

Trauma Injury Surveillance Programme

BLS Training for Health Care Personnel

Introduction:

Every day, there are any numbers of events that can result in serious injury and cause a person to stop breathing. These occurrences require fast action and people who are knowledgeable and capable enough to provide helpful assistance.

BLS or Basic Life Support as it implies is the basic aid provided to an individual who suddenly loses consciousness and suddenly stops breathing. Basic life support is a first aid measure to maintain the ABCs which stand for airway, breathing and circulation without auxiliary equipment. This is done while waiting for the ambulance or while waiting for medical and professional help. This is not only advantageous for health care personnel but it is also advantageous for their family as well. This will make health care personnel prepared for any life threatening situation that require basic life support.

Basic life support is needed when:

- The individual is unconscious
- There is no presence of breathing (observe if there is the rise and fall of chest or feel the victim's nose or mouth for air)
- Abnormal pulse rate (thready or very fast)

Objective:

The primary objective in basic life support is to establish and maintain an open airway to restore breathing and to correct respiratory acidosis (the carbon dioxide levels are higher than the oxygen levels). An open airway is achieved by removing the object that impedes with the victim's breathing. If there is no object that is blocking the airway, this might involve a heart condition so chest compressions are required. This is applying pressure on to the victim's chest (with proper positioning of the hands on the correct location) to maintain the normal transport of oxygen to the brain and vital organs. Oxygen deprivation is fatal especially when 6 minutes or more has passed since irreversible brain damage has occurred already and the chances of survival slim down.

Importance of BLS Training:

Current studies show that there is a significant lack of knowledge regarding the typical signs and risk factors associated with serious medical conditions among medical students and laypersons. Basic life support consists of a number of medical procedures provided to patients with life threatening conditions of the body that cause pain or dysfunction to the person.

Understanding BLS courses and more than that, practicing these techniques is by far the most challenging task confronting first aid. Taking everything into consideration, we believe that an adequate education in first aid and basic life support should be considered an essential aspect of the medical curriculum.

CPR is a life-saving technique that is used when someone's heart has stopped. Some medical conditions, such as a severe heart attack, can cause the heart to stop. Other causes include drowning, electric shock, poisoning, overdose and serious injury. For CPR to be successful, it needs to be started as soon as possible after a person's heart stops.

Objective: on complete course the student will be able to:

- know when and how to apply CPR for an adult, child and baby
- know what to do if someone is choking
- manage serious bleeding until medical help arrives
- how to do primary assessment for CPR
- how to meet the health & safety structures.

BLS includes psychomotor skills for performing high-quality cardiopulmonary resuscitation (CPR), using an automated external defibrillator (AED) and relieving an obstructed airway for patients of all ages.

BLS does not include the use of drugs or invasive skills, and can be contrasted with the provision of Advanced Life Support (ALS). Firefighter, lifeguards, and police officers are often required to be BLS certified. BLS skills are also appropriate for many other professions, such as daycare providers, teachers and security personnel and social workers especially working in the hospitals and ambulance drivers.

CPR provided in the field increases the time available for higher medical responders to arrive and provide ALS care. An important advance in providing BLS is the availability of the automated external defibrillator or AED. This improves survival outcomes in cardiac arrest cases.^[1]

Basic life support promotes adequate blood circulation in addition to breathing through a clear airway:

- **Circulation:** providing an adequate blood supply to tissue, especially critical organs, so as to deliver oxygen to all cells and remove metabolic waste, via the perfusion of blood throughout the body.
- **Airway:** the protection and maintenance of a clear passageway for gases (principally oxygen and carbon dioxide) to pass between the lungs and the atmosphere.
- **Breathing:** inflation and deflation of the lungs (respiration) via the airway

These goals are codified in mnemonics such as ABC and CAB. The American Heart Association (AHA) endorses CAB in order to emphasize the primary importance of chest compressions in cardiopulmonary resuscitation.

Healthy people maintain the CABs by themselves. In an emergency situation, due to illness (medical emergency) or trauma, BLS helps the patient ensure his or her own CABs, or assists in maintaining for the patient who is unable to do so. For airways, this will include manually opening the patient's airway (Head tilt/Chin lift or jaw thrust) or possible insertion of oral (Oropharyngeal airway) or nasal (Nasopharyngeal airway) adjuncts, to keep the airway unblocked (patent). For breathing, this may include artificial respiration, often assisted by emergency oxygen. For circulation, this may include bleeding control or cardiopulmonary resuscitation (CPR) techniques to manually stimulate the heart and assist its pumping action.