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American Heart Association news report:

Pulse check no longer recommended for layperson CPR

American Heart Association releases new guidelines for emergency care

WASHINGTON, D.C., Aug. 15 – The American Heart Association today unveiled a major revision of recommendations for cardiopulmonary resuscitation (CPR) and the treatment of cardiovascular emergencies. These new emergency cardiovascular care (ECC) guidelines cover a variety of topics such as CPR, automated external defibrillators (AEDs) and recommendations for emergency medical personnel. One of the major changes is the recognition that a pulse check is unreliable, and recommendation that no pulse check be done before bystanders begin administering chest compressions to an unconscious person.

The new guidelines were announced at a news conference today in Washington, D.C. and will be published in the August 22 issue of *Circulation: Journal of the American Heart Association*.

The International CPR and ECC Guidelines 2000 are designed for both lay rescuers and healthcare providers and include the most effective methods for treating cardiovascular emergencies such as sudden cardiac arrest, heart attack and stroke. They were developed by an international panel of experts following a process of scientific evidence evaluation, debate and consensus development.

“These are lifesaving measures and we wanted them to reflect the most up-to-date science,” says Rose Marie Robertson, M.D., president of the American Heart Association and professor of medicine at Vanderbilt University Medical Center in Nashville.

“We recognize that it is very difficult for a layperson to assess whether a patient has a pulse within the first few seconds of a cardiovascular emergency,” says Vinay Nadkarni, M.D., chairman-elect of the association’s ECC committee and director of pediatric intensive care at the A. I. duPont Hospital for Children in Wilmington, Del. He says research indicates that at least 35 percent of lay rescuers are wrong about whether or not a victim has a pulse. Therefore, the new guidelines recommend that the general public instead look for normal breathing, movement, response to stimulation and other signs of circulation when deciding whether to begin chest compressions.

The deletion of the pulse check from layperson CPR training has already been successfully implemented by the United Kingdom and European Resuscitation Councils, Nadkarni says.

However, the guidelines continue to recommend that trained healthcare professionals check for a pulse before doing chest compressions.

The changes in CPR guidelines mean that individuals who have previously been trained in CPR will need to be re-trained when their current certification expires. The new CPR and advanced training materials will be available for widespread use by next summer.

The updated guidelines place major emphasis on early defibrillation for ventricular fibrillation and AEDs as a tool to increase sudden cardiac arrest survival. AEDs are easy to use. Two electrodes are applied to the chest and the device automatically senses the heart rhythm and determines whether a lifesaving electric shock is necessary. The AED prompts the user to deliver a shock and all the bystander has to do is press the “shock” button. Prompt bystander CPR combined with early defibrillation have produced survival rates exceeding 50 percent in some early defibrillation programs.

The guidelines urge greater availability of AEDs – and people trained to use them – in fire trucks, ambulances, police cars, public buildings, sports arenas, theaters and airports. “If you walk through O’Hare Airport in Chicago, you are never more than a minute away from a defibrillator, and they are saving lives.” says Robertson. “This means the general public has easy access to AEDs in the event an individual goes into sudden cardiac arrest at the airport and requires quick defibrillation.

“The changes in the CPR guidelines are aimed at simplifying training by focusing on the most effective aspects of resuscitation. The public can be assured that people trained using these guidelines are getting the most up-to-date science,” says Robertson. “These updated guidelines will enable the trained rescuer to do a better job in assisting individuals experiencing a cardiovascular emergency.”

Other new recommendations include:

- Streamlining/standardizing the ratio of chest compressions to breaths during adult CPR.
- Updated recommendations for emergency medical personnel such as medication treatment protocols for heart attacks, stroke and cardiac arrest in victims of all ages.
- Simplification of CPR instruction. For example, techniques to teach management of choking (airway obstruction) in an unconscious victim have been greatly simplified.

“There is evidence that chest compression in CPR creates enough pressure in an unconscious patient to eject a foreign body from an airway,” Nadkarni says. The use of abdominal thrusts (commonly known as the Heimlich maneuver) to clear an object from the airway of a conscious person will still be taught under the new guidelines.

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For more information about Emergency Cardiovascular Care, please visit the ECC Web site at www.cpr-ecc.americanheart.org or call 877-AHA4CPR (242-4277).

