

Implantable Cardioverter Defibrillator (ICD) Overview



Overview

An implantable cardioverter defibrillator, commonly called an ICD, is a small device that monitors and regulates the rhythm of the heart. An ICD may be used to care for certain types of arrhythmias. An arrhythmia is an abnormality in the rhythm of the heart, which can be harmful or fatal if not properly treated.

The ICD Device

An ICD device is composed of an electrical impulse generator and one or more electrical leads. The generator is battery powered, and it is implanted in the chest. The leads travel from the generator through a vein and into the heart. The ICD can deliver two types of impulses to the heart: weak impulses or strong impulses.

How it Works

Once the device is implanted and activated, it will constantly monitor the heart for arrhythmia. When it detects a certain type of irregular heart rhythm, the ICD switches to cardioversion mode. It generates weak impulses and sends these shocks through the leads to the heart. These weak electrical impulses disrupt the abnormal rhythm. This helps normalize and stabilize the heart's rhythm.

Defibrillation

In some cases, cardioversion is not enough to correct an abnormal rhythm. Arrhythmias called ventricular tachycardia or ventricular fibrillation require more powerful electrical impulses. If one of these arrhythmias occurs, the ICD will send much stronger shocks through the leads. This is called defibrillation. These impulses can be painful, but they can restore a more normal rhythm.

