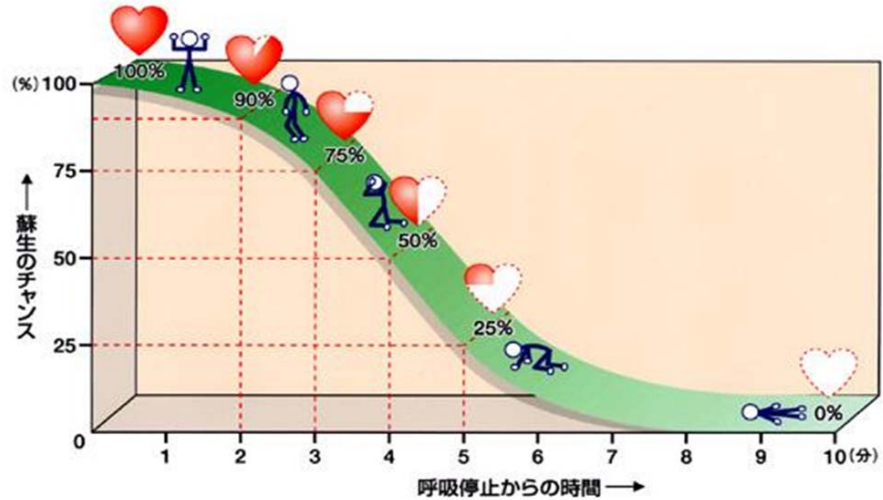


CPR Workshop

Why is it important to know CPR?

- When someone stops breathing, resuscitation becomes more and more difficult as time passes.
- In New York, it takes about 6-7 minutes for an ambulance to arrive after a 911 call.
- If bystanders do CPR while the ambulance is en route, the chance of resuscitation dramatically increases.

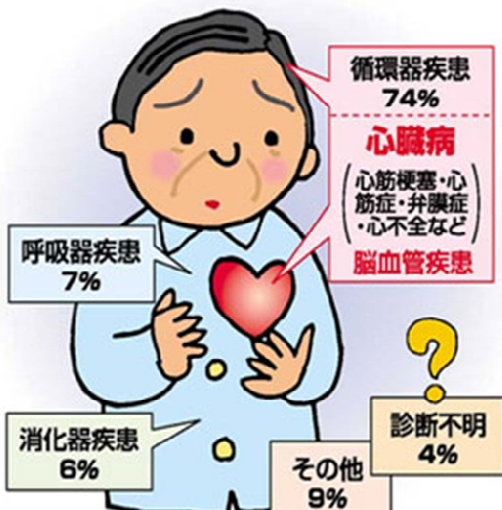


When should I use CPR?

Adults

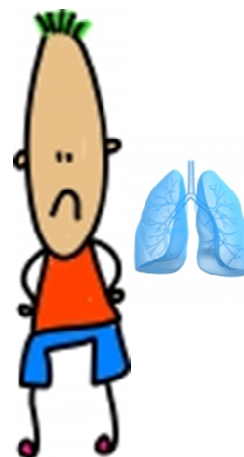
Children/Infants

突然死の原因となる病気



厚生労働省：突然死に関する研究，平成6年度より作図改変

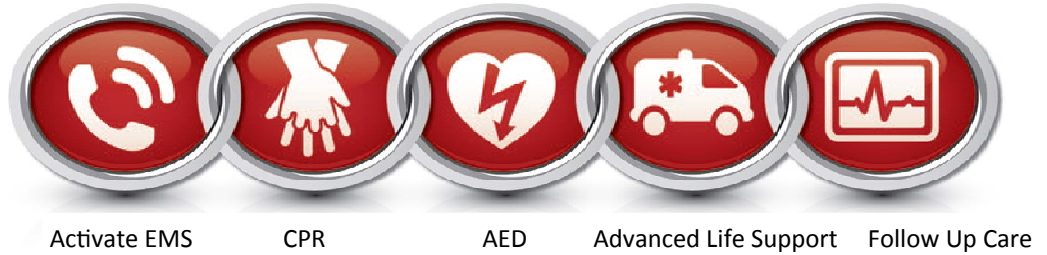
Heart conditions like heart attack, heart failure, or cardiomyopathy



