



Training Manual on Basic Life Support



Non Communicable Disease Control Programme
Directorate General of Health Services
Ministry of Health & Family Welfare





Basic Life Support Training Manual



Non-Communicable Disease Control Programme
Directorate General of Health Services (DGHS),
Mohakhali, Dhaka 1212, Bangladesh.



Technical Assistance

Centre for Injury Prevention and Research, Bangladesh (CIPRB)

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Message

Non-communicable diseases (NCDs) pose a significant challenge to public health worldwide, and the need for timely and effective medical interventions is paramount. The provision of basic life support is a fundamental skill that healthcare providers must possess to ensure the best possible outcomes for patients experiencing life-threatening emergencies. The ability to respond swiftly and confidently during critical moments can mean the difference between life and death.



I am delighted that Non-Communicable Disease Control Programme (NCDC), DGHS has taken this timely initiative for training of healthcare providers. The Training Manual on Basic Life Support serves as a comprehensive guide, equipping healthcare providers with the essential knowledge and skills required to provide immediate care in emergency situations. Moreover, it incorporates first aid management part which is necessary to disseminate up to community volunteers to reduce mismanagement of the injured patient before they seek professional help. In addition to providing step-by-step instructions and clear illustrations, this manual emphasizes the importance of effective teamwork, communication, and coordination during emergency responses.

This manual is the result of extensive collaboration, drawing upon the expertise and experiences of medical professionals, researchers, and trainers from various disciplines. I would like to express my deepest gratitude to the hard-working team members, whose dedication and ceaseless efforts contributed to successful completion of this manual. Lastly, I extend my thanks to all the stakeholders and partners who have contributed to the development and dissemination of this manual.

This manual marks a significant milestone in our ongoing efforts to enhance emergency healthcare services across the nation. I encourage all healthcare providers, regardless of their level of experience, to utilize this manual as a valuable reference tool. Together, let us continue to work towards strengthening our emergency healthcare systems and improving health outcomes for all.

A handwritten signature in black ink, appearing to be 'Abul Bashir', written in a cursive style.

Professor (Dr.) Abul Bashir Mohammed Khurshid Alam

Director General

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Message

Non-communicable diseases (NCDs) continue to pose a substantial health burden in our society, necessitating a comprehensive approach that encompasses prevention, management, and emergency response. The provision of basic life support and first aid management is crucial in ensuring the best possible outcomes for individuals facing medical emergencies.



I am pleased to introduce the publication of the Training Manual on Basic Life Support (BLS) for training of healthcare providers and community volunteers, developed by the Non-Communicable Disease Control Program (NCDC) of the Directorate General of Health Services (DGHS).

The Training Manual on Basic Life Support is a comprehensive resource that is meant to give medical professionals and community volunteers the information and skills they need to help people right away in life-threatening situations. It goes beyond basic life support and includes common first aid techniques, empowering individuals to respond effectively to a wide range of medical emergencies. This manual is practical, user-friendly, and relevant to the diverse needs of healthcare providers and community volunteers across the country.

I would like to express my deepest appreciation to the dedicated team at NCDC who were involved in the development of the manual. I would also like to extend my gratitude to our valued partners and stakeholders who have contributed to the development and dissemination of this manual. Your support and collaboration have been instrumental in ensuring the accuracy, relevance, and applicability of the content, further enhancing its value as a training tool.

Finally, I commend the dedication and commitment of our healthcare providers and community volunteers, who play a crucial role in responding to medical emergencies and providing support to those in need.

A handwritten signature in black ink, appearing to read 'Robed Amin', with a long horizontal stroke extending to the right.

Professor Dr. Mohammad Robed Amin
Line Director
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Directorate General of Health Services (DGHS)

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List of Abbreviations

AHA	American Heart Association
AHI	Assistant Health Inspector
ALS	Advanced Life Support
BLS	Basic Life Support
CHCP	Community Health Care Provider
CPR	Cardiopulmonary resuscitation
CVD	Cardiovascular diseases
DGHS	Directorate General of Health Services
ERC	European Resuscitation Council
FWA	Family Welfare Assistant
FWV	Family Welfare Visitor
GO	Government Organization
HA	Health Assistant
HI	Health Inspector
INGO	International Non-Governmental Organization
MHV	Multipurpose Health Volunteer
NCD	Non-communicable diseases
NCDC	Non-communicable disease Control
NGO	Non-Government Organization

Background

Basic Life Support (BLS) and emergency support is a crucial and primary part of the healthcare delivery system which requires specialized knowledge and skills. Bangladesh has endured natural disasters for decades, and thus, a lot of people have been injured, rendered disabled, or died due to inadequate emergency services, especially in the remote areas.

Additionally, the country is facing a growing burden of non-communicable diseases (NCD) over the past few decades among which the prominent one is cardiovascular diseases (CVD). In Bangladesh, the leading cause of adult male death is found to be ischemic heart disease (25.9%)¹, which contributes more than double the proportion of the other two leading causes- stroke and chronic respiratory illness² (reported by verbal autopsy). Moreover, different types of unwanted injuries can warrant such an emergency. Emergency intervention/management should be initiated at the point of incidence, even in out-of- hospital settings. However, in Bangladesh, life-saving techniques are not practiced much outside the hospital facility, and a lot of wrong practices by the community people are seen in rural areas. Studies have shown that providing first aid at the right time and in the right manner effectively saves lives and reduces morbidity and subsequent disability³.

This training manual on Basic Life Support (BLS) and first aid aims to impart knowledge of first response and aid among all tiers of healthcare providers and make them proficient in handling life threatening events and emergency management. This aid can also be utilized by the public so that even if adequate healthcare equipment and qualified healthcare providers are not available, first aid providers can provide services in emergencies, improving the chance of survival.

Methodology

Manual Development Methodology

To develop the training manual on Basic Life Support the following methodology was adopted:

<p>Advocacy with relevant stakeholders for the development of training manual on BLS</p>	<ul style="list-style-type: none"> • Advocacy meeting of NCDC, DGHS with relevant stakeholders to generate awareness and to develop the training manual on BLS. • Consultative workshop with experts from different GO, INGO, and NGO (5th September 22): <ul style="list-style-type: none"> a) To be aware of the importance of developing a national guideline for BLS for HCPs. b) To form the technical team to develop training manual for BLS following the WHO emergency care framework and literature review. c) To share all the existing manuals which are used for the BLS in the country. d) To identify the training participants for BLS.
<p>Manual development (Document review)</p>	<ul style="list-style-type: none"> • Literature review- <ul style="list-style-type: none"> ○ International guidelines on BLS (American Heart Association Guideline, European Resuscitation Council Guideline) ○ GO, NGO and INGO websites. ○ Existing guidelines/manual used in different institutes of Bangladesh. ○ Relevant scientific articles and grey literature.
<p>Manual development (Technical Team Workshops)</p>	<ul style="list-style-type: none"> • Workshop with technical team <ul style="list-style-type: none"> ○ 1st workshop with the technical team members to identify the training contents, duration, and trainers for BLS manual (6th September 22). ○ Orientation and discussion of the draft of training manual with the mid-level doctors (post-graduate trainee and consultants from different medical colleges of Bangladesh) for getting feedback (24th November 22). ○ 2nd workshop to share the draft of training manual after incorporating feedback from technical team (2nd January 23). • Formation of a review committee with representatives from Government Institutes and INGOs.
<p>Field testing</p>	<ul style="list-style-type: none"> • Field testing of the manuals in one Upazila Health Complex.
<p>Finalizing the training manual</p>	<ul style="list-style-type: none"> • Incorporating feedback from review committee members and stakeholders to finalize and get the approval of the training manual.

The manual on Basic Life Support is developed from a thorough review of existing manuals nationally and globally and consultation processes with relevant stakeholders from Government and non- government organizations. Two consultative workshops, several meetings, field-testing, and feedback by review committee members were received through email before the finalization of the document. Throughout the development process, the training manual was piloted in one upazila health complex on health care providers and community volunteers incorporating their suggestions in the session plan and training modules.

Objectives, training participants and duration

The Basic Life Support (BLS) manual aims to capacitate participants in a way that they could save the lives of victims in any emergency (e.g–cardiac arrest) through high-quality Cardiopulmonary Resuscitation (CPR).

Objectives:

1. To aware healthcare providers regarding the importance of safety first before providing emergency medical care.
2. To equip the participants with the knowledge and skill of CPR so that they can describe and perform high-quality CPR and its impact on survival.
3. To orient the first aid management during medical emergencies and injuries.

Training participants:

Healthcare providers from district hospitals to primary health facilities are the targeted participants for the training program:

1. Health care providers of Community Clinics: Community Health Care Provider (CHCP), Health Assistant (HA), and Family Welfare Assistant (FWA)

2. Health care providers of Upazila Health Complexes:

Clinical Staff: Doctors, Nurses, Medical Assistants (MA), and Family Welfare Visitors (FWVs).

Field Staff: Health Inspectors (HI), Assistant Health Inspectors (AHI), Health Assistants, and Family Welfare Assistants (FWAs).

Non-clinical staff: Multi-purpose Health Volunteers (MHV); other staff who are involved with emergency care (ambulance crew, ward boy) etc.

3. Health care providers of District Hospital:

Clinical Staff: Doctors, Nurses, MAs, and FWVs

Non-clinical staff: Multi-purpose Health Volunteers (MHV); other staff who are involved with emergency care (ambulance crew, ward boy) etc.

4. Others: Non–government HCPs, fire service crew, journalists, Ansar, police force, school-teachers, religious leaders, community volunteers up to community people.

