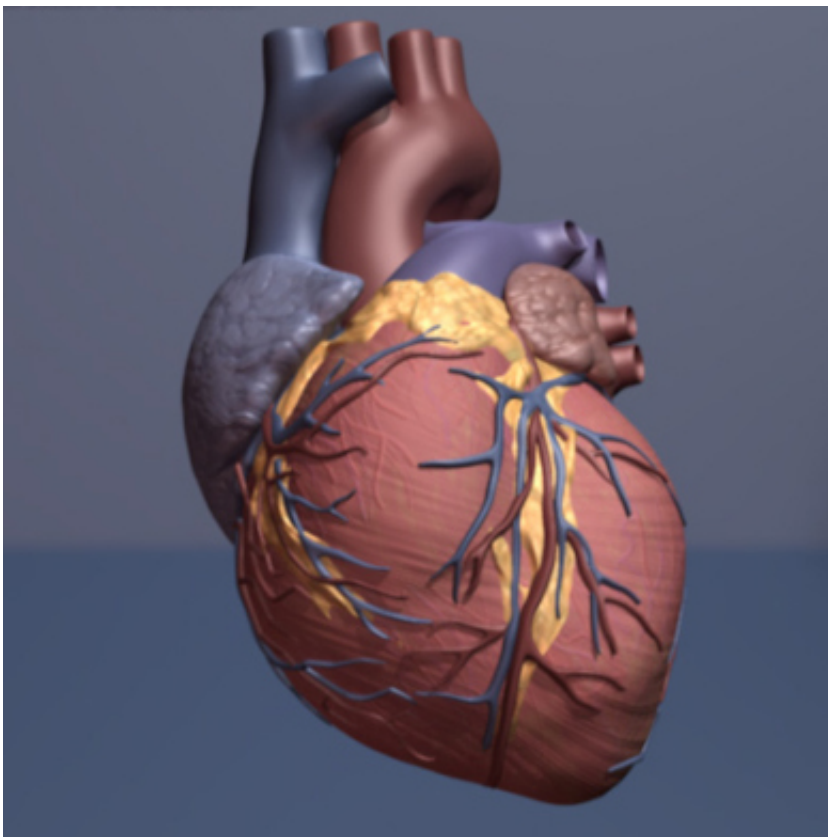


# Medical first: Discovery of warning symptoms for usually fatal heart rhythm malfunction

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Human heart. Credit: copyright American Heart Association

More than half of patients who have a sudden cardiac arrest ignore symptoms occurring up to a month prior to the usually fatal heart rhythm malfunction even though medical intervention potentially could save

their lives, according to new research published by the *Annals of Internal Medicine*.

Although medical science has long regarded [sudden cardiac arrest](#) as a deadly condition that strikes without warning, a new study led by an associate director of the Cedars-Sinai Heart Institute shows for the first time that many patients experience warning [symptoms](#) up to a month before having a cardiac arrest.

"Sudden cardiac arrest in middle age hits society hard since most who are affected are their families' primary breadwinners," said Sumeet S. Chugh, MD, medical director of the Heart Rhythm Center in the Cedars-Sinai Heart Institute and the Pauline and Harold Price Chair in Cardiac Electrophysiology Research. "Fewer than 7 percent survive a sudden cardiac arrest, which has historically made it difficult to pinpoint symptoms. These research findings suggest that we could use an entirely novel approach to predict and prevent this devastating condition."

The study performed in 839 patients between the ages of 35 and 65 outlines the most common symptoms, including intermittent chest pain and pressure, shortness of breath, palpitations and ongoing influenza-like indicators such as nausea and abdominal and back pain.

"These new findings give good reason not to ignore unusual sensations, as vague as they may be," said Eduardo Marbán, MD, PhD, director of the Cedars-Sinai Heart Institute. "Better to seek medical attention early than to risk dying suddenly."

Approximately 350,000 people in the U.S. die each year from sudden cardiac arrest, accounting for 50 percent of all cardiovascular deaths nationally.

Although '[heart](#) attack' and 'sudden cardiac arrest' are often used

interchangeably, the terms are not synonymous. A heart attack—myocardial infarction—is typically caused by clogged coronary arteries that reduce blood flow to the heart muscle. Sudden cardiac arrest is the result of defective electrical activity of the heart. Patients may have little or no warning, and the disorder usually causes instantaneous death. Sudden cardiac arrest has been blamed for the deaths of journalist Tim Russert and filmmaker John Hughes.

"We already have the implantable defibrillator, a surgically implanted device that is a long-term lifesaver for many patients who suffer sudden cardiac arrest down the road," Chugh said. "Now that we realize that [sudden death](#) may not be so sudden, there is also potential for new shorter-term approaches by increasing awareness and education of patients and their healthcare providers."

Over recent years, Chugh and his team of researchers have been the first to identify several risk factors for sudden cardiac arrest, including levels of sex hormones in the blood, genetic markers and electrical and structural abnormalities of the heart.

In addition to his leadership role at the Cedars-Sinai Heart Institute, Chugh heads the Oregon Sudden Unexpected Death Study, a comprehensive, 16-hospital, multiyear assessment of [cardiac deaths](#) in the Portland metropolitan area, home to 1 million people. The study has been underway for more than a decade. Data collected from it provides Chugh and his team with unique, community-based information to mine for answers to what causes sudden cardiac arrest.

In the new study, Chugh and his researchers analyzed data on 839 patients included in the Oregon assessment. The researchers also interviewed first responders and patients' family members. Results include:

- 51 percent of patients experienced warning symptoms, predominately chest pain, prior to the cardiac arrest.
- In the group that experienced symptoms, 93 percent experienced them again in the 24 hours preceding the [cardiac arrest](#).
- Only 19 percent of those who experienced symptoms called emergency medical services.
- The [patients](#) who experienced symptoms and sought medical help had a survival rate of 32 percent. Those who did not seek medical treatment for symptoms had a survival rate of 6 percent.

Provided by Cedars-Sinai Medical Center

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