- Traffic accidents
- Drowning
- Smoke inhalation
- Choking
- Accidental drug ingestion
- SIDS

Chain of Survival:

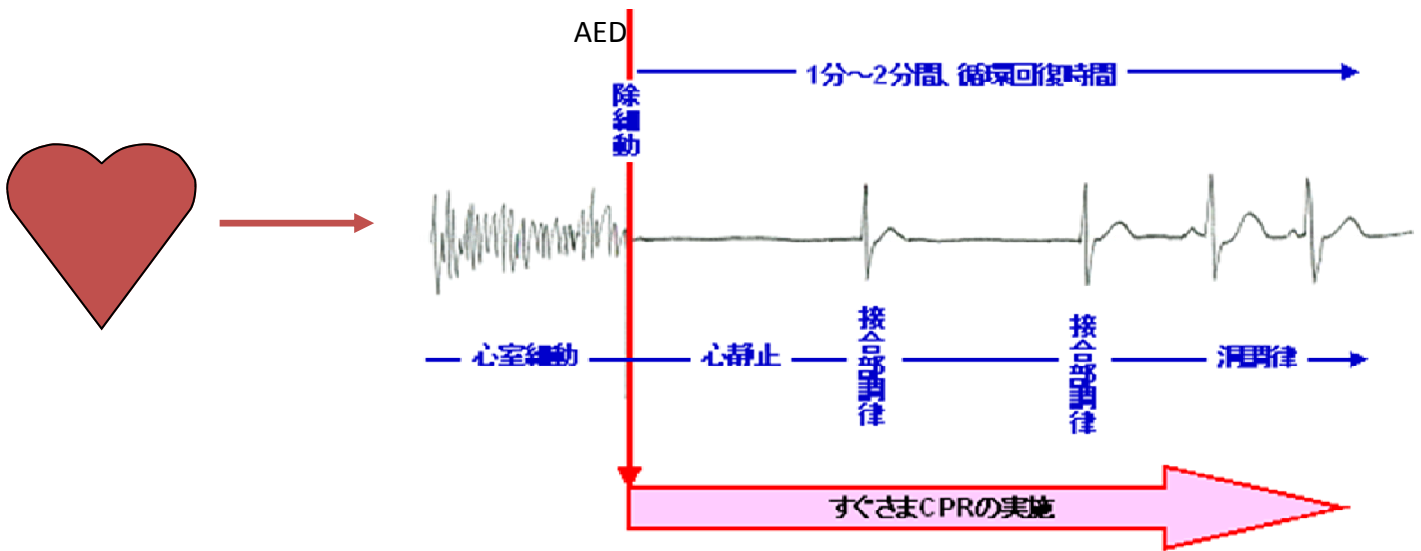
Adults



Children/
Infants

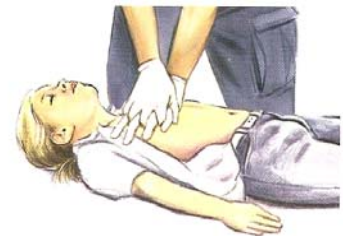


Basic Life Support for Adults :



Basic Life Support for Children/Infants:

- Most cases of cardiac arrest are due to respiratory failure or shock.
 - ☆ Respiratory failure: drowning, smoke inhalation, choking etc.
 - ☆ Shock = blood is unable to circulate efficiently to the body
 - severe blood loss from trauma
- The heart stops due to low oxygen and high CO2 levels.
- With the exception of children with congenital heart disease, cardiac arrest due to cardiac causes is rare in children.
- **For children and infants, prioritize CPR over AED use!**



Choking

① Signs of choking:

Adults/children: Inability to speak. Clutching the throat with both hands.

Infants: Face turns red or blue. Uncomfortable facial expression, but unable to cry.



② Check to see if the victim can cough.

— If the victim can cough, support the victim and encourage him/her to cough.

— If the victim cannot cough, provide aid as described below.

③ Ask someone nearby to call 911.

④ Adult/Child :

— From behind the victim, wrap both arms around the torso. Make a fist with one hand and place it above the navel. Place the other hand on top of the fist and push up firmly towards the ribs.

— Check after each thrust to see if the foreign object has been dislodged.

