



## Hands-Only CPR for Adults Who Suddenly Collapse Frequently Asked Questions (FAQ)

### General Information:

#### **Q: What is Hands-Only CPR?**

A: Hands-Only CPR is CPR without mouth-to-mouth breaths. It is recommended for use by people who see an adult suddenly collapse in the “out-of-hospital” setting. It consists of two steps:

1. Call 911 (or send someone to do that).
2. Begin providing high-quality chest compressions by pushing hard and fast in the center of the chest with minimal interruptions.

#### **Q: Who should receive Hands-Only CPR?**

A: Hands-Only CPR is recommended for use on adults who suddenly collapse. The American Heart Association (AHA) recommends conventional CPR (that is, CPR with a combination of breaths and compressions) for all infants and children, for adult victims who are found already unconscious and not breathing normally, and for any victims of drowning or collapse due to breathing problems.

#### **Q. Do I need to take a training course to learn how to do Hands-Only CPR?**

A. CPR is a psychomotor skill. The AHA continues to recommend that you take a CPR course to practice and learn the skills of CPR, including giving high-quality chest compressions. People who have had CPR training are more likely to give high-quality chest compressions and are more confident about their skills than those who have not been trained (or have not trained in the last 5 years).<sup>\*</sup> Even a very short CPR training program that you can do at home, like the AHA’s 22-minute CPR Anytime™ program, provides skills training and practice that can prepare you to perform high quality chest compressions.

#### **Q. Do I still need to learn “conventional” CPR with mouth-to-mouth breathing?**

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<sup>\*</sup> Data on skills performance is from the 2005 CPR Anytime study using an “untrained” control group. Data about confidence/willingness to act is from a 2007 national survey, in which Americans who were trained within the last 5 years were almost twice as likely (45% vs. 24%) to say they’d begin CPR immediately in a real emergency as those not trained or not trained in the past five years.

A. The AHA still recommends that you learn conventional CPR that includes mouth-to-mouth breathing. There are many medical emergencies that cause a person to be unresponsive and to stop breathing normally. In those emergencies, CPR that includes mouth-to-mouth breathing may provide more benefit than Hands-Only CPR. Some examples include:

- Unresponsive infants and children
- Adult victims who are found already unconscious and not breathing normally
- Victims of drowning or collapse due to breathing problems

**Q: Is Hands Only CPR as effective as conventional CPR?**

A. Hands-Only CPR performed by a bystander has been shown to be as effective as conventional CPR (CPR that includes breaths) in the first few minutes of an out-of-hospital sudden cardiac arrest. Provision of conventional CPR may be better than Hands-Only CPR for certain victims, though, such as infants and children, adults who are found in cardiac arrest or victims of drowning or collapse due to breathing problems. Any attempt at CPR is better than no attempt.

**Q: Will Hands-Only CPR increase the chance of a bystander taking action in a cardiac emergency?**

A: Yes. In a national survey, Americans who have *not* been trained in CPR within the last 5 years stated that they would be *more* likely to perform Hands-Only CPR than conventional CPR for an adult who collapses suddenly. In addition, Hands-Only CPR offers an easy to remember and effective option to those bystanders who *have* been previously trained in CPR but are afraid to help because they are not confident that they can remember and perform the steps of conventional CPR.

**Q: How did you decide to call it “Hands-Only” CPR?**

A: The term “Hands-Only CPR” was developed through extensive consultation with communications and resuscitation experts, and use of focus groups and nationally-based surveys. The objective of this initiative was to develop a message that describes an effective technique that the public will remember and perform to help an adult who suddenly collapses. The overarching objective, of course, is to save more lives by encouraging more bystanders to take immediate and appropriate action when they witness an adult suddenly collapse.

**How & When to Provide Hands-Only CPR:**

**Q. If I was trained in conventional CPR that includes breathing (30 compressions to 2 breaths, or 30:2 CPR) and I see an adult suddenly collapse, what am I supposed to do?**

or

**Q. If I was trained in an AHA Heartsaver® course and I see an adult suddenly collapse, what am I supposed to do?**

A. Call 911 and start CPR.

If you *ARE CONFIDENT* in your ability to provide CPR that includes breaths with high-quality chest compressions with minimal interruptions, then provide either the conventional CPR that you learned (CPR with a 30:2 compression to ventilation ratio) OR Hands-Only CPR. Continue CPR until an AED arrives and is ready for use or EMS providers take over care of the victim.

