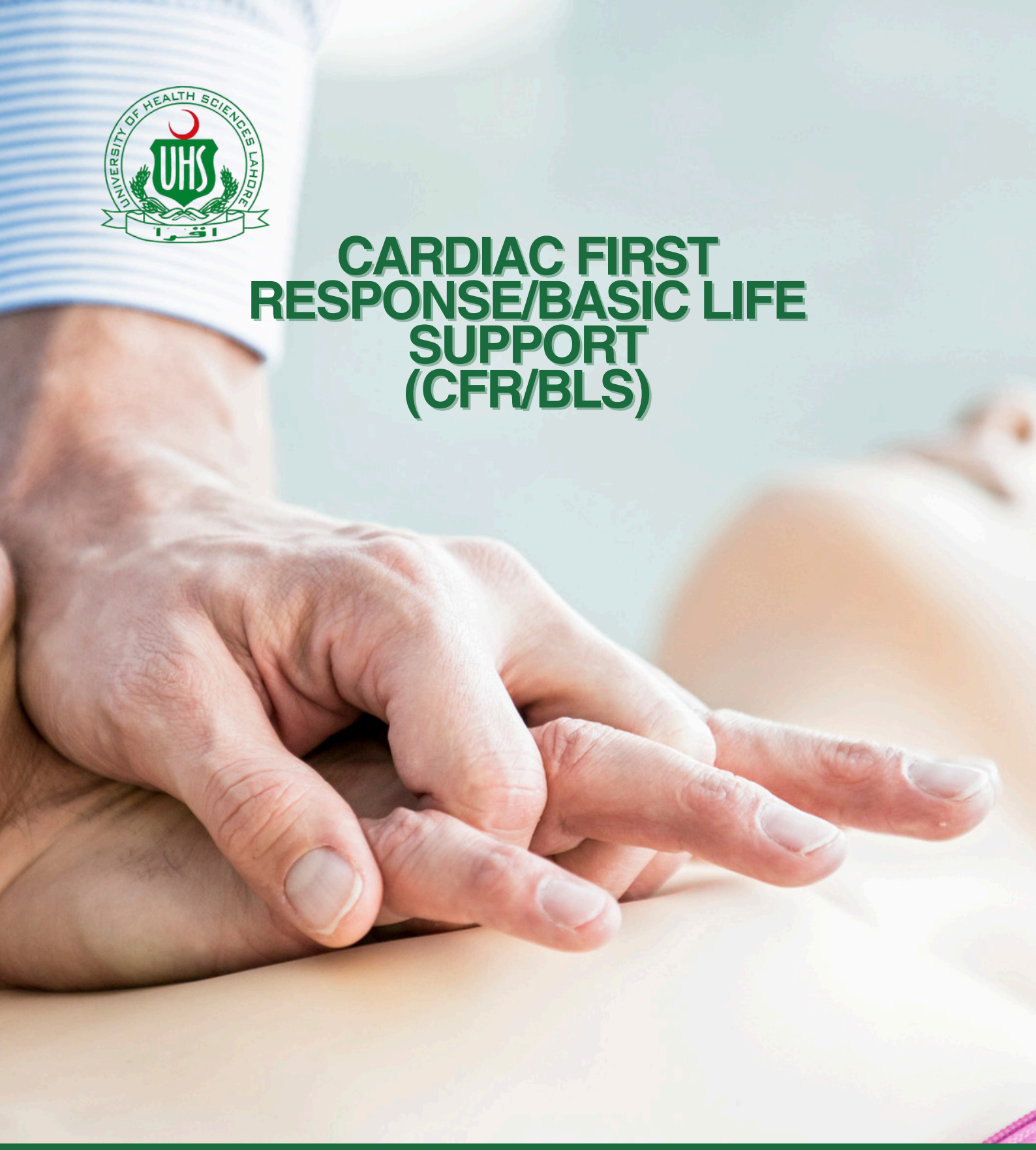

CARDIAC FIRST RESPONSE/BASIC LIFE SUPPORT (CFR/BLS)

Trainer's Manual

2025

Professional Skill Development Centre
University of Health Sciences Lahore

Cardiac First Response /Basic Life Support (CFR/BLS)

Trainer's Manual
(2025 Curriculum)

UNIVERSITY OF HEALTH SCIENCES LAHORE

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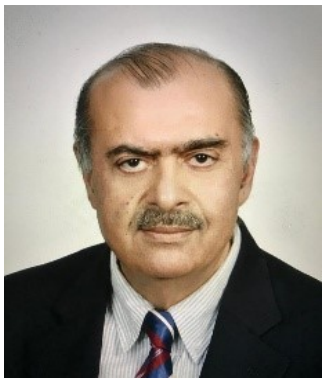

Prof. Ahsan Waheed Rathore
Vice Chancellor

It gives me great satisfaction to announce that the University Syndicate, in its 82nd meeting held on November 28, 2024, has approved the induction of mandatory training in six essential life support courses for all MBBS, BDS, Nursing, Pharmacy, and Allied Health Sciences students of the University of Health Sciences (UHS), Lahore. This strategic decision reflects our unwavering commitment to producing healthcare professionals who are not only academically competent but also proficient in delivery timely, lifesaving interventions.

The inclusion of these courses ranging from Cardiac First Response to Emergency Obstetrics and Neonatal Care underscores our recognition of the vital role that rapid and effective emergency response plays in healthcare delivery. These trainings will not only enhance the clinical competence of our graduates but also ensure they are better prepared to meet international standards of emergency care.

I commend the team at the Professional Skills Development Centre for meticulously preparing comprehensive training manuals for both students and instructors. I am confident that this initiative will prove to be a milestone in the transformation of healthcare education in Pakistan.

Prof. Nadia Naseem
Pro-Vice Chancellor

Healthcare professionals must be prepared to act swiftly and competently in emergency situations, where seconds can mean the difference between life and death. The University of Health Sciences has taken a significant step by mandating certified training in key life support skills for all students across our health sciences disciplines.

These manuals have been developed with careful attention to international standards and local needs, providing both students and trainers with structured, evidence-based guidance. They represent an important shift in our educational philosophy—one that prioritizes not only knowledge but also the ability to translate that knowledge into immediate, practical action.

I extend my appreciation to all those involved in the development of this initiative, and I urge our students and faculty to approach these courses with the seriousness and dedication they demand. Together, we can ensure that every UHS graduate is a confident and capable responder in any medical emergency.

Prof. Shane Knox

Director of Paramedics, National Ambulance Service College, Ireland

The National Ambulance Service College of Ireland has enjoyed a long-standing and productive partnership with the University of Health Sciences (UHS), spanning nearly two decades. Together, we have collaborated on numerous initiatives aimed at strengthening first response, emergency care, and pre-hospital services.

We are now proud to introduce our Immediate Care Trauma program, along with a suite of other life-saving short courses, for integration across the health sciences disciplines at UHS. These evidence-based programs provide a vital foundation for all healthcare professionals, equipping them with essential skills to deliver effective and timely care.

This new initiative—guided by the leadership of UHS and coordinated through the Professional Development Centre—benefits from the expertise of its distinguished faculty and a robust quality assurance framework, both internal and external. As a result, it offers a world-class educational experience designed to meet the highest standards in healthcare training.

We are confident that these programs will empower students to deliver exceptional care to the communities they serve. The Irish National Ambulance Service, together with our faculty members from both Pakistan and Ireland, is honored to continue this collaboration with UHS, and we extend our best wishes for the successful delivery and uptake of these programs.

Prof. Sarah Ghafoor
Director Special Initiative/ PSDC

The Professional Skills Development Centre (PSDC) at UHS is proud to lead the implementation of this landmark initiative—mandatory life support training for all students of MBBS, BDS, Nursing, Pharmacy, and Allied Health Sciences programs. These courses have been carefully curated to address critical areas of emergency care, ranging from cardiac and trauma response to neonatal and obstetric emergencies.

Each manual developed under this program is a product of extensive research, peer consultation, and alignment with global best practices. They are designed not only to build core competencies but also to instill confidence and readiness among our future healthcare providers.

This initiative marks a paradigm shift in our clinical training model. It ensures that life-saving skills are not just taught but practiced and mastered. I encourage all trainers and students to engage with these resources with diligence and purpose. The skills you acquire here will empower you to save lives—perhaps even on your very first day in the field.

