

NATIONAL CPR AND AED AWARENESS WEEK

The Beat Goes On!

In December of 2007, Congress declared the first week of June each year as National CPR/AED Awareness Week. National CPR/AED Awareness Week is an annual effort to increase the number of people certified in cardiopulmonary resuscitation (CPR) and trained to use an Automatic External Defibrillator (AED).

In today's advanced technological world, the American Heart Association (AHA) has determined that in order to increase the survival rates for victims of sudden cardiac arrest (SCA), we need to go back to the basics of Cardiopulmonary resuscitation (CPR). This is not limited to healthcare workers but includes lay people as well. According to the AHA there is a 95 percent mortality rate for over 300,000 Americans who are victims of sudden cardiac arrest each year. It is also estimated that on average it takes 8 to 10 minutes for first responders (9-1-1) to reach a victim.

Survival rates for individuals with ventricular fibrillation treated by AEDs have been reported between 0% and 31%. Comparatively, the survival rates for performing basic cardiopulmonary resuscitation (CPR) alone are reported between 0% and 6%. Theoretically, even more lives could be saved if targeted members of the general public could obtain early access to and have training in the use of AEDs and CPR. Zoll's AED Defibrillator is a machine on the market with real CPR help that measures CPR depth and rate of compressions and provides immediate feedback to improve your performance during a rescue through pictures, voice prompts and a large backlit screen. The quality of CPR provided by the rescuer can make the difference between life and death. Zoll was the first to introduce technology to help improve CPR and now Real CPR help is now a standard feature of all of Zoll's defibrillators.

Why is this important? The reason that this is so important is because after four minutes without oxygen going to your brain it will begin to die. After eight minutes it becomes the point of no return, irreversible brain death begins to occur. So even if the heart is restarted, the damage after eight minutes can never come back. This is why we need people to do CPR.

In cases where CPR is performed immediately, this risk is cut in half. Victims' chances of survival decrease by 7 to 10 percent each minute that they go untreated after their heart stops, so bystanders' knowledge of CPR is often a matter of life or death.



Why did they change CPR?

New CPR Rules: Pump First, and Save the Breaths for Later

If you have ever been trained in CPR, we'd all got used to the A-B-C – for “airway, breathing, compressions”. First you open the airways and try to resuscitate the victim by giving quick breaths through the mouth. Then you move on to pumping the chest to get the heart beating again. But now the American Heart Association (AHA) now wants to mix things up. The new mnemonic is C-A-B; we're now supposed to start chest compressions right after calling 911; adjusting the airway comes next, leaving the rescue breaths for last. The AHA also wants to encourage more people to be willing to administer CPR; making the mouth-to-mouth breathing a less prominent part of the package may make the procedure more palatable.

It is the first major change in the procedure since CPR, or cardiopulmonary resuscitation, was introduced in the 1960's. In recent years, the results of study after study have supported the fact that the victims who receive chest compressions alone from untrained bystanders survive as well as those who received traditional CPR, which starts with two quick breaths and then 30 chest compressions.

Every five years group of doctors (the International Liaison Committee on Resuscitation) reviews the science and determines if changes would save more lives. The new first step is doing chest compressions instead of first establishing the airway and then doing mouth to mouth. The new guidelines apply to adults, children, and infants but exclude newborns.

How to Do the New CPR

Here is a step-by-step guide for the new CPR:

- 1 Call 911 or ask someone else to do so.
- 2 Try to get the person to respond; if he doesn't, roll the person on his or her back.
- 3 Start chest compressions. Place the heel of your hand on the center of the victim's chest. Put your other hand on top of the first with your fingers interlaced.
- 4 Press down so you compress the chest at least 2 inches in adults and children and 1.5 inches in infants. "One hundred times a minute or even a little faster is optimal," Sayre says. *(That's about the same rhythm as the beat of the Bee Gee's song "Stayin' Alive.")*
- 5 If you're been trained in CPR, you can now open the airway with a head tilt and chin lift.
- 6 Pinch closed the nose of the victim. Take a normal breath, cover the victim's mouth with yours to create an airtight seal, and then give two, one-second breaths as you watch for the chest to rise.
- 7 Continue compressions and breaths – 30 compressions, two breaths – until help arrives.

The emphasis on providing high quality CPR with fewer interruptions is also reflected in the changes to the new guidelines for using a defibrillator. For example, rescuers are advised to use only one shock before resuming CPR, rather than three, as previously recommended. Robert O'Connor, MD, Director of Education and research at Christiana Care Health System in Newark, Delaware, and vice chair of the AHA Emergency Cardiovascular Care Committee, said the change was made because the benefit of the additional shocks was questionable. "Most patients who are successfully converted (their hearts resume a normal rhythm) by today's defibrillators are converted after only one shock. Those who do not convert with the first shock will have a better chance of responding to another shock if they first receive some CPR. This also reduces the length of time that the victim is left with no blood flow to the heart, brain and other vital organs." "Advanced cardiac life support providers will need to be attentive to providing CPR during defibrillation, intubation and delivery of medications," said. Dr O'Connor. "There will have to be careful choreography by the advanced care providers to ensure minimal interruption of CPR during advanced care procedures. But my overarching interpretation of the new guidelines is that they strengthen the chain of survival by giving patients a higher likelihood of receiving earlier CPR, earlier defibrillation and more effective advanced care."

The guidelines apply to children and adults alike, since AHA officials did not want separate and potentially confusing advice for different groups of people. The change in CPR is part of a larger revision of its emergency heart care recommendations.

The new CPR advice also applies to EMT's, doctors, nurses, lifeguards and other professional emergency personnel as well, to reinforce the AHA's belief in the importance of chest compressions. The AHA recommends that all EMS services evaluate their protocols and attempt to shorten their response times when at all possible. Two out of three studies have shown that when CPR is performed within this time frame by EMS personnel, survival rates increased for the SCA victims. This is recommended for all unwitnessed arrest victims.

But the advice should be particularly reassuring and empowering for lay people who may feel more confident in helping those who need it. "For most victims of cardiac arrest, chest compressions are as good as if not slightly better than conventional CPR. So people should feel really good that they are helping out (Sayre, 2010).