If you *ARE NOT CONFIDENT* in your ability to provide CPR that includes breaths with high-quality chest compressions with minimal interruptions, then provide Hands-Only CPR. Continue Hands-Only CPR until an AED arrives and is ready for use or EMS providers take over care of the victim.

**Q. If I was trained in conventional CPR that includes breathing (30 compressions to 2 breaths, or 30:2 CPR), how long should I do Hands-Only CPR before switching to conventional CPR?**

A. At this point, there is not sufficient data to provide a specific recommendation. Trained rescuers will take over when they arrive at the victim's side. Those rescuers will follow the local protocol, which most often involves providing conventional CPR (in other words, CPR with breathing) and the use of specialized equipment. In the meantime, you should give the victim high-quality chest compressions with minimal interruptions. If you are confident in your ability to give breaths with minimal interruptions in chest compressions, then give either Hands-Only CPR or conventional CPR.

**Q. What if I am using an AED that prompts CPR with breathing, should I just give chest compressions?**

A. Follow the directions provided by the AED and minimize any interruptions to chest compressions. Remember, all victims of cardiac arrest should receive high-quality chest compressions. You should push hard and fast in the center of the chest with minimal interruption.

**Q. I am a Healthcare Provider. If I encounter an adult victim of sudden cardiac arrest at work, what kind of CPR should I do?**

A. At this time, the American Heart Association is not changing its recommendation for healthcare providers and other professional rescuers who receive healthcare provider basic life support training. Follow your local protocol for responding to an unconscious patient. That should include calling for help and asking for an AED, immediately. If alone, begin CPR as you were trained to perform it, making certain to provide high-quality chest compressions with minimal interruptions.

**Q. I am a Healthcare Provider. If I encounter an adult victim of sudden cardiac arrest while not working in my professional role as a healthcare provider. What kind of CPR should I do?**

A. At this time, the American Heart Association is not changing its recommendation for healthcare providers and other professional rescuers who receive healthcare provider basic life support training. Do what you know and feel confident doing.

Both methods have been shown to be effective in the first few minutes of an out-of-hospital adult cardiac arrest. You should perform the method with which you feel confident you can deliver good quality chest compressions with minimal interruption.

[More Detail] All victims of cardiac arrest should receive hard and fast chest compressions allowing full chest recoil; at a rate of 100 compressions per minute; and with minimal interruptions. If you see an adult collapse suddenly in the out-of-hospital setting and are confident that you can give conventional CPR (including breaths) with minimal interruptions in chest compressions, then you can do either conventional 30:2 CPR or Hands-Only CPR.

**Q. What should I do if I am getting tired from giving chest compressions before more help arrives?**

A. Continue to provide hard and fast chest compressions with minimal interruption to the best of your ability. We realize that giving good quality chest compressions at 100 times per minute is hard work. Most people will get tired after only a few minutes of delivering any type of CPR. If someone else is nearby, ask that person to take over chest compressions after about 2 minutes or about 200 compressions. If you are alone, then just do your best.

**Q. Not all people who suddenly collapse are in cardiac arrest. Will CPR seriously hurt them?**

A. Adults who suddenly collapse and are not responsive are likely to have sudden cardiac arrest and their chance of survival is nearly zero unless someone takes action immediately. You should call 911 and start giving hard and fast chest compressions in the center of the chest, with minimal interruptions. If sudden cardiac arrest *is* the cause of the collapse, Hands-Only CPR is an easy, effective way for *any* bystander to *more than double* the victim's chance for survival. If an adult has collapsed for reasons *other than* sudden cardiac arrest, Hands-Only CPR could still help by causing the person to respond (begin to move, breathe normally or speak). If that occurs, Hands-Only CPR can be stopped. Otherwise, chest compressions should continue until EMS providers arrive.

**Q. Can you break people's ribs doing CPR?**

A. Yes. A 2004 review of scientific literature showed that conventional CPR can cause fractures of ribs and/or the breastbone (sternum) in at least 1/3 of cases.<sup>†</sup> In a related study of people

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<sup>†</sup> Hoke RS, Chamberlain D. (2004). Skeletal chest injuries secondary to cardiopulmonary resuscitation. *Resuscitation*. 63(3):327-38.

who had received such injuries from CPR, the fractures did not cause any serious internal bleeding and, thus, mortality.<sup>‡</sup> On the other hand, the chance of surviving an out-of-hospital cardiac arrest is *near zero* for a victim who does not immediately receive high quality chest compressions with minimal interruptions, followed by additional therapy within minutes (a defibrillating shock and/or more advanced care from EMS personnel).