List of Contributors

CURRICULUM STEERING COMMITTEE		
1	Prof. Dr. Ahsan Waheed Rathore Vice Chancellor, University of Health Sciences, Lahore	(Patron)
2	Prof. Dr. Nadia Naseem Pro-Vice Chancellor, University of Health Sciences, Lahore	(Patron)
3	Prof. Shane Knox Director Paramedics, National Ambulance Service College, Ireland	(Advisor)
4	Prof. Dr. Naila Asad Professor of Anesthesia Services Institute of Medical Sciences, Lahore	(Convener)
5	Prof. Dr.Shahid Hameed Professor of Cardiology Punjab Institute of Cardiology	(Member)
6	Prof.Dr Tahir Bashir Professor of Medecine Allama Iqbal Medical College Lahore.	(Member)
7	Prof. Dr. Farooq Butt Professor of Surgery Sialkot Medical College ,Sialkot	(Member)
8	Prof. Dr. Nauman Siddiqui Director Medical Education Abbotabad International Medical Institute	(Member)
9	Dr. Mir Abdul Waheed Director Emergency Medicine Maroof Hosspital, Islamabad	(Member)
10	Prof. Dr. Sarah Ghafoor Professor of Oral Biology, UHS	(Member)
11	Prof. Dr. Asif Naveed Professor of Hematology /Director Post Graduate studies Univeristy of Health Sciences Lahore.	(Member)
12	Prof. Sumera Ehsan Professor of Medical Education, Department of Medical Education- UHS	(Member)
13	Dr.Wajiha Rizwan Associate Professor of Peadritics Univeristy of Child Health Sciences Lahore.	(Member)
14	Dr. Farah Rehman Assistant Professor, Department of Medical Education- UHS	(Member)
15	Mr.Asif Mesam Master Trainer National Ambulance Service College Ireland	(Member)
16	Ms. Tayyaba Zahid Lecurer English, UHS Lahore	(Secretary)

FIRST CARDIAC RESPONSE / BASIC LIFE SUPPORT FACILITATOR MANUAL

Course Goals

To equip students with the cognitive, psychomotor, and team-based competencies required to:

a) Recognize cardiac arrest.
b) Initiate high-quality CPR.
c) Use an Automated External Defibrillator (AED)
d) Participate in a coordinated emergency response.

Course Outcomes

By the end of the course, the facilitator will be able to train the students to:

1. Recognize signs of cardiac arrest and initiate immediate CPR
2. Perform Airway management in cardiac arrest
3. Perform high-quality CPR in various ages (adult, child and infant)
4. Use an Automated External Defibrillator (AED) effectively.
5. Integrate CFR skills into early cardiac arrest management.
6. Communicate effectively during resuscitation scenarios.
7. Manage Foreign Body Air Away Obstruction (FBAO) in various age groups
8. Provide post-resuscitation support and handover

Learning Objectives

At the end of this course, the facilitator will be able to train the students to

1: Recognize irresponsiveness and assess and pulse

2. Initiate chest compressions and rescue breathing effectively

3. Operate an Automated External Defibrillator (AED)

4. Demonstrate basic airway maneuvers and bag-mask ventilation

5. Function as a team member in resuscitation scenarios

Course Structure.

The CFR/BLS hands-on training is divided into 9 modules as described below

Module One; Introduction to Cardiac First Response/ Basic Life Support-Safety-Self, Casualty and Bystanders

A. Learning Objectives:

i. Reflect on the learning needs of participants in emergency Cardiac care by completing a pre- test and reviewing their results to identify knowledge gaps.
ii. Understand the session's goals and structure, outlining the key topics.
iii. Define Safety, Self, Causality & By Standers and explore its purpose in cardiac first response.

B. Key Content:

This module establishes the foundation of Cardiac First Response and basic principles. The instructor needs to cover the following points:

C. Definition:

Cardiac Forst Response/ Basic Life Support:
It is the foundational level of emergency medical care used to sustain in situations of cardiac arrest, respiratory failure, or airway obstruction before advanced medical help arrives.

D. Purpose and Ethics:

This module reflects on the learning needs of participants in emergency Cardiac care by completing a pre-test and reviewing their results to identify knowledge gaps and understanding the course goals and structure, outlining the key topics.

1. Safety: Refers to the measures taken to prevent harm or injury to oneself, the person in need of care (victim), and others present at the scene. This includes:
   - Ensuring the scene is safe before approaching the victim.
   - Using personal protective equipment (PPE) like gloves and face shields.
   - Being aware of potential hazards like sharp objects, water, or fire.
2. Self-casualty: It likely refers to the risk of the rescuer themselves becoming a casualty while attempting to provide aid. This could be due to various reasons such as:
   a) Physical strain from performing Cardiopulmonary resuscitation (CPR)
   b) Exposure to infectious diseases.
   c) Injury from sharp objects or other hazards at the scene.
3. Bystanders: These are individuals who witness an emergency or are present at the scene where someone needs medical assistance.
   In Cardiac First response, the bystanders can play a crucial role by:
   a) Calling emergency services.
   b) Assist in providing immediate care such as CPR until professional help arrives
   c) Helping to keep the scene safe.

The role of bystanders is critical because immediate intervention can significantly improve the chances of survival and recovery for the victim. CFR/BLS training often emphasizes the importance of bystander participation and teaches individuals how to respond effectively in emergency situations.

E. Teaching Methods & Activities

This module is best taught with lectures, discussions and demonstrations format with multimedia to keep students engaged. For example:

Introduction:

Trainer welcomes participants, himself and any co-facilitators. Do quick icebreaker. Then present the module objectives so learners know what to expect.

1. Interactive Lecture (presentation):
   a) Use slides to define CFR/BLS and explain its importance.
   b) Use slides to list safety, and self-causality.
2. Case-Based Small Groups: Break participants into small groups (3-5 per group, ideally mixing professions) and give each group a short writing point.
3. Discussion: Pose questions to the group to check understanding: "Why do we CFR? What could go wrong without CFR?" Encourage answers from both medical and nursing and allied health sciences perspectives.
4. Pretest: Check the knowledge with pretest of 10-20 MCQ's.

Teaching Material:

a) Computer and multimedia for slides.
b) Whiteboard/flip chart (to jot down participant input or key definitions during discussion).
c) Participant Pre-test MCQ sheets (if not done electronically) – you may distribute and review quickly now if not already done.
d) Handouts

Facilitation Tips:

a) Engage the Participants
b) Have a U-shaped class arrangement
c) Relate to All Professions: Emphasize how CFR is a team effort – for example, a first responder often performs initial life support; a doctor or senior student might be called for second assessment; allied health professionals (like paramedics) might do field CPR (outside the health facility). Make sure examples are inclusive (mention adult and pediatric scenarios, hospital, and pre-hospital settings, etc.).

d) Check Understanding: Use a quick verbal or show-of-hands quiz: e.g., Definition, Concept, course objectives, – If a patient is not breathing, what category? (Yes, Emergency!) If a patient is choking? (partial/full obstruction)" This keeps energy up and confirms they grasp the concept.

e) Time Management: Keep an eye on time; if discussions run long, note parking-lot questions to address later. Since this is the first module, set the pace so subsequent modules can stay on track.

Module Two: Airway Management

A. Learning Objectives

a) To Identify normal and abnormal airway anatomy
b) To Identify signs of airway obstruction and intervene Promptly.
c) To Perform basic Airway Management techniques like head – tilt-chin-lift, Jaw thrust, and bag -mask ventilation, mouth to mouth breathing.

B. Key Content:

In this module, trainees learn to recognize key emergency signs using the airway-breathing-circulation approach and practice the "Critical First Look" – a rapid initial assessment of any incoming patient. Emergency Signs ("ABC" Approach): Introduce the set of critical signs that designate an emergency case. Frame this as checking A, B, C, in sequence.

- Airway (A): Look for any obstruction or severe respiratory distress. Signs include obstructed airway (choking, stridor) or severe respiratory distress like very fast or labored breathing with cyanosis. Is the airway open? If not, open it (head tilt/chin lift or jaw thrust for trauma). Look for signs like stridor or silence (no air movement). Suction if needed. if blocked, clear it and consider airway adjuncts.

a) Breathing (B): Is the patient breathing? What is the respiratory rate and effort? Any cyanosis? If breathing is inadequate, start support (e.g., bag-valve-mask ventilation). *Give* high-flow oxygen for distress, assist ventilation if needed.
b) Check if pulse is present or absent. Then perform chest compressions as per guidelines for various age groups (adult, child & infant)
c) Circulation (C): Cold, clammy extremities, no or weak pulse, or hypotension indicate shock. In children, also consider severe dehydration as a cause of shock – e.g., a child with sunken eyes, lethargy, very slow skin pinch response is in shock from dehydration. These signs also put a patient in Emergency category.

C. Teaching Method & Activities:

This module is best taught with case-based learning and hands-on practice, Q&A, Flowchart, Handouts, Demonstration, Group activity.

For example:

1. Skills Stations Setup: Set up different stations:

a. Airway & Breathing Station: Mannequin head for airway maneuvers, BVM and masks, suction device, O_2 cylinder (or simulation). Trainer or assistant at this station demonstrates and supervises each participant trying head-tilt/chin-lift, placing OPA, ventilating with BVM.
b. Interactive Lecture: Use slides to list emergency signs.

2. Case-Based Small Groups: Break participants into small groups (6-8 per group, ideally mixing students) and each participant perform skills at least three times (each set of skill practice)
3. Discussion and Summary: Debrief key takeaways. Clarify any confusion between Emergency verses Priority signs.

Module Three: Chain of Survival (Adult& Pediatric)

A. Learning Objective

1. Identify and prevent causes of cardiac arrest in infants, children, and adults.

B. Key Content:

The "Chain of Survival" is a concept in Cardiac First Response (CFR) that outlines the critical steps to increase the chances of survival for individuals experiencing cardiac arrest. The chain consists of:

1. Early recognition and call for help: Quickly identifying the emergency and calling for medical assistance.
2. Early CPR: Providing cardiopulmonary resuscitation to maintain blood circulation and breathing.
3. Early defibrillation: Using an automated external defibrillator (AED) to restore a normal heartbeat.
4. Early advanced care: Ensuring prompt medical attention and advanced life support.

