

Why Defibrillators Are A Must Have In Public Settings

Automated External Defibrillators or AEDs, are quickly becoming standard emergency equipment in many public settings. AEDs are a more compact, easy to use version of the machine with metal paddles that is commonly seen being used on TV's *ER*, *House*, and *Grey's Anatomy*. They are computerized devices that analyze a victim's heart rhythm to determine if an electrical shock is necessary, the computer then guides the rescuer to deliver an electrical shock to the victim. These portable, easy to use machines are a great, potentially lifesaving addition to any public setting or venue. AEDs are specially designed to be user friendly. A study was done comparing the time it took a group of trained medical personnel to apply an AED and deliver a shock, compared to a group of untrained sixth graders. The sixth graders were only 23 seconds behind the trained personnel! Research has found that the earlier defibrillation occurs, the greater the chance of saving a person's life who is suffering from a sudden cardiac event. The likelihood of successful defibrillation (heart shocking) dramatically decreases after the time of collapse. Research has shown that survival rates decline 7% to 10% with every minute that passes without AED or manual defibrillator implementation.

Defibrillators administer electrical energy which stops the irregular heartbeat associated with cardiac arrest. If there is no heartbeat present (asystole) at the time of AED administration, the AED will not be able to shock the victim. It is common for a heart attack victim to have a chaotic, irregular heart beat that is not effectively capable of pumping blood, at the time of their collapse. The most common heart beat abnormality called ventricular fibrillation, is a rhythm that an AED can effectively correct. If defibrillation is delayed too long, this chaotic heart beat can quickly deteriorate into asystole, which cannot be corrected by an AED. This is why early AED administration is paramount to increasing a victim's chance of survival.

The presence of AEDs in public schools, and at athletic venues are becoming standards in emergency medical care. Research has shown that in the United States, there are 110 young athlete deaths a year that are attributed to a sudden cardiac event. In 55% to 80% of these events, the child displayed no prior signs or symptoms of being at risk until the sudden cardiac event. The unpredictability of sudden cardiac events occurring within child and adolescent populations makes an even stronger case for AEDs to be easily accessible during youth and high school sporting events and activities.

Settings, such as public schools, colleges, fitness centers, shopping malls, theaters, and stadiums are continually adding AEDs (in some cases multiple AEDs) to their emergency action plans. AEDs are being placed in highly trafficked, visible areas, to allow bystanders who are trained to use AEDs, to be able to begin AED administration as quickly as possible. Here in New Fairfield, the high school has two AEDs available if a cardiac event ever occurred. There is one AED in the building, and a second that is carried by the Certified Athletic Trainer at all sport practices and home games. This should be held in high regard, because as of right now, AEDs are not mandatory in schools, or any public place other than golf courses! Education and awareness are the first step to initiate successful AED administration.