



Sudden Cardiac Arrest Association

POWER AND PASSION... SAVING LIVES

SUDDEN CARDIAC ARREST FACTS

① What is sudden cardiac arrest?

Sudden cardiac arrest (SCA) is a leading cause of death in the U.S., killing more than 325,000 people each year. That's more than the total death rate for breast cancer, lung cancer, and HIV/AIDS *combined*. During SCA, heart function ceases abruptly and without warning. When this occurs, the heart is no longer able to pump blood to the rest of the body, and in over 90% of victims, death occurs. This is usually caused when the electrical impulses in the affected heart become rapid (ventricular tachycardia, or "VT") or chaotic (ventricular fibrillation, or "VF"), or both. These **irregular heart rhythms are arrhythmias**. The general public and media often mistakenly refer to SCA as a "massive heart attack."

SCA is an electrical problem, whereby the arrhythmia prevents the heart from pumping blood to the brain and vital organs. There is an immediate cessation of the heart. In most cases, there are no warning signs or symptoms. **A heart attack is a "plumbing" problem** caused by one or more blockages in the heart's blood vessels, preventing proper flow, and the heart muscle dies. Symptoms include chest pain, radiating pain in left arm, between shoulder blades, and/or jaw, difficulty breathing, dizziness, nausea and vomiting, and sweating. In some cases, a heart attack may lead to a sudden cardiac arrest event.

② Resuscitation from SCA

When someone collapses from SCA, immediate cardiopulmonary resuscitation (CPR) and use of an automated external defibrillator (AED) are essential for any chance of recovery. The AED analyzes the heart rhythm of the victim, and if necessary, a computerized command will instruct the user to press a button to deliver an appropriate shock to restore the normal operation of the heart. These devices are failsafe and will not cause injury to the user, nor will they deliver a shock if none is needed. For patients in "VF", studies show that if early defibrillation is provided within the first minute, the odds are 90 percent that the victim's life can be saved. After that, the rate of survival drops ten percent with every minute. As many as 30 to 50 percent would likely survive if CPR and AEDs were used within five minutes of collapse.

Many heart failure patients who have either suffered an SCA or are at risk, have surgery to implant a small device called an implantable cardioverter defibrillator, or ICD. ICDs are designed to recognize certain types of arrhythmias and correct them with a shock. Ninety five percent of lethal ventricular arrhythmias were shown to be effectively terminated by ICDs.

③ Who is at risk for SCA?

SCA can strike persons of any age, gender, race, and even those who seem in good health, as evidenced by world class professional athletes at the peak of fitness. Many patients who may be at risk are not being identified, screened and given options for medical treatment. If someone has any of the following risk factors or symptoms, he/she should discuss with a doctor whether further heart testing and/or evaluation by an electrophysiologist (EP) or cardiologist is necessary:

- History of early heart disease, heart attack or cardiac death in the family
- Unexplained fainting or near fainting or palpitations
- Chest pain, shortness of breath or fainting with exertion (such as during sports)
- Heart failure or heart attack
- Weak heart muscle or a cardiac ejection fraction (EF) of less than 40% (EF refers to the percentage of blood that is pumped out of the heart's main pumping chamber during each heartbeat)
- Cardiac risk factors such as high blood pressure, diabetes, obesity, smoking, or high cholesterol

④ Prevention

About 80 percent of SCA victims have signs of coronary heart disease. Leading a heart healthy lifestyle is important in preventing coronary artery disease and other heart conditions.

- Learn CPR and the use of an AED
- Activate 911 immediately in an emergency
- Help your community by advocating placement of AEDs in public places
- Know your personal and family health history that may identify risk factors