consider carrying an NIH [wallet card](#) that lists heart attack symptoms and has room for your personal medical information.

NIH researchers are studying new drugs and procedures to help the heart and brain repair themselves and improve organ function. “But there is absolutely nothing that will save both your time and health as well as prevention,” says Dr. Jeremy Brown, director of NIH’s Office of Emergency Care Research. Studies show that making healthy lifestyle choices can help prevent these medical emergencies from happening in the first place. Eat a healthy diet rich in protein, whole grains, and fruits and vegetables, and low in saturated fat. Get regular physical activity and don’t smoke.

“I think one of the most important things we can do is to take a basic [CPR](#) and first aid course,” recommends Brown. “We know the majority of cardiac arrests happen outside of hospitals and of that many, many can be saved if we get people with basic training on the scene quickly. An ambulance can never get there as quickly as a citizen passing by.”

Whether or not you’re trained to offer help, if you see someone having symptoms of a heart attack or stroke, call for help immediately.

“If you’re even thinking about calling 9-1-1, you should call,” Desvigne-Nickens says. “Yes other conditions can mimic the signs and symptoms of a heart attack or stroke, but let the emergency physician figure that out in the emergency room.”

Reference: [Tissue plasminogen activator for acute ischemic stroke. The National Institute of Neurological Disorders and Stroke rt-PA Stroke Study Group.](#) [No authors listed] *N Engl J Med.* 1995 Dec 14;333(24):1581-7. PMID: 7477192