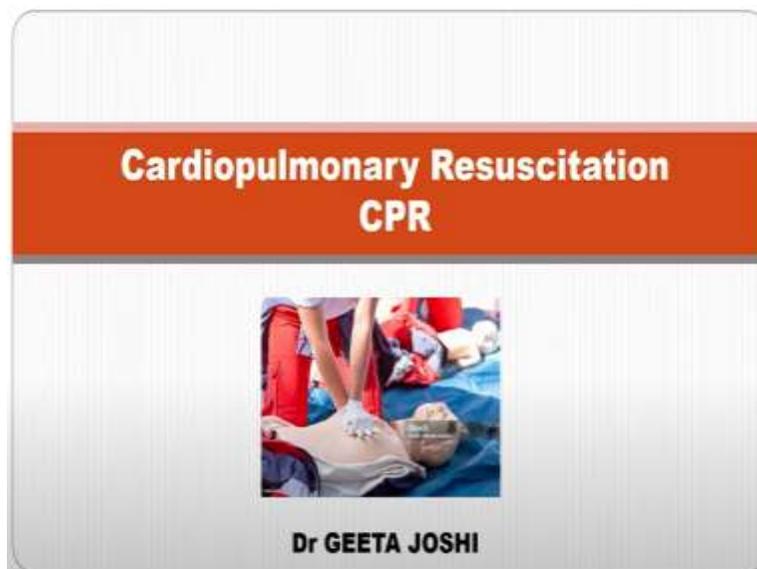


**Certificate in Integrative Palliative Care – 3**  
**Dr. Geeta Joshi**  
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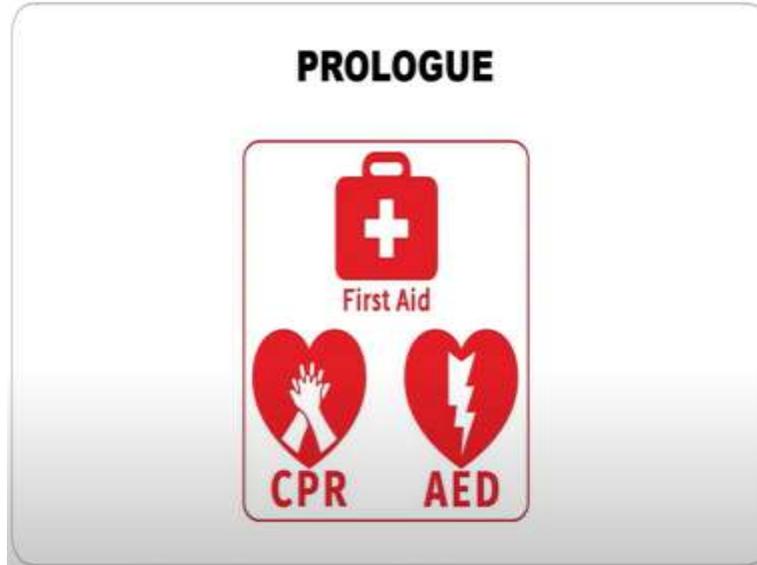
**Week-12**  
**Lecture 90: Cardiopulmonary Resuscitation (CPR)**

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Hello everyone. In this first aid series, we are here again with this topic of CPR that is cardiopulmonary resuscitation. Let me tell you that this lecture is only for the basic knowledge about CPR. This lecture does not give you CPR training at all. The CPR training is a separate training one has to take partly online and partly offline with hands-on demonstration and you have to get it certified from a government institution or a reliable organization who are expert in giving CPR training.

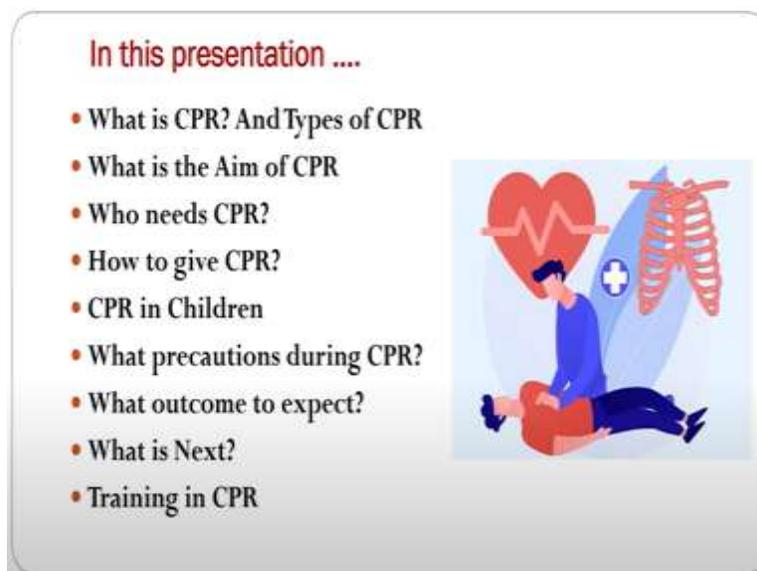
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So, as we said in any emergency situation there are first aid there are three things you have to learn first of all first aid which we talked about.

Now we are going to talk about CPR, and this is AED training, this is automated electric defibrillation training which is a very advanced training and we will see how much we can discuss about this subject.