Introduction: Inauguration and overview of training program

Two-day training program on Basic Life Support (BLS) Training Schedule

Time	Topic	Responsible person
Day 1		
Introductory session 09.30am – 10.00am	<i>Inauguration & training rules</i> <ul style="list-style-type: none"> ▪ Inauguration ▪ Introduction of participants ▪ Training rules ▪ Training schedule ▪ Pretest 	Resource person/ Master trainer
Session – 1 10.00am – 11.00am	<i>Chapter 1: Basic life support</i> <ul style="list-style-type: none"> ▪ Concept of basic life support (BLS) ▪ Steps of BLS ▪ Cardio-pulmonary resuscitation (CPR) <ul style="list-style-type: none"> • Demonstration of CPR 	Master trainer
11.00am – 11.15am	Tea break	
Continuation of Session 1 11.15am – 12.15pm	<i>Recovery Position</i> <ul style="list-style-type: none"> ▪ Steps of recovery position 	Master trainer
12.15pm – 12.30pm	Annex 1: Overview of Automated External Defibrillator (AED)	Master trainer
12.30pm – 2.00pm	Group work and practice on CPR manikin <ul style="list-style-type: none"> • Recovery position • Steps of CPR 	All of the participants
02.00pm-02.30pm	Conclusion and Lunch	Resource person/ Master trainer

Time	Topic	Responsible person
Day 2		
Introductory session 09.30am – 10.00am	Recapitulation of the first day sessions	Master trainer
Session – 2 10.00am – 10.30am	<i>Chapter 1: First Aid</i> <ul style="list-style-type: none"> ▪ What is first aid? ▪ Roles of first responder ▪ Choking first aid management ▪ Demonstration of choking management 	Master trainer
10.30am – 10.45am	Tea break	
Continuation of Session 2 (First Aid) 10.45am – 11.15am	<i>Drowning</i> <ul style="list-style-type: none"> ▪ Rescue in drowning ▪ Drowning first aid management ▪ Demonstration of drowning management 	Master trainer
Continuation of Session 2 11.15am – 12.15pm	<i>First aid management of</i> <ul style="list-style-type: none"> • Fainting • Bleeding • Electrocution and lightning • Burn • Fracture • Animal bite • Poisoning • Eye injury 	Master trainer
12.15pm – 2.00pm	<ul style="list-style-type: none"> ▪ Group work and practice on CPR manikin (different scenario - drowning, choking, snakebite, electrocution etc.) ▪ Post test & assessment ▪ Summary of the two-day training 	All of the participants
02.00pm-02.30pm	Conclusion and Lunch	Resource person/ Master trainer

Time: 30 minutes

Inauguration session objectives:

At the end of the session, participants will be able to

- Get acquainted with each other and participate in training comfortably.
- Explain the ground rules for training.
- Explain training objectives.

Session plan:

Sl No	Content	Methods	Materials	Duration 30 mins
1.	Greetings and stating objectives of the session	Presentation	Power-point slides	10
2.	Introduction of the participants			5
3.	Ground rules for training and safety measures for COVID – 19	Presentation	Power-point slides /poster paper	5
4.	Pretest	Question answer	Question paper	10

Session conduction

- *Introduction & Inauguration:* To begin with, greet your participants. Describe the objectives of the session. Collect signatures and necessary information of the participants within gaps of the session period. Ask the chief guest to say a few words about the importance of the training and methodology of manual development using a power-point slide. Have another person thank the guest, say a few words about the objectives of the workshop. Request the invited guest to inaugurate the training then welcome the participants.
- *Introduction of training participants:* This session recommends introducing participants to one another and creating a good atmosphere for training. A well-organized inaugural and introductory session are important for building rapport among the participants and the trainers and reinforcing the goals of the training.
- *Ground rules for training:* Ask participants to set the ground rules for the training workshop. Write/note down the relevant points whatever they mentioned in a poster paper /flipchart. The trainer may also represent the slide on ground rules. Keep/hang the flipchart paper in the room in such a way that participants can refer to it. Ask participants to respect and follow these agreed ground rules for the successful and expected training workshop.

Ground rules for training

- Arrive on time for each training session.
- Cell phones should be turned off at the beginning of the training and should remain off until the end except during breaks.
- Avoid side conversations – if anyone is unclear about the topic being discussed or the instructions, please ask the facilitator to clarify.
- Respect each other, yourselves, and the trainer. Do not speak when someone else is speaking.
- Participate actively in training and give everyone a chance to contribute and encourage others to do so.
- Don't talk in chorus to express opinions and concerns.
- Try to keep the training room neat and clean.
- Don't discuss any irrelevant topics during the training.

Session 1: Basic Life Support

Duration: 2 hours

Objectives:

At the end of the session, participants will be able to

- Define basic life support.
- Explain safety first.
- Describe key steps of basic life support.
- Describe and perform the steps of recovery position.
- Describe and perform the steps of Cardiopulmonary Resuscitation.

Session Plan

Sl No	Content	Methods	Materials	Duration 120 mins
1	Greetings and stating objectives of the session	Presentation	Power-point slides	5
2	Pre-requisite knowledge	Question - answer		10
3	Concept of basic life support and safety first	Presentation and discussion	Power-point slides	10
4	Steps of basic life support	Presentation and discussion	Flip chart/ Power-point slides	15
5	Steps of Cardiopulmonary resuscitations (CPR)	Presentation and demonstration	Power-point slides	20
		Group work	CPR manikin	30
Break				
6	Recovery position	Presentation, group work and discussion	Power-point slides	10
7	Question-answer session	Discussion		10
8	Summary and closing	Discussion		10

Session conduction

1. *Greetings*: Begin with greeting your participants.
2. *Objectives of the session*: Describe the objectives of the session using a power-point slide.
3. *Pre-requisite knowledge*: Before starting the main session, you will assess the level of knowledge of the participants on basic life support. You could ask the following questions:
 - a. In your opinion, what is basic life support?
 - b. How could you ensure safety first?
 - c. What are the key steps of basic life support?
4. *Concept of basic life support*: Narrate some definitions of basic life support from the international guidelines, such as American Heart Association's guideline using a power point slide, and then discuss to clarify the definition. The trainer should also discuss aim of basic life support.
5. *Safety first*: The trainer should tell about the importance of the safety first, and then discuss about ensuring safety first before providing first aid/ cardiopulmonary resuscitation to the victim using power point slides.
6. *Key steps of basic life support*: Group work - Divide your participants into smaller groups involving 4-5 participants and ask them to discuss among themselves to identify key steps of BLS and write those down using VIPP card. After completion of the task, ask each group to present it. Then you display and discuss the key steps of BLS using a power point slide and ask the participant groups to compare their thoughts with the displayed one.
7. *Steps of cardiopulmonary resuscitation (CPR)*: Use presentation slides to narrate the CPR steps in this part, and CPR manikins to show each step-in action. Then request that each group of three to four people demonstrate the CPR techniques in accordance. Also, instruct each person to practice until they gain the skill as scheduled in the last session.
8. *Recovery situation*: Discuss different steps of recovery situation using flip chart/power point slide and ask one of the participants voluntarily to take part in showing the steps.
9. *Question – answer*: In this part of the session ask questions to the participants to assess whether the learning objectives are achieved or not. The following questions could be asked:
 - a. When BLS should be given? How to ensure safety while providing BLS outside the hospital settings?
 - b. What are the steps of recovery position?
 - c. What is the depth of each compression? What is the ratio of compression and breaths in one CPR cycle?
10. *Summary and closing*: Ask one of the participants to summaries the session and help her/him when needed. Finally thank the participants and close the session.

Chapter 1: Basic Life Support

The term Basic Life Support (BLS) refers to the care provided to anyone experiencing severe life-threatening condition e.g., cardiac arrest. BLS can be provided by a first responder, healthcare professionals, public safety professionals and/or qualified lay rescuer.

The 'Chain of Survival' is an organized life-saving technique for emergencies beginning with Basic Life Support (BLS). (Figure 1) This stepwise approach provides the victim with the best chance to receive the care needed and return to a healthy life ^{4,5}.

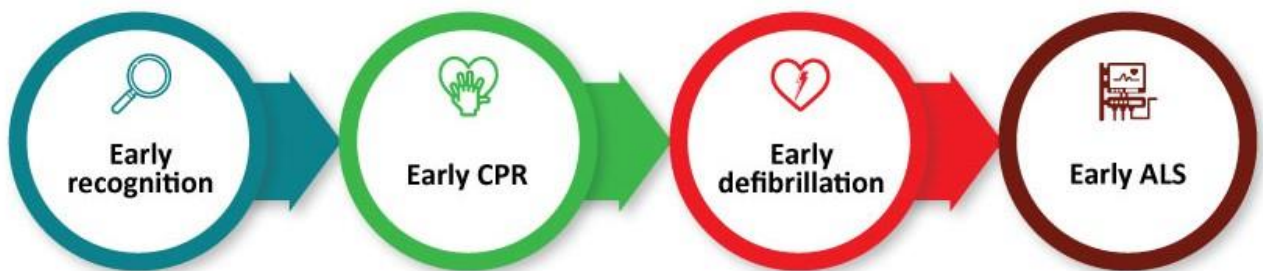


Figure 1: Chain of Survival

The aim of BLS training is:

- To train participants to promptly recognize such emergency situations.
- To give high-quality chest compressions.
- To deliver appropriate ventilation.
- To quickly transfer victims to health facilities.

Key steps in BLS include:

1. Ensure safety first and call for help (any emergency number).
2. Check for responsiveness.
3. Check for normal breathing.
4. If the person is not responding and not breathing normally, start chest compressions immediately.
5. Open the airway and provide ventilation to deliver air to the lungs.^{6,7}



Safety First

- Check the environment (safe and free from hazards) before proceeding.
- Move the victim to a safe environment (out of traffic, water, electrocution, fire) and dry the person.
- Shout out for getting help from local community and ask them to call emergency number/ ambulance. ⁴ (Figure 2)

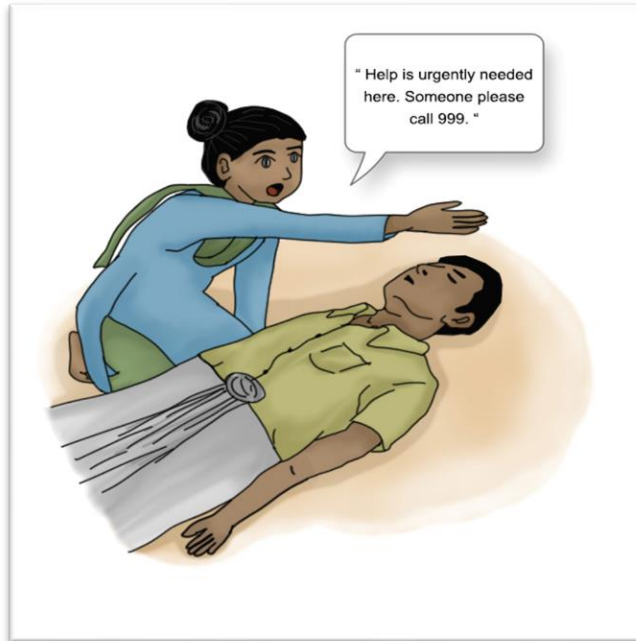


Figure 2: Asking help

Check for responsiveness

- Lay down the victim on a hard surface.
- Shake the victim by their shoulder and talk to them loudly. Pinch the person's earlobe / front of the arm if necessary. (Figure 3).
- Loosen or remove tight clothing surrounding the airway. ^{5,6}



Figure 3: Check for response

Check for Breathing and Pulse

1. Open the mouth of the victim and clear out any debris (including vomit) by rolling the victim to the side.
2. Tilt the head backward by placing one hand on the forehead and two fingers on the chin (head-tilt/chin-lift technique). (Figure 4)
3. Bring your cheek close to the mouth of the victim. Listen and feel for regular breathing (not more than 10 seconds). At the same time, observe the chest for movement.^{4,5}

