The Adult Basic CPR Guidelines 2005

M Ali Magboul

Citation

M Ali Magboul. *The Adult Basic CPR Guidelines 2005*. The Internet Journal of Health. 2006 Volume 6 Number 1.

Abstract

The author gives the highlights of current adult basic CPR update.
The changes recommended by 2005 guidelines included changes for the following items: Chain of survival, Check for Pulse change, Chest compression/ Ventilation Ratio, Body Temperature and Defibrillation changes. Further reading is available on the AHA website.

INTRODUCTION

American Heart Association updated how we perform CPR. Data showed that more than 300,000 Americans die each year of cardiac arrest, when the heart suddenly stops beating. The heart association estimates that more than 95 percent of cardiac arrest victims die before they get to the hospital.

According to the heart association, about 75 percent to 80 percent of all cardiac arrests outside a hospital happen at home, and effective CPR, can double a victim's chance of survival.

Sudden cardiac arrest can occur after a heart attack or as a result of electrocution or near-drowning. It's most often caused by an abnormal heart rhythm. The person experiencing it collapses, is unresponsive to gentle shaking and stops normal breathing.

CHAIN OF SURVIVAL FOR ADULTS

Figure 1

- Early recognition of the emergency and activation of the emergency medical services (EMS) or local emergency response system: “phone 911.(2, 3)
- Early bystander CPR: immediate CPR can double or triple the victim's chance of survival from VF SCA. (1,4, 5)
- Early delivery of a shock with a defibrillator: CPR plus defibrillation within 3 to 5 minutes of collapse can produce survival rates as high as 49% to 75%. (6, 7)
- Early advanced life support followed by post resuscitation care delivered by healthcare providers.

CHECK FOR PULSE CHANGE

No longer recommended for public, waste of time, and should look for absence of signs of life and start CPR immediately

CHEST COMPRESSION/ VENTILATION RATIO

The new recommendations strongly support more chest compressions for victims of cardiac arrest. The revised guidelines issued on cardiopulmonary resuscitation advice giving 30 chest compressions instead of 15 for every two rescue breaths.

Studies on circulation showed that the chest compressions create more blood flow through the heart to the rest of the body, buying time until a defibrillator can be used or the heart can pump blood on its own. Studies have also shown that blood circulation increases with each chest compression and must be built back up after an interruption. The fact that more times someone pushes on the chest, the better off the patient is extracted after an extended studies of victims of cardiac arrest. When you stop compressions, blood flow stops to all the body.

BODY TEMPERATURE

The guidelines also recommend cooling cardiac arrest

patients for 12 to 24 hours to about 90 degrees Fahrenheit. Two significant studies have shown that practice can improve survival and brain function for those who are comatose after initial resuscitation.

DEFIBRILLATION CHANGES

The new guidelines also cut down on the number of times a rescuer needs to use a defibrillator and they advise rescuers not to stop after giving two rescue breaths to check for signs of circulation before starting compressions.
Instead of applying the defibrillator pads up to three times before beginning CPR, the guidelines advise rescuers to give one shock and then do two minutes of CPR beginning with chest compressions before trying the defibrillator again. Studies show that the first shock works more than 85 percent of the time.

Defibrillators are made available in public places like airports and businesses, but the heart association says that more public places need to install the devices. Survival rates have been as high as 49 to 74 percent for lay rescuer programs when defibrillators are placed in public places, airports or used by police, and fire department. The guidelines also urge that emergency operators at 911 should be trained to provide CPR instructions by phone.

The new recommendations for electrical therapies are designed to improve survival from SCA and life-threatening arrhythmias. For any victim of cardiac arrest, good CPR—push hard, push fast, allow complete chest recoil, and minimize interruptions in chest compressions—is essential. Some victims of VF SCA may benefit from a short period of CPR before attempted defibrillation. Whenever defibrillation is attempted, rescuers must coordinate good CPR with defibrillation to minimize interruptions in chest compressions and to ensure immediate resumption of chest compressions after shock delivery. The high first-shock efficacy of newer biphasic defibrillators led to the recommendation of single shocks plus immediate CPR instead of 3-shock sequences that were formerly recommended to treat VF. Further data is needed to refine recommendations for use of electrical therapies, particularly for the use of biphasic wave forms
the new guidelines provide an opportunity for those who have taken CPR in the past to take a refresher course and renew them every 2 years

The heart association says that currently about 9 million Americans a year are trained in CPR, but the association has a goal of more than doubling that number in the next five years to 20 million.

There is more evidence that good CPR works. More people need to be trained to perform CPR the right way. The bottom line advice is to focus on the chest compressions and defibrillation.

FURTHER READINGS

For full details go to 2005 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care.

Circulation at
http://circ.ahajournals.org/content/vol112/24_suppl/

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Author Information

Magboul M. Ali Magboul, M.D.
Clinical Assistant Professor, Director of ACLS, PALS & Airway workshop, Department of Anesthesia, University of Iowa