**Q. What do I do if I find an adult who is collapsed but no one saw it happen?**

A. Call 911 and start CPR. If you learned conventional CPR (with mouth-to-mouth breathing), then call 911 and provide CPR as you learned it. If you only know Hands-Only CPR, call 911 and give Hands-Only CPR until an AED arrives and is ready for use or EMS providers take over care of the victim.

**Q: Is there a danger in jumping in and giving CPR without being trained?**

A. On average, any attempt to provide CPR to a victim is better than no attempt to provide help.

**Q: For lay rescuers who have a duty to respond to emergencies as part of their job and who have received training in Heartsaver CPR, AED and/or first aid, what kind of CPR should they perform?**

A: These responders may use Hands-Only CPR or conventional CPR if they witness an adult suddenly collapse. The AHA recommends that these responders:

Call 911 and start CPR.

If they *ARE CONFIDENT* in their ability to provide CPR that includes breaths with high-quality chest compressions with minimal interruptions, then provide either the conventional CPR that you learned (CPR with a 30:2 compression to ventilation ratio) OR Hands-Only CPR. Continue CPR until an AED arrives and is ready for use or EMS providers take over care of the victim.

If they *ARE NOT CONFIDENT* in their ability to provide CPR that includes breaths with high-quality chest compressions with minimal interruptions, then provide Hands-Only CPR. Continue Hands-Only CPR until an AED arrives and is ready for use or EMS providers take over care of the victim.

The American Heart Association recommends conventional CPR (that is, CPR with a combination of breaths and compressions) for all infants and children, for adult victims who are found already unconscious and not breathing normally, and for any victims of drowning or collapse due to breathing problems.

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<sup>‡</sup> Lederer W, Mair D, Rabl W, Baubin M. (2004). Frequency of rib and sternum fractures associated with out-of-hospital cardiopulmonary resuscitation is underestimated by conventional chest X-ray. *Resuscitation*. 60(2):157-62.

**Q: If a lay rescuer with the duty to respond to emergencies as part of his/her job is most likely to encounter ONLY victims of an adult sudden cardiac arrest (for example, in an office environment), what is the value of training and certifying employees in conventional CPR and AED use?**

A: Performing high-quality chest compressions during any type of CPR is a psychomotor skill that is best learned with the hands-on practice gained in a CPR training program. In fact, people who have had CPR training are more likely to give high-quality chest compressions and are more confident about their skills than those who have not been trained (or have not trained in the last 5 years.)\*

Conventional CPR training is also valuable because it teaches skills that could be required for medical emergencies other than adult sudden cardiac arrest, emergencies that could occur almost anywhere . . . even in an office (choking, drug overdose or allergic reaction).

### **Science & Guidelines Information:**

**Q. Why don't adults who suddenly collapse need mouth-to-mouth breathing in the first few minutes after their cardiac arrest?**

A. When an adult suddenly collapses with cardiac arrest, their lungs and blood contain enough oxygen to keep vital organs healthy for the first few minutes, as long as someone provides high quality chest compressions with minimal interruption to pump blood to the heart and brain.

[MORE DETAIL]

- When an adult suddenly collapses with cardiac arrest, the cause is usually an abrupt onset of an abnormal heart rhythm. The most common abnormal rhythm causing sudden cardiac arrest is ventricular fibrillation (VF). VF causes the heart to quiver so it does not pump blood. Before a *sudden* collapse, the adult was probably breathing normally. At the time of a sudden collapse, the adult's lungs and blood are likely to have a fresh supply of oxygen that can last for at least a few minutes even if breathing stops.
- Consider when you hold your breath while floating in a pool. Most people can hold their breath for quite a while, as long as they are not moving.
- Another reason that breaths may not be needed during the first minutes after collapse is that a person in cardiac arrest needs less oxygen than a person who is not in cardiac arrest.
- For these reasons, the most important thing a bystander can do for a person in sudden cardiac arrest is to pump blood to the brain and to the heart muscle, delivering the oxygen that still remains in the lungs and blood. A rescuer can do this by giving high

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quality chest compressions with minimal interruptions. Interruptions in compressions to give breaths (mouth-to-mouth breaths) may bring some additional oxygen to the lungs but the benefit of that oxygen can be offset if you stop the blood flow to the brain and heart muscle for more than a few seconds (especially in the first few minutes after a sudden cardiac arrest when there is still plenty of oxygen still in the lungs and blood).

