

CPR DAY 2011



13th Annual Collegiate EMS Week
November 7-13th, 2011

Collegiate CPR Day November 7th
Resource Packet

Thirteenth Annual Collegiate EMS Week

CPR Day - November 7th, 2011

Fall 2011

Dear National Collegiate EMS Week Participant:

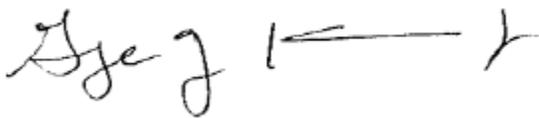
To kick off Collegiate EMS week NCEMSF is again excited to sponsor National Collegiate CPR Day. This special day was created to educate as many college students as possible across North America in the basic principles of CPR on a single day.

National Collegiate CPR Day is November 7, 2011.

We hope that you will join us in our efforts to teach others CPR and provide them with the skills to save someone's life. We have created this resource packet as a supplement to the main EMS Week packet, to help make your CPR Day event a success. There are many different activities that you can plan to spread the knowledge of CPR. You can hold an information session to introduce the basic principles of CPR; or you can set up an information table and encourage people to try CPR on mannequins. Consider also using the American Heart Association's *CPR Anytime* teaching materials (facilitator's guide appended to this packet) to educate your campus community. This is your chance to be creative and to allow your organization to stand out. Information and tips on event planning can be found in the main EMS week packet. Our goal is not to certify individuals in CPR but rather educate them.

Call 911 ... Position your hands in the center of the chest ... Push hard and fast.

Sincerely,

A handwritten signature in black ink, appearing to read "George Koenig Jr.", followed by a horizontal line and a small flourish.

George Koenig Jr., D.O., President
National Collegiate Emergency Medical Services Foundation

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JOIN STUDENTS ON COLLEGE CAMPUSES ACROSS
THE COUNTRY ON NOVEMBER 7th

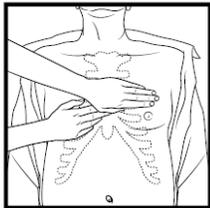
LEARN **2** STEPS SAVE ONE LIFE

CALL

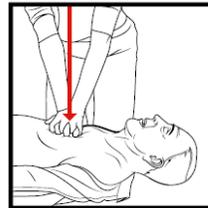


CALL 911

PUSH HARD AND FAST



**POSITION HANDS
IN THE CENTER OF
THE CHEST**



**FIRMLY
PUSH DOWN
TWO INCHES
ON THE CHEST**

CONTINUE UNTIL HELP ARRIVES



NCEMSF Collegiate EMS Week November 7th-13th, 2011
CPR Day November 7th 2011
Images courtesy of www.learn CPR.org

Sample CPR Day Press Release

FOR IMMEDIATE RELEASE

LARGEST SINGLE DAY MASS CPR TRAINING EVENT

COLLEGE STUDENTS TO EDUCATE THEIR PEERS IN CPR

NATIONAL COLLEGIATE CPR DAY KICKS OFF COLLEGIATE EMS WEEK 2011

The twelfth annual Collegiate EMS Week, sponsored by the National Collegiate EMS Foundation (NCEMSF) and modeled after National EMS Week in May sponsored by the American College of Emergency Physicians (ACEP) and endorsed by Congress, is set for November 7-13, 2011. Collegiate EMS Week is a week-long recognition and celebration of campus based EMS and provides an annual opportunity for campus-based EMS organizations to highlight their activities and educate their communities. NCEMSF is excited to start Collegiate EMS Week with National Collegiate CPR Day. This second annual event, was created to educate as many college students as possible across North America in the basic principles of CPR on a single day.

NATIONAL COLLEGIATE CPR DAY IS MONDAY, NOVEMBER 7TH

On Monday, November 7th campus-based emergency medical service providers on college and university campuses across North America will join together to educate their fellow college students in the basic principles of CPR and provide them with the skills to save a life.

The NCEMSF Collegiate CPR Day resource packet is available for free download on the NCEMSF Web site (<http://www.ncemsf.org/emsweek/>) to supplement NCEMSF's usual Collegiate EMS Week materials.

There are many activities that will take place on various campuses across North America to spread the knowledge of CPR. This is a chance not only to educate, but also to highlight the pivotal role that campus based EMS organizations play in contributing to the overall safety and health of the colleges and universities they serve.

The goal is not necessarily to certify individuals in CPR but rather to educate them in the key steps ... Call 911 ... Position your hands in the center of the chest ... Push hard and fast!

For Additional Information Contact:
[Fill in your contact information here]

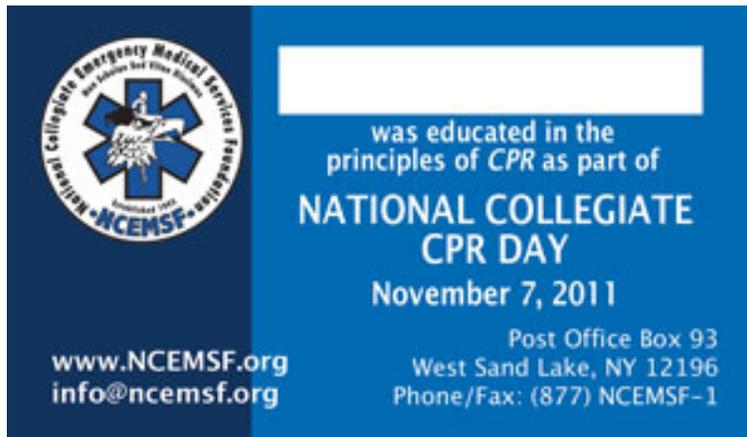
National Collegiate EMS Foundation

Print or request your CPR cards today...

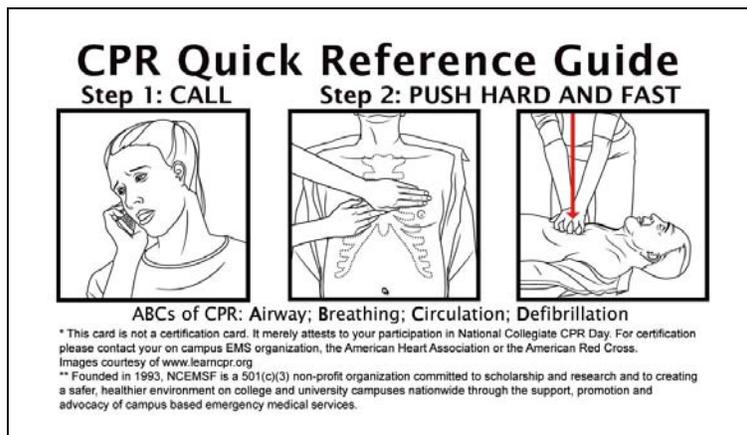
NCEMSF has developed special CPR cards to commemorate participation in CPR Day. Using the Avery business card templates found on the next two pages (one for the front, one for the back), you can print the cards yourself.

Additionally, NCEMSF has pre-printed cards available upon request. Send an e-mail to emsweek@ncemsf.org to request your special CPR cards. Please include the name of your university or college, your organization's name, mailing address, and the quantity of cards desired.