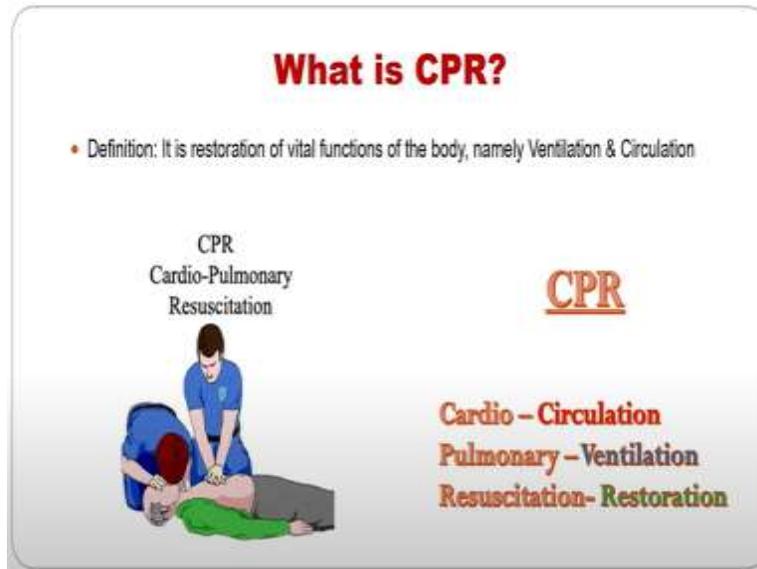
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In this presentation you are going to learn about what is CPR, types of CPR, what is the aim of CPR, who needs CPR, how to give CPR, CPR in children which is little bit

different from the adults. And what precautions to be taken during giving CPR and what outcome you will expect when you are giving CPR and what is next after CPR training in CPR.

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So, what is CPR? It is a restoration of vital function of the body that is namely ventilation and circulation.

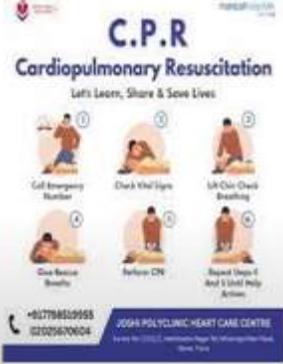
A person can remain alive only if he is breathing and only if his heart is pumping blood to the other parts of the body. So, that is ventilation and circulation. So, CPR means cardiopulmonary resuscitation. C means you are establishing circulation, pulmonary means you are establishing ventilation. Resuscitation means you are restoring circulation and ventilation.

So, CPR is cardiopulmonary resuscitation. In this picture you can see the two volunteers are doing CPR. One of them is providing compression to the chest to the heart that is to establish circulation and another one is providing breathing mouth to mouth breathing to the victim. That is giving ventilation and that is pulmonary or ventilation giving breathing and ventilation to the patient to establish his breathing capacity.

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### What is Aim of giving CPR?

- According to the American Heart Association (AHA), CPR can double or triple the chances of survival after cardiac arrest.
- The primary goal of CPR is to keep blood flow active until medical professionals arrive.



Call Emergency Number  
Check Vital Signs  
Lay Out Check Breathing  
Give Rescue Breaths  
Perform CPR  
Repeat Steps 2 and 3 until Help Arrives

+91789820955  
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JSSRI POLYCLINIC HEART CARE CENTRE  
JSSRI HOSPITAL, JSSR CAMPUS, JSSR, Mysore, Karnataka  
Mysore, India

What is the aim of CPR? CPR is started by American Heart Association or by giving CPR you can increase the chances of survival after the cardiac arrest.

And this could be twice or thrice these chances are increased of any victim to get survived after cardiac arrest. So, primary goal of the CPR is to keep the blood flow active until the medical professionals arrive. So, that is what the aim of the CPR. So, till the medical profession arrives you have to keep give them breathing and you have to keep the heart pumping these are the goal of the CPR.

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### Importance of CPR

- CPR performed within the first few minutes of the heart stopping can keep someone alive until medical help arrives.
- Rescue breathing techniques were used to revive drowning victims as early as the 18<sup>th</sup> century.
- But it wasn't until 1960 that external cardiac massage was proven to be an effective revival technique, which is when AHA developed a formal CPR program.
- The AHA recently recommended that people who haven't received CPR training initiate "hands-only" CPR. This method removes the rescue breathing and is easy to perform and is proven to save lives.

Why it is so important? So, it is said that CPR performed within first few minutes of heart stopping can keep someone alive until medical helps arrive.

So, if you keep the heart pumping for 4 to 7 minutes till the medical help arrives, the chances of better outcome, there are chances of better outcome. Rescue breathing technique were used to revive drowning victim as early as in 18th century. But, it was not until 1960 that external cardiac massage was proven to be an effective revival technique so rescue breathing were used in 18th century but the cardiac compression, cardiac massage was established in 1960 when american heart association develop a formal CPR program. The AHA recently recommended that people who haven't received cpr training initiate hands only even if a volunteer or a person has not received cpr training he can still give cardiac compression or pumping of the heart can be established and it is called hands only CPR with hands only you press the chest so press the heart of the victim and release press the heart release and this will establish a circulation throughout the victim's body and it can be helpful and it can save life.

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**Types of CPR**

**THERE ARE TWO TYPES OF CPR**

- **Hands-only CPR:** Involves calling for help and then pushing on the chest in a rapid motion. These movements are called chest compressions.
- **Traditional CPR with Breaths:** Also called CPR with breaths, this alternates chest compressions with mouth-to-mouth breaths. This type of CPR can give the body more oxygen in the critical moments before help arrives.

**Different Type of CPR**

- Standard CPR
- Hands-Only
- Pediatric CPR
- Infant CPR
- Advanced CPR Techniques

So hands only CPR. So, here we will discuss about two types of CPR hands only CPR and traditional CPR with breath.