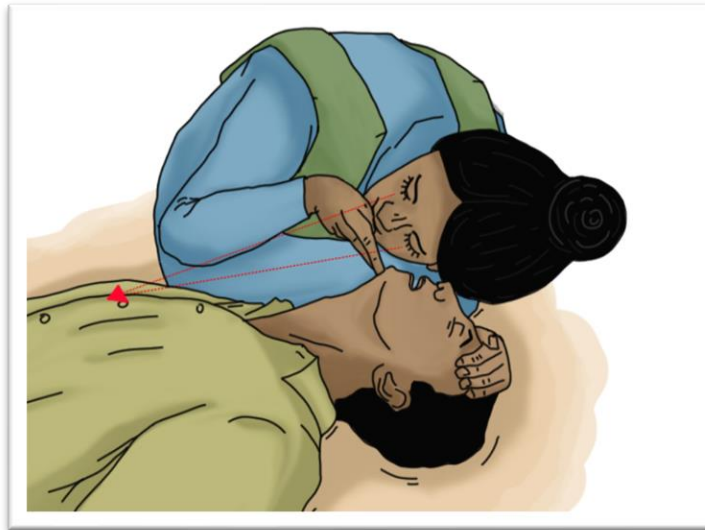


Figure 4: Check for breathing



Figure 5: Jaw thrust



Figure 6: Check for carotid pulse

(If there is suspected neck injury/spine injury, head tilt/chin-lift method should not be used. In that case, jaw thrust can be used by a trained HCP/responder)⁴. (Figure 5)

(Medically trained professionals can also check for the carotid pulse simultaneously on one side of the neck, not making additional delay)^{4,6}. (Figure 6)

4. If there is no response / no breathing (and you are unsure whether you can feel a pulse), start CPR immediately with a cycle of 30 chest compressions and two breaths.

Cardiopulmonary Resuscitation (CPR)

CPR stands for Cardiopulmonary Resuscitation and is a technique to keep oxygenated blood flowing around the body by doing chest compressions and giving rescue breaths⁴.

CPR Steps for adults^{3,4,5}:

After checking responsiveness and breathing, if the victim is found non-responsive and no normal breathing (also no pulse), do the following steps:

1. Turn the sick person on his/her back on a **hard surface**, if not already.
2. Kneel next to the victim, beside his/her upper arm.
3. Place the heel of one hand in the center of the person's chest (the lower half of the sternum). (*Figure 7*)

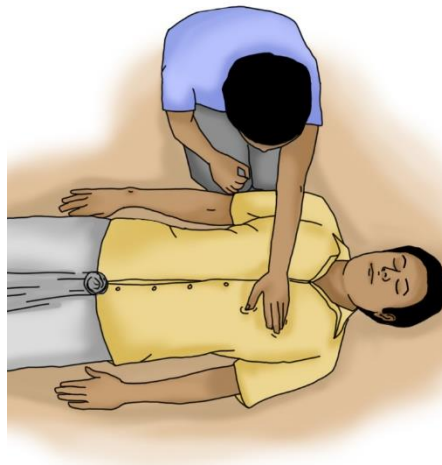


Figure 7: Placement of one hand on center of the chest (lower half of sternum)

4. Put the heel of another hand on top of the first hand; you may also interlock fingers. (*Figure 8, 9*).



Figure 8: Placement of another hand on top of the first hand



Figure 9: Correct hand positions during CPR

5. Keep your arms straight, shoulders directly over hands, and compress straight down (using the weight of your body) *(Figure 10)*. Compressions should be 2 to 2.4" (5 to 6 cm) depth into the person's chest and at a rate of 100 to 120 compressions per minute.

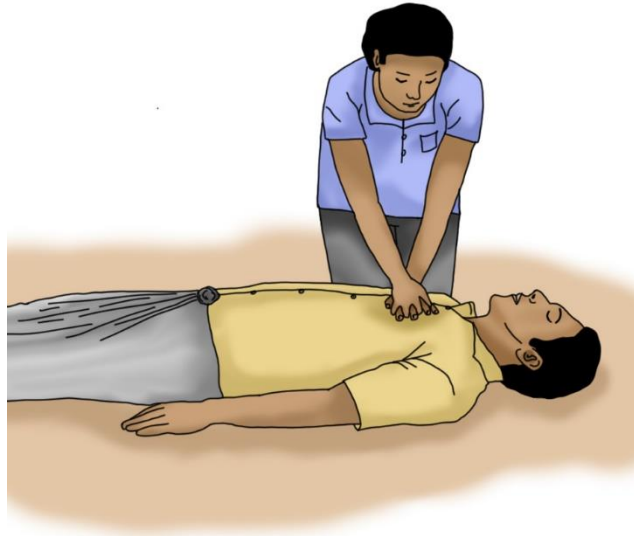


Figure 10: Keep both arms straight and press down

(After each compression, allow the chest wall to reposition/re-expand itself completely before continuing. Between compressions, avoid leaning or lying on the chest. After 30 compressions, stop compressions and open the airway by tilting the head and lifting the chin.)

6. Give a breath and watch the chest rise at the same time. Do the same while giving a second breath.

Rescue breath (mouth to mouth/mouth to barrier)

- Put one hand on the victim's forehead and tilt the head back.
- Put your other hand on the bony part of the chin and lift the chin.
- Then use one hand (with the hand on victim's forehead) to pinch the victim's nose. *(Figure 11)*
- Take a normal breath, open the victim's mouth, and seal your lips around victim's mouth. Blow steadily your air into the victim's mouth for one second until the victim's chest rises.
- When the victim's chest goes down, inhale again and repeat the process for second rescue breath.



Figure 11: Rescue breaths

If the chest does not rise, take the following steps:

- Check what's in the person's mouth. If so, get rid of anything that is blocking the airway.
- Check that the chin is lifted correctly and that the head is properly tilted. In any case, don't attempt to blow air into the victim's mouth more than twice.
- Continue this cycle (30 compressions:2 rescue breaths) until the victim regains signs of life or any other help arrives. (Signs of life include any movement of arms or legs, normal breathing, coughing etc.)

To reduce interruptions in chest compressions, switch instantly between compressions and rescue breaths.

CPR for children:

1. Ensure safety for you (HCPs/first responder) before providing basic life support.
2. Shout out or call for help and ask a passerby to seek help or to arrange urgent transport to the nearest healthcare facility.
3. Place the baby/child on a solid/hard and secure surface.
4. Move the baby's or child's head backward and gently lift the baby's chin.
5. Quickly open the breathing passage and clear the airway.
6. Check for breathing by feeling and listening to air coming out from the baby's nose or mouth and watch for abdominal movement at the same time not more than 10 seconds.

Medically trained professionals are encouraged to check for pulse: for an infant (<1 year) brachial pulse; and in case of a child (>1 year) carotid or femoral pulse.

If the baby does not response and breathe, begin CPR immediately.

7. The compression to breath ratio for children of all age groups is 30:2 for one HCP/responder and 15:2 for two HCPs/responders.
8. Technique for chest compression:
 - Children's chests should be compressed with just one hand, at least one-third of the way down (heel of the hand). This could be less than two inches (1½ inches) for small children or infants (4 cm), but it will be roughly two inches for larger children (5cm).

(Figure 12)



Figure 12: CPR in children by one hand (Age one up to puberty (AHA)⁴/ 12 years ^{7,8})

- If a child is under one year old (0-12 months), place the index and middle finger of one hand on the center of the child's chest (sternum). (*Figure 13a*) Use your middle and index fingers to compress the baby's chest up to a depth of 4 cm, or one-third of its depth.
- In case of infants, two-thumb-encircling hands technique (*Figure 13b*) can be used which improves the quality of chest compression^{4,9,12}.



Figure 13(a): CPR with two fingers

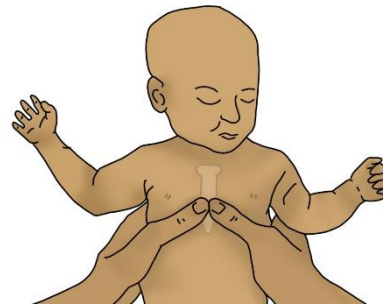


Figure 13(b): CPR with two thumb – encircling hands technique

Figure 13: CPR in infants (0-12 months)⁴

9. At a rate of 100 to 120 compressions per minute, repeat these 30 times. Between compressions, fully release the pressure without removing your fingers from the chest. Always make sure the chest rises before pressing down again.

10. Rescue breaths for a child:

- Move the baby's/child head backward and lift its chin a little.
- Seal the baby's/child's both nose and mouth with your mouth, and gently blow air into his/her lung until his chest rises, waiting between rescue breaths to let the air flow back out.

If the baby's chest does not rise, take the following steps:

- Check if anything is in the baby's/child's mouth. If so, remove any visible items that may block the airway.
 - Check that the head is well tilted, and the chin is lifted properly.
- Do not interrupt the resuscitation until the child starts to show any signs of life and breathes normally or any professional help arrives.

Recovery Position

If a person is unconscious/semi-conscious, but breathing normally, they should be put in the recovery position. The purpose is to ensure that the airway stays open and clear, and any vomit can flow out¹⁰.

Following are the steps to be followed for putting a person in recovery position: ^{5,11,12}

1. First, put the person on the floor. If the person is wearing glasses, remove them.
2. Kneel by the side of the victim.
3. Make sure both of his/her legs are straightened out.
4. Place the **nearest arm** (on the same side where responder is kneeling next to victim) **at right angle** to victim's body, elbow bent, with palm of the hand facing upwards. (Figure 14)

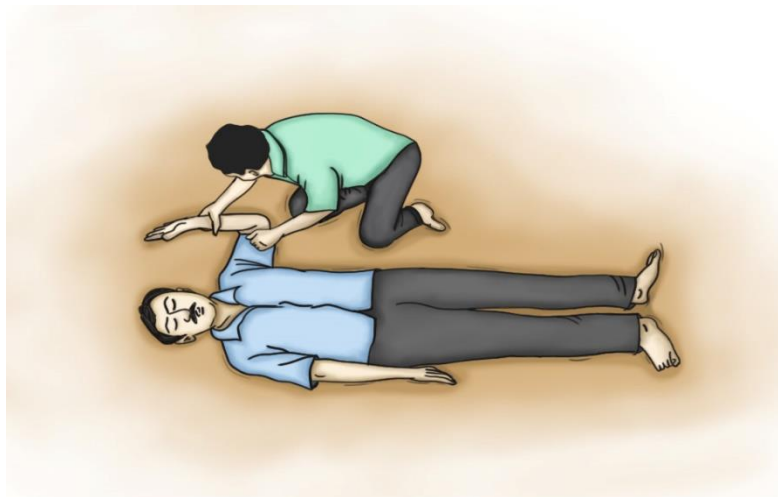


Figure 14: Placing of the nearest arm at right angle to victim's body

5. Bring the **opposite arm** of the victim across the chest and **hold the back of that hand** against the victim's cheek nearest to you. (Figure 15)