Front:



Back:





[Redacted Name]

was educated in the principles of *CPR* as part of
NATIONAL COLLEGIATE CPR DAY

November 7, 2011

www.NCEMSF.org
info@ncemsf.org

Post Office Box 93
West Sand Lake, NY 12196
Phone/Fax: (877) NCEMSF-1



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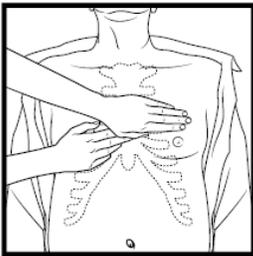
HANDS-ONLY CPR INSTRUCTION SHEET

CALL

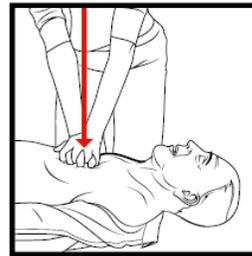


CALL 911

PUSH HARD AND FAST



**POSITION HANDS
IN THE CENTER OF
THE CHEST**



**FIRMLY
PUSH DOWN
TWO INCHES
ON THE CHEST**

CONTINUE UNTIL HELP ARRIVES

The American Heart Association in an Advisory Statement of March, 2008 recommended hands-only CPR in the following circumstances: If a bystander, not trained in standard CPR, sees an adult suddenly collapse then he or she should call 911 and provide chest compressions by pushing hard and fast in the center of the chest. Interruptions should be kept to a minimum until trained rescuers arrive. For bystanders previously trained in standard CPR, hands-only CPR may be performed if the bystander is not confident or is unwilling to perform mouth-to-mouth ventilation. The advisory goes on to state that the recommendation of hands-only CPR is limited to bystanders who directly witness out-of-hospital cardiac arrest of likely cardiac origin (sudden collapse after signs consistent with a myocardial infarction).

For certification please contact your on campus EMS organization, the American Heart Association or the American Red Cross



NCEMSF Collegiate EMS Week November 7-13, 2011
CPR Day November 7, 2011
Images courtesy of www.learn CPR.org

National Collegiate EMS Foundation

On-line Resources

There are several on-line resources that you can use to help you plan your event.

1) This site has CPR information, video demonstrations, CPR facts, and apps for iPhone & Android.

<http://www.learncpr.org>

2) This link is to a real story that illustrates the success of Hands-only CPR

<http://www.cnn.com/2009/HEALTH/10/14/cheating.death.harden.cpr/>

3) These links are to videos that use real stories and explain the benefits of Hands-only CPR

<http://www.cnn.com/2009/HEALTH/10/14/cheating.death.harden.cpr/#cnnSTCVideo>

<http://www.cnn.com/video/#/video/health/2009/10/12/gupta.back.dead.cnn>

4) This link is to a short video on how to do Hands-only CPR

<http://www.cnn.com/video/#/video/health/2009/10/13/cheat.death.cpr.demo.cnn>

5) This site has information about American Heart Association CPR courses and training materials.

<http://www.americanheart.org>

6) This site has information about American Red Cross CPR courses and training materials.

<http://www.redcross.org>

Circulation

JOURNAL OF THE AMERICAN HEART ASSOCIATION



Hands-Only (Compression-Only) Cardiopulmonary Resuscitation: A Call to Action for Bystander Response to Adults Who Experience Out-of-Hospital Sudden Cardiac Arrest: A Science Advisory for the Public From the American Heart Association Emergency Cardiovascular Care Committee

Michael R. Sayre, Robert A. Berg, Diana M. Cave, Richard L. Page, Jerald Potts and Roger D. White

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Hands-Only (Compression-Only) Cardiopulmonary Resuscitation: A Call to Action for Bystander Response to Adults Who Experience Out-of-Hospital Sudden Cardiac Arrest

A Science Advisory for the Public From the American Heart Association Emergency Cardiovascular Care Committee

Michael R. Sayre, MD; Robert A. Berg, MD, FAHA; Diana M. Cave, RN, MSN;
Richard L. Page, MD, FAHA; Jerald Potts, PhD, FAHA; Roger D. White, MD

Bystanders who witness the sudden collapse of an adult should activate the emergency medical services (EMS) system and provide high-quality chest compressions by pushing hard and fast in the middle of the victim's chest, with minimal interruptions. This recommendation is based on evaluation of recent scientific studies and consensus of the American Heart Association Emergency Cardiovascular Care (ECC) Committee. This science advisory is published to amend and clarify the "2005 American Heart Association (AHA) Guidelines for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiovascular Care (ECC)" for bystanders who witness an adult out-of-hospital sudden cardiac arrest.

Ten years ago, the AHA commissioned a working group of resuscitation scientists to reappraise the Association's inclusion of ventilations in the recommended sequence for bystander cardiopulmonary resuscitation (CPR). The working group evaluated peer-reviewed reports of laboratory and human research and summarized their findings in a 1997 statement.¹ The key conclusion of that statement was that "Current guidelines for performing mouth-to-mouth ventilation during CPR should not be changed at this time."¹

In the animal studies cited in the 1997 statement, when ventricular fibrillation arrest was of short (under 6 minutes) duration, the addition of rescue ventilations to chest compressions did not improve outcome compared with chest compressions alone (LOE 6*²⁻⁸). Analysis of human data from a national out-of-hospital CPR registry documented no survival advantage to ventilations plus compressions compared with

the provision of chest compressions alone during bystander resuscitation (LOE 4*^{9,10}). Although these studies were not deemed sufficient to justify the elimination of ventilations from the bystander CPR sequence, the 1997 statement strongly encouraged further research that would focus on "...the timing, rate, and depth [of ventilations] as well as conditions under which respiratory assistance should be used." The statement also recommended "...more research on real-world obstacles to learning, remembering, and actually performing CPR..." In addition, the statement contained a secondary conclusion that "...provision of chest compression without mouth-to-mouth ventilation is far better than not attempting resuscitation at all."¹¹

The AHA's recent Guidelines for CPR and ECC have reflected the primary and secondary conclusions of the 1997 statement: "Laypersons should be encouraged to do compression-only CPR if they are unable or unwilling to provide rescue breaths (Class IIa), although the best method of CPR is compressions coordinated with ventilations."^{11,12} In addition, the Guidelines have recommended compression-only CPR for dispatcher-assisted instructions for untrained bystanders.^{11,12}

The "2005 AHA Guidelines for CPR and ECC" noted the need to increase the prevalence and quality of bystander CPR. The Guidelines and training materials emphasized the importance of the delivery of high-quality chest compressions, that is, compressions of adequate rate and depth with full-chest recoil and minimal interruptions.¹² To limit the frequency of

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This statement was approved by the American Heart Association Science Advisory and Coordinating Committee on February 28, 2008. A single reprint is available by calling 800-242-8721 (US only) or by writing the American Heart Association, Public Information, 7272 Greenville Ave, Dallas, TX 75231-4596. Ask for reprint No. 71-0444. A copy of the statement is also available at <http://www.americanheart.org/presenter.jhtml?identifier=3003999> by selecting either the "topic list" link or the "chronological list" link. To purchase additional reprints, call 843-216-2533 or e-mail kelle.ramsay@wolterskluwer.com.

