



# AUTOMATIC EXTERNAL DEFIBRILLATOR

HOW WHEN AND WHY TO USE AN AED





# Heart Basics

- The heart is unique because it has its own electrical system.
- Each cell in the heart can generate an electrical impulse.
- Normal rhythm is regulated by the sinoatrial node also known as the “pacemaker” of the heart. Normal heart rate is 70 – 100 beats per minute.
- At times when the heart is under stress, other cells can start firing and cause the heart rate to beat irregularly and rapidly. This rapid and irregular heart rate is called Ventricular Fibrillation (V fib) with rates sometimes >200 beats per minute. Some of the causes of V fib are drowning, cardiac arrest, heart failure, electrical shock, chronic diseases or arteriosclerosis.
- When ventricular fibrillation occurs the heart must be “de-fibrillated” quickly or death can result.



# What is Cardiac Arrest?

- When the heart is in Ventricular Fibrillation sudden cardiac arrest occurs. This is an abrupt loss of heart function. If a cardiac arrest is not treated within minutes, it quickly leads to death.
- When a person suffering a cardiac arrest is treated initially with Cardiopulmonary Resuscitation (CPR) and use of an Automatic External Defibrillator (AED) this gives the first responders, Emergency Room doctors and nurses a chance to assist the patient in getting back to a normal productive life



# WHAT IS AN AED AND HOW DOES IT WORK?

- AED is a lightweight portable device that can deliver an electric shock through the chest to the heart. This shock can stop an irregular rhythm and allow a normal rhythm to resume.
- The AED has a built-in computer that checks a victim's heart rhythm through adhesive electrodes. The computer calculates whether a defibrillation is needed. The AED has a recorded voice that tells the rescuer when to deliver a shock. This essentially “reboots” the heart. The AED will give you instructions guiding you through the process.
- Non-medical personnel are quite capable of using an AED. Be aware of where the AED is located in your schools.

# Important Points

- During a scheduled faculty meeting your school nurse will demonstrate how to use an AED and allow you to participate in a mock cardiac arrest.
- After you have reviewed this power point and attended the demonstration please sign the roster provided by your school nurse.