The Chain of Survival applies to adults, children, and infants, with some variations in technique:

i. Adult: Standard CPR techniques, AED use.
ii. Child (1-8 years): Modified CPR techniques, AED use with pediatric pads.
iii. Infant (0-1 year): Specialized CPR techniques, no AED (use unless specifically designed for infants)

C. Teaching Methods:

a) Hands-On Practice: Rotate small groups (6-8 participants) through each station, 10 minutes each. Ensure every participant gets to attempt critical skills three times

b) Trainers at each station give immediate feedback on technique (for example, “good head position” or “you need a better seal with the mask, let’s adjust your hand position”).

c) Peer Demonstration: Encourage participants to learn from each other.

d) Summary: Recap the ABC priorities for treatment.

Module Four: Cardiopulmonary Resuscitation in Adults, Child & Infants

A. Learning Objectives

- Identify cardiac arrest and call for help.
- Perform high quality CPR with chest compressions and rescue breaths.

  (For infants, child, and adults)

B. Key Content:

a) Identifying Cardiac Arrest:

1. Unresponsiveness: The person is unresponsive and not responding

2. Not breathing or abnormal breathing: The person is not breathing normally or is gasping.

3. No pulse: Check for a pulse in the neck; if no pulse is felt, assume cardiac arrest.

b) Calling for Help:

1. Call emergency services: Immediately call the local emergency number (Rescue 1122, Edhi 115) or alert someone else to do so.

c) Provide necessary information: When calling for help, provide the location and a brief description of the emergency.

d) Get an AED if available: If the person is in cardiac arrest and an Automated External Defibrillator (AED) is nearby, retrieve it.

e) Key Actions:

i. Start CPR: Begin chest compressions and rescue breaths according to CFR guidelines.

ii. Use an AED if available: Follow the AED's prompts to analyze the person's heart rhythm and deliver a shock if necessary.

iii. Prompt recognition and response to cardiac arrest can significantly improve the chances of survival.

C. To Perform High-Quality CPR: Follow These Key Steps:

1) Adult CPR:

a. Chest Compressions:

i. Depth: 2 inches (5 cm)

ii. Rate: 100-120 compressions per minute

iii. Allow full chest recoil between compressions

b. Rescue Breaths:

i. Ratio: 30:2 (30 compressions to 2 breaths)

ii. Each breath should last about 1 second and make the chest rise

c. Minimize Interruptions:

i. Try to minimize interruptions to chest compressions to less than 10 seconds

2) Child CPR (1-8 years):
    a. Chest Compressions:
        i. Depth: About 1/3 to 1/2 of the anteroposterior diameter of chest
        ii. Rate: 100-120 compressions per minute
        iii. Allow full chest recoil between compressions
    b. Rescue Breaths:
        i. Ratio: 30:2 (30 compressions to 2 breaths) for one rescuer, 15:2 for two rescuers
        ii. Each breath should last about 1 second and make the chest rise
3) Infant CPR (0-1 year):
    a. Chest Compressions:
        i. Depth: About 1/3 to 1/2 of the anteroposterior diameter of chest
        ii. Rate: 100-120 compressions per minute
        iii. Use two thumbs or two finger techniques for chest compression
    b. Rescue Breaths:
        i. Ratio: 30:2 (30 compressions to 2 breaths) for one rescuer, 15:2 for two rescuers
        ii. Each breath should last about 1 second and make the chest rise

High-quality CPR can significantly improve the chances of survival for individuals experiencing cardiac arrest.

Module Five: Use of an Automated External Defibrillator & Team Dynamics

A. Learning Objectives

This module focuses on the use of AED and Team Dynamics

1. Perform defibrillation using a defibrillator
2. Work as a team for emergency response.
3. Use of Automated External Defibrillator (AED)

B. Key Content

1. Retrieve the AED: Get the AED as soon as possible.
2. Turn it on: Follow the device's voice prompts or visual instructions.
3. Attach pads: Place the pads on the person's bare chest according to the AED device's instructions.
4. Analyze the heart rhythm: The AED will analyze the person's heart rhythm.
5. Deliver a shock (if advised): If the AED recommends a shock, ensure no one is touching the person and press the shock button.

C. Team Dynamics in CFR

a. Clear communication: Team members should clearly communicate their actions and decisions.
b. Role assignment: Assign specific roles, such as CPR provider, AED operator, and team leader.
c. Coordination: Ensure smooth transitions between CPR and AED use.

d. Safety: Ensure the area is safe and no one touches the person during AED analysis or shock delivery.

By combining AED use with effective team dynamics, first responders can deliver high-quality care and improve outcomes for individuals experiencing cardiac arrest.

Module Six- Foreign Body Airway Obstruction (AFBAO)

A. Learning Objectives
   1. Identify the sign and symptoms of FBAO, including choking, coughing, gagging, and inability to speak or breath.
   2. Determine the severity of the obstruction, including partial or complete blockage
   3. Demonstrate proper first aid technique for reliving FBAO, such as back blows and abdominal thrusts

B. Key Contents:
   a) Mild Obstruction:
   i. 1. Coughing: Forceful coughing to try and dislodge the object
   ii. 2. Wheezing: Noisy breathing or wheezing sounds
   iii. 3. Difficulty speaking: Person may be able to speak, but with difficulty.
   b) Severe Obstruction:
      i. Inability to speak: Person may be unable to speak or make sound
      ii. Inability to cough: Person may be unable to cough or make effective coughing sounds.
      iii. Difficulty breathing: Person may show signs of distress, such as clutching at their chest or throat.
      iv. Cyanosis: Skin may turn blue or purplish due to lack of oxygen.
      v. Loss of consciousness: Person may become unconscious if the obstruction is not relieved.
      vi. Other Signs:
      Gagging: Person may gag or choke.
      Clutching at throat: Person may clutch at their throat or chest.

If someone is showing signs of severe airway obstruction, it's essential to act quickly and provide first aid. Call for emergency medical help if the person is unable to clear the obstruction on their own. demonstration of proper first aid techniques for relieving foreign body airway obstruction (FBAO)

C. Key Steps

A. For Adults and Children (over 1 year):
   a. Encourage coughing: If the person is conscious, encourage them to cough to try and dislodge the object.
   b. Back blows:
      i. Stand behind the person and wrap your arms around their waist.

ii. Make a fist with one hand and place it just above the person's navel.
iii. Grasp your fist with your other hand and perform a quick upward thrust.
iv. Repeat up to five times.

c. Abdominal thrusts
i. Stand behind the person and wrap your arms around their waist.
ii. Make a fist with one hand and place it just above the person's navel.
iii. Grasp your fist with your other hand and perform a quick upward thrust.
iv. Repeat 5 times until the object is dislodged

B. For Infants (0-1 year):
a. Support the infant's head and neck: Sit with the infant facing down on your forearm.
b. Give five quick back slaps: Use the heel of your hand to give five quick back slaps between the infant's shoulder blades.
c. Chest thrusts:
i. Turn the infant over and place two fingers of one hand on the center of their chest.
ii. Give five quick chest thrusts.
iii. Repeat until the object is dislodged or the infant becomes unconscious.

C. For Unconscious Adult and Child
a. Start CPR: Begin CPR with 30 chest compressions.
b. Look for the object: Each time you open the airway to give breaths, look for the object in the person's mouth and remove it if you see it.
c. Continue CPR: Continue CPR until emergency medical services arrive.

D. For unconscious Infant
a. Look for the object: Each time you open the airway to give breaths, look for the object in the person's mouth and remove it if you see it.
b. Continue CPR: Continue CPR until emergency medical services arrive.

Module Seven: Stroke

A. Learning objectives

i. To recognize common symptoms, including sudden weakness, numbness, facial drooping, speech difficulties, and vision changes.

ii. To describe risk factors (FAST)- Aspiration
F= Facial Weakness
A= Arm Weakness
S= Speech Trouble
T= Time/ Treatment

iii. To identify risk factors such aspiration, prevention and care

iv. To recognize common symptoms, including sudden weakness, numbness, facial drooping, speech difficulties, and vision changes.

B. Teaching Methods:
   i. Case base discussion with examples,
   ii. Presentations
   iii. Role play,
   iv. Demonstrations

Module Eight: Recovery Position

A. Learning Objectives
   i. To maintain airway patency: Keep the airway open and clear to ensure adequate ventilation.
   ii. To prevent aspiration: Reduce the risk of aspiration of vomiting, blood, or other fluids into the lungs.
   iii. To improve breathing: Help maintain a stable and open airway, promoting easier breathing.
   iv. To enhance safety: Position the person in a way that minimizes the risk of further injury or harm.

