How to Do CPR on a Child

Two Parts:  Assessing the Situation  Performing CPR

Though CPR (cardiopulmonary resuscitation) should be administered by individuals trained at a certified first aid course, lay bystanders can also make a significant difference in the survival of children undergoing cardiac arrest. For youth under one year of age, follow infant CPR protocol and for adults, follow adult protocol. Basic CPR involves chest compressions, airway opening and rescue breathing. If you are not formally trained in CPR, it is recommended that you use compression-only.

Part 1: Assessing the Situation

1. Check the scene for danger. If you come across someone who is unconscious, you need to quickly make sure there are no dangers to yourself if you choose to help them. Is there a car exhaust running? A gas stove? Is there a fire? Are electrical lines down? If there is anything that could endanger you or the victim, see if there is something you can do to counteract it. Open a window, turn off the stove, or put out the fire if possible.
   • However, if there is nothing you can do to counteract the danger, move the victim. The best way to move the victim is by placing a blanket or a coat underneath her back and pulling on the coat or blanket.
   • If there is a chance the person has suffered a spinal injury two people should move her to prevent any twisting of the head and neck.[1]

2. Check the victim for consciousness. Shake or tap his shoulder and saying in a loud, clear voice, “Are you okay? Are you okay?” If he responds, he is conscious. He may have just been sleeping, or he could have been unconscious. If it still appears to be an emergency situation — for example, he is having trouble breathing or he appears to be fading in between consciousness and unconsciousness — call for help and begin basic first aid and take measures to prevent or treat shock.

3. Check the victim’s pulse. If the child is unresponsive, the first thing to do is check her pulse.[2] If the child does not respond, you need to begin CPR immediately. Do not check the pulse for more than 10 seconds. If the victim does not have a pulse, her heart is not beating and you will be required to perform chest compressions.[3]
   • To check the neck (carotid) pulse, feel for a pulse on the side of the victim's neck closest to you by placing the tips of your first two fingers beside the Adam's apple. (Be aware that the Adam's apple is usually not visible on a female, and may not even be very visible on a boy who has not yet gone through puberty.)
   • To check the wrist (radial) pulse, place your first two fingers on the thumb side of the victim's wrist.
   • Other pulse locations are the groin and ankle. To check the groin (femoral) pulse, press the tips of two fingers into the middle of the groin. To check the ankle (posterior tibial) pulse, place your first two fingers on the inside of the ankle.

4. Understand the importance of reacting quickly. If you see someone whose heart has stopped beating or has stopped breathing, reacting quickly and performing rescue breathing and CPR could save his life. When someone starts CPR before an ambulance arrives, the patient has a considerably better chance of surviving.[4] Being able to respond quickly by performing CPR, which can help get oxygenated blood back flowing to the brain, is essential.
   • If the person has a pulse but is not breathing, only perform rescue breathing, not chest compressions.
   • A human brain can typically go for around four minutes without oxygen before suffering permanent brain damage.
   • If the brain goes without oxygen for between four and six minutes the chances of brain damage rise.
   • If the brain lacks oxygen for six to eight minutes brain damage is probable.
   • If the brain is without oxygen for over ten minutes, brain death is probable.[5]
Perform CPR for two minutes. Once you have quickly assessed the situation and checked the consciousness and circulation of the victim you need to act very quickly. If there is no pulse you must begin CPR immediately, and continue it for two minutes (which is about five cycles of CPR) and then call for Emergency Medical Services. If you are alone it is important to start CPR before calling for help.

- If someone else is there send them for help. If you are alone, do not call until you have completed two minutes of CPR.
- Dial your local emergency number. Call 911 in North America, 000 in Australia, 111 in New Zealand, 112 by cell phone in the EU (including the UK) and 999 in the UK.
- If possible, send someone else to get an AED (Automatic External Defibrillator) if there is one in the building or nearby.

Remember CAB. CAB is the basic process of CPR. It stands for Chest Compressions, Airway, Breathing. In 2010, the recommended sequence changed with chest compressions placed before airway opening and rescue breathing. Chest compressions are more critical for correcting abnormal heart rhythms (ventricular fibrillation or pulseless ventricular tachycardia), and because one cycle of 30 chest compressions only requires 18 seconds, airway opening and rescue breathing are not significantly delayed.

- Chest compressions, or hands-only CPR is recommended if you have not been properly trained or are worried about performing mouth-to-mouth resuscitation on a stranger.