— If the victim becomes unconscious, start CPR immediately without checking for breathing.

☆ If you can see the foreign object, remove it from the mouth, but do not put your finger in the victim's mouth blindly.



⑤ Infant (<1 year old): Place the infant face down, put your arm underneath the infant and support his/her jaw with your hand. Keep the infant's head lower than the rest of the body. Hit the infant's back firmly in between the shoulder blades with the palm of your hand.

— After performing 5 back blows, do 5 chest compressions.

☆ Repeat, checking each time to see if the foreign body has been dislodged.

— If the infant loses consciousness, begin CPR immediately without checking for breathing.



☆ Common choking hazards: whole grapes, hot dogs, peanuts, popcorn, raw carrots, hard candies, mochi.

Useful Phrases for Calling 911

☆ Location

— I'm at 72nd Street and Park Avenue on the northeast corner.

72丁目とパーク・アベニューの北東の角にいます。

— I'm in Westchester, near the Rite Aid on the corner of Main Street and 1st Avenue.

ウェストチェスターの、メイン・ストリートとファースト・アベニューの角の、ライト・エイドの近くにいます。

☆ Explaining the situation

— My son is choking on some food.

息子の喉に食べ物が詰まって窒息しています。

— I think my daughter swallowed a small toy.

娘が小さいおもちゃを飲み込んでしまいました。

— I think my two year old son swallowed some pills/toilet cleaner.

2歳の息子がお薬・トイレ用洗剤を飲んでしまいました。

— My six month old daughter fell off a table and hit her head.

6ヶ月の娘がテーブルから落ちて、頭を打ってしまいました。

— There has been a big car accident. There are 10 victims.

大きい交通事故がありました。けが人が10人います。

— A woman just got hit by a car.

女の人が車にひかれました。

☆ Explaining the victim's condition

— My daughter is unresponsive.

娘が返事をしていません。

— My son is not breathing.

息子が呼吸していません。

— My daughter is bleeding.

娘が出血しています。

— I think my son is having a seizure.

息子が痙攣を起こしていると思います。

☆ Explaining the rescuers' activities

— We've moved the victim out of the cross walk and started CPR.

