

# Do You Know How to Use a DEFIB?

By **Mare Jacqmin**, Program Manager for Starting Hearts



**The prompt use of an automated external defibrillator (AED or DEFIB) is a critical component in saving the life of a victim of sudden cardiac arrest. Research has shown that when cardiopulmonary resuscitation (CPR) is combined with the rapid use of a DEFIB the rate of survival increases dramatically.**

## What is a DEFIB?

A DEFIB is a lightweight, battery-operated, portable device that makes it possible for citizen rescuers like you to respond to an emergency where defibrillation may be required.

## Why are DEFIBs so important?

For each minute a person is in sudden cardiac arrest, his/her chance of surviving decreases by about 10%. Performing CPR restores some oxygen to the brain and vital organs; however, CPR by itself does not treat the underlying cause of sudden cardiac arrest (i.e. an abnormal heart rhythm). The most effective treatment for sudden cardiac arrest is defibrillation. In sudden cardiac arrest, a DEFIB should be used as soon as possible.

## How does a DEFIB work?

To understand how a DEFIB treats sudden cardiac arrest, it helps to understand how the heart works. The heart has its own internal electrical system that controls the rate and rhythm of the heartbeat. With each heartbeat, an electrical signal spreads from the top of the heart to the bottom. As the signal travels, it causes the heart to contract and pump blood. Problems with the heart's electrical system can cause abnormal heart rhythms called arrhythmias.

The most common cause of sudden cardiac arrest is **ventricular fibrillation**. This arrhythmia occurs when the lower chambers of the heart (ventricles) contract in a rapid and chaotic way. This causes the heart to fibrillate (quiver uselessly), and as a result, the heart pumps little to no blood to the body.

Another arrhythmia that can lead to sudden cardiac arrest is **ventricular tachycardia**. This arrhythmia occurs when the ventricles of the heart beat dangerously fast, which prevents the heart from effectively pumping blood to the body.

In people who have either of these two arrhythmias, the electrical shock from a DEFIB works to restore the heart's normal rhythm. The shock actually interrupts the abnormal heart rhythm by

briefly stopping the heart. This resets the heart's electrical system and provides an opportunity for the heart's normal rhythm to return. Essentially, the DEFIB reboots the heart!

## Is a DEFIB easy to use?

The DEFIB is designed to be super easy to use. When you turn on the machine, automated voice prompts and lights guide the user through the process. The machine has a built-in computer processor that analyzes the victim's heart rhythm through adhesive pads with sensors (called electrodes) placed on the victim's chest. The electrodes send information about the victim's heart rhythm to a computer in the DEFIB. The computer calculates whether defibrillation is needed. If it is, a recorded voice prompts the rescuer to press the shock button on the DEFIB. The machine guides the user through the entire process. All you have to do is turn on the machine and listen!

## Who can use a DEFIB?

It's a common misconception that automated external defibrillators should only be used by medical personnel. Quite the opposite, portable DEFIBs are placed in public locations such as recreational areas, public buildings, businesses, restaurants, and hotels so citizens like **YOU** can help to save someone's life.

## How do I find a DEFIB if I need one?

The universal symbol for a DEFIB (or AED) is a heart with a

lightning bolt. In addition, Starting Hearts provides a FREE, downloadable mobile phone app for all Eagle County residents. The app, called **PulsePoint** (available at your app store), uses GPS to locate the nearest DEFIB to you anywhere in Eagle County. Download the app today and locate the DEFIBs in your area!

In addition, through a strategic partnership with Vail Health, Starting Hearts has placed over 400 lifesaving DEFIBs in Eagle County, (approximately one for every 130 residents) one of the highest per-capita rates in the nation!

## Get Trained!

If you would like to be trained to use a DEFIB, free classes are currently offered on a monthly basis in Eagle. For more information, contact [mare@startinghearts.org](mailto:mare@startinghearts.org).



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