Figure 15: Victim's opposite arm is brought and back of the hand is pressed against the cheek

6. With **your other free hand**, grasp the leg on the other side (of the victim) just above the knee and pull it up, placing the foot on the ground. (*Figure 16*)



Figure 16: Flexing the opposite knee of the victim at a right angle to the ground

7. Keeping the victim's hand pressed against the cheek, pull on the raised leg to roll the victim towards you onto his/her side. (*Figure 17*)

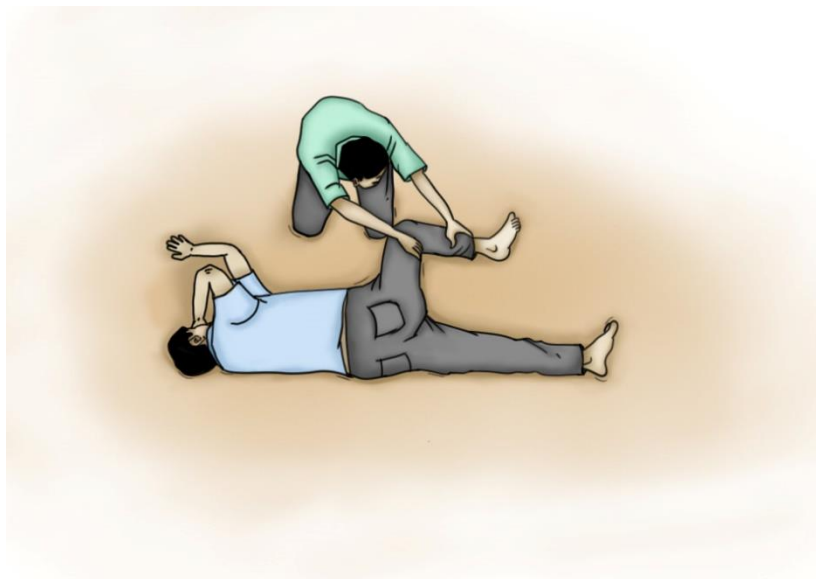


Figure 17: Rolling the victim towards the responder's

8. Adjust the upper leg so that both his/her hip and knee are bent at right angles.
9. Tilt the head back to make sure that the airway remains open. Keep the mouth downward angled by adjusting the hand under cheek of the victim. *(Figure 18)*



Figure 18: Positioning of the victim's head

10. Check breathing regularly and do not leave the victim alone until the external helps arrives.
11. If the victim stays in the same recovery position for 20 minutes, **roll them onto their other side** and put them in the recovery position there.

If the patient is not responding and develops absent / irregular breathing, begin sets of compressions and rescue breaths (CPR).

Algorithm of Basic Life Support

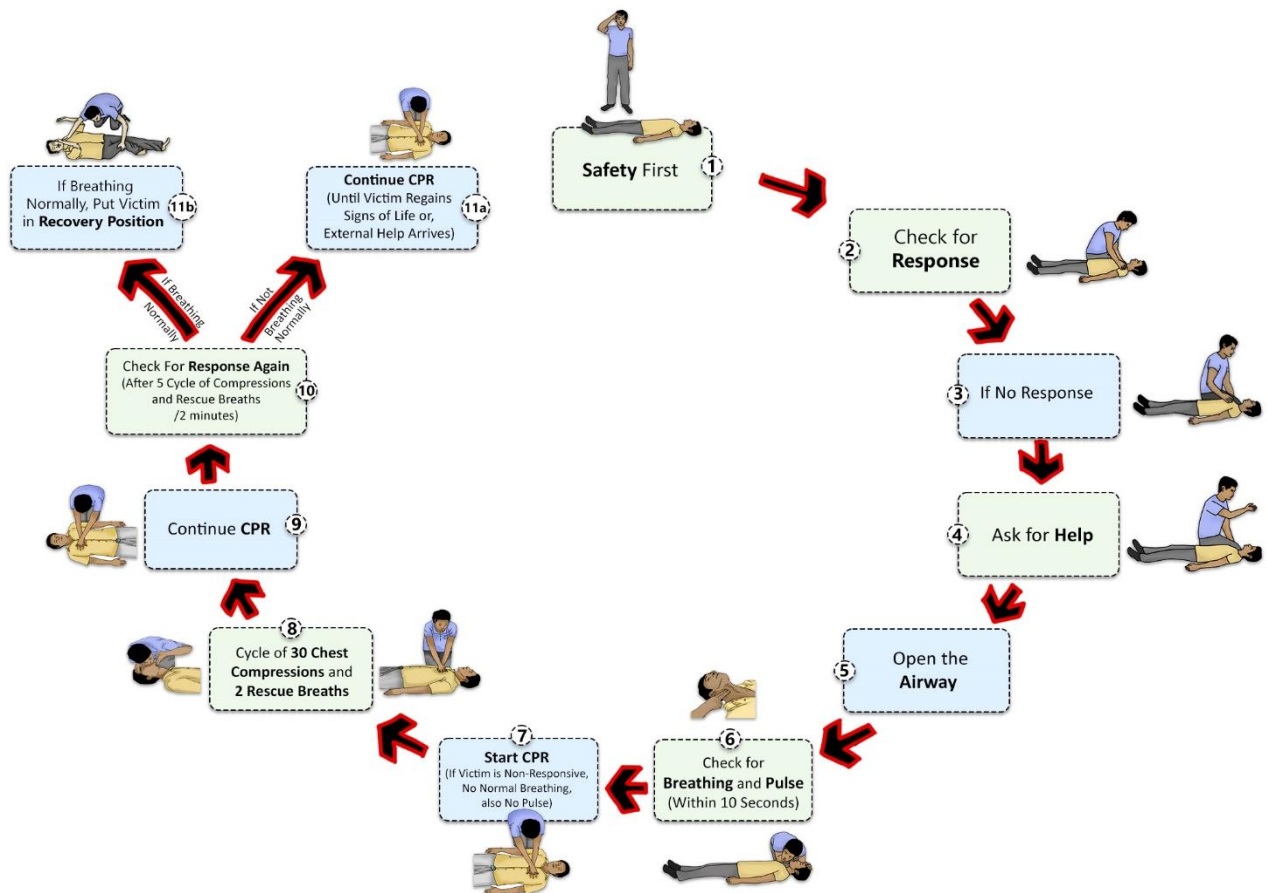


Figure 19: Algorithm of Basic Life Support

Session 2: First Aid

Duration: 2 hours

Objectives:

At the end of the session, participants will be able to

- Explain first aid.
- Describe first aid management of choking.
- Describe first aid management of drowning, fainting, bleeding, electrocution, lightning, burn, fracture, animal bite, poisoning and eye injury.

Session Plan

Sl No	Content	Methods	Materials	Duration 120 mins
1	Greetings and stating objectives of the session	Presentation	Power-point slides	10
2	Pre-requisite knowledge	Question - answer		10
3	Concept of first aid	Presentation and discussion	Power-point slides	10
4	First aid of choking	Presentation and demonstration	CPR Manikin, Flip chart/ Power-point slides	20
5	First aid management of drowning, fainting, bleeding, electrocution, lightning, burn, fracture, animal bite, poisoning and eye injury.	Presentation and discussion	Power-point slides	60
6	Question-answer, summary and closing	Discussion		10

Session conduction

1. *Greetings*: Begin with greeting your participants.
2. *Objectives of the session*: Describe the objectives of the session using a power-point slide.
3. *Pre-requisite knowledge*: Before starting the main session, you will assess the level of knowledge of the participants on basic life support. You could ask the following questions:
 - a. In your opinion, what is first aid?
 - b. What will you do in case of choking victim?
 - c. What are the first aid steps of drowning victim?
4. *Concept of first aid management*: Narrate some concepts of first aid from different guidelines. The trainer should also discuss the role of first responder.
5. *First aid of choking*: The trainer describes the types of choking including some signs and symptoms. Then explain the first aid management of choking in case of adult and child using power point slides. After that all of the steps will be demonstrated on CPR manikin.
6. *First aid management of choking, drowning, fainting, bleeding, electrocution, lightning, burn, fracture, animal bite, poisoning and eye injury*: Discuss first aid management of each events using flip chart/power point slide and ask one of the participants voluntarily to take part in showing the steps.
7. *Question – answer*: In this part of the session ask questions to the participants to assess whether the learning objectives are achieved or not. The following questions could be asked:
 - d. How to manage choking victims?
 - e. What should be done in case of drowning, snake bite victims?
 - f. What should not be done to poisoning victim?
8. *Summary and closing*: Ask one of the participants to summarize the session and help her/him when needed. Finally thank the participants and close the session.

Content – Chapter 2: First Aid

Chapter 2: First Aid

First aid is the first assistance or treatment given to a victim or a sick person for any injury or sudden illness before the arrival of an ambulance, the arrival of a qualified paramedical or medical person or before arriving at a facility that can provide professional medical care.¹³

The role of the 'First Responder' is to act as the first point of contact during a medical emergency. They can react quickly and give basic first aid and CPR to an injured or sick person before professional help arrives or the patient is moved to the hospital.

The aims of first aid^{13,14} are:

- to preserve life,
- to prevent the worsening of one's medical condition,
- to minimize the chance of injury and future disability,
- to promote recovery, and
- to ensure safe transportation to the nearest healthcare facility.

Choking

When a person has severe difficulty in breathing because of an obstructed airway or lack of air, he/she is choking. Severe choking happens when a foreign object blocks the airway. This is a life-threatening emergency.

Infants and children often choke after swallowing non-edible objects such as coins, marbles, seeds, buttons, or small toys. Most adult cases of choking occur while eating.