Expert peer review of AHA Scientific Statements is conducted at the AHA National Center. For more on AHA statements and guidelines development, visit <http://www.americanheart.org/presenter.jhtml?identifier=3023366>.

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interruptions, these Guidelines recommended an increased compression-to-ventilation ratio of 30:2 for adult victims. In addition, the AHA courses increased student practice of high-quality chest compressions with interruptions (including interruptions to deliver rescue breaths) limited to 10 seconds or less.

The purpose of this science advisory is to clarify and elaborate on the “2005 AHA Guidelines for CPR and ECC,” with a summary of research published since 2005. In this advisory, the studies that were reviewed in preparation for the AHA’s 2000 and 2005 CPR and ECC guidelines are denoted with an asterisk (*). The peer-reviewed studies that have been published since the “2005 AHA Guidelines for CPR and ECC” update are denoted by a double asterisk (**). This advisory uses the Level of Evidence classification scheme developed for the “2005 AHA Guidelines for CPR and ECC.”¹²

Efficacy of Treating Cardiac Arrest With Chest Compressions Alone

Animal Studies

In a porcine model of short-term cardiac arrest (3 minutes of untreated ventricular fibrillation arrest) comparison of chest compressions to conventional CPR has yielded varying results. Dorph et al¹³ showed equivalent hemodynamics in the 2 groups during 10 minutes of CPR but reduced survival in the group that did not receive the rescue breaths (LOE 6*). Berg et al¹⁴ reported reduced integrated coronary perfusion pressure and median left ventricular blood flow among those animals that received rescue breaths during 12 minutes of high-quality 15:2 CPR but no difference in left ventricular myocardial oxygen delivery or 24-hour, neurologically intact survival between animals receiving chest compressions alone and those receiving the conventional CPR (LOE 6*). In another swine study of simulated bystander CPR, Kern et al¹⁵ demonstrated that 6 minutes of chest compressions alone with a clamped endotracheal tube resulted in equivalent 24-hour survival and good neurological outcomes compared with standard CPR (LOE 6*). Two animal studies^{16,17} mimicking single-rescuer bystander CPR (using a 15:2 compression:ventilation ratio with 16-second pauses in compressions to provide 2 rescue breaths in 1 study and 30:2 in the other) have demonstrated better outcomes with continuous compressions compared with conventional CPR (LOE 6*, **).

It is important to acknowledge that during cardiac arrest without lung inflation and ventilation, there is a continuous decrement of blood oxygen saturation. At some point in time, the possible hemodynamic advantage conferred by continuous chest compressions (without ventilations) will be offset by this reduction in oxygen saturation, and the ultimate result will be a compromise in oxygen delivery. One porcine cardiac arrest study¹⁸ (3 minutes of untreated ventricular fibrillation, then 12 minutes of CPR) suggests that after 4 minutes of continuous chest compressions without rescue breathing, the delivery of 2 rescue breaths every 100 compressions provides a survival advantage over chest compressions alone (LOE 6*).

Animal studies^{19,20} mimicking bystander CPR with good quality compressions for asphyxia-precipitated cardiac arrests demonstrated that the addition of rescue breathing to compressions results in much better outcomes than chest compressions alone (LOE 6*). Chest compressions alone, however, were superior to no CPR at all, even with asphyxia-precipitated cardiac arrest. These studies support the need for rescue breathing as a critical component of CPR for asphyxia-precipitated cardiac arrests, such as those associated with drowning, trauma, airway obstruction, acute respiratory diseases and apnea (eg, with drug overdoses), pediatric arrests, and prolonged cardiac arrest.

Human Clinical Experience

Since the 1997 AHA ventilation statement, there have been 5 key human studies comparing the efficacy of bystander compression-only CPR with conventional CPR (Table). These studies are consistent with the animal data and the human registry data cited previously.^{9,10}

In 2000, Hallstrom et al²¹ demonstrated equivalent survival to hospital discharge in out-of-hospital cardiac arrest victims who were randomized to receive dispatcher-assisted bystander CPR instructions for compressions only or compressions and mouth-to-mouth ventilations (LOE 2). Waalewijn et al²² reported that the provision of chest compressions alone did not have a negative influence on survival to hospital discharge, compared with conventional CPR (LOE 3*).

Three nonrandomized observational studies of human bystander CPR were published in 2007, and none of these 3 studies demonstrated any negative impact on survival when ventilations were omitted from the bystander sequence. Using the important end point of 30-day survival with favorable neurological outcome, it was reported²³ that survival after bystander chest compressions only did not differ from survival after conventional bystander CPR for adult patients with witnessed out-of-hospital cardiac arrests from both “cardiac” and “noncardiac” causes (LOE 4**). Iwami et al²⁴ reported no difference in 1-year neurologically intact survival between victims of witnessed cardiac arrest of presumed cardiac etiology who received bystander compressions only and those who received conventional CPR (LOE 4**). Bohm et al²⁵ also studied 1-month survival from a registry of all adult victims of out-of-hospital cardiac arrest who received bystander CPR and found no statistically significant difference between victims that received chest compressions alone and those that received conventional CPR (LOE 4**). These studies could not assess or control for the quality of bystander CPR delivered, and all bystanders were likely trained according to the recommendations published before the “2005 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations”²⁶ or the “2005 AHA Guidelines for CPR and ECC.”¹² These 2005 publications emphasized the delivery of more effective chest compressions with minimal interruptions.

Lay Responder Performance

Hands-only (compression-only) bystander CPR may reduce the time to initiation of CPR and result in delivery of a greater

Table. Clinical Bystander CPR Studies Comparing Chest Compression-Only CPR With Chest Compression Plus Rescue Breathing CPR

Study	Population Studied (All Are Out-of-Hospital)	Outcome Measure	No Bystander CPR (%)	CC-Only CPR (%)	CC + RB CPR (%)
Survival after out-of-hospital cardiac arrests					
10. Bossaert et al, 1989 9. Van Hoeyweghen et al, 1993	All adult cardiac arrests, cardiac and noncardiac causes, with good quality CC-CPR or good quality CC + RB-CPR or no CPR	14-day survival	123/2055 (6)	17/116 (15)	71/443 (16)
21. Hallstrom et al, 2000	Prospective, RCT of dispatcher instructions for all adult cardiac arrests, excluding poisoning/overdoses	Discharged alive from hospital	—	32/240 (15)	29/278 (10)
22. Waalewijn et al, 2001	All bystander-witnessed adult cardiac arrests with EMS resuscitation	Discharged alive from hospital	26/429 (6)	6/41 (15)	61/437 (14)
23. Nagao et al, 2007	All witnessed adult cardiac arrests—cardiac and noncardiac causes	Neurologically favorable 1-month survival	63/2917 (2)	27/439 (6)*	30/712 (4)*
24. Iwami et al, 2007	All witnessed adult cardiac arrests of presumed cardiac origin	Neurologically favorable 1-year survival	70/2817 (3)	19/441 (4)	25/617 (4)
25. Bohm et al, 2007	All cardiac arrests with bystander CPR including cardiac and noncardiac causes	1-month survival	—	591/8209 (7)	77/1145 (7)
Survival after out-of-hospital for witnessed ventricular fibrillation cardiac arrests only					
23. Nagao et al, 2007			45/549 (8)	24/124 (19)†	23/205 (11)†
24. Iwami et al, 2007			44/535 (8)	14/122 (12)	18/161 (11)

CC-only CPR indicates chest compression-only bystander CPR; CC + RB CPR refers to conventional chest compression with rescue breathing bystander CPR; RCT, randomized, controlled trial; EMS, emergency medical services.

