

Response Time Is Crucial

Discussing the dangers of sudden cardiac arrest and the importance of AEDs in recognition of "National CPR/AED Awareness Week," June 1-7.

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Is sudden cardiac arrest (SCA) becoming more prevalent or is it that the general public is becoming more aware of this life threatening condition? Well, certainly, the latter is true. With the placement of automated external defibrillators (AEDs) in public arenas and because of media coverage on victims that have been "saved" or, sadly, victims who could have been saved if an AED had been available, the general population is growing more cognizant of this life threatening problem. Statistics point to the fact that sudden cardiac arrest is on the rise. In 2005, over 250,000 deaths in the United States alone were reported, and that number has now been increased to over 350,000.

According to the National Vital Statistics System, sudden cardiac arrest (SCA) is the leading cause of death in the United States — more than AIDS, breast cancer, accidents, lung cancer and stroke combined.

Although we are more aware of SCA, people still have misconceptions about a heart attack versus sudden cardiac arrest. These conditions are not the same and are treated very differently.

A heart attack, also called a myocardial infarction (MI), is a problem with the heart's "plumbing" system. In a heart attack, a portion of the heart muscle stops working because it no longer receives blood. The affected heart muscle then begins to



Pictured here is an Automated External Defibrillator (AED) with carrying case.

die due to lack of oxygen. A heart attack is often preceded by chest, arm, upper abdomen or jaw pain sometimes associated with perspiration and nausea. The victim usually remains conscious and alert. With proper medical treatment, many people survive.

Unlike a heart attack, sudden cardiac arrest is random in nature, often with no cardiac history and no symptoms — hence, "sudden" cardiac arrest. Sudden cardiac arrest (SCA) is caused by an "electrical" accident in the heart. In SCA, ventricular tachycardia or ventricular fibrillation causes the heart to beat too fast. In this condition, the heart no longer beats effectively and cannot pump.

As a result, blood flow is greatly impaired and may even stop.

One of the misunderstandings of SCA is that it strikes older adults; the truth is, it strikes both male and female and knows no age boundaries. SCA can strike children, teenagers and adults without warning. In fact, about two-thirds of unexpected cardiac arrests occur without prior indication of heart disease. In all of these cases, the victim collapses, loses consciousness and does not appear to be breathing.

SCA can only be treated by an electrical shock delivered by a defibrillator and time is of the essence. Survival rates are highest when defibrillation occurs within the first few minutes. Survival rates drop by about 7% to 10% for every minute lost, even if CPR is started immediately. More than 95% of cardiac arrest victims will die if life saving medical equipment is not readily available within minutes.

Automated external defibrillators (AEDs) have been demonstrated to be safe and effective, even when used by lay responders. The devices are designed to analyze a victim's heart rhythm and prompt the user to ("press the shock button") to deliver an electric shock if needed. AEDs cannot be used on someone who has suffered a heart attack, is conscious and breathing, which is another common misconception.

According to the Occupational