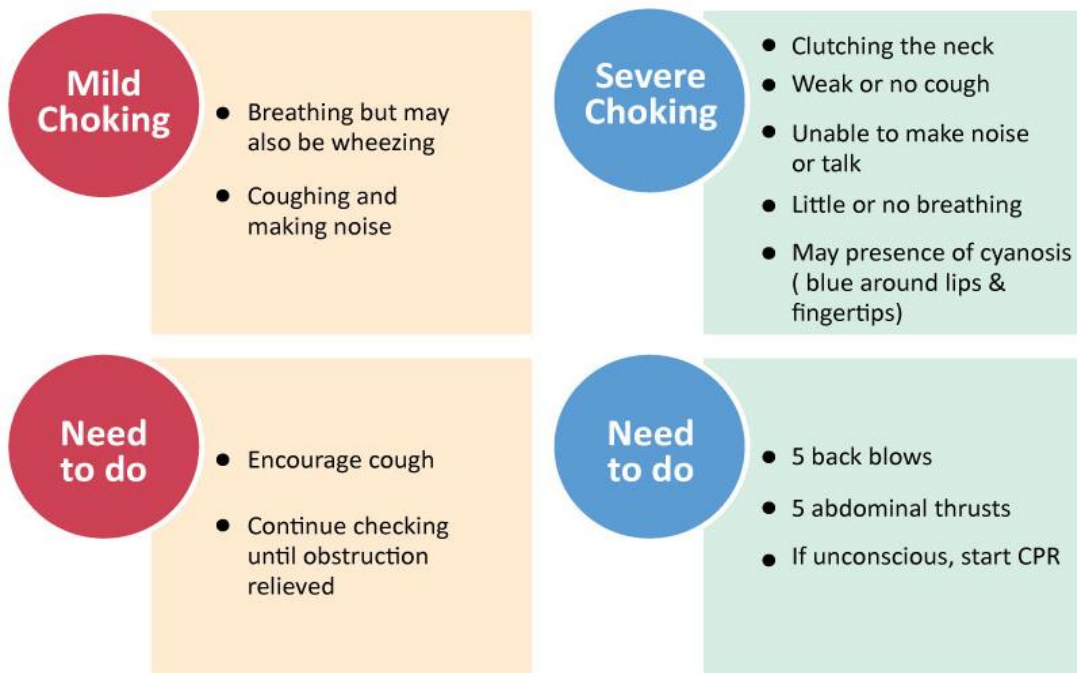




Figure 20: Universal sign of Choking

First aid during choking (In case of adults and children above one-year-old)

1. Place yourself slightly behind and to the side of the choking person or child.
2. Hold the person's chest with one hand and bend him forward.
3. Give **five forceful blows** between the person's shoulder blades using the heel of your free hand. ⁵ (Figure 21)
4. Make sure the victim can breathe again and that the object has been removed.

IF THE OBJECT DID NOT COME OUT AND THE PERSON IS STILL CHOKING-

5. Stand behind the victim. Wrap your arms around their waist under their ribcage.
6. Make a fist with one hand and place the thumb side of the fist above the victim's navel in the middle of their belly.
7. With your other hand, hold the first fist and press forcefully into the victim's abdomen in an upward direction. (Figure 22)
8. Continue performing these thrusts (alternating 5 back blows with 5 abdominal thrusts) until the obstruction/object is relieved, or until the person becomes unresponsive.



Figure 21: First aid of choking (Back blows)



Figure 22: First aid of choking (Abdominal thrusts)

9. If the victim is pregnant / obese, use chest thrusts instead of abdominal thrust. *(Figure 23)*
10. If the victim becomes unconscious / unresponsive, start CPR. ^{4,5}



Figure 23: Chest thrust

First aid during choking (In case of children below one-year-old)

1. Shout or call for help or call any emergency number.
2. Kneel down and hold the baby in your lap. *(Figure 24)*
3. Support the baby's head and neck with one hand without covering the mouth so the baby lies facing down, with the baby's head below his trunk, over your forearm, and supported by your thigh.
4. With the base of palm (of your free hand), give five firm blows to the area between the baby's shoulder blades. *(Figure 24, 25)*



Figure 24: Back blows to a choking baby (holding on lap)



Figure 25: Back blows to a choking baby

5. Quickly turn the baby onto his back facing you while supporting the head and resting on your arm.
6. Check if the object has come out and the baby can breathe freely. If not, continue above-mentioned procedure.⁴

IF THE BABY LOSES CONSCIOUSNESS

1. Lay the baby down on the floor or a hard and safe surface.
2. Start CPR on the baby.

Drowning

Drowning is one of the leading causes of death for children in Bangladesh. If we notice someone struggling in the water, the first thing we should do is to shout for help. Among the rescue techniques, the **Reach**, **Throw**, and **Wade** rescue techniques are considered as the **safest** ones¹⁵.

Rescue methods for drowning victim:

Reach Rescue

- Try to reach the victim using a stick or pole (such as- bamboo pole). (Figure 26)
- Keep yourself close to the ground so that you can't be pulled into the water.



Figure 26: Reach rescue

Throw Rescue

- Attempt to throw a floating object or a rope at the victim. (Figure 27)
- Instruct the victim to swim out to one side.

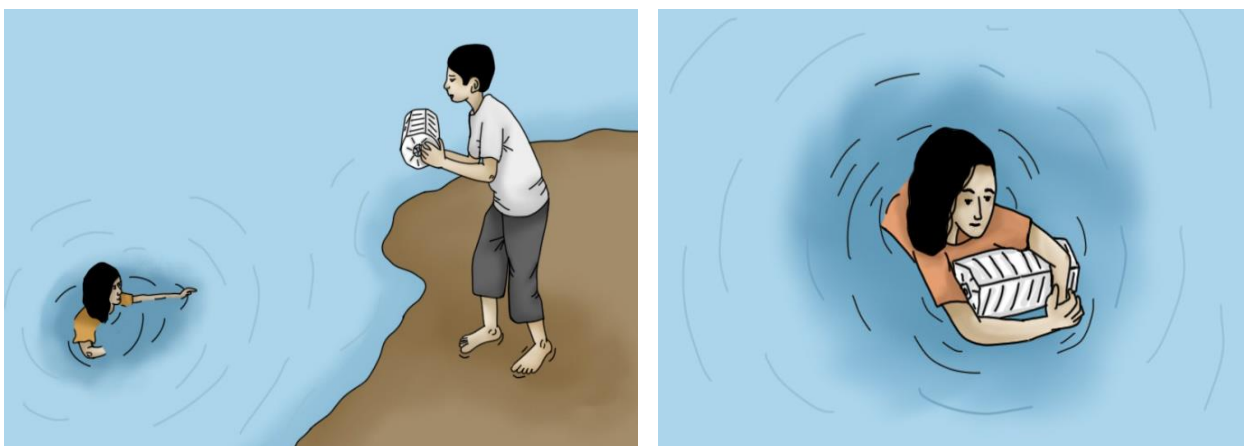


Figure 27: Throw rescue

Wade Rescue

- Wade to the victim if the water is shallow. *(Figure 28)*
- Bring a floating object (like a bamboo stick) with you for the victim to hold on.

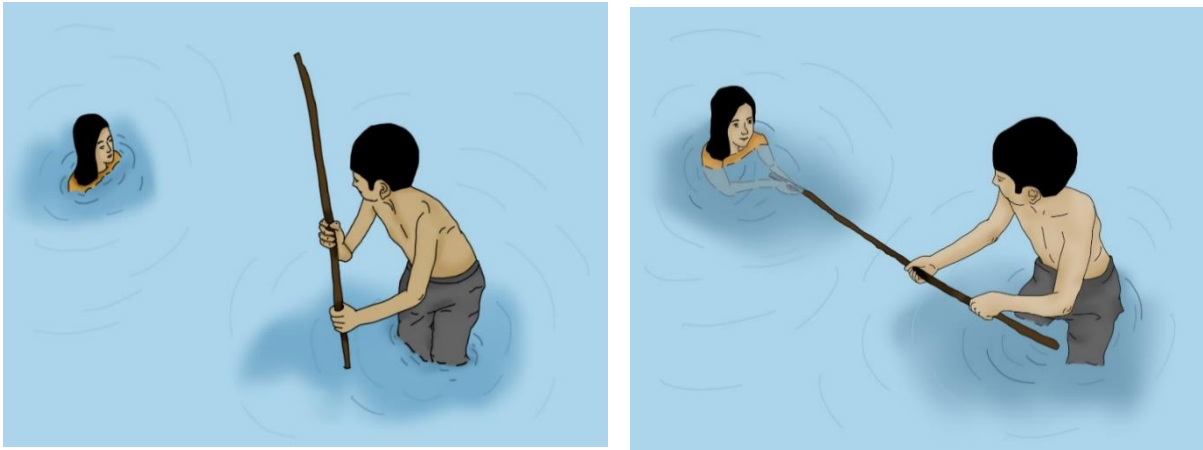


Figure 28: Wade rescue

Swim with aid rescue

- Locate a floating object, and swim over to the victim with it.
- Always keep at least 2 meters distance from the victim. *(Figure 29).*
- Do not let the victim grab you.

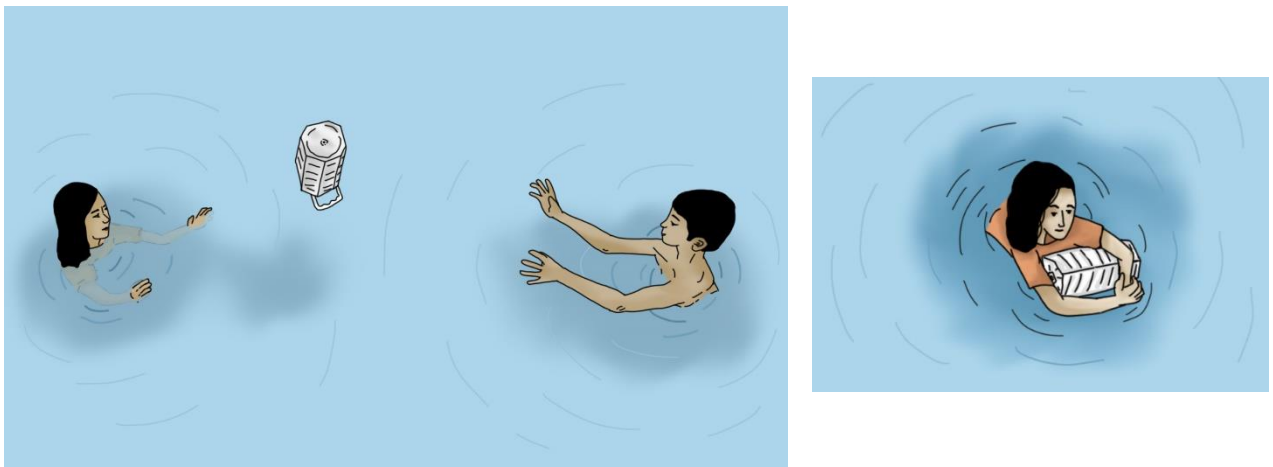


Figure 29: Swim with aid rescue

Rescuing an unconscious drowning victim with first aid

- Enter the water and swim to the victim.
- Reposition the victim onto their back.
- Bring the victim to clear space on the bank by towing them under their chin. *(Figure 30)*
- Ask for help lifting the person out of the water.
- Lie the victim down on a firm and level surface facing upwards.
- Check for airway and breathing.
- Start with 2 rescue breaths then 30 chest compressions. Then continue CPR following the BLS algorithm if the victim is not breathing and not responding. Continue until there is further assistance. ⁴



Figure 30: Towing under the chin

Special Note:

- Do not press the stomach of a drowning victim to remove water.
- Do not spin a drowning victim over the head.
- Do not rub a drowning victim's body with ashes or salt.

