Facts About Sudden Cardiac Arrest

Overview
Sudden cardiac arrest (SCA) is a sudden, abrupt loss of heart function. Most sudden cardiac arrest episodes are caused by the rapid and/or chaotic activity of the heart known as ventricular tachycardia (VT) or ventricular fibrillation (VF). These are abnormalities of the heart’s electrical conduction system.

Sudden cardiac arrest is not a heart attack (myocardial infarction), which is caused by a blocked vessel leading to loss of blood supply to a portion of the heart muscle. However, some people may experience SCA during a heart attack and a previous heart attack is a predictor of future risk.

Prevalence of Sudden Cardiac Arrest
Sudden cardiac arrest is a major health problem. According to the American Heart Association, SCA kills approximately 350,000 people each year in the United States.¹

- SCA kills more Americans than lung cancer, breast cancer and HIV/AIDS combined. ²³
- An estimated 92 percent of all people who suffer SCA die before reaching the hospital.¹
- Defibrillation is the only definitive treatment for SCA, and survival decreases 7-10 percent for every minute without it.⁴
- SCA victims range from young children to the elderly.
- The average response time to an emergency call is six to 12 minutes.

What Makes Someone Susceptible to Sudden Cardiac Arrest?
People with heart disease are at varying risks for dying suddenly, but there are ways to markedly decrease that risk. Anyone with heart disease should discuss the risk of sudden
cardiac arrest with their physician and talk about whether or not a referral to a heart rhythm specialist is appropriate for them. SCA risk factors include:

- Survival of a previous SCA episode
- Previous heart attack
- Family history of SCA or other heart disease
- Heart failure
- Fast rhythm in the lower chambers of the heart (ventricles)

**Treatment Options for Sudden Cardiac Arrest**

Cardiac arrest is reversible in most victims if it’s treated within minutes, but the only effective treatment is the delivery of an electrical shock, either with an automated external defibrillator (AED), or with a stop watch-sized implantable cardioverter defibrillator (ICD). ICDs have been proven to be 98 percent effective in treating dangerously fast ventricular arrhythmias that can lead to SCA.\(^5\)


**Brief Statement**

Medtronic ICDs and CRT-ICDs

Medtronic Implantable Cardioverter Defibrillators (ICDs) are indicated for ventricular antitachycardia pacing and ventricular defibrillation for automated treatment of life-threatening ventricular arrhythmias. Medtronic Cardiac Resynchronization Therapy (CRT) ICDs are indicated for ventricular antitachycardia pacing and ventricular defibrillation for automated treatment of life-threatening ventricular arrhythmias and for the reduction of the symptoms of moderate to severe heart failure (NYHA Functional Class III or IV) in those patients who remain symptomatic despite stable, optimal medical therapy and have a left ventricular ejection fraction less than or equal to 35% and a prolonged QRS duration.

**Contraindications**

Medtronic ICDs and CRT-ICDs are contraindicated in patients whose ventricular tachyarrhythmias may have transient or reversible causes, patients with incessant VT or VF, or patients who have a unipolar pacemaker. Medtronic ICDs are also contraindicated for patients whose primary disorder is bradyarrhythmia.

**Warnings and Precautions**

Changes in a patient’s disease and/or medications may alter the efficacy of the device’s programmed parameters. Patients should avoid sources of magnetic and electromagnetic radiation to avoid possible underdetection, inappropriate sensing and/or therapy delivery, tissue damage, induction of an arrhythmia, device electrical reset, or device damage. Do not place transthoracic defibrillation paddles directly over the device. Additionally, for CRT-ICDs, certain programming and device operations may not provide cardiac resynchronization.

**Potential Complications**

Potential complications include, but are not limited to, rejection phenomena, erosion through the skin, muscle or nerve stimulation, oversensing, failure to detect and/or terminate tachyarrhythmia episodes, acceleration of ventricular tachycardia, and surgical complications such as hematoma, infection, inflammation, and thrombosis.
See the device manuals for detailed information regarding the implant procedure, indications, contraindications, warnings, precautions, and potential complications/adverse events. For further information, please call Medtronic at 1 (800) 328-2518 and/or consult Medtronic's website at www.medtronic.com.

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