B. Key Points
   1. The recovery position is a technique used in CFR to help maintain a patent airway and prevent aspiration in an unconscious person who is breathing and has a pulse.
      a. Turn the person onto their side: Carefully turn the person onto their side, keeping their head, neck, and body aligned.
      b. Position the arm and leg: Place the person's upper arm at a right angle to their body, with their palm facing upwards. Bend their upper leg at a right angle, with their foot behind their lower leg.
      c. Monitor and maintain the airway: Ensure the person's airway remains open and clear.
   2. Benefits:
      a. Maintains airway patency: The recovery position helps keep the airway open, reducing the risk of obstruction.
      b. Prevents aspiration: By positioning the person on their side, the recovery position helps prevent aspiration of vomiting or other fluids.

   Using the recovery position correctly can help ensure the person's airway remains open and reduce the risk of complications.

Module Nine: Recognition of Death- When to stop CPR

A. Learning objectives:

i. To determine futility of CPR: Identify situations where CPR is unlikely to be successful,
ii. To guide CPR decisions: Recognize when CPR should be initiated or terminated based on the patient's condition.

iii. Document events: Accurately record the events surrounding cardiac arrest and CPR efforts.
iv. Track interventions: Document all interventions performed during CPR, including medications, defibrillation, and other treatment.

B. Key Point:

Recognition of Death: Death is the situation in which patient is in condition that is incompatible to life such as

i) Rigor mortis
ii) Incineration
iii) Decapitation
iv) Pooling of blood

C. Facilitation Tips:

1. Be Encouraging: Communication skills can be uncomfortable to role-play but emphasize that trying it in a safe class environment builds confidence for real-life. Praise participants for effective phrases they use.
2. Share Personal Anecdotes: As a trainer, a quick story of a communication challenge you faced in breaking bed news and how you handled (or mishandled) it can be very powerful.
3. Manage Time: Role plays can run over if not monitored. Keep them brief. It's better to have multiple short scenarios than one long one, so they see various situations.
4. Highlight Team vs Individual: Make the point that effective communication is a team culture – everyone being on the same page.

Basic Life Support – Paediatric

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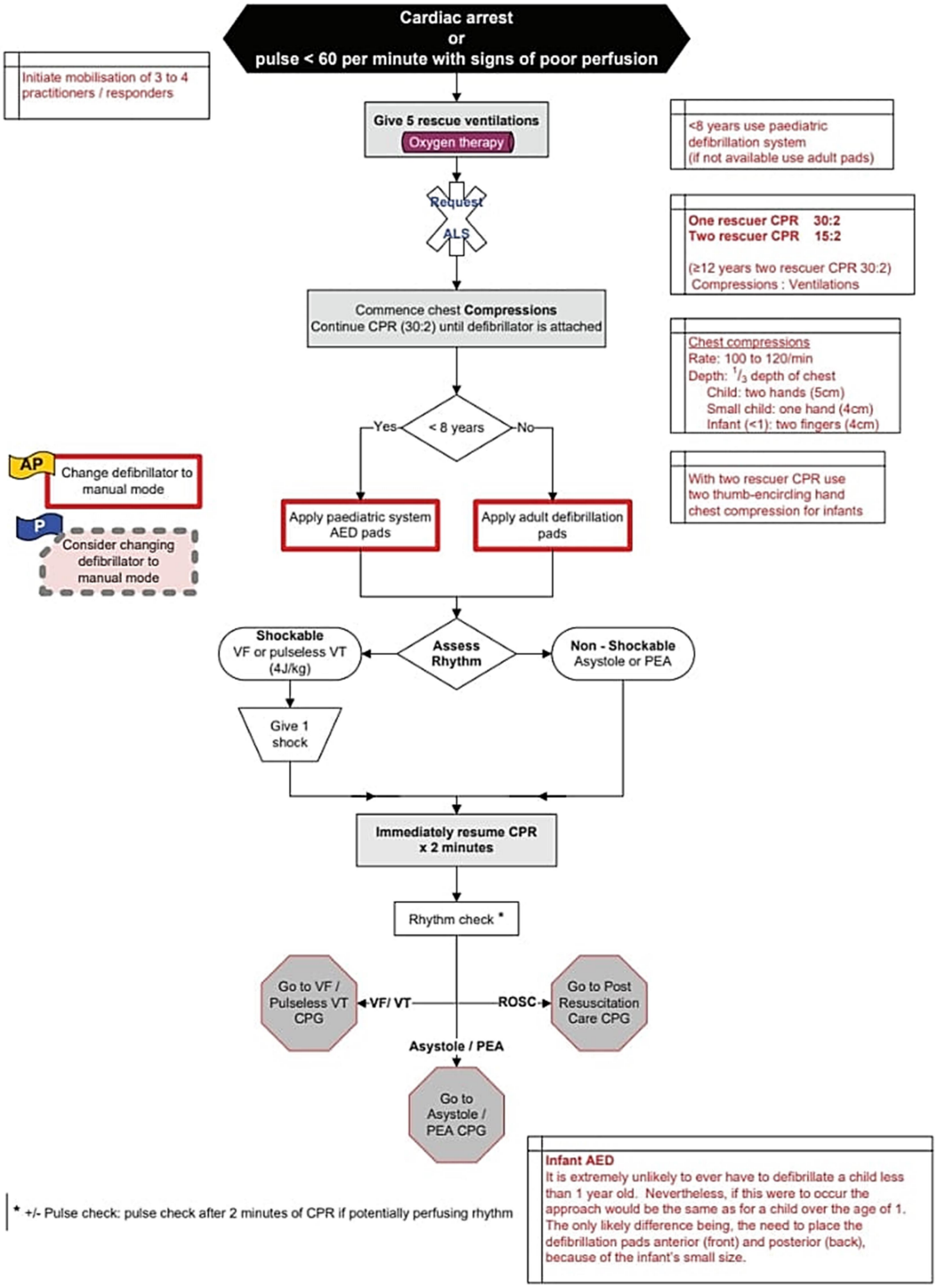
Version 4, 03/2021

CFR-A EMT P



Instructor Certification

i. UHS-PSDC trained Instrcutors having completed the provided course training and may have provided training as a co-instructor for at least 3 course under supervision of a trained master trainer/ instructor
ii. Those with Clinical experience in emergency or critical care settings. Familiarity with adult education and skills training and an ability to provide constructive feedback will be of an added advantage

Assessment Policy

Passing marks for post-test and skill station will be 70% Students with percentage from 60% - 69% will be given another chance to reappear for post-test and skill test on the same day. Less than 60% will reappear with the next batch. All courses held at different institutions will be monitored for quality assurance.

Assessment Details:

Formative Assessment: Pre-test and Direct observation with feedback during skill session

i. Peer assessment checklists for ABCDE performance
ii. Summative Assessment
    a) Skill test (OSCE) for Adult CPR and Infant CPR
    b) MCQs 10-20 (Post test)

Quality Assurance

Quality assurance of all training will be maintained through regular feedback, instructor workshops and on-site evaluation of the training.

Session Plan (4 hour 2-Day Course)

Course Duration

2- days (4 hours each)

Cardiac First Response / Basic Life Support (CFR/BLS) Course

Day One				
Sr.	Duration	Start Time	End Time	Activity
1	15	10:00 AM	10:15 AM	How to conduct Registration & Attendance of the Participants
2	5	10:15 AM	10:20 AM	Start Introduction of the Participants & Instructors
3	5	10:20 AM	10:25 AM	The setting of Ground Rules
4	5	10:25 AM	10:30 AM	Format / Objectives of the Training
5	20	10:30 AM	10:50 AM	Pre-test: MCQs Single Best
6	10	10:50 AM	11:00 AM	Safety - Standards (Face shield/Pocket Mask)
7	30	11:00 AM	11:30 AM	Airway Management (BVM, OPA, Suction)
8	15	11:30 AM	11:45 AM	Skill Practice - Airway Management
9	10	11:45 AM	11:55 AM	Heart Attack and its initial management
10	5	11:55 AM	12:00 PM	Stroke and its initial management
11	15	12:00 PM	12:15 PM	Break
12	5	12:15 PM	12:20 PM	Chain of Survival – Adults, Children & Infants
13	5	12:20 PM	12:25 PM	Making an Emergency Phone Call
14	35	12:25 PM	1:00 PM	Cardiac Arrest in Adults
15	60	1:00 PM	2:00 PM	Skill Practice - Adult CPR
Day Two				
Sr.	Duration	Start Time	End Time	Activity
1	10	10:00 AM	10:10 AM	Attendance and Recap of Day One
2	20	10:10 AM	10:30 AM	AED and special situations
3	30	10:30 AM	11:00 AM	Cardiac Arrest – Child & Infant
4	60	11:00 AM	12:00 PM	Skill Practice - CPR in Child & Infant

5	15	12:00 PM	12:15 PM	Break
6	15	12:15 PM	12:30 PM	Foreign Body Airway Obstruction
7	15	12:30 PM	12:45 PM	Skill Practice FBAO
8	5	12:45 PM	12:50 PM	Obvious Sign of Death
9	10	12:50 PM	1:00 PM	How Long CPR
10	20	1:00 PM	1:20 PM	Post Test: MCQs – Single Best
11	10	1:20 PM	1:30 PM	Group Photograph, Feedback (Written & Video)
12	10	1:30 PM	2:00 PM	Skill Assessments (Adult & Infant CPR)