Fainting

Fainting occurs when there is a temporary loss of consciousness due to an inadequate amount of blood supply or oxygen supply to the body's vital organs (e.g., brain).¹⁶

There are reasons why someone might go into fainting:

- Loss of fluid; perhaps due to diarrhea, vomiting
- Excessive exposure to sunlight / heat
- Fear
- Low blood pressure
- Insufficient food / water intake
- Severe emotion - very upset, angry, or in severe pain
- Heart problems
- Low blood sugar (diabetic patient)



Figure 31: First aid for fainting

If a person faints, they may show the following signs or symptoms:

- Unconscious
- Over breathing (hyperventilation)
- Cold, clammy skin
- Nausea
- Dizziness
- Slurred speech

First aid (fainting)

- Shake and shout out for response.
- Lie the victim down.
- Raise the victim's feet. (Figure 31)
- Reassure the victim/surrounding crowd.
- Go for further help and call an emergency number, if the patient does not recover spontaneously within minutes, call for medical help. (Usually, fainting patient recovers from seconds to within minutes)^{16,17}

If the person is not responding and is not breathing, start CPR

Do not forcibly insert any type of food particle/water

Bleeding

A person who has an injury that is bleeding severely is in a life-threatening situation, and needs immediate help. Therefore, stopping the bleeding is a core first aid activity.

First aid for bleeding:

1. Help the injured person to put in a comfortable position.
2. Apply direct pressure using a piece of cloth (or gauze if available) on the wound. (Figure 32) On small cuts, keep the pad on the wound for 10 minutes until the bleeding stops.
3. If blood soaks through the first layer of cloth, don't remove it. Apply another layer of cloth or gauze on top.
4. Then cover the dressing with a bandage.
5. If the wound is on the arm or leg, raise the limb (above heart level) to reduce blood flow.
6. Ensure the victim is relaxed and comfortable.
7. Obtain further help from a health professional (if bleeding is not stopped) and apply additional pressure. ^{18,19}

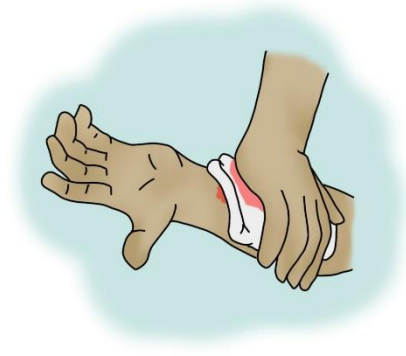


Figure 32: First aid for bleeding

Do not remove the first pad or bandage, add another bandage on top of it and continue to apply pressure.

If there is any foreign object causing a severe wound to a person (e.g., broken glass or a stick), do not try to remove the object from the wound site, rather press on both the edges of the wound.

Do not press directly over wound site in such case.

First aid for nose bleeding:

- Sit the victim down and lean them forward to ensure that blood does not block the throat.
- Place cold, wet material on the nose to reduce the flow of blood.
- Pinch the soft part of the nose, just above the nostrils. (Figure 33)
- Instead of lying down, you should maintain an upright or seated position. Keep your head above heart level.
- Check whether the bleeding has stopped after 10 minutes and reapply pressure.
- If bleeding has not stopped after 20 minutes, take the victim to hospital.²⁰



Figure 33: First aid for nose bleeding

Electrocution and lightning

The source of electric shock may be e.g., lightning, or contact with household current, high voltage cables or transformers, or low voltage - high ampere electricity from a car, truck, or tractor battery.

First aid for electrocution:

1. Do not touch the victim until the power switch is turned off.
2. Move the source away from the injured person using a dry, non-conducting object made of cardboard, plastic, or wood. *(Figure 34)*
3. Submerge the wound under flowing cool water (not warm or freezing water) for at least 10-15 minutes.
4. If the victim is not breathing, start CPR.
5. Quickly refer the victim to the health facility.^{21,22}

First aid for lightning:

In case of a strike of lightning^{12,22}, make sure you and the victim stay safe.

- If you are at risk from ongoing lightning, wait until the danger has passed. If possible, stay inside a house or in a car¹².
- Lightning often causes heart problems. Start CPR immediately if the victim does not breathe and is non-responsive.
- If breathing is normal, assess the patient for any potential injuries, e.g., burn, trauma.
- Arrange for quick transport of the victim to the health facility.

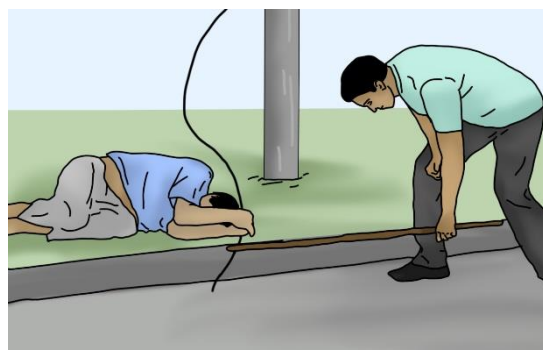
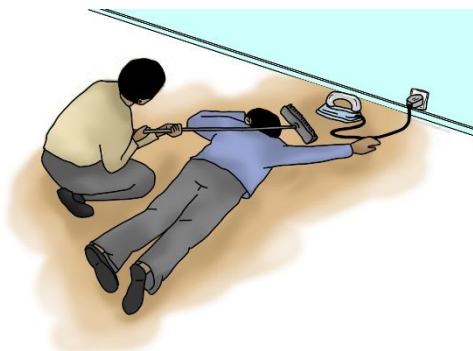


Figure 34: First aid for electrocution, moving away the injured person with a dry object

Burn

Burn is a leading cause of injury in Bangladesh. The wound must be treated quickly.

First aid:

- Remove the victim from the source of burn and the burning process needs to be stopped or slowed.
- Remove any rings or wrist watches as there is possibility of swelling at burn site.
- DO NOT remove any clothing that is stuck to the skin.
- Submerge the wound under flowing water (not warm or freezing water) for at least 10-15 minutes.²³ (Figure 35)
- DO NOT burst any blisters.
- DO NOT apply any creams.
- DO NOT apply eggs, salt water, turmeric paste or toothpaste on the injured site.
- Cover the injured area with a dry sterile dressing. If available, use iodoform gauze (petroleum impregnated— non-adhering) over the injured area as a primary dressing, followed by dry gauze.⁴
- Make sure the victim has sufficient fluids to drink.

If the burn is severe, take the victim to the hospital for further treatment.

If clothes are on fire, then lay on the ground and roll to extinguish the flames



Figure 35: First aid for burn

Fracture

A fracture is a break/bend or cracks in a bone. Generally, a considerable force is needed to break a bone, unless it is diseased or old. Broken bones need to be examined and treated in a hospital to ensure complete recovery. There are two main types of fracture – open fracture and closed fracture.

First aid:

Open fracture – Where the bone breaks the skin and is visible.

- Treat the bleeding first, if needed.
- Try to keep the injured limb as still as possible. (Figure 36)
- Take the casualty to the hospital for treatment.

Closed fracture– Where the bone does not break the surface of the skin.

- Do not try and straighten the victim's limb.
- Put the limb in a comfortable position with minimal movement.
- Take the victim to the hospital.²⁴

1. If the victim can support the injured part, ask him to do so; else, support the injured part with your hands or ask a bystander to do so. You can use a towel as a sling/triangular bandage to support the affected arm. (Figure 36)



Figure 36: Supporting the injured arm with hands / a sling

2. In case of a broken leg or arm, attach the leg or arm to a straight stick/wood using rope, to keep it still whilst being transported to the hospital. Where possible use two sticks to keep the broken leg/arm straight (**Figure 37, 38**).

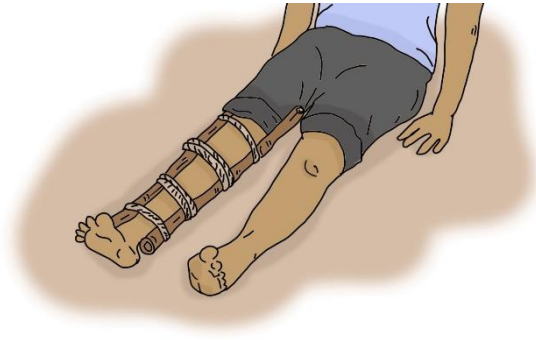


Figure 37: Immobilizing the injured leg



Figure 38: Immobilizing the injured forearm

Do not attempt to straighten or adjust the broken limb in any way.

Animal Bite

Any bite from an animal that breaks the skin has a high risk of infection (especially rabies). Bites by poisonous animals, or animals infected by diseases, can cause a victim to stop breathing or cause heavy bleeding.

First aid for animal bite:

- Make sure the area is safe and the animal cannot bite you or the injured person again.
- Wash your hands before and after taking care of the patient by using soap-water / alcohol-based sanitizer.
- Try to avoid coming into contact with venom or saliva by using a protective barrier (hand gloves, plastic bag, banana leaf, etc.).
- Wash the wound with soap and water or a detergent for at least 10-15 minutes.
- If the person is severely bleeding, stop the bleeding immediately by applying pressure to the wound.
- Do not cut the wound larger or put any materials like chilies, oil, ash, salt, etc. in or on the wound.
- Refer the person to a healthcare facility immediately for further treatment.

Snake Bite

Most of the snakebites in Bangladesh are non-venomous. If you suspect that a person has been bitten by a venomous snake, it is important to stop the victim from moving in order to stop the venom from circulating inside the body.

- If breathing is present, lie the victim down and give reassurance. Remove any rings, bangles, anklets, or tight items because the area may swell.
- Check the bite for puncture wounds and clean the wound using clean water.
- Try not to move the injured limb and eventually apply a splint (Figure 40) to immobilize the affected limb.
- Monitor the victim for signs of bleeding from bite site, dizziness, or vomiting, swelling, drooping of upper eyelids, shortness of breath, decreased urine output/high colored urine.
- If the victim is not breathing/ breathing abnormally, start CPR.
- DO NOT apply tourniquets/ ligature in the affected limb.
- DO NOT cut/ prick with needles or apply any tropical cream.
- DO NOT seek treatment from traditional healers/ or apply any herbal medicines.
- Transport the victim to the hospital as soon as possible.²⁵

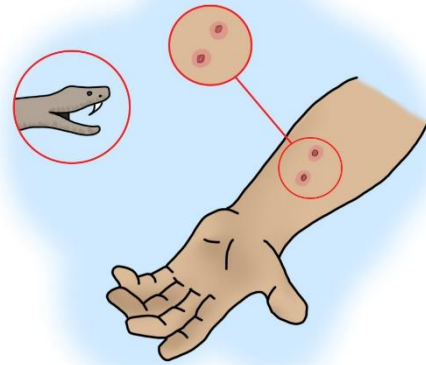


Figure 39: Snakebite



Figure 40: Snakebite
(Immobilization of the limb)

Dog Bite

Dog bites wound can cause heavy bleeding or infection. It may lead to a life-threatening condition called Rabies. Rabies is a common concern in Bangladesh and the first responder must not put himself/ herself in danger of infection.

