KREP

2025

BASIC LIFE SUPPORT

The term basic life support (BLS) refers to maintaining an airway and supporting breathing and the circulation.

Basic Life Support (BLS) is performed to support the patient's circulation and respiration through the use of cardiopulmonary resuscitation (CPR) until advanced life support arrives. Victims who have had early and correct BLS intervention will be better oxygenated and are more likely to respond to advanced techniques to revive them, thereby increasing their chance of survival.

Important to know:

1. Prompt recognition of cardiac arrest

2. Call for urgent medical assistance

3. Early effective CPR with an emphasis on minimal disruptions to compressions

4. Early defibrillation

4. Early advanced life support

5. Integrated post-cardiac arrest care

It is vital to assess the area before entering, as scene safety will determine if it is safe to start CPR without worrying about debris, shrapnel, malicious intent, or other conditions
The next step when performing BLS is to assess the patient's airway, breathing, and circulation.
It is unwise to perform chest compressions if their chest is caved in or their throat has a piece of metal sticking out.
CPR and other compressions are useless if factors do not allow the procedures to push through properly.

It is always best to call in professionals. Your role is to perform rescue breaths and CPR chest compressions until they arrive.

Cardiopulmonary Resuscitation (CPR)

CPR is a lifesaving technique. It aims to keep blood and oxygen flowing through the body when a person's heart and breathing have stopped. Cardiac arrest occurs in unexpected places other than medical facilities.

CPR is for people experiencing cardiac arrest.

When the heart stops beating, cardiopulmonary resuscitation (CPR) is used to save the patient's life. After a cardiac arrest, immediate CPR can double or triple the possibilities of survival

Types of CPR

Two types of CPR exist and both have a potentially life-saving impact. They are:

Hands-only CPR. Involves calling for help and then pushing on the chest in a rapid motion ie chest compressions. Hands-only CPR can prevent a delay in getting blood moving through the body.

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.

People who have no CPR training, received training many years ago, or are trained but not confident should use hands-only CPR.

People with training in traditional CPR, and who are comfortable with the method, can use this technique

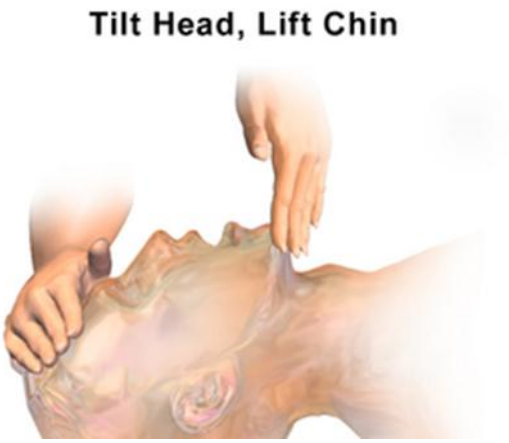
Compressions only CPR

Chest Compressions

Commenced when a victim/patient is unresponsive and not breathing normally. Early compressions can improve outcomes by keeping the brain and heart perfused with the oxygenated blood in the circulatory system prior to collapse. Rules for achieving effective chest compressions:

- **100 – 120 compressions per minute (for all ages)**
- **Push down firmly on the sternum to 1/3 of the depth of the chest**
- **Push in a regular rhythm, for example counting '1, 2, 3'**
- **Compression/relaxation ratio should be 50:50 with complete recoil of chest between each compression**
- **Frequent rotation of personnel should be taken after approximately 200 compressions or approximately every two (2) minutes**

- **Avoid compression below lower limits of sternum as may cause regurgitation and/or damage to liver/spleen/stomach**
- **Interruptions to chest compressions should be minimised**
- **Avoid compressions applied too high as ineffective depth is achieved**
- **After each 30 compressions there is an interruption in chest compressions for two (2) rescue breaths (optional).**



Combine Rescue Breathing With Chest Compressions

CPR with breaths: Steps for adults and teens

1. Perform chest compressions.: Checking the scene for safety then place 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.

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.

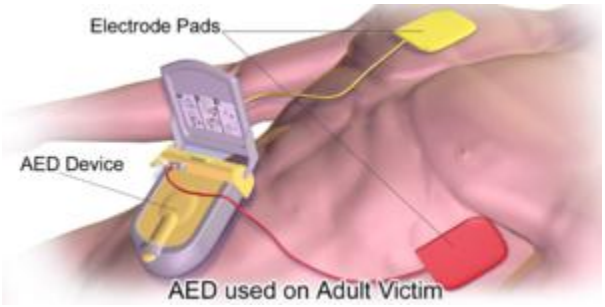
4. Alternate rescue breathing with chest compressions: Continue alternating 30 compressions with two rescue breaths until the person begins to breathe or until medical help arrives. If the person begins to breathe, have him or her lie on their side quietly until medical assistance is on the scene

Automated External Defibrillator

An automated external defibrillator (AED) is a portable, lightweight device that delivers an electric shock to the heart when it detects an abnormal rhythm. This shock helps restore a normal heartbeat. AEDs are used during sudden cardiac arrest, which occurs when the heart unexpectedly stops beating due to a problem with its electrical system. Without quick treatment, cardiac arrest can be fatal within minutes.