*Outcomes were equivalent or better with CC-only CPR compared with CC + RB CPR: unadjusted odds ratio, 1.5 (95% confidence interval, 0.9–2.5), and adjusted odds ratio, 2.2 (95% confidence interval, 1.2–4.2), but many patients could not be included in the adjusted odds ratios. †Outcomes were better with CC-only CPR than CC + RB CPR: adjusted odds ratio, 2.5 (95% confidence interval, 1.2–4.9). All data are presented as number (percentage).

number of chest compressions with fewer interruptions for the first several minutes after adult out-of-hospital cardiac arrest. Several human studies suggest that trained rescuers performing traditional 1-person CPR take much longer to initiate CPR than those trained to perform hands-only CPR. This can be explained by the additional cognitive or emotional burdens associated with attempting the more complex psychomotor task of traditional CPR (LOE 6*²⁷).

Studies^{27,28} of basic life support providers trained before the “2005 AHA Guidelines for CPR and ECC” showed that lay rescuers and healthcare providers who performed conventional CPR interrupted chest compressions for much longer than recommended (16±1 seconds and 10±1 seconds, respectively) to provide ventilations and delivered significantly fewer compressions over time than rescuers performing continuous chest compressions (LOE 6*, **). In 1 study,²⁹ there was more “decay” in posttraining performance over time (18 months) among those trained in conventional CPR than among rescuers trained in chest compressions only (LOE 6*). However, the ability of bystanders to deliver adequate rate and depth of continuous chest compressions for prolonged durations is unknown and requires further study.

Reducing Barriers to Bystander Action

Although bystander CPR can more than double survival from cardiac arrest,^{9,30–34} the reported prevalence of bystander CPR remains low in most cities, about 27% to 33%.^{23,35–38}

Reducing barriers to bystander action can be expected to substantially improve cardiac arrest survival rates. Reasons cited prospectively for the reluctance to perform CPR often include concerns about disease transmission related to performing mouth-to-mouth ventilation.^{39–45} In a study of actual bystanders, Swor et al³⁵ reported that CPR-trained bystanders at the scene of out-of-hospital cardiac arrests most often cited panic and fear of causing harm as reasons for failing to perform CPR; only 1.4% expressed reluctance to perform mouth-to-mouth ventilation, and none cited fear of infection (LOE 3**). Hauff et al⁴⁶ also found that fear of infectious disease was not a prominent concern or obstacle when bystander CPR instructions were provided by a dispatcher (LOE 4*).

Eliminating the expectation of mouth-to-mouth contact during CPR is likely to improve esthetics and address the expressed concern of potential bystanders about infection. Simplifying CPR training also improves trainees’ ability to learn and perform, among other things, proper chest compressions (LOE 6**).⁴⁷ Finally, eliminating ventilation instructions in dispatcher-assisted CPR reduces the time required to commence compressions, as observed in simulated (LOE 6*, **)^{48,49} and actual out-of-hospital resuscitations (LOE 2*²¹).

Who Should Receive Hands-Only CPR From Bystanders?

The AHA ECC Committee has carefully considered the relatively low prevalence of bystander CPR and the potential

that further simplification of CPR instructions might encourage more bystanders to take appropriate action. Furthermore, the Committee has concluded that adult victims of out-of-hospital cardiac arrest who receive bystander hands-only (compression-only) CPR *or* conventional CPR have a similar chance of survival. Thus, bystanders can use either hands-only CPR or conventional CPR to achieve the goal of providing effective chest compressions (of adequate rate and depth with minimal interruptions) to adult victims of out-of-hospital sudden cardiac arrest. This “call to action” for bystanders does NOT apply to unwitnessed cardiac arrest, cardiac arrest in children, or cardiac arrest presumed to be of noncardiac origin.

The AHA ECC Committee acknowledges that all victims of cardiac arrest will benefit from delivery of high-quality chest compressions (compressions of adequate rate and depth with minimal interruptions) but that some cardiac arrest victims (eg, pediatric victims and victims of drowning, trauma, airway obstruction, acute respiratory diseases, and apnea [such as that associated with drug overdose]) may benefit from additional interventions taught in a conventional CPR course. Therefore, the Committee continues to encourage the public to obtain training in CPR to learn the psychomotor skills required to care for a wide range of cardiovascular- and respiratory-related medical emergencies.

Limitations and Cautions

During the discussions and review of this science advisory, some experts raised concerns about basing recommendations on animal studies and limited nonrandomized observational human studies. They also raised concerns about the possibility that recommending hands-only CPR for witnessed sudden cardiac arrest will, in fact, increase the complexity of decision-making for bystanders or that unresponsive victims of noncardiac medical emergencies (eg, drowning, drug overdose) will not receive rescue breathing.^{50,51} The Committee acknowledges those views but considers the hands-only CPR recommendation to be sufficiently focused on a specific, easily identified patient population and bystander group. In addition, the Committee thinks that this clarification is likely to increase the incidence of bystander action. In the studies of bystander CPR cited in this advisory, hands-only (compression-only) CPR was better than no attempt at CPR and produced survival equivalent to conventional CPR.

Many questions remain unanswered. The ECC Committee acknowledges important limitations in issuing these recommendations and the call to action. These recommendations are based on the best available evidence, but this evidence is far from complete. Although we believe that making CPR easier to perform will increase the overall performance of CPR by bystanders, this remains unproven in clinical trials. There may be situations in which ventilation alone could be life-saving but is not provided. There may be an interval after cardiac arrest when ventilations become absolutely critical for survival. There could be confusion on the part of bystanders who have been previously trained in conventional CPR. The impact of implementing these recommendations for adult victims could adversely affect some pediatric victims (if incorrectly applied) or other victims of asphyxial arrest. New

teaching methods may emerge that improve the ability of bystanders to learn and perform effective compressions and ventilations during conventional CPR. After careful consideration, weighing all the known evidence, and considering the many unanswered questions, the ECC Committee held that the likely advantages in favor of this recommendation outweigh the possible disadvantages.

Recommendations and Call to Action

All victims of cardiac arrest should receive, at a minimum, high-quality chest compressions (ie, chest compressions of adequate rate and depth with minimal interruptions). To support that goal and save more lives, the AHA ECC Committee recommends the following.

When an adult suddenly collapses, trained or untrained bystanders should—at a minimum—activate their community emergency medical response system (eg, call 911) and provide high-quality chest compressions by pushing hard and fast in the center of the chest, minimizing interruptions (Class I).