Position your hands for the compressions. When performing CPR on a child the positioning of your hands is especially important, given that a child will be more fragile than an adult. Locate the child's sternum by moving two fingers to the bottom of the rib cage. Identify where the lower the ribs meet in the middle and then place the heel of your other hand on top of your fingers. Just use the heel of this hand to do the compressions.

Perform 30 compressions. Compress the chest, with elbows locked, by pushing straight down about 2 inches (5.1 cm) deep. The smaller body of a child needs less pressure than an adult would. If you begin to hear or feel a cracking sound, that may indicate that you are pushing too hard. Continue, but apply less pressure with the compressions. Do 30 of these compressions, and do them at a rate of at least 100 compressions per minute if you are the only rescuer.

- Allow complete chest recoil after each compression.
- Minimize pauses in chest compression that occur when changing providers or preparing for a shock. Attempt to limit interruptions to less than 10 seconds.
- If there are two rescuers, each should complete a round of 15 compressions.

Make sure the airway is open. Place your hand on the victim’s forehead and two fingers on his chin. Lift the chin gently with the two fingers while carefully pushing down on the forehead with your other hand. If you suspect a neck injury, gently pull the jaw upward rather than lifting the chin. Once you have done this you should look, listen and feel for breathing.

- Put your ear close to the victim's mouth and nose and listen carefully for any signs of life.
- Watch for chest movement and feel for any breath on your cheek.
- If there are no signs of life, place a breathing barrier (if available) over the victim's mouth.

Give two rescue breaths. Keeping the airway open, take the fingers that were on the forehead and pinch the victim’s nose closed. Make a seal with your mouth over the victim’s mouth and breathe out for about one second. Make sure you breathe slowly, as this will make sure the air goes in the lungs not the stomach. Make sure you keep your eye on the victim's chest.

- If the breath goes in, you should see the chest slightly rise and also feel it go in. If the breath goes in, give a second rescue breath.
- If the breath does not go in, reposition the head and try again. If it does not go in again, the victim may be choking. You'll need to do more chest compressions in this case. Keep in mind abdominal thrusts (the Heimlich maneuver)
Repeat the cycle of 30 chest compressions and two breaths. You should do CPR for two minutes (five cycles of compressions to breaths) before checking for signs of life, a pulse or breathing. Continue CPR until someone takes over for you; emergency personnel arrive; you are too exhausted to continue; an AED is attached, charged, and the person running it asks you to clear the body; or pulse and breathing return.\(^{[17]}\)

- Don't forget to call the emergency services after the first two minutes of CPR.
- After you call them, continue to administer CPR until they arrive.

Use an AED. If an AED becomes available, turn on the AED, place the pads as instructed (one over the right chest and another over the left side). Allow the AED to analyse the rhythm, and give one shock if indicated, after clearing everyone from the patient (yell "CLEAR!" first). Resume chest compressions immediately after each shock for another 5 cycles before reassessing.\(^{[18]}\)

- If the victim begins breathing, gently manoeuvre them into the recovery position.

Community Q&A

Why isn't the child's throat checked for objects before compression is started?

You're not supposed to check the throat; you tilt up the chin to open the airway.

What is the rate of compression in CPR?

First, tap the child's collarbone to make sure they are not just trying to be funny and joke around. Second, call 911, or have someone with you call them. Then, do 100 beats per minute using your two forefingers (for infant) or one heel of the hand (for child) below the sternum.

Tips

- Always call Emergency Medical Services.
- If you must move the victim, try to disturb the body as little as possible.
- You can get guidance on correct CPR technique from an emergency services operator if needed.
- If you are unable or unwilling to perform rescue breathing, engage in compression-only CPR with the victim. This will still aid the victim in recovering from cardiac arrest.
- Get proper training from a qualified organization in your area. Training from an experienced instructor is the best way to be prepared in an emergency.
- Don't forget to place your hands in the middle of the breastbone at the level of the nipples.

Warnings

- Do not move the patient unless they are in immediate danger or are in a place that is life threatening.
- Remember that CPR is different for adults, children and infants; this CPR is meant to be administered to a child.
- Always wear gloves and use a breathing barrier when possible to make transmission of diseases less likely.
- Be sure to survey the scene for danger before you attempt to administer CPR.
- If the person has normal breathing, coughing, or movement, do not begin chest compressions. Doing so may cause the heart to stop beating.\(^{[19]}\)
Sources and Citations


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