Recommended Guidelines and References

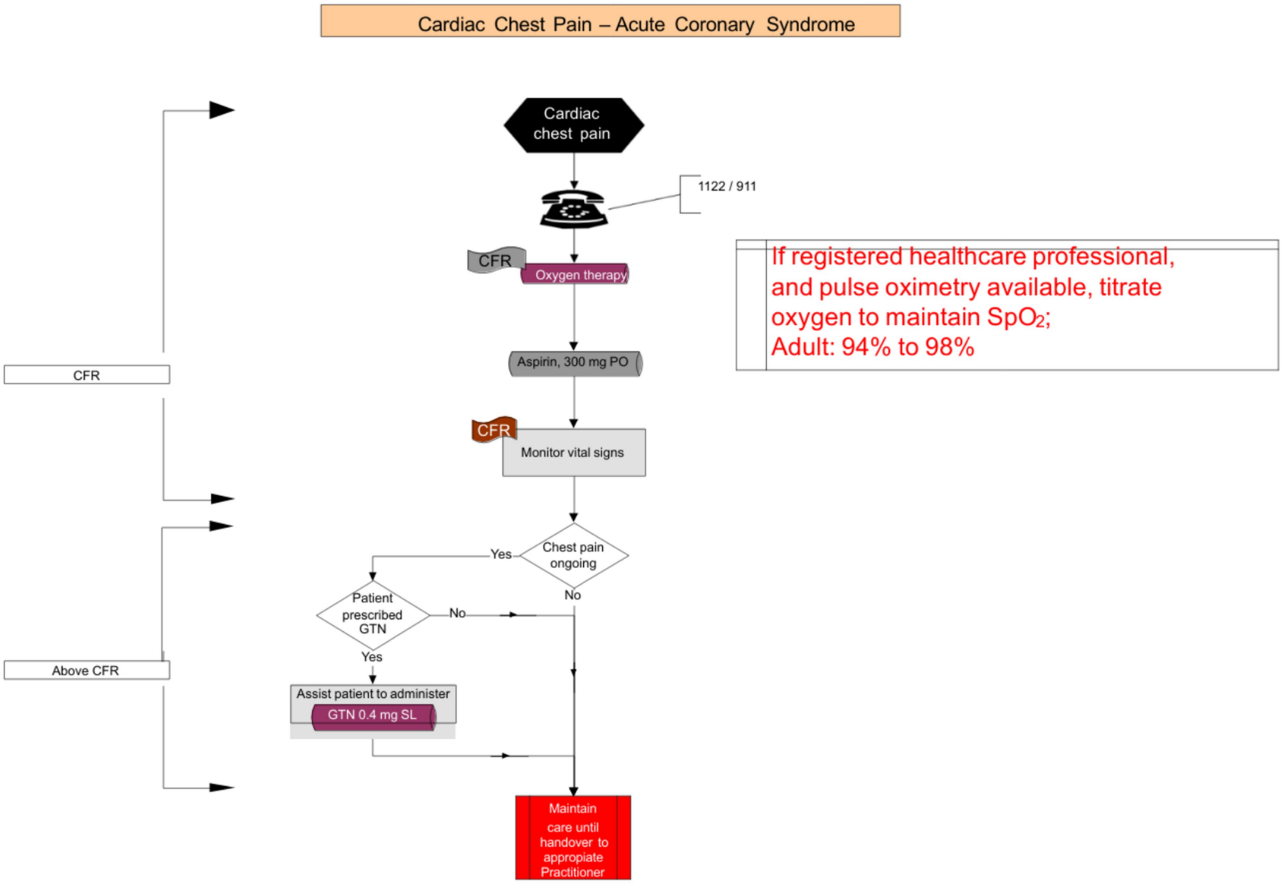
- Pre-Hospital Emergency Care Council- Clinical Practice Guidelines-2021 Edition Updated 2023
- Pre-Hospital Emergency Care Council- Cardiac First Respond-Student handbook-2011 Edition.
- American Heart Association (AHA) BLS Guidelines 2020
- European Resuscitation Council (ERC) Guidelines 2021
- WHO Emergency Care Toolkit

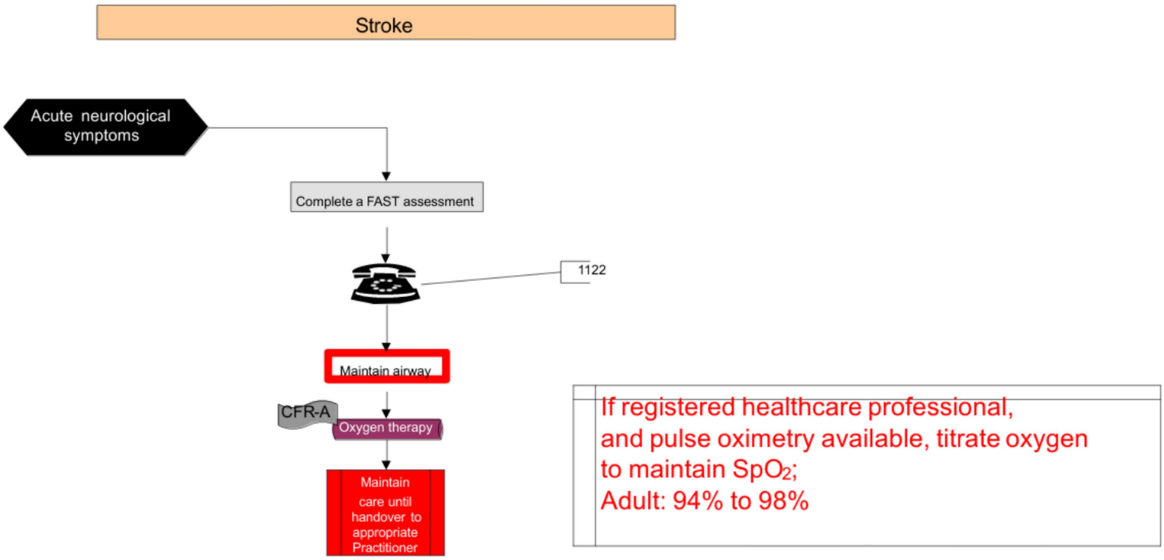
List of Equipment

Course Name	*Priority*	*Section*	*Equipment*	*Quantity Per Station*	Quantity Per Batch of 20 Students
Cardiac First Response/Basic Life Support	Priority-1	Airway Management	Airway Head Manikin (Adult)	1	4
			Bag Valve Mask (BVM) Adult	1	4
			Bag Valve Mask (BVM) Child	1	4
			Bag Valve Mask (BVM) Infant	1	4
			Oropharyngeal Airway (OPA) Size 0	1	4
			Oropharyngeal Airway (OPA) Size 3	1	4
			Oropharyngeal Airway (OPA) Size 4	1	4
			Pocket Mask	1	4

		Defibrillation	Automated External Defibrillator (Trainer)	1	4
			Automated External Defibrillator (Trainer) Adult Pads	1	4
			Automated External Defibrillator (Trainer) Battery	1	4
			Automated External Defibrillator (Trainer) Child Pads	1	4
		Manikin	CPR Manikin Adult	1	4
			CPR Manikin Infant	1	4
		Personal Protection	Face Shield	1	4
			Hand Sanitizers	1	4
	Priority-2	Airway Management	CPR Mouth Piece	1	4
			Oropharyngeal Airway (OPA) Size 2	1	4
		Manikin	CPR Manikin Child	1	4
		Personal Protection	Alcohol Swab	1 Box	4
			Face Mask	10	4
			Gloves	10	4
		Suction	Hand Suction Machine	1	4
			Yankauer Catheter	1	4
	Priority-3	Airway Management	Oropharyngeal Airway (OPA) Size 00	1	4
			Oropharyngeal Airway (OPA) Size 1	1	4
		Medication	Aspirin 300mg tablets	5 Tablets	4

Algorithm

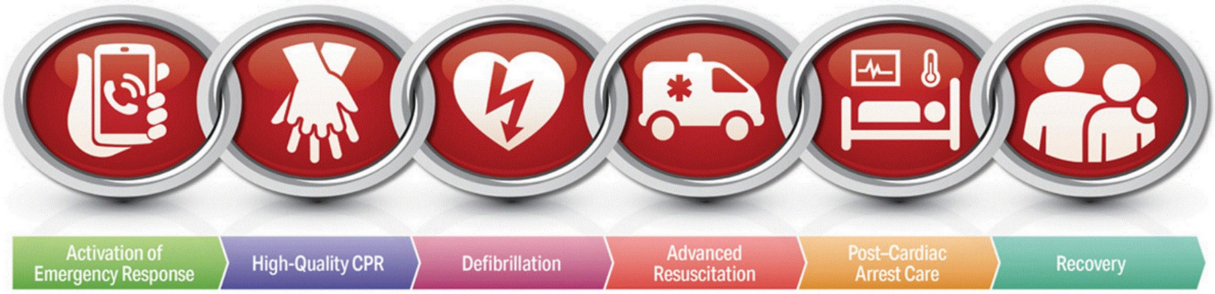

Cardiac Chest Pain – Acute Coronary Syndrome
Cardiac chest pain
1122 / 911
CFR
Oxygen therapy
If registered healthcare professional, and pulse oximetry available, titrate oxygen to maintain SpO2; Adult: 94% to 98%
Aspirin, 300 mg PO
CFR
Monitor vital signs
CFR
Chest pain ongoing
Yes
No
Patient prescribed GTN
No
Yes
Above CFR
Assist patient to administer
GTN 0.4 mg SL
Maintain care until handover to appropiate Practitioner