- *If a bystander is not trained in CPR, then the bystander should provide hands-only CPR (Class IIa). The rescuer should continue hands-only CPR until an automated external defibrillator arrives and is ready for use or EMS providers take over care of the victim.*
- *If a bystander was previously trained in CPR and is confident in his or her ability to provide rescue breaths with minimal interruptions in chest compressions, then the bystander should provide either conventional CPR using a 30:2 compression-to-ventilation ratio (Class IIa) or hands-only CPR (Class IIa). The rescuer should continue CPR until an automated external defibrillator arrives and is ready for use or EMS providers take over care of the victim.*
- *If the bystander was previously trained in CPR but is not confident in his or her ability to provide conventional CPR including high-quality chest compressions (ie, compressions of adequate rate and depth with minimal interruptions) with rescue breaths, then the bystander should give hands-only CPR (Class IIa). The rescuer should continue hands-only CPR until an automated external defibrillator arrives and is ready for use or EMS providers take over the care of the victim.*

The ECC Committee strongly recommends that the AHA and other research funding organizations (eg, the National Institutes of Health) act aggressively in the public’s interest to fund research that will answer the important unanswered questions cited in this advisory. Only with new research and additional evidence will future guidelines be able to recommend optimal methods for bystander CPR. Funding to conduct this high-impact research that directly affects so many lives should be prioritized.

The scope of this recommendation is limited to a “call to action” for bystanders as they care for an adult who has experienced a witnessed, out-of-hospital cardiac arrest of probable cardiac origin (eg, sudden collapse or collapse after signs consistent with a myocardial infarction). As such, it is meant to clarify the “2005 AHA Guidelines for CPR and ECC” on this

topic. The science volunteers of the ECC Committee and the Basic Life Support Subcommittee continue to participate in the internationally based evaluation of resuscitation science sponsored by the International Liaison Committee on Resuscitation (ILCOR) and the AHA. As a part of both the ILCOR evaluation

and ongoing AHA activities, ECC Committee members and Basic Life Support Subcommittee members will continue to monitor and evaluate peer-reviewed studies related to lay rescuer and healthcare provider resuscitation attempts for victims of all causes of cardiac arrest.⁵²

Disclosures

Writing Group Disclosures

Writing Group Member	Employment	Research Grant	Other Research Support	Speakers' Bureau/Honoraria	Expert Witness	Ownership Interest	Consultant/Advisory Board	Other
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Roger D. White	Mayo Clinic	None	None	None	None	None	None	None

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*Modest.

References

1. Becker LB, Berg RA, Pepe PE, Idris AH, Aufderheide TP, Barnes TA, Stratton SJ, Chandra NC. A reappraisal of mouth-to-mouth ventilation during bystander-initiated cardiopulmonary resuscitation: a statement for healthcare professionals from the Ventilation Working Group of the Basic Life Support and Pediatric Life Support Subcommittees, American Heart Association. *Circulation*. 1997;96:2102-2112.
2. Berg RA, Kern KB, Sanders AB, Otto CW, Hilwig RW, Ewy GA. Bystander cardiopulmonary resuscitation: is ventilation necessary? *Circulation*. 1993;88(Pt 1):1907-1915.
3. Noc M, Weil MH, Tang W, Turner T, Fukui M. Mechanical ventilation may not be essential for initial cardiopulmonary resuscitation. *Chest*. 1995;108:821-827.
4. Berg RA, Wilcoxson D, Hilwig RW, Kern KB, Sanders AB, Otto CW, Eklund DK, Ewy GA. The need for ventilatory support during bystander CPR. *Ann Emerg Med*. 1995;26:342-350.
5. Berg RA, Kern KB, Hilwig RW, Berg MD, Sanders AB, Otto CW, Ewy GA. Assisted ventilation does not improve outcome in a porcine model of single-rescuer bystander cardiopulmonary resuscitation. *Circulation*. 1997;95:1635-1641.
6. Berg RA, Kern KB, Hilwig RW, Ewy GA. Assisted ventilation during 'bystander' CPR in a swine acute myocardial infarction model does not improve outcome. *Circulation*. 1997;96:4364-4371.
7. Idris AH, Becker LB, Fuerst RS, Wenzel V, Rush WJ, Melker RJ, Orban DJ. Effect of ventilation on resuscitation in an animal model of cardiac arrest. *Circulation*. 1994;90:3063-3069.
8. Idris AH, Wenzel V, Becker LB, Banner MJ, Orban DJ. Does hypoxia or hypercarbia independently affect resuscitation from cardiac arrest? *Chest*. 1995;108:522-528.
9. Van Hoeyweghen RJ, Bossaert LL, Mullie A, Calle P, Martens P, Buylaert WA, Delooy H. Quality and efficiency of bystander CPR: Belgian Cerebral Resuscitation Study Group. *Resuscitation*. 1993;26:47-52.
10. Bossaert L, Van Hoeyweghen R. Bystander cardiopulmonary resuscitation (CPR) in out-of-hospital cardiac arrest: the Cerebral Resuscitation Study Group. *Resuscitation*. 1989;17(suppl):S55-S69; Discussion S199-S206.
11. Guidelines 2000 for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care, part 3: adult basic life support: the American Heart Association in collaboration with the International Liaison Committee on Resuscitation. *Circulation*. 2000;102(suppl 8):I22-I59.
12. 2005 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2005;112(suppl 24):IV1-IV203.
13. Dorph E, Wik L, Strømme TA, Eriksen M, Steen PA. Oxygen delivery and return of spontaneous circulation with ventilation:compression ratio 2:30 versus chest compressions only CPR in pigs. *Resuscitation*. 2004;60:309-318.
14. Berg RA, Sanders AB, Kern KB, Hilwig RW, Heidenreich JW, Porter ME, Ewy GA. Adverse hemodynamic effects of interrupting chest compressions for rescue breathing during cardiopulmonary resuscitation for ventricular fibrillation cardiac arrest. *Circulation*. 2001;104:2465-2470.
15. Kern KB, Hilwig RW, Berg RA, Ewy GA. Efficacy of chest compression-only BLS CPR in the presence of an occluded airway. *Resuscitation*. 1998;39:179-188.
16. Kern KB, Hilwig RW, Berg RA, Sanders AB, Ewy GA. Importance of continuous chest compressions during cardiopulmonary resuscitation: improved outcome during a simulated single lay-rescuer scenario. *Circulation*. 2002;105:645-649.
17. Ewy GA, Zuercher M, Hilwig RW, Sanders AB, Berg RA, Otto CW, Hayes MM, Kern KB. Improved neurological outcome with continuous chest compressions compared with 30:2 compressions-to-ventilations car-