傷病者を横断歩道から運んで、C P Rを開始しました。

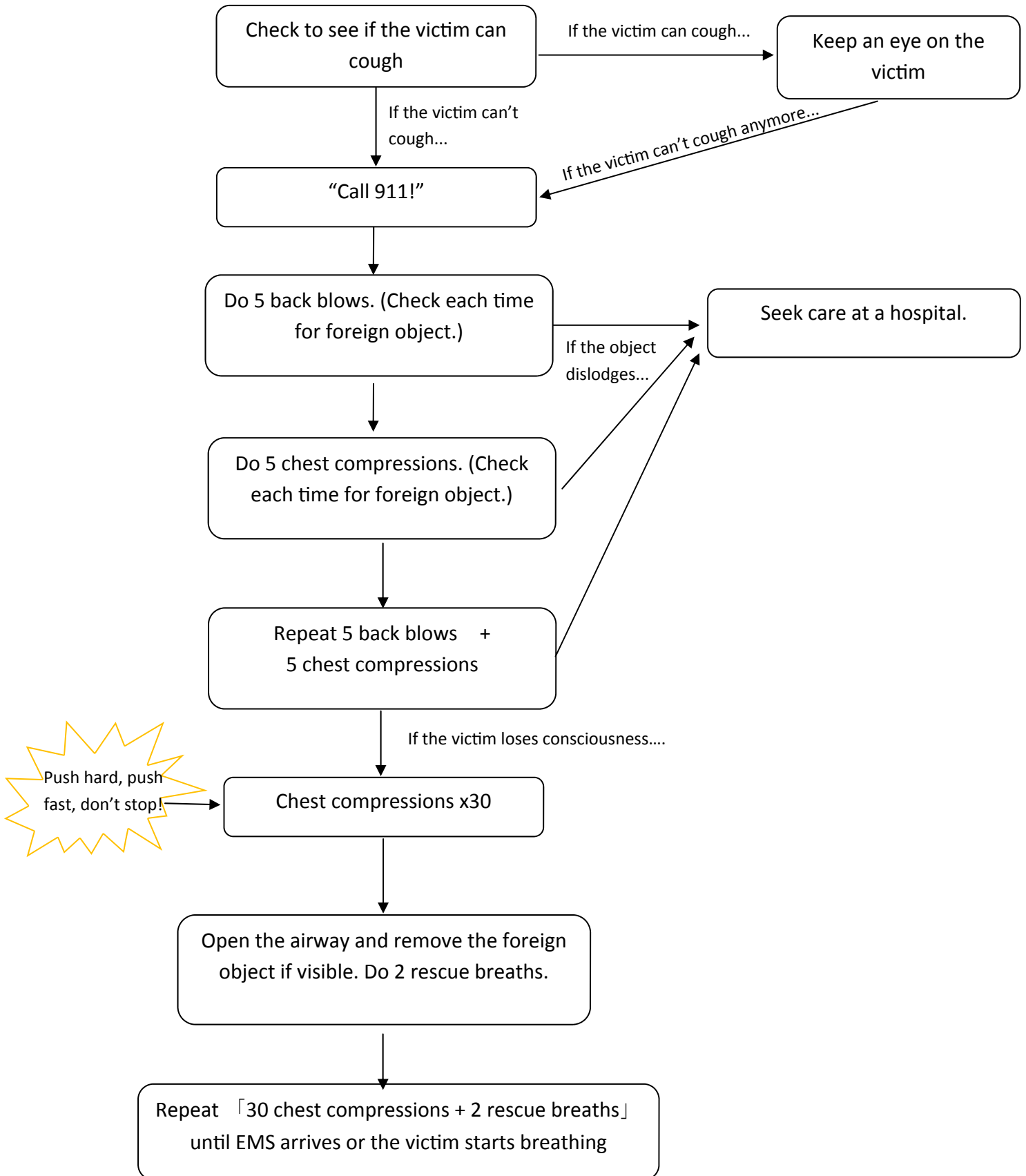
— We've done six cycles of CPR.

C P Rを6セットやりました。

— We've shocked her twice with the AED.

A E Dで2回ショックしました。

First Aid for Choking



Adult/Child CPR:

- ① Check your surroundings for safety.
- ② Check for responsiveness.
- Gently tap the shoulders and call out to the victim in a loud voice. It is best to tap both shoulders since the victim may have suffered loss of sensation on one side.
 - If the victim does not answer or make a meaningful gesture, consider him/her unresponsive.



- ③ Check for breathing.
- Position your ear next to the victim's mouth, and watch for the rise and fall of the victim's chest or abdomen.

☆ If the victim is breathing, move him/her into the recovery position. →

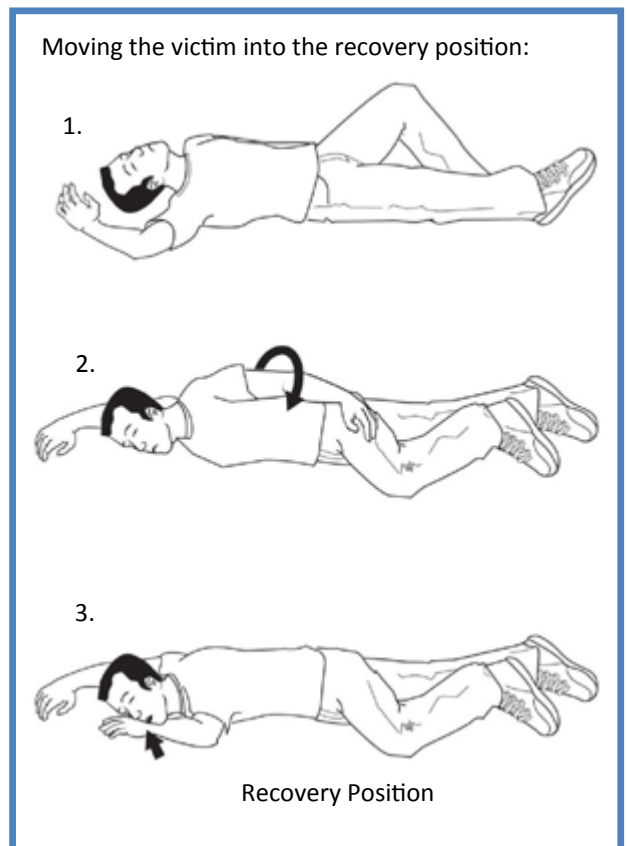
- The victim can breathe more easily.
- You can prevent aspiration if the victim vomits.