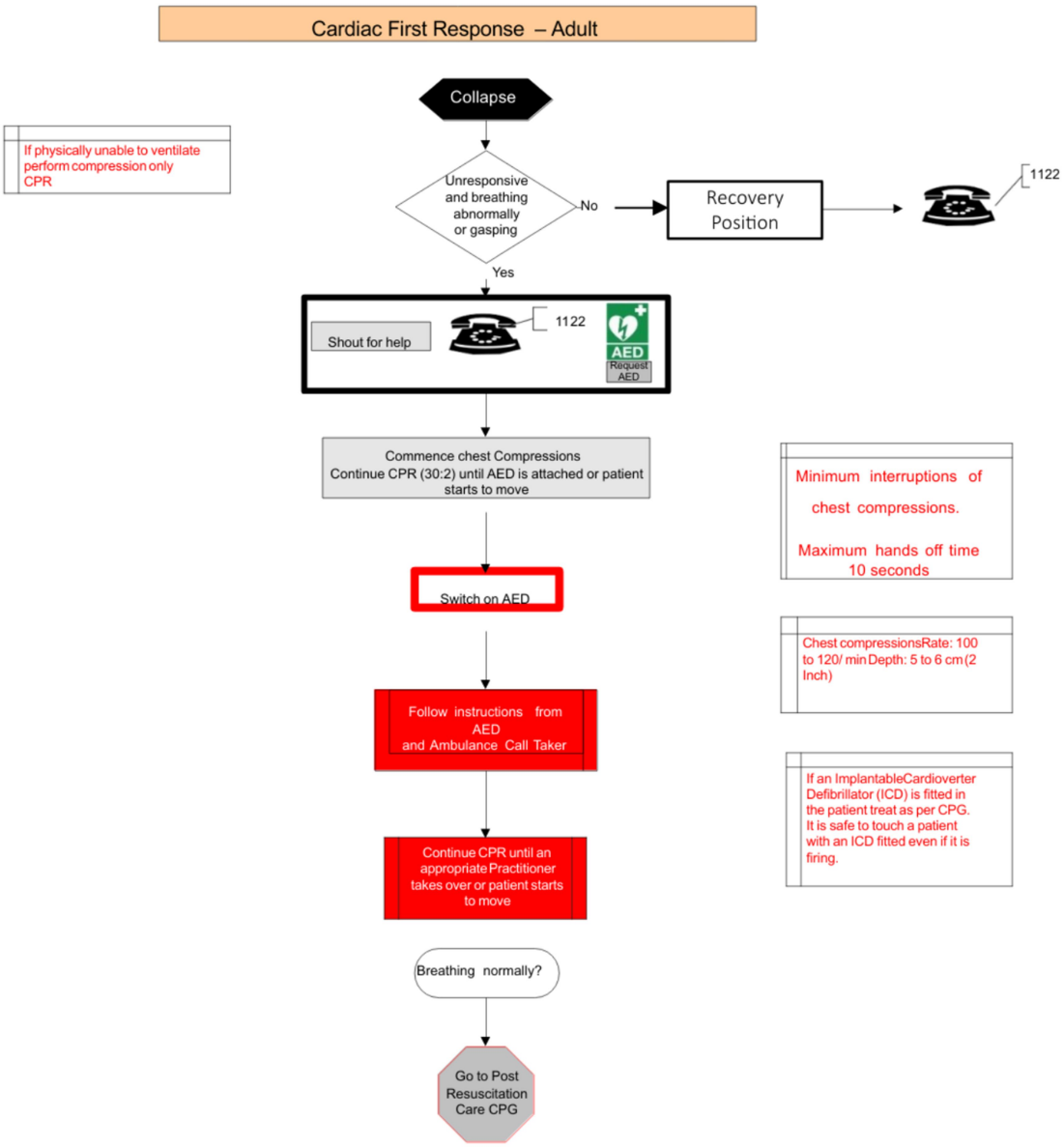
F – facial weakness
Can the patient show teeth, Has their mouth or eye drooped? Which side?
A – arm weakness
Can the patient raise both arms and maintain for 5 seconds?
S – speech problems
Can the patient speak clearly and understandwhat you say?
T – time to call 1122 now if FAST positive