- The dog bite wound may lead to following signs and symptoms of infection:
 - Pain around the wound
 - Redness and tenderness
 - Swelling
 - Pus or discharge
 - Fever
 - Swollen glands

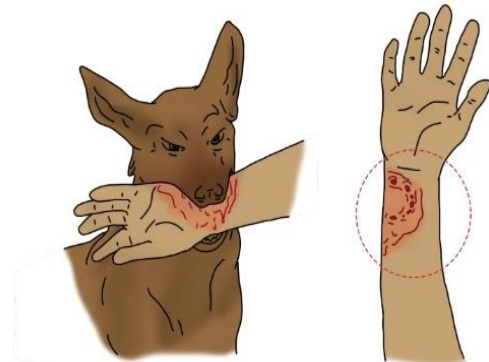


Figure 41: Dog bite

- Make sure the animal is no longer a danger.
- Remove any rings or constricting items because the area may swell.
- Wash the wound well with soap and clean water for at least 15 minutes. Use running water, if possible. If running water is not available then regularly change the water used to clean. Do not touch the wound.²⁶
- Apply a dry wound dressing.
- If the wound is bleeding heavily, then give treatment as described in bleeding management.
- Try to seek medical attention from a nearby hospital as early as possible.

Poisoning

Poisoning may be accidental or deliberate. In Bangladesh, pesticide poisoning (organophosphorus/ OPC) poisoning is a common phenomenon²⁷. Poisons may enter the body in several ways-

- Digestion (Eating)
- Inhalation
- Injection
- Absorption through the skin

Signs and symptoms of poisoning include:

- Not responsiveness
- Nausea
- Vomiting
- Burning pain in the mouth or throat
- Headache
- Blurred Vision
- Seizures
- Abnormal skin colour



Figure 42: Accidental poisoning

If you suspect someone has been poisoned, try to identify the poison and seek help from a doctor immediately or transfer the victim to the hospital.

Meanwhile, following first aids could be tried:

First aid (poisoning):

- Keep the person still.
- If poisoned by inhalation, bring the person to clean air immediately.
- Try to get the person to drink lots of clean water.
- Check the scene and the person. Try to find out what poison was taken. Look for any containers/bottles and take them to the hospital along with the victim.
- If you find any poisonous substance on their skin, wash the affected area with clean water.
- Do not induce vomiting if the poison is corrosive or flammable (e.g., bleach, sulfuric acid, kerosene, petroleum).²⁸

Eye Injury

Eye injury can be caused by several factors, for instance- by chemicals, by foreign bodies etc. In Bangladesh, a common cause of eye injury is found in agriculture workers while threshing paddy in the field.^{29,30} In addition, wings of insects, dust, coal, and metal particles may get lodged under the eyelids which causes pain and later redness if not treated with any first aid.

First Aid for eye injury:

- Rinse the eye immediately with plenty of clean water for 10-15 minutes (especially if caused by any chemical materials) from the nose outwards.
- If washing of eyes did not work, remove the foreign object with a narrow moist swab or a twisted corner of a clean handkerchief.
- If something is sticking to the eyeball or pupil, do not try to remove it. Cover the eye and transport the victim to the nearest healthcare facility.¹⁸ (Figure 43)



Figure 43: Eye injury

Transportation of the victim to health facility

After primary management, victims are often required to transfer to the health facilities. The victim's condition might get worsened if there is mismanagement or negligence during transfer to health facilities.

Based on the victim's condition and type of injury, patients could be transferred to health facilities as followings:

- Generally, children are carried by putting both hands under the chest and knee respectively.
- Adult victims are carried over a plain cloth by holding the corners tightly. (Figure 44)
- Unconscious victims are carried by keeping them in recovery position all through the way to health facilities.
- Sometimes victims are carried over a chair by grabbing the front end and back.



Figure 44: Transportation of a victim over a plain cloth by holding the corners

Annexure

Annex 1: Automated External Defibrillator (AED)

The automated external defibrillator (AED) is a device that recognizes ventricular fibrillation and other dysrhythmias, and delivers an electric shock at the right time.³¹

In cardiac emergencies, AED can be very helpful, wherever available. It is a lightweight, portable, easy-to-use tool that is found now-a-days in specialized hospitals, and advised to make available in all hospitals, and public places (e.g. airports, schools, government buildings etc.).

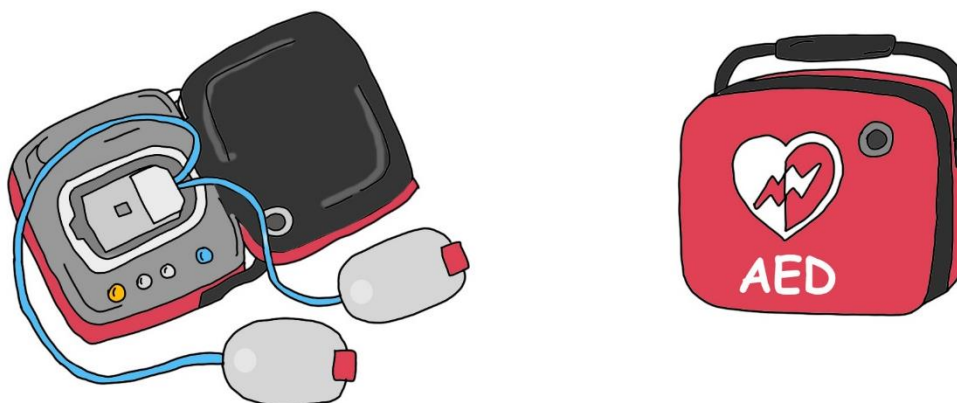


Figure 45: Example of an AED

Functions of AED:^{4,31} In the situation when there is an indication for CPR, the AED device can be utilized by first responders. The AED is placed on the victim's chest, the condition of the heart is initially analyzed by the device, and accordingly electric shock is administered to the heart.

Thus, it helps –

- To restore the normal activity of heart function

Note: In places where AED is available, it is advised to maintain CPR and use of AED on the victim, until professional help arrives.

Annex 2: Pre/Post test

Training on Basic Life Support (BLS)

Pretest/Post test

20 marks; 10 minutes

Click the (✓) mark on correct answers. Each question carries one mark.
(Multiple answers are accepted)

1. *What is the first step in basic life support among the following options?*

- a) Check for responsiveness
- b) Open the airway
- c) Check for breathing
- d) Start chest compressions

2. *What is the first thing you should do if you find an unconscious person?*

- a) Call for help
- b) Begin chest compressions
- c) Check for breathing
- d) Ensure safety first

3. *What is the recommended compression-to-ventilation ratio for adults during CPR?*

- a) 15 compressions to 2 ventilations (100 to 120 chest compressions per minute)
- b) 30 compressions to 2 ventilations (100 to 120 chest compressions per minute)
- c) 15 compressions to 1 ventilation (100 to 120 chest compressions per minute)
- d) 30 compressions to 1 ventilation (100 to 120 chest compressions per minute)

4. *What is the correct hand placement for chest compressions on an adult?*

- a) Center of the chest between the nipples
- b) Center of the belly
- c) Left side of the chest
- d) Right side of the chest

5. *What is the recommended depth for chest compressions on an adult?*

- a) At least 1 inch (2.5 cm)
- b) At least 2 inches (5 cm)
- c) At least 3 inches (7.5 cm)
- d) At least 4 inches (10 cm)

6. *What is the recommended rate for chest compressions during CPR?*

- a) 60 - 80 compressions per minute
- b) 80 - 100 compressions per minute
- c) 100 - 120 compressions per minute
- d) 120 - 140 compressions per minute

7. *What is the recommended compression-to-ventilation ratio for children during CPR?*

- a) 15 compressions to 2 ventilations
- b) 30 compressions to 2 ventilations
- c) 15 compressions to 1 ventilation
- d) 30 compressions to 1 ventilation

8. *Which is the correct hand placement for performing chest compressions on a child aged 1-12 years?*

- a) Two fingers on the middle of the chest
- b) One hand on the forehead and the other hand on the abdomen
- c) One hand on the middle of the chest
- d) One hand on the chest and the other hand on the back of the infant

9. *Which victim of a severe airway obstruction should receive abdominal thrusts?*

- a) An average size of 22-year-old man
- b) A pregnant woman
- c) An obese of 50-year-old man
- d) An average size of 9-month-old infant

10. *What is the recommended depth for chest compressions on an infant (below one year)?*

- a) Approximately 1 inch (2.5 cm)
- b) Approximately 1½ inches (4 cm)
- c) Approximately 2 inches (5 cm)
- d) Approximately 3 inches (7.5 cm)

11. *What is the recommended action to take when a baby under one year old is choking?*

- a) Administer back blows to the baby followed by chest thrusts
- b) Administer five back blows to the baby by holding the baby on the lap so the baby lies facing down
- c) Perform abdominal thrusts on the baby and then administer five back blows
- d) Perform a finger sweep to remove the object from the baby's mouth

12. When the victim should be kept in recovery position?

- a) No response but normal breathing
- b) No response and no normal respiration
- c) In case of snakebite victim
- d) In all case of drowning victim

13. What is the recommended method for opening an airway in an unconscious person?

- a) Head tilt-chin lift
- b) Jaw thrust
- c) Both a and b
- d) None of the above

14. The two thumb – encircling hands technique is recommended during performing CPR for which age of victim?

- a) A child younger than 3 years of age
- b) A child older than 3 years of age
- c) An infant older than 1 year
- d) An infant younger than 1 year

15. What should be done after rescuing drowning victims, if there is no response and no breathing?

- a) Give compression to the belly
- b) Keep spinning over the head
- c) 30 chest compressions and two rescue breaths
- d) Two rescue breaths and 30 chest compressions

16. What should we do if there is bleeding from a wound?

- a) Applying tree leaves
- b) Compressing the wound site and applying bandage
- c) Applying cream on the wound site
- d) Applying turmeric

17. What should we do in case of snakebite victims?

- a) Massaging the wound site
- b) Call for traditional healer
- c) Tie a knot over the wound
- d) Immobilize the site and transfer to the facility immediately

18. In case of burn, what would be the immediate measures?

- a) Applying eggs
- b) Applying coconut oil
- c) Submerge the wound under flowing water for at least 10-15 minutes
- d) Applying toothpaste on the wound site

19. In the case of lightning victims, what would be the immediate measures?

- a) Detach the victim from torn electric wire/source, with bamboo/wood/rubber material
- b) Transfer to the health facility
- c) Massaging oil over the victim's body
- d) Punching the victim repeatedly

20. What would be the immediate measures in case of fracture?

- a) Messaging over the fracture site
- b) Washing the fracture site with antiseptic liquids
- c) Straightening the fractured limb forcefully and refer into the health facility
- d) Immobilize the fractured site by wood/bamboo and transfer to the facility

Answers to pre/post test:

1. a) Check for responsiveness
2. d) Ensure safety first
3. b) 30 compressions to 2 ventilations (100 to 120 chest compressions per minute)
4. a) Center of the chest between the nipples
5. b) At least 2 inches (5 cm)
6. c) 100 - 120 compressions per minute
7. b) 30 compressions to 2 ventilations
8. c) One hand on the middle of the chest
9. a) An average size of 22-year-old man
10. b) Approximately 1½ inches (4 cm)
11. b) Administer five back blows to the baby by holding the baby on the lap so the baby lies facing down
12. a) No response but normal breathing
13. c) Both a and b
14. d) An infant younger than 1 year
15. d) Two rescue breaths and 30 chest compressions
16. b) Compressing the wound site and applying bandage
17. d) Immobilize the wound site and transfer to the facility immediately
18. c) Submerge the wound under flowing water for at least 10-15 minutes.
19. Both a) and b)
20. d) Immobilize the fractured site by wood/bamboo and transfer to the facility

Annex 3: Logistics required for BLS training

- CPR Manikin (Four)
- Surgical gauze, splint, roll bandage, cotton, antiseptic liquid
- Power-point presentation slides
- Demonstrations by instructors

Annex 4: Checklist for assessment

Objectives:

- To assess the participants in the skills and steps of BLS
- To assess the participants in the first aid section.