- diopulmonary resuscitation in a realistic swine model of out-of-hospital cardiac arrest. *Circulation*. 2007;116:2525–2530.
18. Sanders AB, Kern KB, Berg RA, Hilwig RW, Heidenrich J, Ewy GA. Survival and neurologic outcome after cardiopulmonary resuscitation with four different chest compression-ventilation ratios. *Ann Emerg Med*. 2002;40:553–562.
 19. Berg RA, Hilwig RW, Kern KB, Babar I, Ewy GA. Simulated mouth-to-mouth ventilation and chest compressions (bystander cardiopulmonary resuscitation) improves outcome in a swine model of prehospital pediatric asphyxial cardiac arrest. *Crit Care Med*. 1999;27:1893–1899.
 20. Berg RA, Hilwig RW, Kern KB, Ewy GA. “Bystander” chest compressions and assisted ventilation independently improve outcome from piglet asphyxial pulseless “cardiac arrest.” *Circulation*. 2000;101:1743–1748.
 21. Hallstrom A, Cobb L, Johnson E, Copass M. Cardiopulmonary resuscitation by chest compression alone or with mouth-to-mouth ventilation. *N Engl J Med*. 2000;342:1546–1553.
 22. Waalewijn RA, Tijssen JG, Koster RW. Bystander initiated actions in out-of-hospital cardiopulmonary resuscitation: results from the Amsterdam Resuscitation Study (ARRESUST). *Resuscitation*. 2001;50:273–279.
 23. Cardiopulmonary resuscitation by bystanders with chest compression only (SOS-KANTO): an observational study. *Lancet*. 2007;369:920–926.
 24. Iwami T, Kawamura T, Hiraike A, Berg RA, Hayashi Y, Nishiuchi T, Kajino K, Yonemoto N, Yukioka H, Sugimoto H, Kakuchi H, Sase K, Yokoyama H, Nonogi H. Effectiveness of bystander-initiated cardiac-only resuscitation for patients with out-of-hospital cardiac arrest. *Circulation*. 2007;116:2900–2907.
 25. Bohm K, Rosenqvist M, Herlitz J, Hollenberg J, Svensson L. Survival is similar after standard treatment and chest compression only in out-of-hospital bystander cardiopulmonary resuscitation. *Circulation*. 2007;116:2908–2912.
 26. 2005 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations, Pt 2: adult basic life support. *Resuscitation*. 2005;67:187–201.
 27. Assar D, Chamberlain D, Colquhoun M, Donnelly P, Handley AJ, Leaves S, Kern KB. Randomised controlled trials of staged teaching for basic life support, I: skill acquisition at bronze stage. *Resuscitation*. 2000;45:7–15.
 28. Higdon TA, Heidenreich JW, Kern KB, Sanders AB, Berg RA, Hilwig RW, Clark LL, Ewy GA. Single rescuer cardiopulmonary resuscitation: can anyone perform to the guidelines 2000 recommendations? *Resuscitation*. 2006;71:34–39.
 29. Heidenreich JW, Sanders AB, Higdon TA, Kern KB, Berg RA, Ewy GA. Uninterrupted chest compression CPR is easier to perform and remember than standard CPR. *Resuscitation*. 2004;63:123–130.
 30. Gallagher EJ, Lombardi G, Gennis P. Effectiveness of bystander cardiopulmonary resuscitation and survival following out-of-hospital cardiac arrest. *JAMA*. 1995;274:1922–1925.
 31. Wik L, Steen PA, Bircher NG. Quality of bystander cardiopulmonary resuscitation influences outcome after prehospital cardiac arrest. *Resuscitation*. 1994;28:195–203.
 32. Valenzuela TD, Roe DJ, Cretin S, Spaite DW, Larsen MP. Estimating effectiveness of cardiac arrest interventions: a logistic regression survival model. *Circulation*. 1997;96:3308–3313.
 33. Larsen MP, Eisenberg MS, Cummins RO, Hallstrom AP. Predicting survival from out-of-hospital cardiac arrest: a graphic model. *Ann Emerg Med*. 1993;22:1652–1658.
 34. Abella BS, Aufderheide TP, Eigel B, Hickey RW, Longstreth WT Jr, Nadkarni V, Nichol G, Sayre MR, Som margren CE, Hazinski MF. Reducing barriers for implementation of bystander-initiated cardiopulmonary resuscitation: a scientific statement from the American Heart Association for healthcare providers, policymakers, and community leaders regarding the effectiveness of cardiopulmonary resuscitation. *Circulation*. 2008;117:704–709.
 35. Swor R, Khan I, Domeier R, Honeycutt L, Chu K, Compton S. CPR training and CPR performance: do CPR-trained bystanders perform CPR? *Acad Emerg Med*. 2006;13:596–601.
 36. De Maio VJ, Stiell IG, Spaite DW, Ward RE, Lyver MB, Field BJ 3rd, Munkley DP, Wells GA, Ontario Prehospital Advanced Life Support (OPALS) Study Group. CPR-only survivors of out-of-hospital cardiac arrest: implications for out-of-hospital care and cardiac arrest research methodology. *Ann Emerg Med*. 2001;37:602–608.
 37. Lateef F, Anantharaman V. Bystander cardiopulmonary resuscitation in prehospital cardiac arrest patients in Singapore. *Prehosp Emerg Care*. 2001;5:387–390.
 38. Stiell I, Nichol G, Wells G, De Maio V, Nesbitt L, Blackburn J, Spaite D. Health-related quality of life is better for cardiac arrest survivors who received citizen cardiopulmonary resuscitation. *Circulation*. 2003;108:1939–1944.
 39. Brenner BE, Kauffman J. Reluctance of internists and medical nurses to perform mouth-to-mouth resuscitation. *Arch Intern Med*. 1993;153:1763–1769.
 40. Brenner B, Stark B, Kauffman J. The reluctance of house staff to perform mouth-to-mouth resuscitation in the inpatient setting: what are the considerations? *Resuscitation*. 1994;28:185–193.
 41. Brenner B, Kauffman J, Sachter JJ. Comparison of the reluctance of house staff of metropolitan and suburban hospitals to perform mouth-to-mouth resuscitation. *Resuscitation*. 1996;32:5–12.
 42. McCormack AP, Damon SK, Eisenberg MS. Disagreeable physical characteristics affecting bystander CPR. *Ann Emerg Med*. 1989;18:283–285.
 43. Michael AD, Forrester JS. Mouth-to-mouth ventilation: the dying art. *Am J Emerg Med*. 1992;10:156–161.
 44. Locke CJ, Berg RA, Sanders AB, Davis MF, Milander MM, Kern KB, Ewy GA. Bystander cardiopulmonary resuscitation: concerns about mouth-to-mouth contact. *Arch Intern Med*. 1995;155:938–943.
 45. Ornato JP, Hallagan LF, McMahan SB, Peeples EH, Rostafinski AG. Attitudes of BCLS instructors about mouth-to-mouth resuscitation during the AIDS epidemic. *Ann Emerg Med*. 1990;19:151–156.
 46. Hauff SR, Rea TD, Culley LL, Kerry F, Becker L, Eisenberg MS. Factors impeding dispatcher-assisted telephone cardiopulmonary resuscitation. *Ann Emerg Med*. 2003;42:731–737.
 47. Lynch B, Einspruch EL, Nichol G, Becker LB, Aufderheide TP, Idris A. Effectiveness of a 30-min CPR self-instruction program for lay responders: a controlled randomized study. *Resuscitation*. 2005;67:31–43.
 48. Woollard M, Smith A, Whitfield R, Chamberlain D, West R, Newcombe R, Clawson J. To blow or not to blow: a randomised controlled trial of compression-only and standard telephone CPR instructions in simulated cardiac arrest. *Resuscitation*. 2003;59:123–131.
 49. Williams JG, Brice JH, De Maio VJ, Jalbuena T. A simulation trial of traditional dispatcher-assisted CPR versus compressions-only dispatcher-assisted CPR. *Prehosp Emerg Care*. 2006;10:247–253.
 50. Steen PA. Does active rescuer ventilation have a place during basic cardiopulmonary resuscitation? *Circulation*. 2007;116:2514–2516.
 51. Handley AJ. Should the resuscitation guidelines be changed? [in Polish]. *Pol Arch Med Wewn*. 2007;117:337–340.
 52. Gazmuri RJ, Nadkarni VM, Nolan JP, Arntz HR, Billi JE, Bossaert L, Deakin CD, Finn J, Hammill WW, Handley AJ, Hazinski MF, Hickey RW, Jacobs I, Jauch EC, Kloeck WG, Mattes MH, Montgomery WH, Morley P, Morrison LJ, Nichol G, O’Connor RE, Perlman J, Richmond S, Sayre M, Shuster M, Timerman S, Weil MH, Weisfeldt ML, Zaritsky A, Zideman DA. Scientific knowledge gaps and clinical research priorities for cardiopulmonary resuscitation and emergency cardiovascular care identified during the 2005 International Consensus Conference on ECC [corrected] and CPR science with treatment recommendations: a consensus statement from the International Liaison Committee on Resuscitation (American Heart Association, Australian Resuscitation Council, European Resuscitation Council, Heart and Stroke Foundation of Canada, InterAmerican Heart Foundation, Resuscitation Council of Southern Africa, and the New Zealand Resuscitation Council); the American Heart Association Emergency Cardiovascular Care Committee; the Stroke Council; and the Cardiovascular Nursing Council. *Circulation*. 2007;116:2501–2512.