☆ If the victim is not breathing normally, assume that the victim is in cardiac arrest. Start CPR within 10 seconds.

- Gaspings is not normal breathing—> Start CPR!

☆ There is no need to find the victim's pulse.

- It is important to start CPR as quickly as possible. Since valuable time can be lost while trying to find a pulse, if you see that the victim is not breathing, start CPR without checking for a pulse.



- ④ Call for help.

- 「Someone help!」

☆ If other people are nearby: 「You in the red shirt, call 911!」 「Find an AED and come back here!」

☆ If you are alone:

- **Adult**—> **Call 911 before you start CPR**

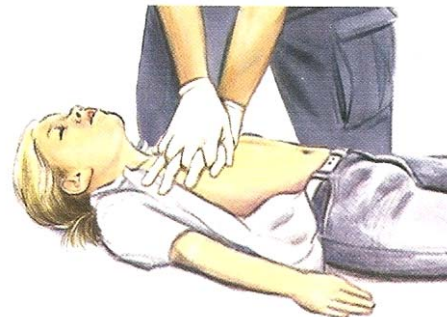
- In adults, cardiac arrest is most often caused by a problem with the heart, so it is necessary to shock an adult victim into a normal rhythm as soon as possible.

- **Children**—> **Do 5 cycles of CPR before stopping to call 911.**

- In children, cardiac arrest is often due to a respiratory cause, so the rescuer should prioritize rescue breaths and chest compressions over defibrillation.

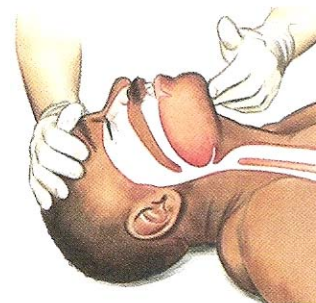
⑤ Chest compressions x 30

- Place one hand at the center of an imaginary line connecting the nipples. Lay the other hand on top.
- Straighten your elbows, and push down on the chest vertically with the heel of your hands. Use your body weight to generate force.
- Depth: **Adults—>4-5 cm. Children—>1/3 of the diameter of the chest.**
- ☆ After each compression, allow the chest to recoil completely to its original diameter.
- Pace: At least 100 compressions per minute.
- 「Push hard, push fast, don't stop!」



⑥ Open the airway.

- Place one hand on the forehead, and push the chin up with the other hand.
- ☆ Be careful not to push on the victim's throat.



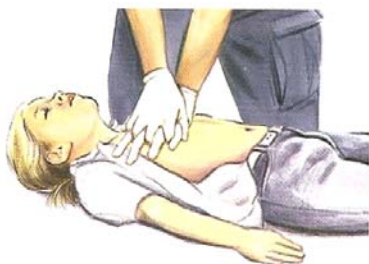
⑦ Rescue breaths x2

- With the airway open, use your thumb and forefinger to pinch the victim's nose, place your mouth on the victim's mouth, and blow in for one second. Watch for the chest to rise and fall, and then give one more breath.
- Blow in enough air so you can see the victim's chest rise.
- If you do not see the chest rise, try opening the airway again before giving another rescue breath.
- If the chest still does not rise after readjusting the airway, proceed to chest compressions.



⑧ Repeat 「30 chest compressions + 2 rescue breaths」

- **For children** : When two rescuers are present, give 15 chest compressions for every 2 rescue breaths.
- If the rescuers doing the chest compressions becomes tired, quickly switch with another rescuer. (Make the switch within 10 seconds.)
- When EMS arrives, explain what happened to the victim and what type of first aid you have administered.