Examiner: Master Trainer on BLS

Reference of the assessment steps: Training Manual on Basic Life Support (BLS)

Name of the participant:..... **Date:**...../...../.....

Note for instructions:

- ✓ Narrate the scenario to the participant. Ask the participants to take the steps as discussed in the training session.
- ✓ The participants will demonstrate the steps through role playing of a first responder on a CPR manikin. Some questions might be answered verbally only. For demonstrating the steps of recovery position, help of a fellow participant would be required.
- ✓ Fill up each box by a tick mark (✓) or cross mark (x). If the mentioned step is followed, put a tick mark (✓) in the box. If the step is not followed, put a cross mark (x). Each tick mark (✓) carries one mark.
- ✓ The total score achieved by the participant would be calculated out of 22.

SI No.	Scenario / Description of the Steps	Marking
<p>Scenario One (CPR): You are travelling through an Upazila (sub-district) of Bangladesh, and suddenly you notice that a middle-aged male is lying beside the road. After approaching the man, you realized that he is unconscious having irregular breathing/ no breathing at all.</p> <p>What will be your next steps? Please demonstrate.</p>		
1.	Ensure safety first and call for help	<input type="checkbox"/>
2.	Check for responsiveness of the victim. <ul style="list-style-type: none"> • Tap the shoulder of the victim. • Pinch in the victim's ear / front of the arm. 	<input type="checkbox"/>
3.	Check for breathing and pulse within 10 seconds. <ul style="list-style-type: none"> • Head-tilt/chin-lift technique and open the mouth. • Bring cheek close to the mouth of the victim to feel for breathing and observe for chest movement at the same time. • Medically trained personnel also check for carotid pulse at the same time. 	<input type="checkbox"/>
4.	Start high-quality chest compressions (30:2 cycle) <ul style="list-style-type: none"> • Correct placement of the hand on victim's chest. 	<input type="checkbox"/>

	<ul style="list-style-type: none"> Start compressions at 5 to 6 cm (2 to 2.4") depth on victim's chest. Resuming compressions at the rate of 100 to 120 compressions per minute 	
5.	Rescue breath <ul style="list-style-type: none"> Provide two rescue breaths at the end of 30 chest compression 	<input type="checkbox"/>
6.	Continue at least two cycles of 30 chest compressions: 2 rescue breaths	<input type="checkbox"/>
<p>Scenario Two (Recovery Position): You are travelling through a rural community, and you notice a young boy is lying beside the road. After approaching the boy, you realized that he is unconscious having regular breathing. You have ensured your safety. You have advised community people to arrange a vehicle for him to transport the victim. What will be your next steps? Please demonstrate.</p>		
7.	Put the victim straight on the floor and kneel beside him.	<input type="checkbox"/>
8.	Place the nearest arm at right angle to the victim's body	<input type="checkbox"/>
9.	Bring the opposite arm of the victim across the chest (back of the victim's hand is held against the victim's cheek)	<input type="checkbox"/>
10.	Grasp the leg on other side of the victim and place the foot on the ground	<input type="checkbox"/>
11.	Roll the victim towards you	<input type="checkbox"/>
12.	Adjust upper leg and tilt the head	<input type="checkbox"/>
<p>Scenario Three (Drowning rescue): You come upon a young girl of 6 years old girl who fell in a pond beside her school. You saw that the child is drowning in deep water at 2 meters from the shore, which rescue methods would you use to rescue her?</p>		
13.	Reach rescue / Throw rescue	<input type="checkbox"/>
<p>Scenario Four (CPR on child): A drowning victim (young boy of 5 years old) is rescued from the water just now. After approaching the boy, you realized that he is unconscious having irregular breathing. You have ensured your safety. You have called out for help, and already checked for breathing (and pulse). You have advised community people to arrange a vehicle for him to transport the victim. What will be your next steps? Please demonstrate.</p>		
14.	Rescue breath <ul style="list-style-type: none"> Provide two rescue breaths 	<input type="checkbox"/>
15.	Start high-quality chest compressions (30:2 cycle) <ul style="list-style-type: none"> Correct placement of one hand on victim's chest Compressions at a depth of 4 cm / 1½ inches Resuming compression at the rate of 100 to 120 compressions per minute 	<input type="checkbox"/>

16.	Continue at least two cycles of 30 chest compressions: 2 rescue breaths	<input type="checkbox"/>
<p>Scenario Five (Choking): You are a trained health care provider/ community volunteer in your locality. One day you saw a group of teenagers gathered in a local tea-stall. Among them, is a 15-year-old boy, who decides to enjoy a quick snack from a nearby street food vendor. Suddenly a small chunk of the food gets lodged in his throat. He struggles to breathe, desperately gasping for air. His friends notice his distress and quickly gather around. You happened to arrive at the scene. You assess the victim's condition, quickly recognizing the signs of choking. You have instructed the crowd to make space and create a calm environment.</p> <p>What will be your next steps? Please demonstrate.</p>		
17.	Stand behind the choking victim, hold his chest with one hand and bend him forward	<input type="checkbox"/>
18.	Give 5 back blows	<input type="checkbox"/>
19.	Give 5 abdominal thrusts	<input type="checkbox"/>
<p>Question: What first aid will you give to a person who has a cut injury on his hand and bleeding profusely?</p>		
20.	Apply direct pressure on the wound site using a gauge or piece of cloth and raise the hand above heart level.	<input type="checkbox"/>
<p>Question: What first aid will you give to a person who has burnt his hand from stove fire?</p>		
21.	Keep the wound site under flowing water for at least 10-15 minutes.	<input type="checkbox"/>
<p>Question: What first aid will you give to a child aged 6 years who has been bitten by a street dog?</p>		
22.	Wash the wound site with clean water and soap for at least 15 minutes; counsel the child's parent to take him to the hospital as early as possible (the child may need vaccination)	<input type="checkbox"/>

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EMERGENCY CARE SYSTEM FRAMEWORK

All around the world, acutely ill and injured people seek care every day. Frontline providers manage children and adults with injuries and infections, heart attacks and strokes, asthma and acute complications of pregnancy. An integrated approach to early recognition and management reduces the impact of all of these conditions. Emergency care could address over half of the deaths in low- and middle-income countries.

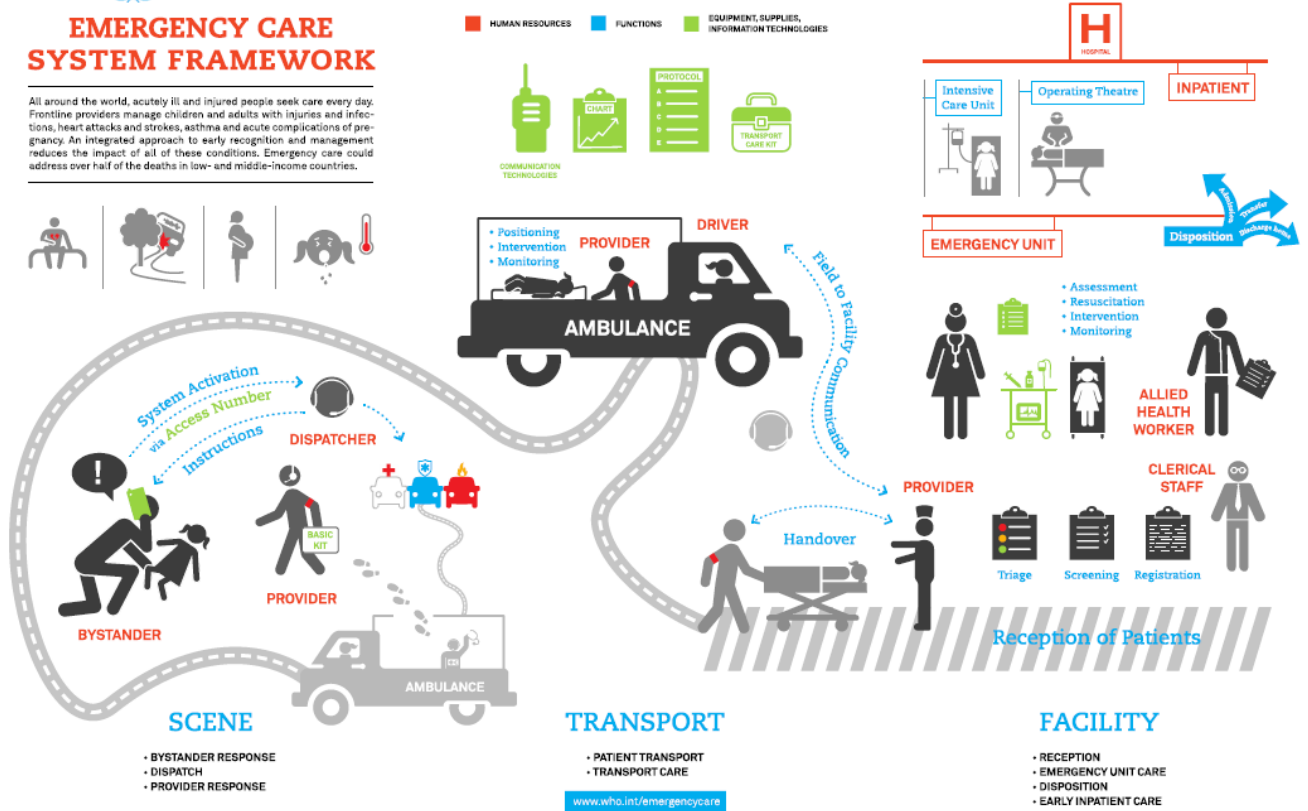


Figure 46: Who emergency care system framework³²