Other CPR's are like standard CPR, hands only CPR, pediatric and infant CPR, and advanced CPR technique. We are not going to much discuss about. But these two things hands only CPR where we are giving only cardiac compression, chest wall compression. In traditional CPR you are giving cardiac compression as well as rescue breath, 2 breath for every 30 compression. How? We will see later on.

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Which CPR to use, where?	
Hands Only CPR	Traditional CPR
People with "No" CPR Training or trained many years ago	People having formal training in traditional CPR
People uncomfortable / not experienced	People who are experienced and comfortable
It is for adults and teens in distress	It is for adults, teens, children, and infants.
When you are alone	When you have a partner for giving CPR
Patients with vomitus, infection etc	Clean airway is pre-requisition

So, hands only CPR. What are the difference between these two CPR. Hands only CPR people with no CPR training can also do it or people who had got training in CPR many years ago and never practices now almost forgotten then they can start doing only hands on CPR. But people who are formally trained and has got a experience should do traditional CPR that is a cardiac compression with rescue breath. People who are uncomfortable and not experienced can do hands on training or people who are experienced should do traditional.

It is hands only CPR is only for adult and teens in the distress by otherwise traditional CPR can be given for the children and infants also. Hands only CPR should be given when you are alone. And here there are usually ideally two partners are good enough to perform a proper CPR so one person will give rescue breath and one person can do compression but even single trained CPR volunteer can do traditional CPR by giving chest compression 30 chest compression then go on the head end and give two rescue breath again come down and give 30 compression. In hands only CPR when patients has vomited his mouth is full of some foreign body or secretions and infection then you can start giving only hands on CPR by giving cardiac compression. if you want to give rescue breath clear clean airway is prerequisite.

So, always clean the mouth of the patient get out the vomitors and with the help of gauze or sponge you can clear the mouth and then start giving rescue breath.

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**Who needs CPR?**

Cardiac	Neurological	Respiratory	Shock
Massive Heart Attack	Spinal Cord Injuries	Asphyxia (Gas leakage)	Bleeding
Electric shock	Acute Trauma	Sudden Lung Collapse	Anaphylaxis
Cardiac Arrhythmias	Head & Neck Injuries	Drowning	
	Unconscious	High Altitude	



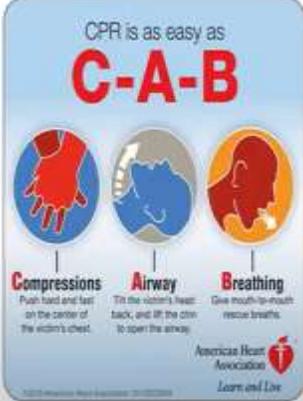
Who needs CPR? These are the causes of patient victims, on victim side which needs CPR suppose it is heart related problem, like patient has a massive cardiac heart attack, electric shock or cardiac arrhythmia then neurologically patient had spinal injury, spinal cord injury, acute trauma and patient has become because of shock and everything become unconscious, head and neck injury, unconscious patient. Because of some respiratory problem patient has become stop breathing like asphyxia. It usually happens in gas leaking on mountaineering during going to the high altitude sudden lung complex or drowning and patient is in shock patient because of massive hemorrhage or too much of bleeding or because of anaphylactic that is allergic reaction is in shock then they will need CPR. So, these are the situation where you have to give CPR.

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**How to give CPR?**

First Step Forward .....

- ✓ Be quick & Smooth, not rough
- ✓ Resuscitate within 4 to 6 minutes
- ✓ Separate 2C i.e. Cause & Casualty
- ✓ Basic Life Support by CAB

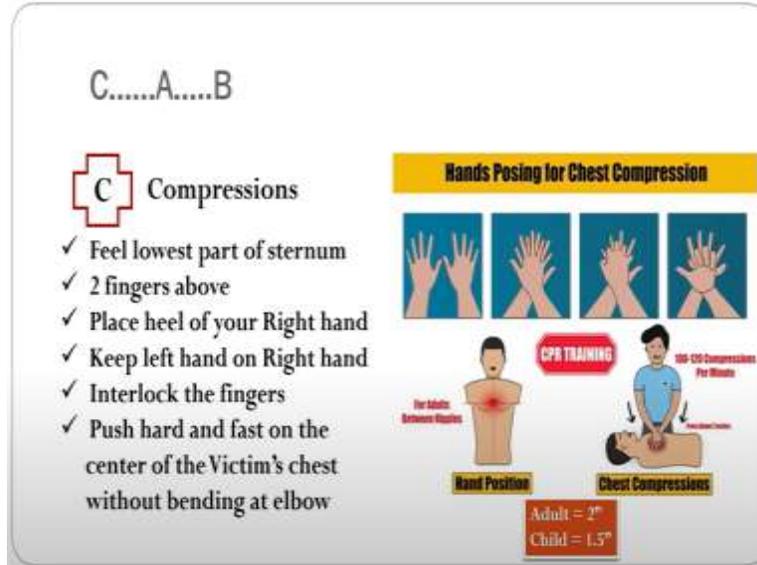


The infographic illustrates the C-A-B sequence for CPR. It features three circular icons: a red hand for 'Compressions', a blue head for 'Airway', and a yellow mouth for 'Breathing'. Below each icon is a brief instruction: 'Push hard and fast on the center of the victim's chest.', 'Tilt the victim's head back, and lift the chin to open the airway.', and 'Give mouth-to-mouth rescue breaths.' The American Heart Association logo and 'Learn and Live' slogan are at the bottom.