KEY WORDS: AHA Scientific Statement ■ cardiopulmonary resuscitation ■ death, sudden ■ heart arrest ■ resuscitation

**FACILITATOR
GUIDE**

**Family & Friends™
CPR Anytime™**

PERSONAL LEARNING PROGRAM

Family & Friends™ CPR Anytime™

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Family & Friends™ CPR Anytime™

Introduction

Since the early 1970s the American Heart Association (AHA) has sought ways to increase the number of laypeople trained in CPR. Much of the effort has targeted people in the workplace, healthcare environments, and secondary schools. In spite of diverse approaches to training more people, the AHA manages to train only about 10 million rescuers in the United States each year, or approximately 3% of the US population. This is not enough rescuers to ensure an adequate CPR bystander response when an emergency occurs. To meet the challenge of ensuring a “critical mass” of rescuers, the AHA has set a goal of training 20 million rescuers per year by 2010.

The challenge, however, is not limited to the number of rescuers trained. For rescuers to be effective, they must be near cardiac arrest victims at the time of collapse. The average age of victims of sudden cardiac arrest is 63. That indicates that many people trained in CPR at the most common sites, such as secondary schools, are unlikely to be nearby when a victim needs help. In other words, the current strategies are often not reaching the friends and family members of populations at high risk for sudden cardiac arrest.

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How to Train 20 Million Rescuers

It has become obvious that training 20 million rescuers cannot be achieved by traditional methods. New ways of reaching people need to be explored.

Traditional CPR courses have several limitations. These include the need for certified instructors at every class, limits on the number of people trained in each session, the challenge of motivating participants to attend classes that last 2 to 4 hours at a set time, the need to provide manikins at a 3:1 participant-to-manikin ratio, and limits on class size due to availability of space or instructors. These challenges can all be overcome by the use of the Family & Friends CPR Anytime program.

What is CPR Anytime?

CPR Anytime is a self-directed, personal CPR training program that can be used by an individual in the home and easily offered in a group setting. The core skills of CPR are taught using a 22-minute DVD and a personal manikin (Mini Anne). The DVD includes additional information on child CPR, choking, and AEDs (automated external defibrillators).

The concept of learning using personal manikins and video self-instruction has been studied since the mid 1990s. In these studies personal video-based learning was compared with traditional classroom courses (for example, Heartsaver CPR). The studies showed that skills performance after learning with well-researched and validated personal programs, such as CPR Anytime, are equal to traditional classroom training.

CPR Anytime is a flexible training program that can be easily implemented as a community, workplace, or school program. For example, CPR Anytime programs can be implemented as:

Community Based Programs

Offered by faith-based organizations, civic organizations, and other community groups to their members

Workplace Programs

Wellness or lunch-and-learn program for employees who want to learn CPR

School Programs

Health or PE (physical education) class or after-school program

Parent/Teacher Programs

PTA or PTO meeting

Youth Group Programs

Offered by youth groups as part of a community-based activity

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Research

To ensure that an effective training program was developed, the American Heart Association and Laerdal Medical researchers embarked on a product development and research cycle that led to multiple versions of both the educational DVD and the training manikin. Developers based the process on the need to prove that the program would really work and that the tools used would suit the user's needs (for example, older people could learn how to use the tools).

RMC Research Corporation, based in Portland, Oregon, performed detailed research that involved testing people over 45 who had not taken a traditional CPR course in recent years. Although the training kits used were prototypes, the results proved better than expected.

Researchers compared those who trained using the kits with those who trained on their own (with the help of others and at a traditional American Heart Association Heartsaver CPR class). The researchers found that those using the experimental kit were:

- Better than the Heartsaver CPR group in the performance of adequate ventilations
- As good as the Heartsaver CPR group in the mean percentage of all compressions performed with proper hand placement and with adequate depth

Another study found that using the CPR Anytime program, people who learned in large groups with only one facilitator learned all CPR skills as well as those in a traditional Heartsaver class.

Why is CPR Anytime so Effective?

The success of learning CPR using the CPR Anytime program is attributed to several educational factors:

- Hands-on skill practice: CPR Anytime is designed to maximize the amount of hands-on skill practice time. During the 22-minute program, participants practice as much as 18 minutes.
- Core skill focus: In the CPR Anytime program only core CPR skills are taught. Participants focus on the most essential information. Additional information about choking and AED use is included on the DVD and in the Family & Friends CPR booklet.
- Practice-while-watching: The practice-while-watching format provides participants with real-time information on the performance of each skill. The participant can look at the video and make corrections based on immediate visual and auditory feedback.

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CPR Anytime can be used in several ways, including:

- **Facilitated session** – CPR Anytime can be offered as a group activity to any number of participants, from 2 to as many as can fit in the available space. The only limitations are audio and visual. The group size will determine the equipment needed. Every participant should be able to view the screen or TV clearly and be able to hear the instructions on the DVD.
- **Self-learning environment** – CPR Anytime is designed to be used by an individual. Everything needed to learn CPR is contained in the CPR Anytime Personal Learning Kit. The DVD is the instructor and will guide the user through the steps of inflating the manikin to learning the core skills of CPR.

Remember, one facilitator can run a session for as many as 25 to 30 people at one time, without any need for additional help. For larger events, plan on having one facilitator to every 25 to 30 participants.

Description of Family and Friends CPR Anytime Kit

The CPR Anytime kit contains:

- CPR Skills Practice DVD
- Personal CPR Manikin—“Mini Anne” (includes pull-out tab to adjust for child)
- An AHA Family & Friends CPR resource booklet
- Accessories for the program

The video guides the participant through the inflation of the manikin, use of the kit, and the performance of CPR. The kit can be used over and over again to reinforce skill practice and to train others.

One of the most important features of CPR Anytime is that it can be shared with loved ones. This means that one kit can train a group of family and friends and dramatically increase the number of people trained in the lifesaving skills of CPR.

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Who can be a Facilitator?