**Q: Why did the American Heart Association decide to change its CPR recommendation?**

A: This recommendation clarifies and elaborates the *2005 American Heart Association Guidelines for CPR and Emergency Cardiovascular Care*. Those guidelines noted that there was a need to increase the prevalence and quality of bystander CPR. The guidelines also contained the recommendation that lay persons should do Hands-Only CPR (the guidelines used the term “compression-only CPR”) if they are unable or unwilling to provide breaths. Since the publication of the 2005 AHA Guidelines, several studies showed that Hands-Only CPR can be as effective as conventional CPR (CPR with breathing) in the out-of-hospital setting. As a result, American Heart Association volunteer scientists authored an Advisory Statement for the Public. This Advisory Statement, *Hands-Only (compression-only) CPR: a call to action for bystander response to adults who experience out-of-hospital sudden cardiac arrest*, was published in the journal *Circulation* on March 31. The statement applies to bystanders who see an adult collapse suddenly in the out-of-hospital setting. The purpose of this statement is to encourage the use of Hands-Only CPR by untrained bystanders and by trained bystanders who are not confident that they can perform conventional CPR. The statement also notes that trained bystanders who are confident that they can perform conventional CPR with minimal interruption to chest compressions can do so or they can perform Hands-Only CPR.

**Q. Has American Heart Association changed its recommendation for healthcare providers?**

A. No, the current AHA recommendation for healthcare providers has not changed. More research is needed to determine if the existing sequence for professional rescuers can be made more effective.

**Q: How does this recommendation differ from the 2005 AHA Guidelines for CPR and ECC?**

A. This scientific advisory amends the 2005 Guidelines on Hands-Only CPR (compression-only CPR) by increasing the circumstances for which Hands-Only CPR is recommended. Previously, use of Hands-Only CPR was recommended only for: “Laypersons . . . who are unable or unwilling to provide breaths...” and for dispatcher CPR instructions to bystanders by telephone. Recently published evidence demonstrates that Hands-Only CPR can be as effective as conventional CPR (CPR with breaths) when performed by bystanders. Therefore, the AHA now recommends that Hands-Only CPR can be used by any bystander who witnesses an adult suffer a sudden collapse outside of the hospital setting.

**Q. Is the previous AHA recommendation for bystanders wrong?**

A. No. With the publication of the *2005 AHA Guidelines for CPR and ECC*, the AHA emphasized that the most critical component of performing CPR is delivery of high quality chest compressions with minimal interruptions. That remains true and can be accomplished for all victims of cardiac arrest using conventional CPR, that is, CPR with breathing (mouth-to-mouth). AHA experts recognize that mouth-to-mouth breathing is a relatively complex skill. If rescuers have not practiced the combination of breathing with chest compressions, the delivery of breaths can result in long and potentially detrimental interruptions to chest compressions. In addition, recent evidence demonstrates that bystander Hands-Only CPR is as effective as conventional CPR in the first few minutes of out-of-hospital sudden cardiac arrest. Therefore, Hands-Only CPR is now considered an appropriate bystander response to out-of-hospital adult sudden cardiac arrest. The breathing (mouth-to-mouth) component of CPR remains important in the treatment of other cardiovascular emergencies:

- All unresponsive infants and children
- Adult victims who are found already unconscious and not breathing normally
- Any victims of drowning or collapse due to breathing problems

**Q: What was the “tipping point” for AHA amending its current 2005 guidelines?**

A: The *2005 AHA Guidelines for CPR and ECC* noted that there was a need to increase the prevalence and quality of bystander CPR. The guidelines also contained the recommendation that lay persons should do Hands-Only CPR (the guidelines used the term “compression-only CPR) if they are unable or unwilling to provide breaths. Since the publication of the 2005 AHA Guidelines, several studies showed that Hands-Only CPR can be as effective as conventional CPR (CPR with breathing) in the out-of-hospital setting. The “tipping point” came in 2007 with the publication of three additional human clinical studies:

- Nagao et al., 2007
- Bohm et al., 2007
- Iwami et al., 2007

As a result, American Heart Association volunteer scientists authored an Advisory Statement for the Public, *Hands-Only (compression-only) CPR: a call to action for bystander response to adults who experience out-of-hospital sudden cardiac arrest*, which was published in the journal *Circulation* on March 31.

