

# First Responder



**STOP PRESS - NEWS FLASH**

**American Heart Association changes CPR guidelines - "compression only" CPR endorsed**

**European Resuscitation Council says evidence not conclusive and demographics different in Europe**

2008 April 1

**The American Heart Association on Monday endorsed "compression only" CPR—rapid chest compression without mouth-to-mouth resuscitation—to improve the survival rates for victims of cardiac arrest.**

An article in the San Francisco Chronicle (California) reported that the new guidelines, published in the journal *Circulation*, recognise that recent research has shown no real advantage to conventional mouth-to-mouth CPR in outside-the-hospital cardiac arrest cases. In addition, studies show that bystanders are often reluctant to perform mouth-to-mouth resuscitation on strangers, but are more likely to try rapid chest compression. "We think that if we can double the number of bystanders who attempt CPR, we can save tens of thousands of lives every year," said Mary Fran Hazinski, a nurse at Vanderbilt University Medical Center and spokeswoman for the American Heart Association. Sudden cardiac arrest is a leading cause of death in the United States. Every day, it claims 900 American lives. Only about 6 percent of victims whose hearts stop outside of a hospital survive.

Studies show that either mouth-to-mouth or compression only CPR may double the survival rate from cardiac arrest, but bystanders typically step in to provide the potentially life-saving intervention in only about one-third of cases. That hesitation is rooted not only in reluctance to lock lips with a stranger, but by anxiety over how to perform conventional CPR, in which the rescuer breathes into the victim twice after every 30 chest compressions. "Many times, people nearby don't help because they're afraid that they will hurt the victim and aren't real confident in what they're doing," said Michael Sayre, chairman of the Heart Association committee that rewrote the guidelines. In fact, effective chest compression can break the victim's ribs about one-third of the time. That's a risk well worth taking when the odds of survival without CPR are so slim.

The Heart Association also stressed that three-quarters of sudden cardiac arrest cases outside the hospital occur in the home. The bystander who needs to provide those chest compressions is often a loved one of the victim.

Conventional CPR that combines both chest compression and mouth-to-mouth resuscitation has been taught in first aid classes since the 1960s. That method has been under review since 1997. Two years ago, after considering multiple studies, the Heart Association recommended compression only CPR only in cases where people were unwilling or unable to provide the rescue breaths as well.

The latest revision stems from three major studies published last year that showed no advantage in using mouth-to-mouth resuscitation in cardiac cases. Dr. Chris Barton, acting chief of the Emergency Department at San Francisco General Hospital, supports the new guidelines. He said the latest research on CPR supports the notion that in the critical minutes before an ambulance or defibrillation device arrives, it is very important to provide uninterrupted, deep chest compressions.

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These new guidelines are aimed at **untrained** bystanders, or to those who have been trained in CPR but are unsure they can perform it adequately. The message is, if there is any doubt, provide "compression only" CPR.

Although survival rates for cardiac arrest hover around 10 percent with CPR, rates have been pushed as high as 30 percent in cities, such as Seattle, that combine high bystander participation with a strong system of professional emergency medical response.

At best, CPR is a desperate measure. Survival rates are highly dependent on prompt arrival of a defibrillator—the kind carried by ambulance crews and increasingly available in public venues such as airports and sports stadiums. If first aiders have access to an Automated External Defibrillator (AED), it should be applied as early as possible. Early defibrillation (within 5-7 minutes) is the most successful intervention that can occur.

Heart Association guidelines

***Q: Why is the Heart Association changing its guidelines?***

A: Studies show that bystanders are reluctant to attempt conventional CPR, which involves chest compression and mouth-to-mouth resuscitation. New research shows that chest compression alone works just as well as traditional CPR. The thinking is, more people will try CPR if they don't need to include mouth-to-mouth breathing.

***Q: Does this apply to all cases?***

A: No. The new guidelines apply only to adult victims shortly after they collapse and have no signs of circulation. They do not apply to children or drowning victims.

***Q: Why not drowning victims?***

A: Chest compression alone works only if there is oxygenated blood left in the body, but drowning victims have already consumed most of the oxygen in their bloodstreams. They need the air provided by mouth-to-mouth resuscitation.