x 30 +



x 2

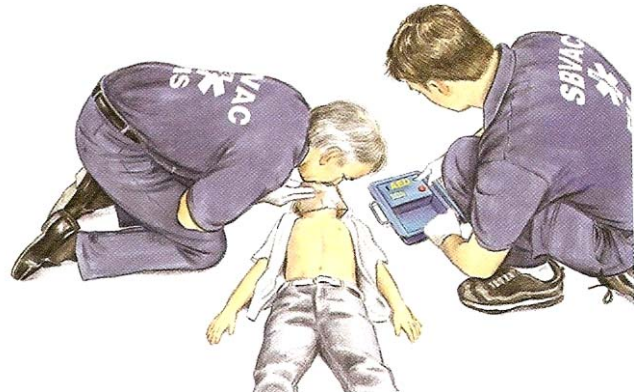
Differences between Adult and Child CPR

	Children (1 year—puberty)	Adults (puberty~)
Most likely cause of cardiac arrest	respiratory	cardiac
Usual first step of basic life support	CPR first	911 (+AED) first
Chest compression technique	One or both hands (depending on size of child)	Both hands
Chest compression depth	1/3 of the diameter of the chest	4-5 cm
Chest compression : rescue breath ratio	30:2 (1 rescuer) 15:2 (2+ rescuers)	30:2
AED	Use pediatric electrode pads (0-8 years old) Use adult electrode pads (8 years+)	Use adult pads

Using an AED

- ☆ Adults: Use the AED immediately after it becomes available
- ☆ Children/Infants: Even if the AED is available right away, do 5 cycles of CPR before using the AED. Use pediatric electrode pads for children 0-8 years old.

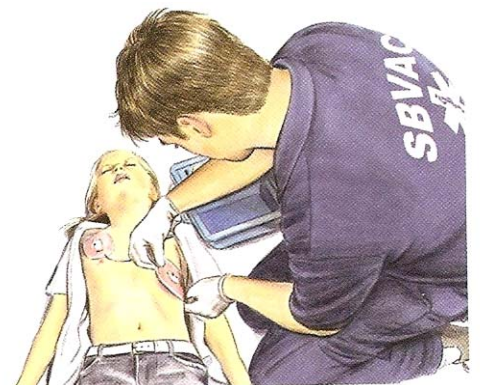
① Place the AED near the victim's head. One rescuer should continue CPR as the other rescuer sets up the AED.



② Turn on the AED. The AED will show you how to proceed with audio instructions and a flashing light. The AED will say, "Remove clothing from person's chest."

③ Find the electrode pads, and attach one pad to the upper right chest wall and the other to the left side below the armpit. (For infants, attach one pad to the chest, and the other to the back.) Connect the pads to the AED.

AED's Voice: Attach pads firmly to person's chest as shown.
Plug in connector.



Check to see if the victim is wet. Also be careful of metal objects and pacemakers.

- If the chest is wet, wipe off the water before using the AED.
- Remove metal jewelry.
- Place the electrode pads 3 cm away from a pacemaker.

- ④ The AED will analyze the victim's heart rhythm automatically. At this point, if anyone is touching the victim's body, it can interfere with the analysis. Tell all rescuers to stop CPR and make sure that no one is touching the victim's body.

AED's Voice: Analyzing rhythm. Everyone stand clear.

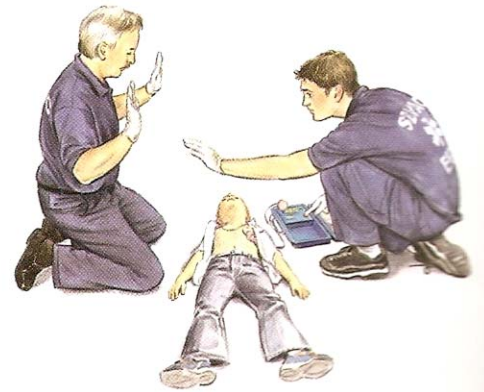


- ⑤ If the AED determines a shock is indicated, check again to make sure that no one is touching the victim's body.

AED's Voice: Shock advised. Charging.

- ✘ If a shock is not indicated, restart CPR right away.

AED's Voice: No shock advised. Begin 5 cycles of CPR.



- ⑥ When the AED says "Push the shock button," push the button!

- ⑦ After the shock, restart chest compressions **immediately** without checking for breathing or pulse.

AED's Voice: Shock delivered. Begin 5 cycles of CPR.