Adult Chain of Survival

Adult Out-of-Hospital Chain of Survival

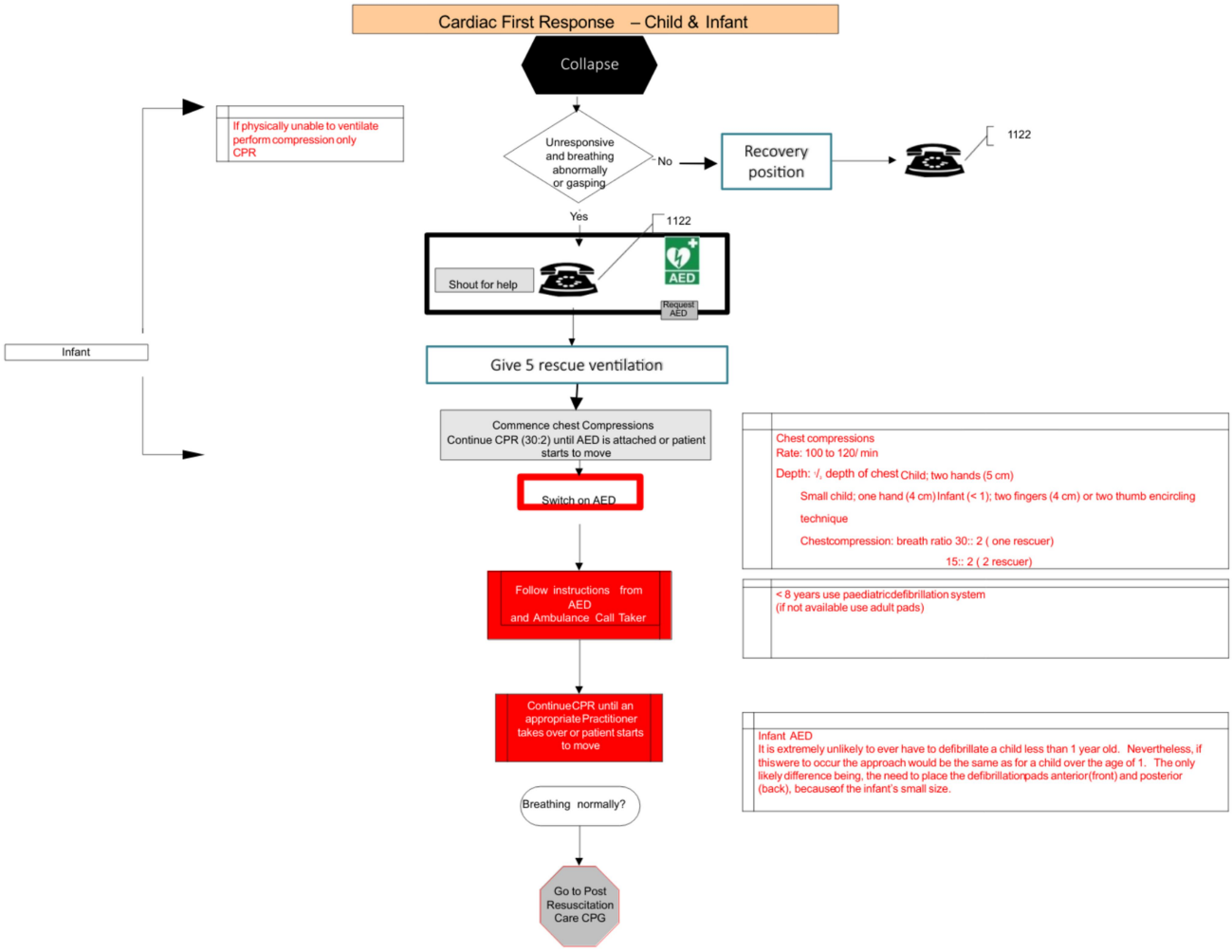


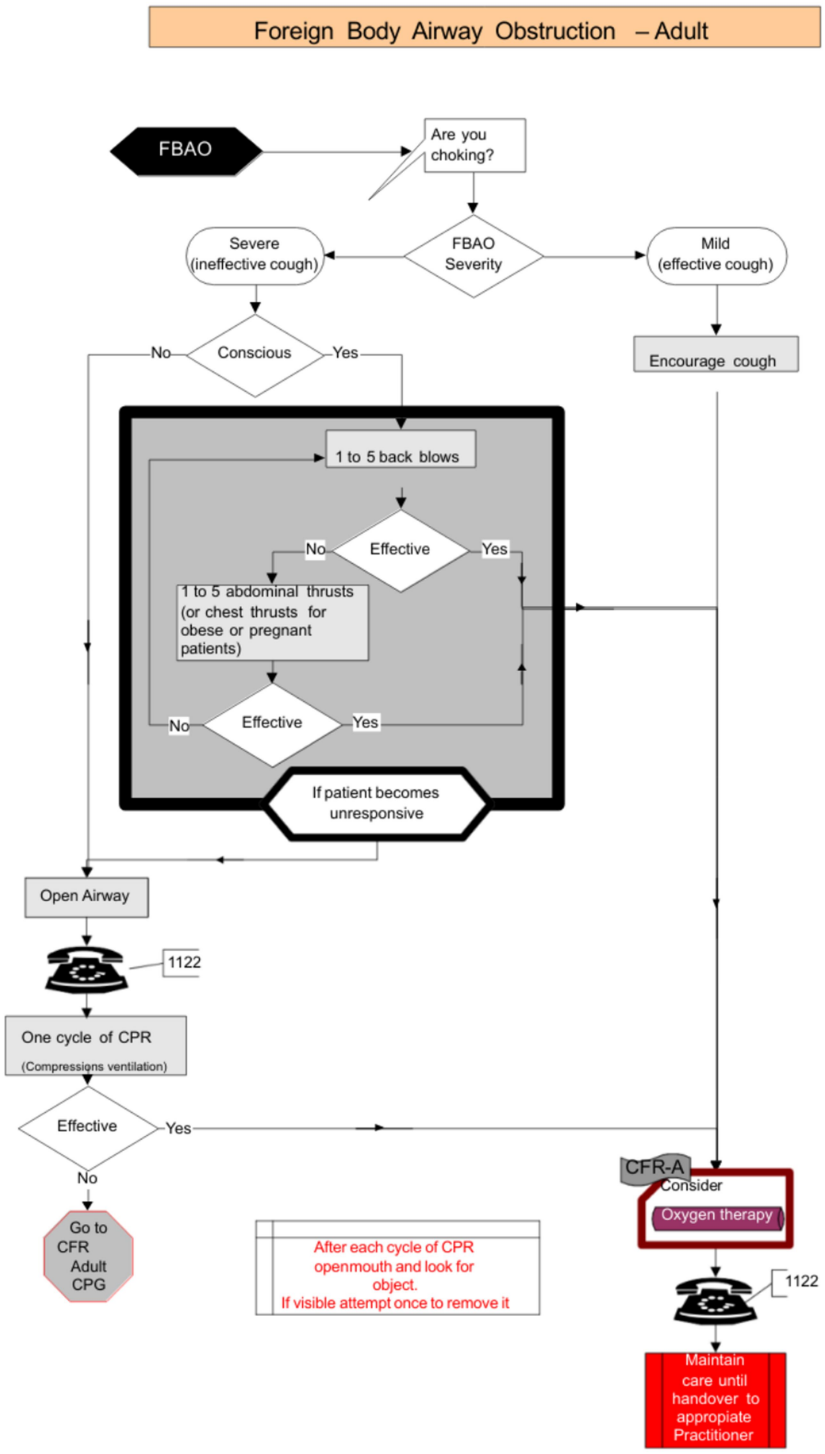
As early as possible	Within 10 Seconds	Within 4-6 Minutes	Within 10 Minutes	Within One hour	At discharge time

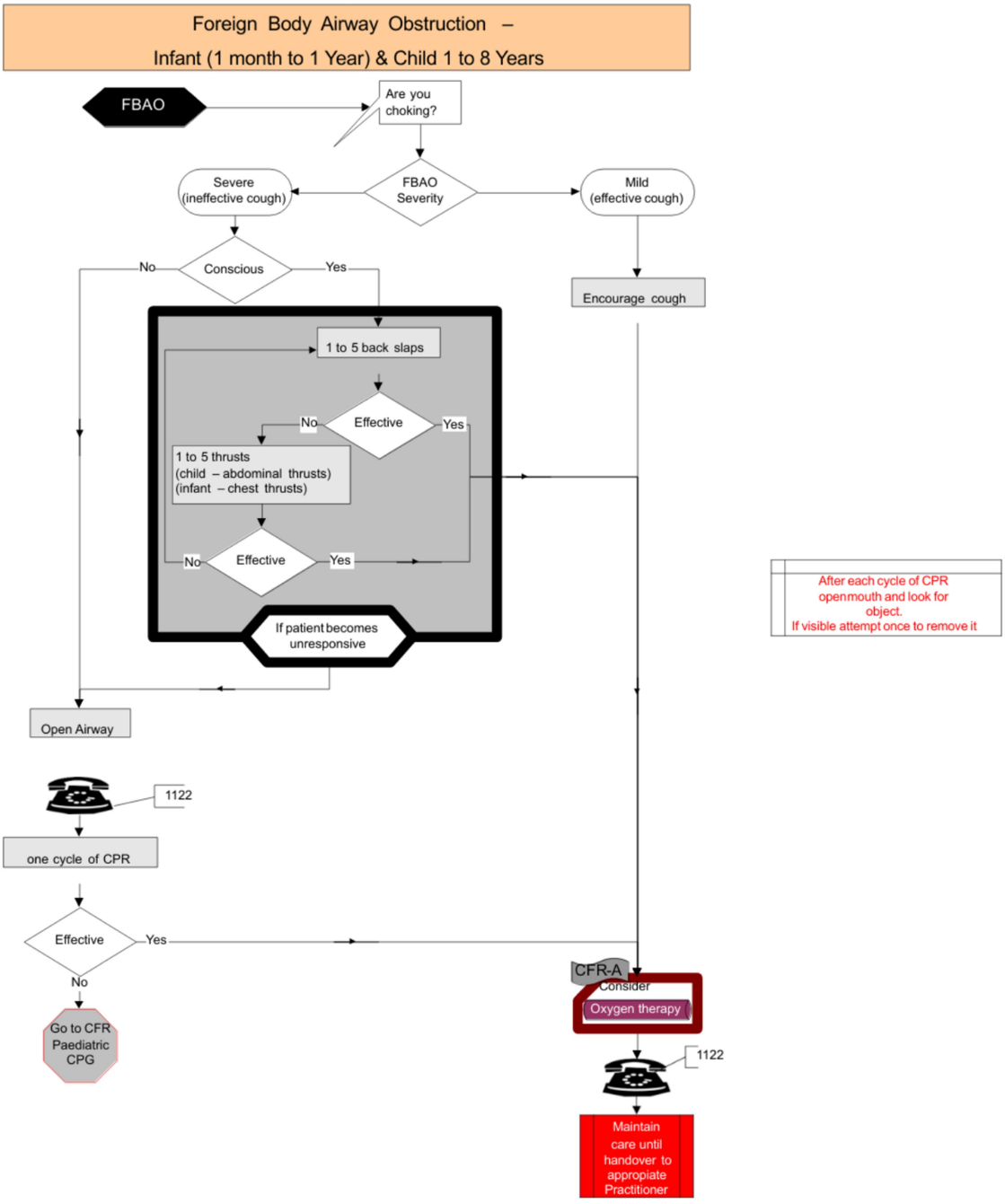

Cardiac First Response – Adult
Collapse
If physically unable to ventilate perform compression only CPR
Unresponsive and breathing abnormally or gasping
No
Recovery Position
1122
Yes
Shout for help
1122
AED
Request AED
Commence chest Compressions
Continue CPR (30:2) until AED is attached or patient starts to move
Minimum interruptions of chest compressions.
Maximum hands off time 10 seconds
Switch on AED
Chest compressionsRate: 100 to 120/ min Depth: 5 to 6 cm (2 Inch)
Follow instructions from AED and Ambulance Call Taker
If an ImplantableCardioverter Defibrillator (ICD) is fitted in the patient treat as per CPG. It is safe to touch a patient with an ICD fitted even if it is firing.
Continue CPR until an appropriate Practitioner takes over or patient starts to move
Breathing normally?
Go to Post Resuscitation Care CPG