***Q: Why not children?***

A: Cardiac arrest in children is rare. Most children whose hearts have stopped are suffering from respiratory arrest, from choking or conditions such as asthma. Like a drowning victim, they don't have oxygen in their bloodstreams.

2008 March 31

## **The European Resuscitation Council (ERC) issues advisory statement challenging AHA evidence.**

In a statement issued on March 31, 2008, the ERC says that it has reviewed the available published scientific evidence. The ERC considers this evidence insufficient to alter its guidelines for Basic Life Support (BLS) at this moment. There are several important considerations for this recommendation:

1. The recently published studies are uncontrolled, observational studies of experience, dating from 1990 to 2003. Such studies are generally considered to be insufficient to enable definitive conclusions about the superiority or equivalence of any methods of CPR. The outcomes of these studies are still compatible with the hypothesis that the currently recommended combination of chest compressions combined with mouth-to-mouth ventilations is superior to chest compression-only CPR.

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2. At this moment a worldwide science evaluation process has been initiated to review all scientific data on resuscitation. A new consensus on science will be published in 2010 and it is appropriate to await the outcome of this process before new changes in the guidelines are recommended.
3. Following Guidelines 2005, the compression:ventilation ratio has increased from 15:2 to 30:2, already emphasizing the importance of minimally interrupted high-quality chest compressions. Furthermore, unlike the AHA guidelines, the ERC guidelines indicate that 30 compressions are given before attempting ventilation. There have been no studies published in which chest compression-only CPR has been compared with CPR performed according to the Guidelines 2005.
4. The Guidelines 2005 are being implemented throughout Europe. It is not in the interest of the quality of CPR and of teaching to so many hundreds of thousands of potential rescuers, to introduce new changes while the current Guidelines are just being implemented. The resulting confusion will be counterproductive.
5. In Europe, the proportion of resuscitation attempts in which trained lay rescuers perform CPR is already considerable. The percentage is cited between 27% and 67%, considerably higher than generally observed in the USA.(7, 8) Therefore, the need to simplify guidelines, potentially at the expense of quality, to encourage lay rescuers to perform CPR is less compelling as in the USA.
6. Ultimately, even if chest compression-only CPR is recommended, there will be several circumstances in which ventilation remains critical. Such circumstances are unwitnessed cardiac arrest, cardiac arrest in children, most in-hospital cardiac arrests, cardiac arrest of non-cardiac origin such as drowning or airway obstruction, and during resuscitation attempts lasting more than approximately 4 minutes. This list may not be complete. It is unlikely that lay rescuers will be able to identify with confidence these circumstances and, if taught to give only chest compressions, may provide CPR of insufficient quality to many victims.

The European Resuscitation Council therefore continues to recommend the teaching and administration of high quality, minimally interrupted chest compressions at a rate of 100/minute alternated with two mouth-to-mouth ventilations in a ratio of 30:2. For those rescuers who are unwilling or unable to give mouth-to-mouth ventilations, chest compression-only is much more acceptable than performing no CPR at all.

#### **EDITORS NOTE:**

In our last newsletter we suggested that "COMPRESSION ONLY - CPR" was about to be introduced. Well, here it is and it appears that the AHA have aimed it at the lay first aider / single rescuer whilst waiting for the Emergency Services to arrive.

It's interesting to note that the guidelines changes do not apply to immersion victims and children. As discussed in previous newsletters, there is still a need to retain "rescue breaths" whether used in conjunction with chest compressions or on its own to support a patient in respiratory arrest.

It seems that in Europe there is a greater proportion of the population that will initiate CPR and the American story shows less of a willingness to commence CPR, hence this sudden change.

Statistics may not be available in Australia that shows the participation in bystander CPR and I daresay it may not be until 2010 before the Australian Resuscitation Council changes its guidelines to fall into line with the AHA.

The AHA changes and the points put forward by the ERC show a trend to "tailored" CPR - in other words, responses involving CPR should vary according to the circumstances, i.e. immersion v sudden collapse, single rescuer v 2 rescuers, defibrillator available v none available, impedance threshold device available v none. .

First Response Australia will continue to deliver its CPR training utilising the above philosophies as it has done so for the last year or so.

***To view the full advisory statements from the AHA and the ERC visit our web site and click on "Newsletters".***

Stay safe.

**Charles Makray**  
Managing Director