- ⑧ Continue chest compressions and rescue breaths at a ratio of 30:2 until the AED says "Analyzing rhythm. Everyone stand clear." The AED will let you know how long to continue doing CPR by saying "1 minute and 30 seconds of CPR remain."

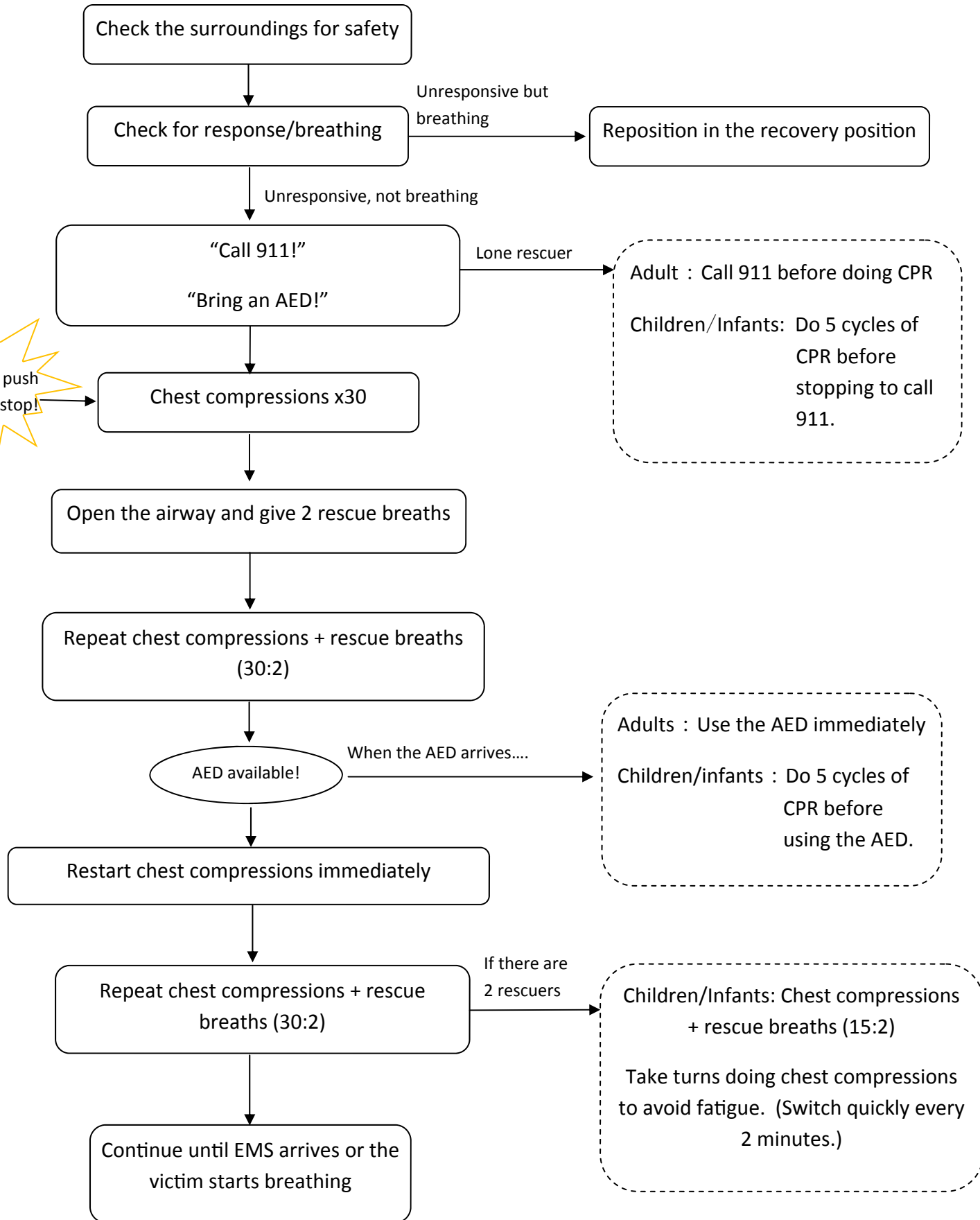


x 30 +



x 2

CPR Summary



Infant CPR: (Infant < 1 year old)

Differences between adult and infant CPR are highlighted in **bold**.

