

SUDDEN CARDIAC ARREST



Definition

- Sudden Cardiac Arrest (SCA) – also known as Sudden Cardiac Death, or SCD – is when the heart suddenly stops beating, leading to a lack of blood flow to the body. It is caused by a disturbance in the heart's electrical system.¹
- SCA is different from a heart attack, which happens when there is a blockage, and the lack of blood flow damages part of the heart. A heart attack can sometimes lead to SCA.¹



Facts and Figures

- Approximately 475,000 Americans die from cardiac arrest each year.²
- Globally, more people die from cardiac arrest than colon cancer, breast cancer, prostate cancer, influenza, pneumonia, auto accidents, HIV, firearms and house fires combined.²
- In the U.S. alone, SCA is the third-leading cause of death with 1,000 people every day experiencing SCA outside of a hospital setting.³
- Only one in 10 patients who experience SCA survive.^{4,5}



Risk Factors⁶

There are many factors that can increase a person's risk for SCA.

- 75% of deaths from SCA happen in people who have had a previous heart attack. In addition, the risk of dying from SCA is higher during the first six months after having a heart attack.
- SCA affects people of all ages but is most common in adults in their mid-30s to mid-40s. SCA also happens twice as often in men as it does in women.
- Blockage of blood vessels - also known as coronary artery disease - is linked to 80% of SCA deaths.

Other risk factors⁷ include:

- Family history of sudden cardiac death, heart failure or massive heart attack
- Abnormal heart rate or rhythm from unknown causes
- Unusually rapid heart rate that may occur inconsistently
- Fainting
- Some congenital heart defects

Treatment Options⁸

When sudden cardiac arrest occurs, acting quickly is critical to survival.

- Starting CPR immediately helps restore the flow of oxygen-rich blood to the brain and other vital organs. CPR can provide life-saving support until more-advanced emergency care is available.



- Defibrillation can restore a normal heartbeat when a type of irregular heartbeat (also called arrhythmia) is causing SCA. An automated external defibrillator (AED) or implantable cardioverter defibrillator (ICD) can be used to send an electric pulse to the heart, returning the heart to a more normal rhythm.
- An ICD is likely to be recommended for long-term treatment of irregular rhythms and prevention of SCA, and for patients who have already survived an SCA event.
- Medtronic ICDs have been saving lives for more than 30 years by delivering a lifesaving shock or painless pacing to stop life-threatening fast or irregular heartbeats.
- A transvenous ICD is a small, battery-powered device that is surgically placed below the collarbone. One or more thin wires (leads) from the ICD run through the veins to the heart. The device constantly monitors the heart rhythm so it can regulate the heart rate if it detects an irregular rhythm. It can send either high-energy shocks or low-energy, painless pacing stimulation to disrupt a dangerously fast heart rhythm.
- Medtronic has received FDA approval and CE Mark for the Aurora EV-ICD™ (Extravascular Implantable Cardioverter-Defibrillator) system. The Aurora EV-ICD is intended to provide the benefits of transvenous ICDs in a single system and implant procedure, with the lead placed under the breastbone, outside the heart or vasculature. Placing the lead in this location is designed to help avoid long-term complications that may be associated with leads in the heart and veins, such as vessel occlusion (narrowing, blockage or compression of a vein) and risks for blood infections.

For more information on SCA and treatment options, visit [Medtronic.com/SuddenCardiacArrest](https://www.medtronic.com/SuddenCardiacArrest) .

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¹ Mayo Clinic. Sudden Cardiac Arrest. Accessed November 2019.

² American Heart Association. CPR Facts & Stats. Accessed November 2019.

³ Benjamin EJ, Virani SS, Callaway CW, et al. Heart disease and stroke statistics—2018 update: a report from the American Heart Association. *Circulation* 2018;137(12):e67–e492.

⁴ Institute of Medicine. *Strategies to Improve Cardiac Arrest Survival: A Time to Act*. Washington, DC: The National Academies Press; 2015. [https://www.nap.edu/read/21723/chapter/1#xiexternal icon](https://www.nap.edu/read/21723/chapter/1#xiexternal%20icon). Accessed January 16, 2018.

⁵ Neumar RW, Eigel B, Callaway CW, et al. American Heart Association response to the 2015 Institute of Medicine report on strategies to improve cardiac arrest survival. *Circulation* 2015;132(11):1049–1070.

⁶ Cleveland Clinic. Sudden Cardiac Death (Sudden Cardiac Arrest). Accessed November 2019.

⁷ Heart Rhythm Society. Sudden Cardiac Arrest (SCA) - Who's At Risk? Accessed December 2019.

⁸ Mayo Clinic. Sudden Cardiac Arrest. Diagnostic & Treatment. Accessed November 2019.