**American Heart Association International CPR and ECC Guidelines 2000
Major Changes and Revisions**

ECC Guidelines 1992	CPR and ECC Guidelines 2000
<i>CPR Techniques</i>	<i>CPR Techniques</i>
Lay rescuers check for pulse when deciding whether to administer chest compressions.	Lay rescuers check for signs of circulation, such as normal breathing, coughing or movement in response to stimulation when determining if they should administer chest compressions.
Lay rescuers performing adult CPR provide 15 chest compressions for every 2 rescue breaths when one rescuer is present, and five compressions to one breath when two rescuers are present.	Lay rescuers performing adult CPR provide 15 chest compressions for every 2 rescue breaths, regardless of whether one and two rescuers are present.
For an unconscious choking victim, lay rescuers would attempt ventilation, open the airway and look for a foreign body, perform abdominal thrusts (Heimlich Maneuver) and continue CPR.	To treat an unconscious adult choking victim, lay rescuers begin standard CPR including chest compressions and will not conduct abdominal thrusts or blind finger sweeps of the mouth.
<i>Public Access to Defibrillation</i>	<i>Public Access to Defibrillation</i>
Recommends early defibrillation be given.	Recommends as a goal delivery of electric shock by a defibrillator within 5 minutes for an out-of-hospital sudden cardiac victim and within 3 minutes for an in-hospital victim.
Recommends early defibrillation be given.	Recommends that AEDs be placed where there is a reasonable probability of one sudden cardiac arrest occurring every five years.
Recommends that all personnel whose jobs require that they perform CPR be trained to operate defibrillators, particularly automated external defibrillators.	In addition to healthcare providers, identifies specific lay responders who should be trained in CPR and the use of an AED, including police, firefighters, security personnel, ski patrol members, ferryboat crews and airline flight attendants.
<i>International Involvement</i>	<i>International Involvement</i>
International resuscitation councils participated to a limited extent in the development of guidelines, but formal approval for use in countries outside the U.S. is limited.	Resuscitation councils from around the world participated in guidelines development and officially approved the guidelines for use in countries outside the U.S.
<i>Ethics</i>	<i>Ethics</i>
In the pre-hospital setting, EMS providers must be trained to deal sensitively with family members and others present and the involvement of a member of the clergy or a social worker should be considered.	For in-hospital resuscitation efforts, especially for infants and children, family presence during resuscitation attempts has positive psychological value, provided that a designated staff member is able to remain with the family during the resuscitation.

ECC Guidelines 1992	CPR and ECC Guidelines 2000
<i>Infant and Pediatric Care</i>	<i>Infant and Pediatric Care</i>
Drugs for treating life-threatening abnormal heart rhythms are addressed.	Recommendation of new drugs to treat life-threatening abnormal heart rhythms and new treatments for emergencies such as drug overdose or poisoning (not included in previous guidelines) are recommended.
<i>Advanced Cardiovascular Life Support</i>	<i>Advanced Cardiovascular Life Support</i>
Endotracheal intubation is considered the "gold standard" for airway control.	For airway management and ventilation, healthcare providers should have proficiency in bag-mask devices because they are an effective method of "breathing" for the patient. The decision to use the bag-mask device vs. tracheal tube method should be based on the patient's condition and the rescuer's experience. Also new
Use of an EKG is recommended, but clot-busting drugs are not widely available.	<p>New clot-busting drugs are effective in treating heart attack and stroke but must be administered within a few hours of the onset of symptoms, therefore, recommendations are made for healthcare providers to:</p> <ul style="list-style-type: none"> ● Use a 12-lead electrocardiogram (EKG) in the pre-hospital setting to determine heart damage, ● Recognize if a heart attack or stroke victim is eligible for clot-busting therapy and notify the hospital that the patient is on the way, ● Transport a patient to a hospital capable of providing the most effective treatment.

The American Heart Association International CPR and ECC Guidelines 2000

Background

The American Heart Association's International Cardiopulmonary Resuscitation (CPR) and Emergency Cardiovascular Care (ECC) Guidelines set a new global standard for the treatment of cardiovascular emergencies such as sudden cardiac arrest, heart attack and stroke. They are the first truly international guidelines, written after two years of rigorous scientific debate and evaluation by hundreds of the world's top resuscitation research scientists. Experts from Australia, Europe, Canada, Japan, New Zealand, Latin America, Saudi Arabia, Southern Africa and Thailand contributed to the development process.

The CPR and ECC guidelines provide the most effective, science-based treatment recommendations to everyone from the lay public to healthcare providers to help them save more lives from cardiovascular emergencies. The guidelines' recommendations are being incorporated into the American Heart Association's CPR and advanced life-saving courses and are available for use by other organizations.

Methodology

Important new recommendations were developed during the American Heart Association International Guidelines 2000 Conference in February, 2000 and during the post-conference review process. The Guidelines 2000 conference was the world's first international conference assembled specifically to produce international resuscitation guidelines.

The guidelines confirm safety and effectiveness for many approaches, acknowledge the ineffectiveness of others and introduce new treatments that have survived intensive evidence-based evaluation. The 2000 guidelines provide the most effective and easy-to-learn resuscitation methods that current knowledge, research and experience can provide.

History

Modern CPR and ECC methods were introduced in the 1950's and 60's to save the lives of people who had stopped breathing and whose heart had stopped. First described in 1956, the ability of defibrillators to restart the heart was a dramatic medical achievement.

Mouth-to-mouth breathing was shown to be effective in 1958 after researchers learned that throughout history, midwives used the technique to save the lives of newly born infants. In 1960, chest compressions were found to be effective for circulating blood when a victim's heart had stopped.

CPR training has been recommended for healthcare professionals for more than 30 years and for the lay public for more than 25 years. The American Heart Association established guidelines for resuscitation and has continued to improve and update CPR and ECC guidelines using the latest science-based techniques. Previous American Heart Association guidelines were published in 1974, 1980, 1986 and 1992, and have been used as the basis of other major organizations' CPR and advanced care training courses.

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