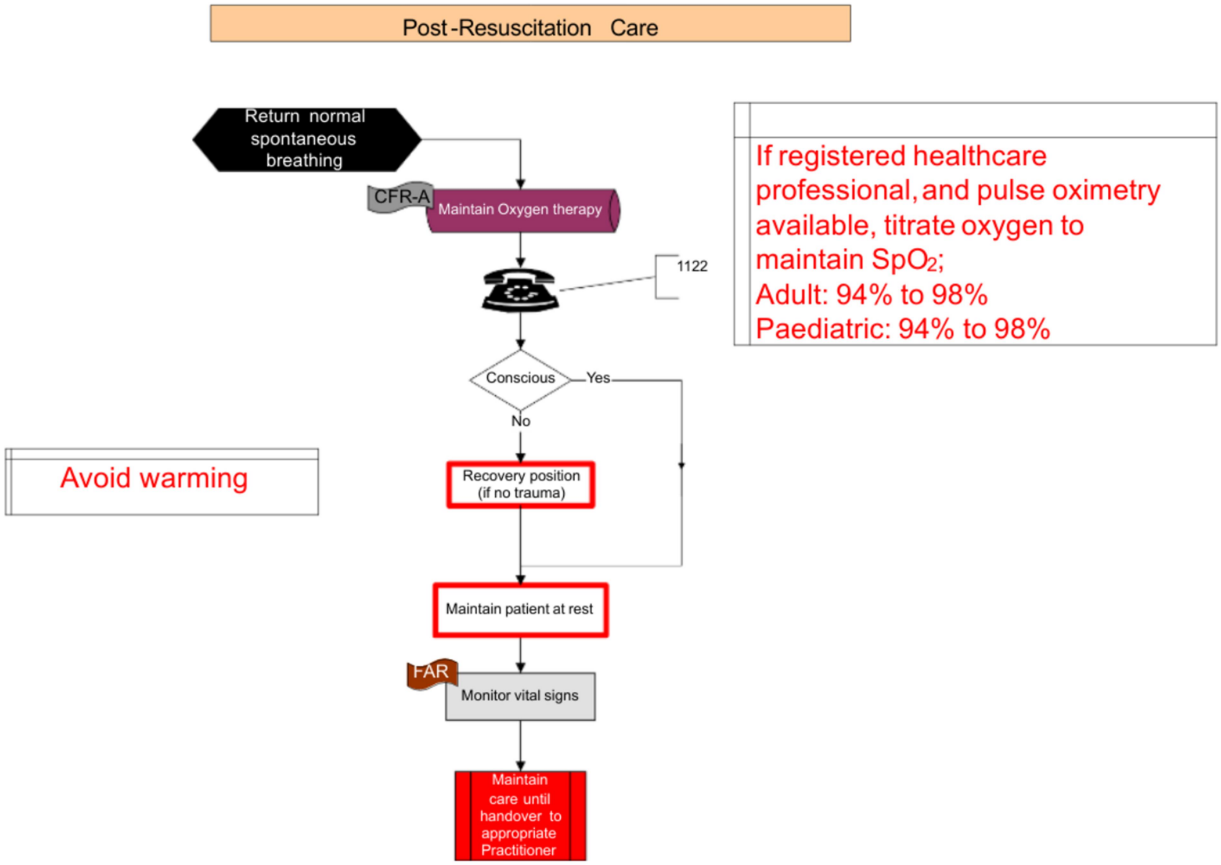
Pediatric Chain of Survival

Pediatric Out-of-Hospital Chain of Survival

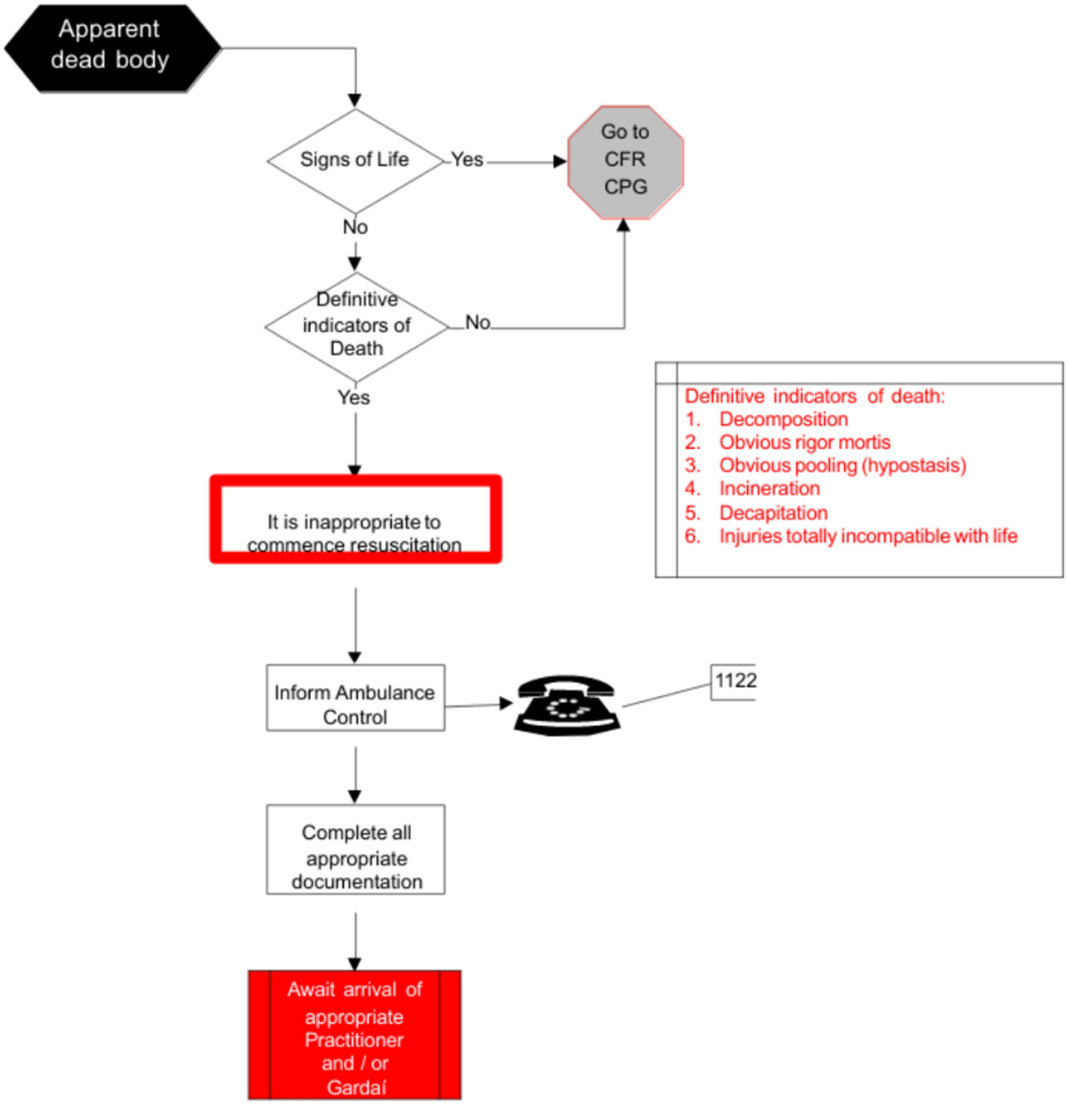

Cardiac First Response – Child & Infant
Collapse
Unresponsive and breathing abnormally or gasping
No
Recovery position
1122
Yes
1122
Shout for help
AED
Request AED
Give 5 rescue ventilation
Commence chest Compressions
Continue CPR (30:2) until AED is attached or patient starts to move
Switch on AED
Follow instructions from AED and Ambulance Call Taker
Continue CPR until an appropriate Practitioner takes over or patient starts to move
Breathing normally?
Go to Post Resuscitation Care CPG
Infant
If physically unable to ventilate perform compression only CPR
Chest compressions
Rate: 100 to 120/ min
Depth: ·/, depth of chest Child; two hands (5 cm)
Small child; one hand (4 cm) Infant (< 1); two fingers (4 cm) or two thumb encircling technique
Chestcompression: breath ratio 30:: 2 (one rescuer)
15:: 2 (2 rescuer)
< 8 years use paediatricdefibrillation system
(if not available use adult pads)
Infant AED
It is extremely unlikely to ever have to defibrillate a child less than 1 year old. Nevertheless, if thiswere to occur the approach would be the same as for a child over the age of 1. The only likely difference being, the need to place the defibrillationpads anterior(front) and posterior (back), becauseof the infant's small size.


Foreign Body Airway Obstruction – Adult
FBAO
Are you choking?
FBAO Severity
Severe (ineffective cough)
Mild (effective cough)
Encourage cough
Conscious
No
Yes
1 to 5 back blows
Effective
No
Yes
1 to 5 abdominal thrusts (or chest thrusts for obese or pregnant patients)
Effective
No
Yes
If patient becomes unresponsive
Open Airway
1122
One cycle of CPR
(Compressions ventilation)
Effective
Yes
No
Go to CFR Adult CPG
After each cycle of CPR openmouth and look for object.
If visible attempt once to remove it
CFR-A
Consider
Oxygen therapy
1122
Maintain care until handover to appropiate Practitioner


Foreign Body Airway Obstruction –
Infant (1 month to 1 Year) & Child 1 to 8 Years
FBAO
Are you choking?
FBAO Severity
Severe (ineffective cough)
Mild (effective cough)
Conscious
No
Yes
Encourage cough
1 to 5 back slaps
Effective
No
Yes
1 to 5 thrusts
(child – abdominal thrusts)
(infant – chest thrusts)
Effective
No
Yes
If patient becomes unresponsive
After each cycle of CPR open mouth and look for object.
If visible attempt once to remove it
Open Airway
1122
one cycle of CPR
Effective
Yes
No
Go to CFR Paediatric CPG
CFR-A
Consider
Oxygen therapy
1122
Maintain care until handover to appropiate Practitioner


Post-Resuscitation Care
Return normal spontaneous breathing
CFR-A
Maintain Oxygen therapy
1122
Conscious
Yes
No
Recovery position (if no trauma)
Maintain patient at rest
FAR
Monitor vital signs
Maintain care until handover to appropriate Practitioner
If registered healthcare professional, and pulse oximetry available, titrate oxygen to maintain SpO2;
Adult: 94% to 98%
Paediatric: 94% to 98%
Avoid warming

Recognition of Death – Resuscitation not Indicated



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