American Heart Association®
CPR & First Aid

Hands Only CPR

Questions and Answers

Hands-Only CPR is CPR without mouth-to-mouth breaths. It is recommended for use by people who see a **teen** or **adult** suddenly collapse in an "out-of-hospital" setting (such as at home, at work or in a park). It consists of two easy steps:

- Call 9-1-1 (or send someone to do that).
- Push hard and fast in the center of the chest.

When you call 911, you need to stay on the phone until the 911 dispatcher (operator) tells you to hang up. The dispatcher will ask you about the emergency. They will also ask for details like your location. It is important to be specific, especially if you're calling from a mobile phone as that is not associated with a fixed location or address. Remember that answering the dispatcher's questions will not delay the arrival of help.

Q. Who should receive Hands-Only CPR?

A: Hands-Only™ CPR is recommended for use on teens or adults whom you see suddenly collapse.

Q. Will Hands-Only CPR increases the chance of someone near the victim taking action in a cardiac emergency?

A: **Yes.** In a national survey, Americans who had not been trained in CPR within the past five years said they would be more likely to perform Hands-Only CPR than conventional CPR on a teen or adult who collapses suddenly. Also, Hands-Only CPR is an easy-to-remember and effective option for people who have been trained in CPR before but are afraid to help because they are not confident that they can remember and perform the steps of conventional CPR.

Q. Are there times when I should use conventional CPR with breaths?

A: **Yes.** There are many medical emergencies that cause a person to be unresponsive and to stop breathing normally. In those emergencies, conventional CPR that includes mouth-to-mouth breathing may provide more benefit than Hands-Only CPR. The American Heart Association recommends CPR with a combination of breaths and compressions for:

- All infants (up to age 1)
- Children (up to puberty)
- Anyone found already unconscious and not breathing normally
- Any victims of drowning, drug overdose, collapse due to breathing problems, or prolonged cardiac arrest

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

A: When a teen or adult suddenly collapses with cardiac arrest, his or her 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.

- When a teen or adult suddenly collapses with cardiac arrest, the cause is usually an abrupt onset of an abnormal heart rhythm. A common abnormal rhythm causing sudden cardiac arrest is ventricular fibrillation (VF). VF causes the heart to quiver so it doesn't pump blood. Before a sudden collapse, the teen or adult was probably breathing normally. This means there may be enough oxygen in the person's blood for the first several minutes after cardiac arrest.
- Many cardiac arrest victims have gasping, which could bring some oxygen into the lungs. If the victim's airway is open, allowing the chest to expand back to its normal position after each compression may also bring some oxygen into the lungs.
- For these reasons, the most important thing someone near the victim 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. Do this by giving high-quality chest compressions with minimal

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interruptions. Interruptions in compressions to give mouth-to-mouth breaths may bring some additional oxygen into 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 in the lungs and blood).

Q. Now that I know about Hands-Only CPR, do I still need to learn CPR with mouth-to-mouth breathing?

A: CPR is a skill that can be improved with practice. The American Heart Association 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 are those who have not been trained (or have not been trained in the past five years). Even a very short CPR training program that you can do at home, such as the 20-minute CPR Anytime® (opens new window) program, provides skills training and practice that can prepare you to perform high-quality chest compressions.

A: Besides, 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
- Anyone who is found already unconscious and not breathing normally
- Victims of drowning, drug overdose, or collapse due to breathing problems

Q. Is Hands-Only CPR as effective as conventional CPR?

A: Any attempt at CPR is better than no attempt. Hands-Only CPR performed by a bystander has been shown to be as effective as conventional CPR with mouth-to-mouth breaths in the first few minutes of an out-of-hospital sudden cardiac arrest. Conventional CPR may be better than Hands-Only CPR for certain victims, though, such as infants and children, teens or adults who are found in cardiac arrest (whom you did not see collapse) or victims of drowning, drug overdose, or collapse due to breathing problems.

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

A: No. The current American Heart Association 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. If I was trained in CPR that includes breathing (30 compressions to 2 breaths) and I see an adult suddenly collapse, what should I do?