**Q: Was this advisory statement on Hands-Only CPR made in response to the research published about the Arizona EMS “Minimally Interrupted Compression Resuscitation” (MICR)? How does it differ?**

A: No. The article about MICR describes a protocol used by EMS providers (not bystanders) and includes the use of defibrillators and drug therapy to resuscitate victims of cardiac arrest. This AHA’s recent advisory statement addresses *only* the recommended bystander response to adults who suddenly collapse and may be victims of sudden cardiac arrest. [MORE DETAIL] At this time, the American Heart Association is not changing its recommendation for healthcare providers and other professional rescuers who receive healthcare provider basic life support training. Those providers should continue to follow their local protocol.

**Q: What is the American Heart Association’s process for releasing Scientific Statements?**

A. Researchers and clinicians who serve as volunteer experts for the American Heart Association continually monitor and review the scientific literature related to cardiovascular disease and treatment. When experts agree that published evidence supports a new or changed recommendation, a group of experts is commissioned to draft a scientific statement for publication in a peer-reviewed journal.

<http://www.americanheart.org/presenter.jhtml?identifier=3023366>

**Product-Specific Information:**

**Q: Does AHA offer products that teach Hands-Only CPR?**

A: There is not a specific Hands-Only CPR course. All CPR training courses that include skills practice will teach you to perform the essential skill of Hands-Only CPR, that is, HIGH-quality chest compressions. In addition, all students taking an AHA BLS course will receive a Hands-Only informational flyer, specific for their level of training.

The AHA’s Family & Friends™ CPR Anytime™ [www.cpranytime.org](http://www.cpranytime.org) provides CPR training in 22 minutes in the comfort of your own home. You can also find information about instructor-led CPR courses by going to [www.americanheart.org/cpr](http://www.americanheart.org/cpr) or calling 1-877-AHA-4CPR.

**Q: A student has previously purchased a CPR Anytime kit and wants to obtain the latest information that’s been added since the kit was made. Where can he/she get that?**

A: Hands-Only CPR skills are included in the current kit by watching and practicing the compressions portion of the instructional DVD. Completing the entire 22-minute training provides the user not only with intensive Hands-Only CPR practice that helps users be more comfortable performing compressions, but also the skills to perform breaths (needed in situations involving an infant or child, an unwitnessed arrest or other emergencies such as drowning and drug overdose.) In addition, all CPR Anytime kits will contain a Hands-Only CPR informational flyer.

**Q: What AHA training programs will be updated with this new information?**

A: All instructor-led, basic life support (BLS) courses include modified lesson maps so that instructors can discuss the use of Hands-Only CPR during courses. Instructors also will be provided with student hand-outs on Hands-Only CPR. As inventory of print materials for these courses are replenished, the Hands-Only CPR student hand-outs will be included in the packaging.

The self-directed personal learning programs, Family & Friends™ CPR Anytime™ and Heartsaver® AED Anytime will contain printed information about Hands-Only CPR. Also, BLS eLearning training programs will be modified to direct students to Hands-Only CPR information via the Internet.

## **Additional Information**

### **Q: Where can I go to get more information?**

A: The American Heart Association has developed a consumer Web site for Hands-Only CPR. Visit [www.americanheart.org/handsonlycpr](http://www.americanheart.org/handsonlycpr) to learn more.

### **Q: How should I handle inquiries from the news media?**

A: The AHA will be conducting a media relations effort beginning on April 1. Should you receive questions from local news media, please direct them to call their local AHA Affiliate Communications Director. You should direct national media to contact Kate Lino, [kate.lino@heart.org](mailto:kate.lino@heart.org) or 214-706-1325.

### **Q: I am about to purchase an AED for use in [a public location] [my business] [my home] [my boat] [etc.] and I plan to buy one that provides audio instructions for CPR. What *should* it be programmed to instruct . . . Hands-Only CPR or conventional CPR?**

A: Follow the default instructions that are programmed in the AED. All devices cleared by the Food & Drug Administration for marketing in the US provide instructions that are consistent with the *2005 AHA Guidelines for CPR and ECC*. If the AED is programmed to instruct you to provide breaths but you are not confident that you can do so with minimal interruption to chest compressions, use Hands-Only CPR when prompted by the AED to perform CPR.