Any motivated person can serve as a facilitator. Remember, someone does not have to be a qualified instructor to be a CPR Anytime facilitator because the DVD provides the instruction. In addition, one facilitator can run a session for 25 to 30 students without additional help. The DVD provides the instruction; the facilitator is there to ensure that everything runs smoothly.

Ideally the facilitator should have used the kit first to learn or refresh his or her CPR skills and to understand how to organize a course and what to emphasize with the audience. Although participants have been quite successful without coaching during the session, coaching and assistance can be helpful. Coaching during the DVD should be very limited because interrupting the DVD to add information can detract from learning. Limit feedback to important things like reinforcing the importance of deep compressions or opening the airway. Avoid adding any additional information or stopping the learning. The facilitator should never step between the DVD and the participant.

Feedback can be as simple as “push on the chest harder and faster” or “tilt the head back and lift the chin” or “make sure that you breathe enough to make the chest rise.” If you note some significant problem, such as a deflated manikin, it may be appropriate to stop the DVD, resolve the problem, and continue with the class.

There are two other times that you can actively communicate to the participant. First, before the video starts, you may want to get the participants ready for the learning session. Second, after the video ends, you can emphasize the importance of recruiting and helping others use the kit to learn CPR. Remember, the educational content comes from the instructor on the DVD.

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Recruitment of Organizations

There is no limit to the type of organizations that can participate in the distribution of the CPR Anytime program. Examples of potential target populations include faith-based organizations, civic groups, service organizations (for example, Lions Club, Rotary International, and veterans groups), and schools. These organizations are particularly appropriate as distribution channels because they are commonly involved in community action and development programs and have a large number of members to participate in the program.

When approaching one of these organizations, it is important to schedule a meeting with leaders (president, pastor, principal, etc) and provide a brief presentation. The presentation should include:

- The importance of CPR in saving lives
- The need to recruit people who otherwise might not be trained in CPR
- The efficacy, ease, and potential reach of the CPR Anytime program
- How to conduct the initial training
- The importance of follow-up to ensure that people share the kit to train their family and friends and use the kit to refresh their CPR skills. Remember to stress the great potential of reaching more people as participants take the kits home to teach their family and friends.
- If appropriate, the cost of the kit and possibilities for funding programs
- How to purchase CPR Anytime kits

At the initial meeting the facilitator should schedule a training day and establish how many people will be trained in the First Tier (people trained by the facilitator).

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Effective Facilitating

Course facilitation is the most important role of the facilitator. Good facilitation will improve performance and increase the likelihood that participants will train others. Facilitation includes actions before, during, and after CPR practice.

Facilitating Before CPR Practice

Manikins in the classroom should be arranged for ease of skill practice. As a rule participants should practice at least 3 feet apart so that they can easily perform the skills without distracting or limiting the movement of an adjacent participant. The TV monitor or screen for viewing the DVD should be appropriate for the size of the group. For example, a standard TV monitor can be used for groups up to 12 persons. For larger groups a projection screen should be used with an appropriate sound system so that all participants can hear and see the DVD. The floor should be comfortable enough for kneeling. A carpeted floor or pads can be used to make participants comfortable during practice. It may be appropriate to allow older persons or persons with disabilities to practice on a low table to avoid discomfort or injury.

As the participants arrive, have them sign in and assign them a practice station. At the start of the session, you can provide the following short orientation:

- The purpose of the program
- The contents of the CPR Anytime kit
- How important it is for them to take the kits home for family and friends to learn
- How learning CPR will increase the chance for survival
- Clarification of the following skills:
 - The need for forceful chest compressions—note that in the video there will be a section where the manikin's chest will click when the compression depth is deep enough
 - The need to make the chest rise with each breath
 - Head tilt and chin lift to open the airway
- Have the participants inflate the manikin before you turn on the video, and check that all of the manikins are fully inflated
- Start the DVD

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Facilitation During CPR Practice

Once again keep in mind that participants in research studies have successfully learned CPR without facilitation. The DVD is designed to teach the essential skills of CPR, so try not to interrupt the DVD learning session, and do not introduce additional information.

Any facilitation during the video should be brief and to the point. Here are some situations that may require brief feedback:

Situation	Suggested Action
The participant is not opening the airway properly	Briefly describe the proper hand position and remind the participant to tilt the head “way back.”
The participant is not making the chest rise during breaths	Make sure that: – The participant has performed a good head tilt – The participant’s hands are away from the neck Then advise the participant to breathe more air into the Mini Anne to make the chest rise.
Chest compressions are not making the clicker sound	Simply tell the participant to push harder on the chest until he hears the click and to keep arms straight and elbows locked.
Incorrect hand position	Tell the participant to place the heel of her hand on the breastbone between the nipples. The Mini Anne has a soft patch in the right place.
Incomplete release of the chest	Tell the participant to completely release her weight off the chest wall during the release phase of the compression.

Feedback should be brief so that it does not interrupt learning. If the DVD is running and the facilitator is positioned between the DVD and the participant, the participant will miss the content for that period of time, further complicating the acquisition of core skills. The best type of facilitation is brief verbal feedback that corrects the error.

Facilitation After CPR Practice

After CPR practice it is important to emphasize that the participants can take their kits home to share with loved ones. One CPR Anytime kit can be used to train a large network of family and friends.

Family & Friends™ CPR Anytime™

CPR Anytime Program Resources

To learn more about organizing a CPR Anytime program in your community, workplace, or school, contact the AHA at 1-877-AHA-4CPR or visit www.cpranytime.org.

Following is a list of resources that can be found at www.cpranytime.org.

Planning Documents

- CPR Anytime Plan—tips in implementing a CPR Anytime training program
- Grant Research and Development Guide
- Program Implementation
- Sample Grant Proposal Template
- Sample CPR Anytime Program Options
- CPR Anytime Tri-fold Brochure Template

Event Materials

- Event Sign-in Form
- Tracking Form—participants use this to provide a list of family and friends trained with their CPR Anytime kit
- T-shirt template: “I’m a Hero” (front), “I Learned CPR” (back)
- Business card template (“I participated in a CPR Anytime Program”—includes contact information for AHA or event host)

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Facilitator's Checklist

Facilitating During a Recruitment Meeting

- Emphasize the importance of CPR in saving lives.
- Emphasize the need to recruit people who otherwise might not be trained in CPR.
- Explain the efficacy and easy use of the Family and Friends CPR Anytime.
- Explain how the CPR Anytime program can be used to train family and friends.
- Explain how to conduct the initial training of the First Tier group (for example, school participants, club, church, synagogue, or mosque members).
- Emphasize the importance of follow-up to ensure that people use the kit.
- If appropriate, state the cost of the kits.
- If appropriate, explain how to purchase the kits.

Facilitating During the Course

Before CPR Practice

- Select a video system appropriate for the size of the group (under 12 = standard monitor, over 12 = video projection if this is possible).
- Position manikin boxes at least 3 feet apart.
- Have participants inflate manikins.
- Explain the importance of CPR training.
- Explain the importance of using the kit to teach others.
- Briefly review the core components of the skill:
 - Airway opening
 - Chest rise with each breath
 - Forceful compressions that produce a click

After CPR Practice

- Importance of immediately recruiting people to train
- How to organize and conduct training