A: Call 9-1-1 and start CPR.

- **If you have been trained to provide CPR** that includes breaths with high-quality chest compressions with minimal interruptions, provide either the conventional CPR that you learned (CPR with a ratio of 30 compressions to 2 breaths) 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 have NOT been trained to provide CPR** that includes breaths with high-quality chest compressions with minimal interruptions, 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. Do I need to take a training course to learn how to do Hands-Only CPR?

A: CPR is a skill that is helped by practice. The American Heart Association continues to recommend that you take a CPR course at least every 2 years. The program, provides skills training and practice that can prepare you

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to perform high-quality chest compressions 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 are those who have not been trained (or have not been trained in the past five years).* Even a very short CPR training program that you can do at home, such as the 20-minute CPR Anytime® (opens in new window) program.

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

Q. What do I do if I find a teen or adult who has collapsed but no one saw it happen?

A: Call 911 and start CPR. If you learned conventional CPR (with mouth-to-mouth breathing), call 9-1-1 and provide CPR as you learned it. If you know only 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. When I call 911, what will they ask or tell me?

A: The 911 dispatcher (operator) will ask you about the emergency. They will ask questions about the victim and whether the victim is responsive and breathing normally. They may ask if you know CPR and will tell you how to help the victim until someone with more advanced training arrives and takes over. They will also ask for details like your location. It is important to be specific, especially if you're calling from a mobile phone as that is not associated with a fixed location or address. Remember that answering the dispatcher's questions will not delay the arrival of help. You need to stay on the phone until the 911 dispatcher tells you to hang up.

Q. If I am using an AED that prompts CPR with breathing, should I give just 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. 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. Giving high-quality chest compressions at least 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 two minutes, or about 200 compressions. If you are alone, then just do your best.

Q. When do I stop giving Hands-Only CPR?

A: Continue pushing hard and fast in the center of the chest until help arrives. If the victim speaks, moves, or breathes normally while you're giving chest compressions, Hands-Only™ CPR can be stopped.

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

A: Teens or 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.

A: You should call 9-1-1 and push hard and fast 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 to double or triple the victim's chance of survival. If a teen or 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

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occurs, Hands-Only CPR can be stopped. Otherwise, chest compressions should continue until EMS providers arrive.

Q. Can you break people's ribs by 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 one third of cases.† In a related study of people who had received such injuries from CPR, the fractures did not cause any serious internal bleeding or death.‡ 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).

‡Lederer W, Mair D, Rabl W, Baubin M. Frequency of rib and sternum fractures associated with out-of-hospital cardiopulmonary resuscitation is underestimated by conventional chest x-ray. Resuscitation. 2004;60:157-162.
†Hoke RS, Chamberlain D. Skeletal chest injuries secondary to cardiopulmonary resuscitation. Resuscitation. 2004;63:327-338.

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. Why did the American Heart Association decide to recommend Hands-Only CPR for adults who suddenly collapse?

A: Every five years, the American Heart Association publishes updated guidelines for CPR and emergency cardiovascular care. These guidelines reflect a thorough review of current science by international experts. The 2010 guidelines reported that in studies of out-of-hospital cardiac arrest, adults who received Hands-Only™ CPR from a bystander were more likely to survive than those who didn't receive any type of CPR from a bystander. In other studies, survival rates of adults with cardiac arrest treated by people who weren't healthcare professionals were similar with either Hands-Only CPR or conventional CPR.

- When interviewed, bystanders said panic was the major obstacle to performing CPR. The simpler Hands-Only technique may help overcome panic and hesitation to act.

Q. Hands-Only CPR was released as a Science Advisory in 2008. What is the American Heart Association's process for releasing Scientific Statements, Guidelines and Advisories?

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

Q. Does the American Heart Association offer products that teach Hands-Only CPR?

A: 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.

The American Heart Association's Family & Friends® CPR Anytime® program provides CPR training in about 20 minutes in the comfort of your own home. You can also find information about instructor-led CPR courses by going to www.heart.org/handsonlycpr or calling 1-877-AHA-4CPR.

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