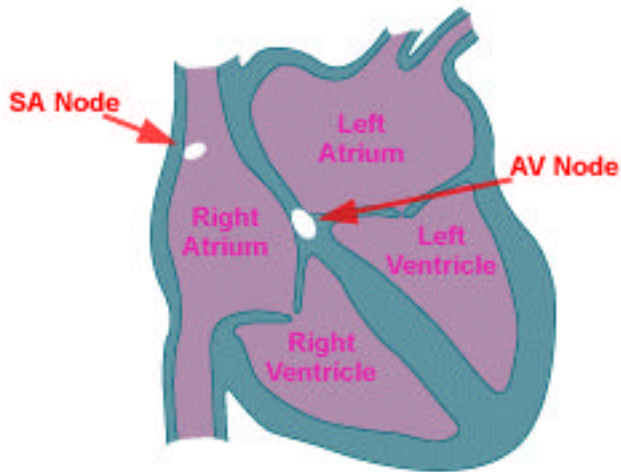


Implantable Cardioverter Defibrillator

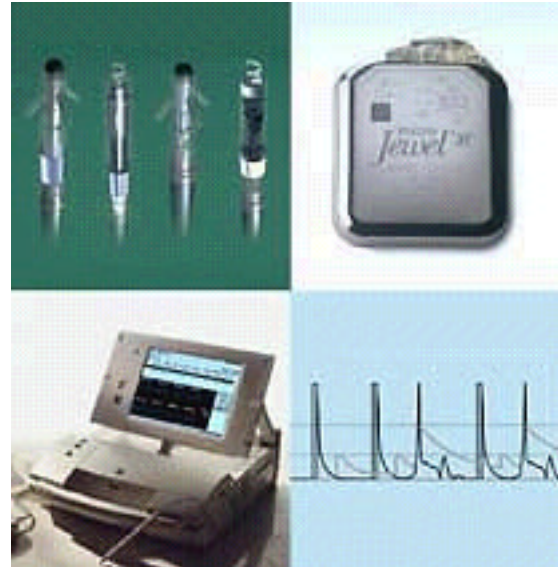
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An Implantable Cardioverter Defibrillator (ICD) is a device that continuously monitors the heart rhythm and delivers precisely calibrated shocks when needed. These devices do not prevent arrhythmias, but do recognize onset of arrhythmia and can work to restore normal rhythm by pacing the heart or releasing an electric jolt. Defibrillators have been in use since 1985 and have been proven safe and effective treatment. The most recent devices can be placed under the skin of the shoulder. Survival rates are very high in ICD patients for sudden cardiac death. Because of the high survival rates (over 99%), the defibrillator is often referred to as a “rescue squad in the chest.” In recent studies, the ICD has been shown to be a better alternative than some medications when treating patients with a history of heart failure. ICDs can deliver a range of therapies depending on the type of arrhythmia and how the device is programmed.



A defibrillator is for use in patients who are at risk of sudden death due to ventricular tachyarrhythmia (VT) and ventricular fibrillation (VF). Unlike a pacemaker, an ICD is designed to correct fast and slow heart rates. A defibrillator is part of a three-part system consisting of the ICD, a programmer, and the



leads. Thin insulated wires, or leads, are attached to the ICD and are used to sense the heart's rhythm and deliver therapy when needed. These leads perform two functions. First, they allow the ICD to sense electrical signals inside the heart and second, it serves as a passageway for delivery of designated therapy. One or more leads may be used depending on type of ICD implanted. Most leads are threaded through a vein from the ICD to the inside of the heart. The three basic functions of the ICD include: (1) sensing and detection of rapid heart rhythm, (2) treatment of rhythm with appropriate therapy, and (3) the storage of data on each episode for later retrieval by a physician. The last part is the programmer. This is a specialized computer used to evaluate information stored in the ICD. It is also used to manage the way an ICD treats an arrhythmia. The programmer has a programming head which is placed over the area of the patient's chest containing the device. The programmer then reads the information stored in the ICD.