How to give CPR? In previous slides we saw DR ABC, but here the ABC is reversed to CAB. So, how you will start? First be quick, smooth and not rough. Your all movements should be gentle, precise and focused. Resuscitate within 4 to 6 minutes that is very much important. Separate two C's that is cause of the ah suppose patient is asphyxiated because of gas leak at least remove him from that situation.

So remove the cause and casualty, the victim from the dangerous situation and then start basic life support or CPR by CAB. CAB, first compression then clear airway then give breathing. So, CAB is your dictum for starting CPR. Always, first compression then airway and then breathing that is a way you have to start.

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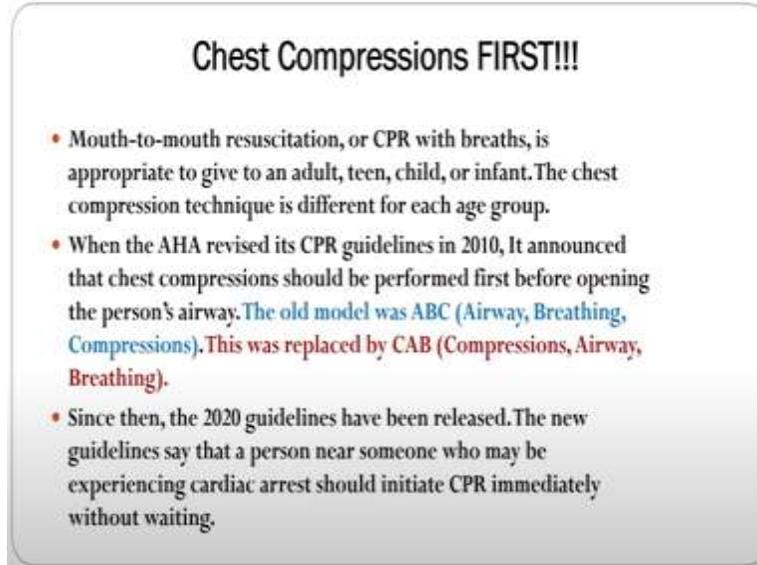
So, what is a C in CAB? It is a compression.

The picture shows hands position on chest compression. So, you have to make use of your two hands, put one on another. So, feel lower part of the sternum. Here is the sternum. So, in chest feel the lower part of the sternum and two finger above the sternum.

Place heel of your right hand and keep left hand on the right hand and lock your fingers and then start pushing hard and fast on the center of the victim's chest without bending a elbow. See without bending a elbow you have to give compression by both the hands up and down. This is the position. Right and how much compression you will give. In adult the chest should go down by 2 inches and in children it should go down by 1.

5 inch. So, this is how the chest compression is, should be given. You understand the position where the hands are put understand how to lock the hands and understand how deep you have to go by giving pressure.

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**Chest Compressions FIRST!!!**

- Mouth-to-mouth resuscitation, or CPR with breaths, is appropriate to give to an adult, teen, child, or infant. The chest compression technique is different for each age group.
- When the AHA revised its CPR guidelines in 2010, It announced that chest compressions should be performed first before opening the person's airway. **The old model was ABC (Airway, Breathing, Compressions). This was replaced by CAB (Compressions, Airway, Breathing).**
- Since then, the 2020 guidelines have been released. The new guidelines say that a person near someone who may be experiencing cardiac arrest should initiate CPR immediately without waiting.

That is C of the CAB. So, chest compression first. Mouth to mouth resuscitation or CPR with brace is appropriate to be given to the adult, teen, children or infant.

The chest compression technique is different for each age group that we will see later. Here I have described so far is the one for the adult. In American Heart Association previously it used to be airway, breathing and circulation, but American Heart Association revised their guideline in 2010 and it announced that chest compression is very important, it should be done first. Before opening the patient's airway, before opening the airway and giving breathing you have to give chest compression first. So, the old model was ABC has now replaced by CAB compression, airway and breathing.

And since then the 2020 guidelines have been released and the new guidelines say that a person near someone who may be experiencing cardiac arrest should initiate CPR immediately without waiting even if the volunteer is not trained not CPR trained, then also cardiac compression at least compression, hands only CPR should be started immediately.

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### How & How Many Compressions?

- ✓ Compression Rate = 100 to 120 / minute
- ✓ Breathing Rate = 2 Breaths / 30 compressions
- ✓ C:B Ratio = 30:2
  
- ✓ Never interrupt > 5 secs
- ✓ Watch Resp / pulse / pupils
- ✓ Rather continue than stop
- ✓ Push the chest 2" down for adult
- ✓ Push the chest 1.5" down for children



How and how many compression. You have to give 100 to 120 compression per minute. So, you can imagine how fast you have to work. If you are giving breath also then you have to give 2 breath and 30 compression.

So, after every 30 compression give 2 rescue breath. So, compression and breath ratio is 30 is to 2 or you can say 15 is to 1, but it is usually we call it 30 is to 2 because you have to give 30 compression then 2 brace. Never interrupt at least for first 5-7 minutes you do not have to interrupt not more than 5 seconds. Every time you somebody will watch pulse, respiration and pupils, but this should not stop your CPR. It is better to continue then stop you can tell some other one to check the pulse and pupils and on.

Push chest down to 2 inches down for adult and 1.5 inches down for the children. So here 30 compression then 2 rescue breath. This is beautiful picture which can show the 30 is to 2 ratio second is CAB.