When using an Automated External Defibrillator (AED), it's important to follow these steps:

- **Get the AED and open it.**
- **Turn on the AED.**
- **Prepare the person's chest by removing clothes and drying it.**
- **Open the AED pads and check for pacemakers.**
- **Stick the AED pads on the person's chest.**
- **Connect the pads to the AED if needed.**
- **Stop CPR, make sure no one is touching the person, and clear the area.**
- **Let the AED check the heart rhythm.**
- **If the AED says to shock, make sure no one is touching the person and press the shock button.**
- **Start CPR again, focusing on chest compressions for 2 minutes**
- **Keep following the AED's instructions until help arrives**



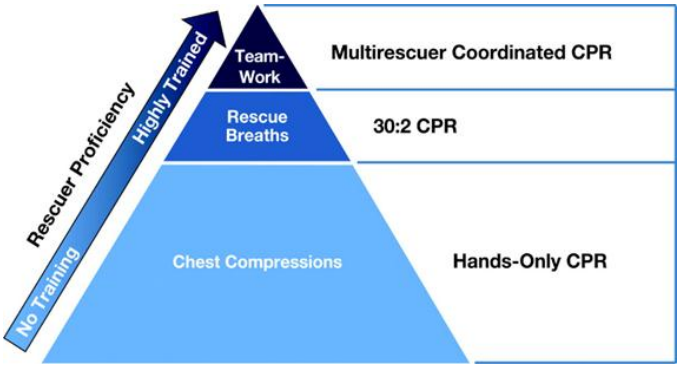


Figure: Building blocks of CPR (Source: Basic Life Support Manual American Heart Association)

Why is BLS Training Important?

- **Improves Survival Rates in Cardiac Arrest**
- **In cases of cardiac arrest, every second counts. A person's survival decreases by 10% with each minute that passes without CPR. Immediate CPR combined with defibrillation can double or triple survival rates.**
- **Minimizes Brain Damage and Organ Failure**
- **Without oxygen, brain cells start dying within 4-6 minutes. Proper BLS intervention ensures continuous oxygen supply to the brain and other vital organs, reducing the risk of long-term disability.**
- **Prepares People for Everyday Emergencies**
- **Medical emergencies don't only happen in hospitals; they can occur at home, in workplaces, schools, or public spaces. Having more people trained in BLS increases the chance that someone nearby will act quickly to save a life.**
- **Reduces Panic in Critical Situations**
- **Panic is a common reaction in emergencies. BLS training helps individuals stay calm and focused, follow protocols, and provide the necessary care without hesitation.**
- **Essential for Healthcare Providers**
- **Healthcare professionals, including those working in radiology departments, need BLS training to ensure patient safety. For example, in cases where a patient experiences sudden respiratory arrest during an MRI or CT scan, trained staff can respond promptly until advanced care arrives.**
- **Compliance with Workplace Safety Standards**
- **Many workplaces, especially those in high-risk industries, mandate BLS certification as part of their safety policies. Schools, gyms, nursing homes, and offices also require trained staff to ensure preparedness for emergencies.**

Who Should Take BLS Training?

BLS training is crucial for:

- **Healthcare providers: Doctors, nurses, radiographers, and paramedics.**
- **First responders: Firefighters, police officers, and lifeguards.**
- **Teachers, coaches, and childcare workers: To handle emergencies involving children.**
- **Employees in public spaces: Airports, malls, and gyms often require staff to be BLS certified.**
- **General public: Anyone can encounter a medical emergency, so learning BLS can save live**

Conclusion

Basic Life Support (BLS) is more than just a set of emergency skills; it's a lifesaving practice that empowers individuals to act confidently in critical moments. Whether you are a healthcare professional, teacher, or concerned parent, BLS training provides the tools needed to save lives, reduce injury, and offer vital support until professional medical care arrives. With proper knowledge and practice, anyone can be a hero in an emergency.

In a world where emergencies are unpredictable, BLS training is not just important—it is essential. Equipping yourself with these lifesaving skills ensures that you can make a difference when it matters most. So, whether it's for your profession or personal preparedness, consider enrolling in a BLS course today and be ready to save a life

Compiled by : Dr Pravin G U Principal ,
Sri Chamundeshwari Medical College Hospital & Research Institute. Channapatna
Ref : https://www.physio-pedia.com/Basic_Life_Support_(BLS),
https://alliedsciences.dpu.edu.in/blogs/basic-life-support-essential-skills-save-lives
https://www.skillstg.co.uk/blog/adult-basic-life-support/