① Check the surroundings for safety.

② Check for responsiveness.

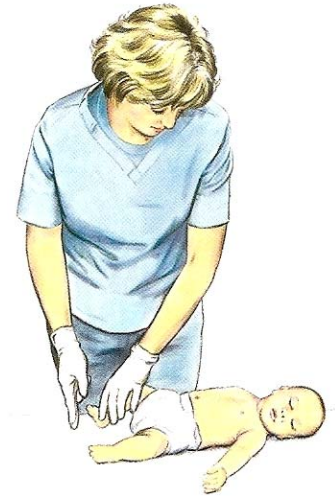
— **Tap the soles of the infant's feet and call out in a loud voice.**

③ Check for breathing.

— Place your ear near the infant's mouth, and watch for rise and fall of the chest.

☆ If the infant is not breathing normally, assume that the infant is in cardiac arrest. Start CPR within 10 seconds.

☆ There is no need to check for a pulse.



④ Call for help.

— 「Someone help!」

☆ If other people are nearby : 「You in the Yankees cap, call 911!」

「You in the green shirt, find an AED and come back here!」

☆ If you are alone :

— **Infants/children—> Do 5 cycles of CPR before stopping to call 911.**

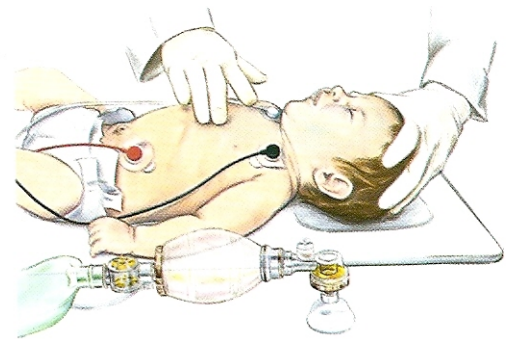
⑤ Chest compressions x 30

— **Perform chest compressions with your middle and ring fingers at the point just below the center of the line connecting the nipples.**

— Do 100 chest compressions per minute. Compress to a depth of 1/3 the diameter of the infant's chest.

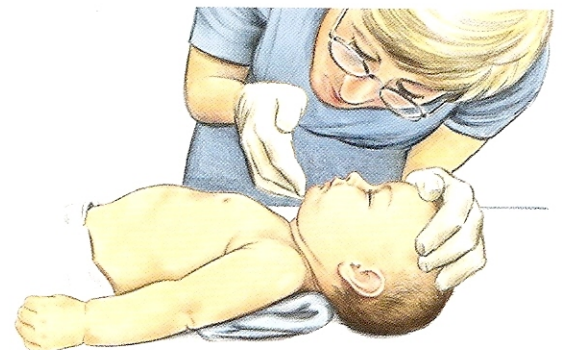
— After each chest compression, be sure that the chest completely recoils to its original diameter.

— 「Push hard, push fast, don't stop!」



⑥ Open the airway.

— Place one hand on the forehead and the use the other hand to tilt the chin up.

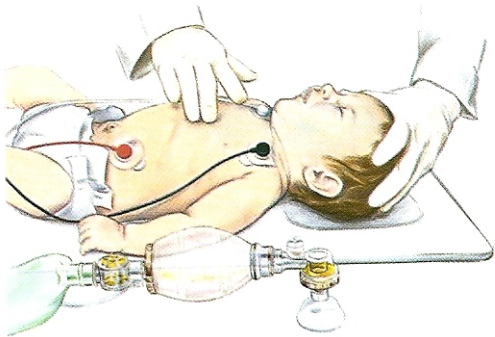


⑦ Rescue breaths x2

- **Cover the infant's mouth and nose with your mouth**, and give one rescue breath. Watch for chest rise and fall, and then give one more breath.
- Check to make sure that the chest is rising, but **be careful of overinflation!**



⑧ Repeat 「30 chest compressions + 2 rescue breaths」



x 30 +



x 2

⑨ When two rescuers are present, perform chest compressions and rescue breaths at a ratio of 15:2.

- **Chest compressions: Wrap both hands around the infant's chest, and perform compressions with both thumbs.**



x 15 +



x 2