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C.....A.....B

**A** Airway

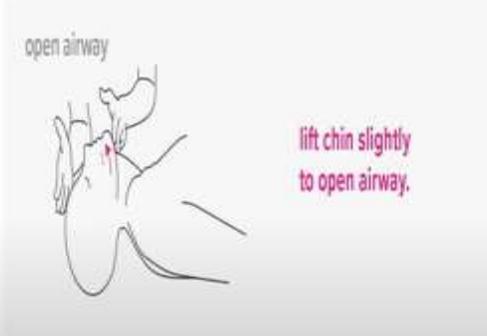
- ✓ Open Mouth to clear foreign material
- ✓ Place in recovery position
- ✓ Tilt the Victim's head back
- ✓ Lift the chin to open the airway



In CAB, A that is airway. How to maintain airway? First of all open the open mouth to clear foreign material, place in recovery if patient is unconscious place in recovery position, tilt the, tilt the victims head back like this you have to push the head back. With one hand you push the forehead of the patient this will tilt the head back. Lift the chin, this is the second one. Lift the chin to open the airway so this is the way you have to open the airway.

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**Open the Airway!**

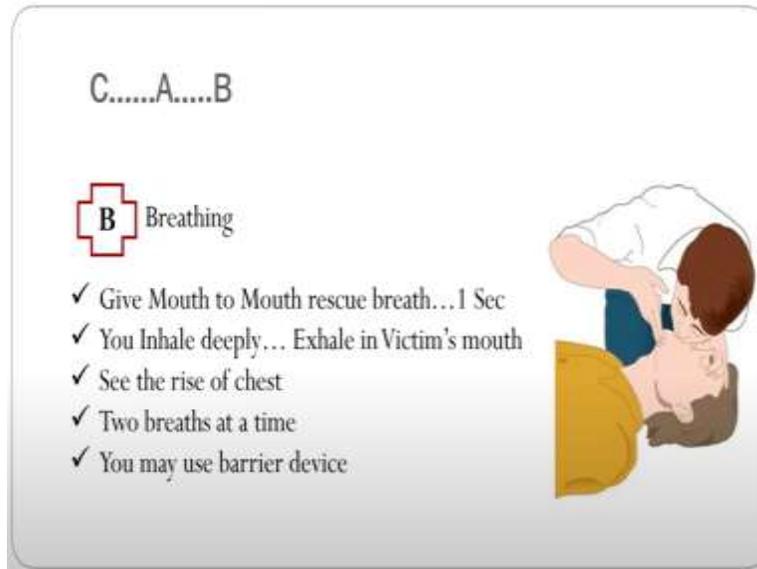


open airway

lift chin slightly to open airway.

This is again shown, lift the chin slightly to open the airway. This will prevent in patient's mouth there is a tongue which is falling back and obstructing the breathing pipe airway. We call it airway and by lifting it you are lifting the chin you are lifting the tongue and airway will be clear.

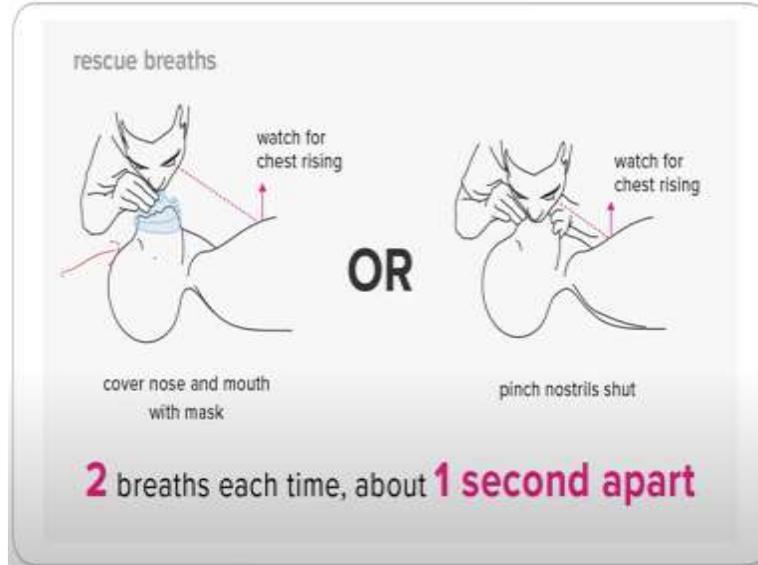
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Third is B in CAB. Third letter is B, that is breathing. Here you have to give mouth to mouth rescue breath for one second so just two breath you the CPR volunteer takes deep breath and exhales into the mouth of the victim.

While taking deep breath we are taking 21 percent oxygen from the air, but by exhaling in the mouth of the victim you are giving away 14 percent of oxygen to the victim. So, at least some oxygen is going to the victim. You inhale deeply and exhale in victims mouth. And during exhale you see the rise of the chest as if victim is breathing there will be rise of the chest and so give two breaths at a time a you may use barrier device. Which are the barrier device, we see later on, or you can put a small very thin layer of gauze piece or a thin handkerchief like that for as a barrier.

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Another barrier you can see is this mask. This is called breathing mask. If you are a CPR trained volunteer, you can keep such mask in your bag and this mask acts as a barrier. So after lifting the, clearing the airway, lifting the chin, you can put this mask and you can breathe out, exhale through this mask and you will watch the chest rising. In this case you cover the nose and mouth with the mask with the chest rising.

If you don't have such barrier while giving breath you pinch the nose, nostril and shut the nostril. So whatever air you are breathing out, it will from mouth, it will enter into the lung and you can see the chest rising. So, two breaths each time and that should be one second apart. So, each breath is only for one second. So, you have to act quickly.

