



# Module

# **Basic Life Support**

## For Second Year Medical Student

*Assist.Prof. Nazar S. Haddad*

*Prof. Sawsan I. Habeeb*

<b>Target Audience:</b>	Second Year Medical Student
<b>Time:</b>	Second Semester
<b>Duration:</b>	2 Weeks
<b>Place:</b>	Simulation Lab, E Learning Hall –
<b>Tutor:</b>	Teaching Staff from Medical, Surgical and Pediatric Department
<b>Assessment:</b>	OSCE

### Justification:

According to the World Health Organization (WHO), approximately 17.7 million people died from cardiovascular disease in 2015, representing 31% of all global deaths. Of these deaths, an estimated 7.4 million were due to coronary heart disease and 6.7 million were due to stroke. It's important to know what to do in the event of a cardiac or other life-threatening medical emergency. Competence in providing immediate life support and cardiopulmonary resuscitation (CPR) is outlined as a prerequisite for doctors by the General Medical Council.<sup>1</sup> However, there is a growing concern about the lack of emphasis placed on teaching and reinforcing basic life support (BLS) skills within the medical school curriculum. Pillow et al revealed that >35% of final-year medical students were reluctant to participate in resuscitations as they felt unprepared.



## Learning objectives

- Describe the importance of high-quality CPR and its impact on survival
- Describe all of the steps of the Chain of Survival
- Apply the BLS concepts of the Chain of Survival
- Recognize the signs of someone needing CPR
- Perform high-quality CPR for an adult
- Describe the importance of early use of an automated external defibrillator (AED)
- Demonstrate the appropriate use of an AED
- Provide effective ventilation using a barrier device
- Perform high-quality CPR for a child
- Perform high-quality CPR for an infant
- Describe the importance of teams in multi rescuer resuscitation
- Perform as an effective team member during multi rescuer CPR
- Describe the technique for relief of foreign-body airway obstruction for an adult or child
- Describe the technique for relief of foreign-body airway obstruction for an infant.

## Methodology for Delivering the course

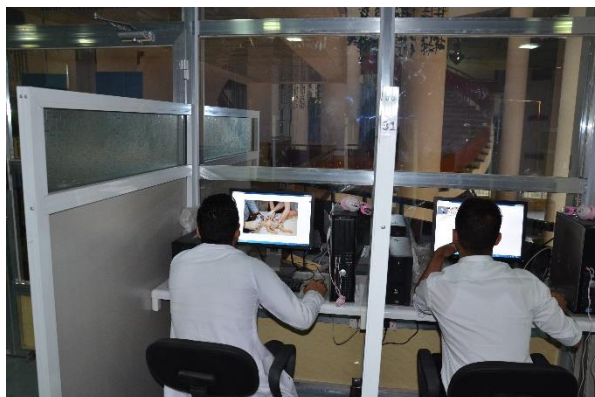
### First day

E learning module (2 hours)

### Second day

Introductory lecture (15 minutes) Followed by Face to face training (2 hours)

With use of Simulation Tools recently introduce into the Simulation Lab. to teach Fifth Year medical student.



**E Learning Training**



**Simulation Lab Training**



## Student IPLS Course

### Basic life support according to IPLS (DRSABCDE)

The management of the collapsed person involves:

1. Checking for Danger to self and others
2. Checking for Response of the patient
3. Sending for help 38
4. Prioritizing care:
  - Airway
  - Breathing
  - Compressions
  - Defibrillation
5. Preventing further injury
6. Protecting the patient from the environment
7. Maintaining normal body temperature
8. Reassuring the patient
9. Continually observing the collapsed patient

#### D. Danger

Quickly check for dangers to the patient and rescuers

In some instances, it will be necessary to remove the source of danger before further care can commence. e.g. live electricity firearms needles body fluids

#### R. Response

To determine if the patient is conscious or unconscious, check the response to a verbal stimulus and if no response, squeeze the shoulders firmly („talk and touch“).

#### S. Send for help

#### A. Airway

It is essential to use positioning to achieve a clear airway

- A jaw thrust and a head-tilt/chin lift („sniffing“ position
- Infants (i.e. children less than one year of age) have narrow upper airways that are more easily occluded than adults. Airway support is provided with jaw support and neutral head alignment

Absence of a Clear Airway Recognized by: Absent or noisy breathing Causes:

- Tongue: The most common cause of a blocked airway in the unconscious patient is the tongue



- Foreign material: Semi-solid material (e.g. food, vomit) can block the airway
- Other causes: Laryngeal spasm, swelling or injury to the airway

In all age groups fluid can be cleared from the airway with the use of suction. An

Oropharyngeal Airway (OPA may sometimes be required to achieve or maintain an open airway

39

## B. Breathing

The next step is to assess whether or not the patient is breathing effectively.

- LOOK for the movement of the upper abdomen or lower chest
- LISTEN for escape of air from the nose and mouth
- FEEL for movement of air at the mouth and nose

If breathing:

Care for the patient in a lateral position, with the head in a backward tilt and the jaw supported to keep the airway open

If not breathing, or only taking an occasional gasp, commence CPR

Infants and children <9yrs: Deliver 2 rescue breaths.

Rescue breaths may be delivered by the mouth-to-mask method, or by using a resuscitation bag

## C. Compressions / CPR

Pulse check

healthcare professionals in special settings may briefly palpate for the presence of a carotid pulse (i.e. for no more than 10 seconds)

Rescuers should start chest compressions for all victims who are unresponsive and not breathing normally.

the compression point on the lower half of the sternum.

Infants

the rescuer places the pads of two fingers on that point and compresses the chest.

- This 2-finger technique is recommended for lay rescuers and can also be used by healthcare professionals.
- A 2-thumb technique is preferred for healthcare professionals

Children

Either a one or two hand technique can be used for performing chest compressions in children

Depth of Compression

The lower half of the sternum should be depressed by one third of the depth of the chest with each compression

Rate of Chest Compressions

100-120 compressions per minute



---

### Compression-Ventilation Ratio

For infants and children, with two ALS rescuers present, the ventilation-compression ratio of 2:15 is performed

Minimize interruptions to chest compressions

### D. Defibrillation 40

The Automated External Defibrillator (AED) (1) In the event of cardiac arrest, the use of AEDs to analyse the electrical rhythm of the heart is an essential element of BLS

If a shock is to be delivered, all rescuers must stand clear until this has occurred. The rescuer must advise all to “stand clear” and ensure safety

Some types of cardiac arrest do not require a shock

After every 2 minutes of CPR, AED analysis must occur

### Duration of Cardiopulmonary Resuscitation

Generally, the rescuer should continue resuscitation measures until:

- The patient responds or begins breathing normally.
- There is evidence of a state clearly incompatible with life.
- It is impossible to continue (e.g. due to rescuer exhaustion)