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**Performing Mouth-to-mouth Resuscitation**

- This is because, in the first few minutes of cardiac arrest, there's still oxygen in the person's lungs and bloodstream.
- Starting chest compressions first on someone who's unresponsive or not breathing normally can help send this critical oxygen to the brain and heart without delay.
- For infants under the age of 1 and for children, ventilation (rescue breaths) and compression are both essential. The newest guidelines recommend using higher ventilation rates of at least 30 per minute in infants younger than 1 year and at least 25 per minute in older children.
- If you're trained in CPR and see someone who's unresponsive or having difficulty breathing, follow the steps for hands-only CPR for 30 chest compressions, followed by CPR with breathing.

Performing mouth to mouth resuscitation, this is because in the first few minutes of cardiac arrest there is still oxygen in person's lung and blood stream. So, by giving compression you are that oxygen from the heart goes to the other parts of the body and by giving airway and breathing whatever oxygen is there in patient's lung it goes into the circulation. Starting chest compression first on someone who is unresponsive or not breathing normally can help send this critical and this oxygen is very important that much oxygen can make a victim survive for 2 to 3 minutes. So, that oxygen can go to the brain and heart without delay. For infants under the age of 1 and for children ventilation rescue breath are in children and infant you have to do both.

Compression as well as rescue breath. Only hands only CPR will not help. The newest guidelines recommend using higher ventilation rate of at least 30 per minute in the infants younger than 1 year and at least 25 per minutes in older children. In this children and infant you have to give more breaths. If you are trained in CPR and see someone who is unresponsive or having difficulty breathing, follow the steps for hands only CPR for 30 chest compression followed by CPR with breathing. So, suppose you see someone lying on the roadside and you want to help them.

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First and foremost you go and shout, shake and shout the victim whether he is responsive whether he is conscious, then call helpline 112. Then check for breathing whether patient is breathing or not. Then start compression, chest compression by 2 hands. Push hard and fast about twice per second and if you had training in CPR cycle then followed by after 30 chest compression 2 rescue breath and follow the cycle till the medical help arrives. So, this picture shows in summation about the step to be taken while performing CPR.

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## Chest Compressions



This shows the hands only CPR, chest compression see the position, position of the hands. It should be straight at the elbow should not be bend at the elbow and position of the hands on the chest on lower chest.

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## CPR with Breaths Steps for Adults and Teens

### 1. Perform Chest Compressions.

- After checking the scene for safety and placing the person on a firm, flat surface, perform 30 chest compressions.

### 2. Open the Airway.

- Put the palm of your hand on the person's forehead and tilt your head back. Gently lift their chin forward with your other hand.

So, CPR with brace steps for adults and teens.

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### CPR with Breaths Steps for Adults and Teens

3. Give rescue breaths.

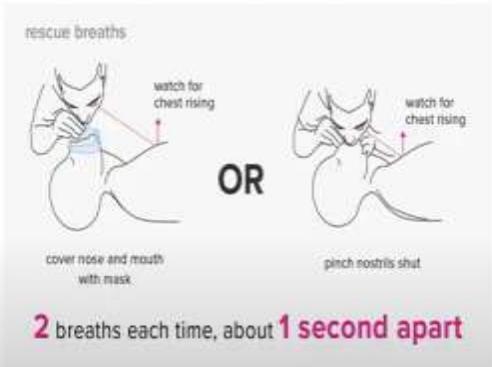
- With the airway open, pinch the nostrils shut, and cover the person's mouth with a CPR face mask to make a seal. For infants, cover both mouth and nose with the mask. If a mask isn't available, cover the person's mouth with yours.
- Give two rescue breaths, each lasting about 1 second.
- Watch for their chest to rise with each breath. If it doesn't, reposition the face mask and try again.

Perform chest compression, open airway, give rescue breath with the open air airway open pinch the nostril before giving rescue breath or cover the nose and mouth both with the mask and then give rescue breath. Give two rescue breath each lasting for only one second and watch the chest rise on each breath if it does not reposition the mask and try again.

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### Give Rescue Breaths

rescue breaths



OR

**2** breaths each time, about **1 second** apart

## CPR with Breaths Steps for Adults and Teens

4. Alternate rescue breathing with chest compressions.
  - Continue alternating 30 compressions with two rescue breaths until the person begins to breathe or until medical help arrives.
  - If the person begins to breathe, have him or her lie on their side quietly until medical assistance is on the scene.

This we saw how the rescue breath is given and how you will see the chest rising. In adults and teens continue alternate 30 compression and 2 rescue breath and if patient begins to breathe have him or her lie on their side. Suppose with your CPR patient starts breathing then give recovery position and be with the victim till the medical assistance arrive.

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**CPR for an Adult**

- 1** Check the person and the person's ABCs (Airway, Breathing, Circulation).  
If the person is unresponsive and not breathing normally, call EMS/9-1-1 and get an AED or have someone else do this.
- 2** Place both of your hands in the center of the person's chest.  
Do 30 chest compressions. Push hard and quickly.
- 3** Open the airway by tilting the head back and lifting the chin.  
Place your fingers down over the person's mouth and nose.  
Give 2 breaths.
- 4** Repeat cycles of 30 chest compressions and 2 breaths.  
Continue CPR until an AED arrives or there is someone else taking over.

**Hand placement & position**

ADULTS	CHILDREN 1 - 8	INFANTS
 <b>BOTH HANDS</b> In the center of the chest between nipples	 <b>ONE HAND</b> In the center of the chest between nipples	 <b>TWO FINGERS</b> Just below the nipple line
 <b>2 inches</b>	 <b>2 inches</b>	 <b>1.5 inches</b>

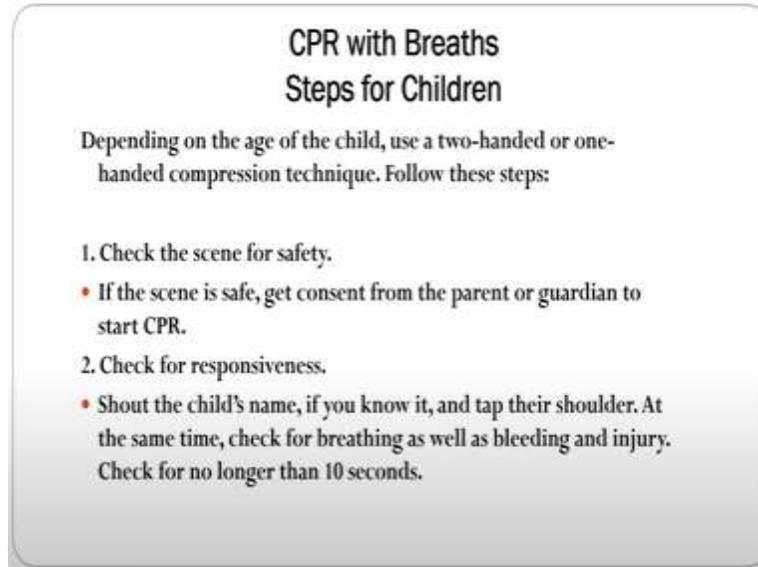
**30** compressions at **100 - 120** compressions per minute  
allow chest to recoil between compressions  
Immediately follow with **rescue breaths**

The information on this poster is for informational purposes only and is not intended to replace professional medical advice. For more information, visit [www.aed.com](http://www.aed.com) or call 1-877-900-0000.

This is again showing various pictures about CPR compression in children. Sometimes you have to press only with two fingers, the small child you know less than one year or

so the chest is not pressed with the two hands it is only with the two fingers sometimes and and the how much chest should be pressed only 1.5 inches below.

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**CPR with Breaths  
Steps for Children**

Depending on the age of the child, use a two-handed or one-handed compression technique. Follow these steps:

1. Check the scene for safety.
  - If the scene is safe, get consent from the parent or guardian to start CPR.
2. Check for responsiveness.
  - Shout the child's name, if you know it, and tap their shoulder. At the same time, check for breathing as well as bleeding and injury. Check for no longer than 10 seconds.

In children, depending on the age of the child, use two handed or one handed compression technique. So, first of all check the scene for safety. If the scene is safe, get consent from the parent or guardian to start CPR. Yeah, this is very important in children at least. So, you inform the parents and start giving CPR, take their consent.

Shout the child's name if you know it and tap their shoulder shout and shake whether child is responding or not. Also check whether there is a bleeding, there is a injury and this whole things, checking on all should take less than 10 seconds not much time should be wasted.

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### CPR with Breaths Steps for Children

3. Place the child on a firm, flat surface.
  - Kneel beside the child when they are safely on a flat surface.
4. Give 30 compressions.
  - For an older child, use both hands interlocked.
  - For a small child, use the one-handed technique with the heel of the hand in the middle of the child's chest.
  - Use a rate of 100 to 120 compressions per minute, at a depth of about 2 inches.
5. Open the airway.
  - Open the airway just past a neutral position, by tilting the head and lifting the chin.



So place the child on firm flat surface, kneel beside the child when they are safely on flat surface and give 30 compression. In smaller children the whole chest of the child can be taken up in two hands and with two thumb you can give compression of the chest or with two fingers you can give compression of the chest. For a older child use both hands interlocked, for a small child use one handed technique with the heel of hand in the middle of the chest.

Use a, in children again 100 to 120 compression per minute follow and chest should go down 2 inches in older children and 1.5 inches in smaller children. Then open airway and open the airway just past a neutral position by tilting the head and lifting the chair chin as we saw in the adult and then give two breaths.

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### CPR with Breaths Steps for Children

6. Give two breaths.
  - Blow into the child's mouth for 1 second. Watch to confirm the chest rises. Allow the air to exit the mouth before giving the next breath.
  - If the chest does not rise, try to retilt the head. Ensure there is a proper seal when giving the next breath.
7. Continue alternating breathing with chest compressions.
  - Continue until you see signs of life or emergency help is available. If you are alone and need to call for help, stop after 2 minutes (5 rounds of 30 compressions and 2 breaths) to do so.

Blow into the child's mouth for one second and confirm that the chest is rising. If chest does not rise try to retilt the head and try ensure that airway is open. Same as other things like alternative compression and breath 30 compression and 2 breaths.

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### CPR for a Child

<b>1</b> Check the child and the child's ABCs (Airway, Breathing, Circulation). If the child is unresponsive and not breathing normally, call 911 or 112 and get an AED or have someone else do this.	<b>2</b> Place both of your hands on the center of the child's chest. Do 30 chest compressions. Push down and quickly.
<b>3</b> Open the airway by tilting the head back and lifting the chin. Place your learner device over the child's mouth and nose. Give 2 breaths.	<b>4</b> Repeat cycles of 30 chest compressions and 2 breaths. Continue CPR until an AED arrives or someone else takes over.

The American Heart Association does not recommend the AHA CPR training.  
CPR is a first aid skill. It is not a substitute for medical care.  
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These are the again pictures how to give compression.

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## Training for CPR and AED

- Many humanitarian and nonprofit organizations provide CPR and AED training. The Indian Red Cross Society offers courses in CPR and combined CPR/AED techniques, as do other institutes.
- The AED can detect abnormalities in a person's heart rhythm and, if needed, deliver an electric shock to the chest to restore normal rhythm to the heart. This is known as defibrillation.
- Sudden cardiac arrests are often caused by a fast and irregular heart rhythm that begins in the heart's lower chambers, or ventricles. This is ventricular fibrillation. An AED can help restore the heart's normal rhythm and even help revive a person whose heart has stopped functioning.
- With training, an AED is easy to use. When used properly in conjunction with CPR, the device greatly increases a person's chances of survival.

Many NGO's and humanitarian organizations provide CPR and AED training. That is Indian Red Cross Society offers courses in CPR and combined CPR and AED techniques as does the other institute.

What is AED? It is a Automated Electric Defibrillator. This is a electric device which gives shock to the heart and the heart starts pumping again. You might have seen AED box at the airport or maybe in certain institution also you might have seen such AED available. It can detect the abnormality in person's heart rhythm and if needed deliver a electric shock to the chest to restore the normal rhythm that will bring the heart into the normal rhythm and which is called and defibrillation. So heart is fibrillating, compressing irregularly. If you give AED shock it will defibrillate and bring it to the normal rhythm.

So sudden cardiac arrest are often caused by a fast and irregular heart rhythm that begins in the heart's lower chamber or ventricle and this is ventricular fibrillation and AED helps to restore the heart normal rhythm. With training in AED and AED with training only you can use this device or equipment. When used properly in conjunction with CPR this increases the person chance of survival. This is usually we find in all hospitals should have a AED in the ICU.

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This is a training how to give compression.

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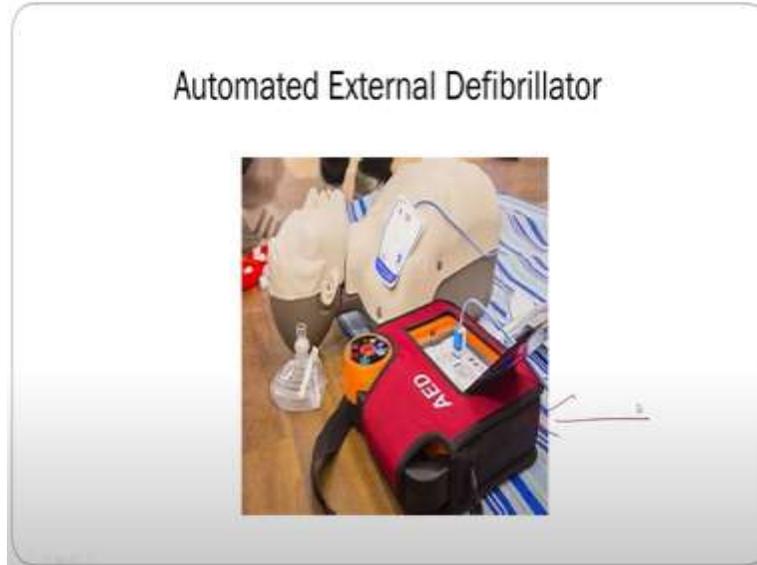
### Automated External Defibrillator

- A defibrillator works by sending an electric pulse, or shock, to the heart with the aim of restoring its beating when it has stopped. By the same method, defibrillators can also prevent or correct an arrhythmia (an uneven heartbeat or one that is too slow or too fast).
- An Automated External Defibrillator (AED) is a portable, compact, lightweight machine that can 'jump start' the heart to get it beating again.
- It will automatically analyse the heart rhythm in a cardiac arrest victim. When appropriate, it will deliver an electrical shock to the heart to restore muscle contractions and return its normal rhythms.

A close-up photograph showing a person's hands placing an orange and white electrode pad on a mannequin's chest. A red and white Automated External Defibrillator (AED) machine is visible in the foreground, connected to the pads by wires. The AED has a logo that says "ACE".

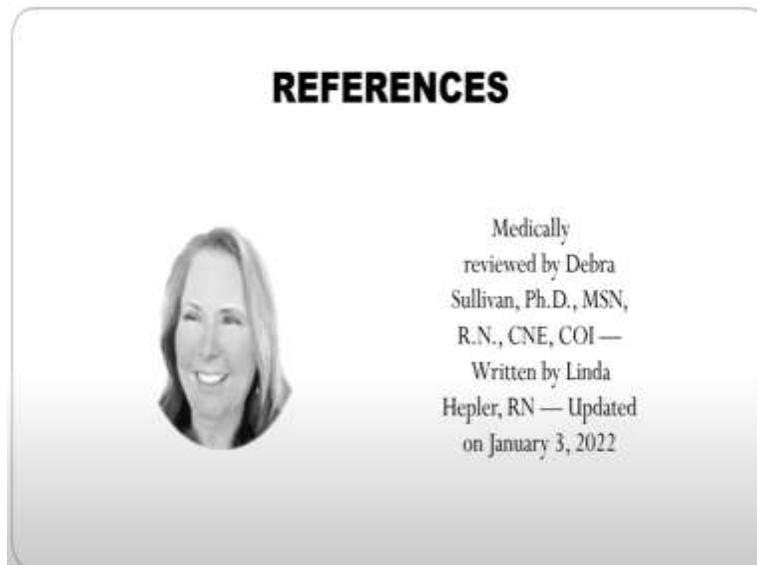
This is the AED machine and how it is given? There are two pads, electric pads which are put on the chest wall and shock is given.

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This is the machine. It is portable and one can carry in the bag.

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This lecture is taken from these references and again I will say you this is the basic knowledge in CPR and AED. AED requires definitely very elaborate training and very few people can learn this and a proper certification is required for its use.

So next time you see anybody lying on the roadside at least you can start hands only CPR. For that you do not need training or you do not need any certification, but rest of the thing definitely you need a training and certification. Thank you very much.