YOUTH ACTION IN PROVIDING FIRST AID

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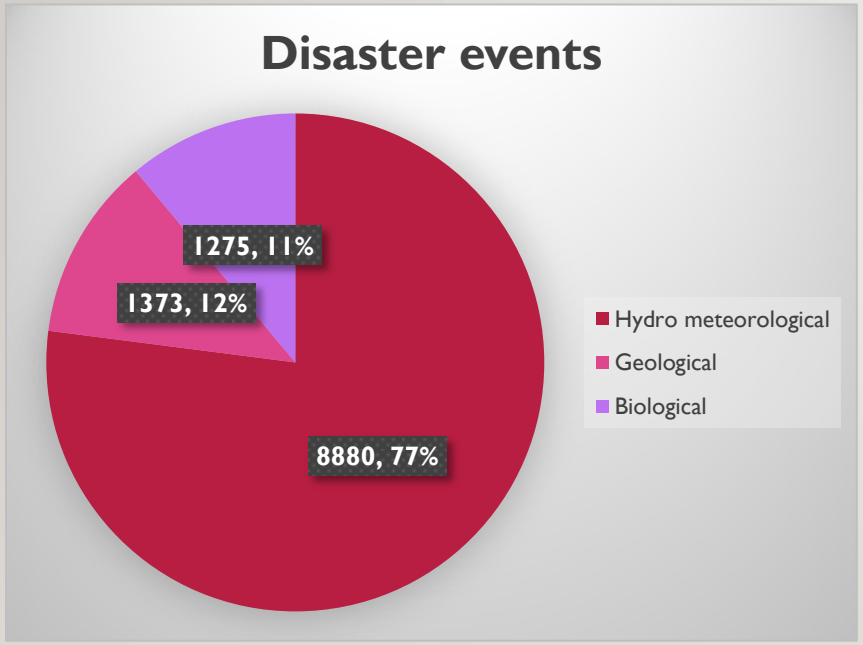
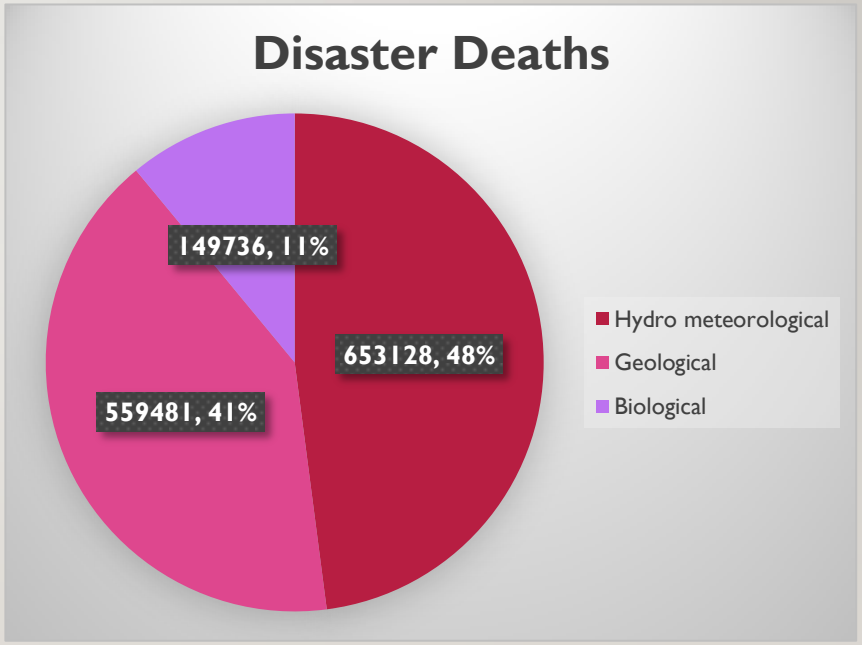
MAGNITUDE OF DISASTERS - GLOBAL

- In the second half of the 20th century, around 200 natural disasters have strike in the different parts of the world. These disasters have claimed lives of around 1.4 million people. The losses due to natural disasters are approximately 20 times greater (as % of GDP) in the developing countries compared to the developed countries.
- Asia being the biggest continent, tops in the list of deaths due to natural disasters.
- The records of natural disasters can be traced way back in the history from 430 B.C. this was the time when Typhus epidemic broke in Athens and claimed several thousand lives. The ten deadliest natural disasters recorded in the world date back to 1556 when an earthquake of magnitude 7 on Richter scale hit the Shaanxi province of China on 23rd January, and claimed 8,30,000 lives.

DISASTERS BY NATURE AND DEATHS (1900-2001):WORLD OVER





The management of disasters has been a major area of concern at global and national level.

MAGNITUDE OF DISASTERS- INDIA

- India is vulnerable, in varying degrees, to a large number of natural as well as man-made disasters. 58.6% of the landmass is prone to earthquakes of moderate to very high intensity; over 40 million hectares (12 per cent of land) is prone to floods and river erosion; of the 7,516 km long coastline, close to 5,700 km is prone to cyclones and tsunamis; 68% of the cultivable area is vulnerable to drought and hilly areas are at risk from landslides and avalanches. Vulnerability to disasters/emergencies of Chemical, Biological, Radiological and Nuclear (CBRN) origin also exists.
- Heightened vulnerabilities to disaster risks can be related to expanding population, urbanization and industrialization, development within high-risk zones, environmental degradation and climate change.

HEALTH EMERGENCIES: NATURAL DISASTER

- **Earthquake/ landslide/ rock fall etc:** Head injuries, spinal cord injuries, long bone fractures, crush injuries, poly trauma, massive bleeding etc
- **Flood related disaster:**
  - Direct health effects of a flood may include drowning; injuries like cuts, sprains, fractures, electric shocks; diarrhoea, vector-and rodent-borne diseases like malaria, leptospirosis; skin and eye infections; and psychological stress.
  - The indirect health consequences of floods are usually due to damage caused to health care infrastructure and loss of essential drugs, damage to water and sanitation infrastructure, damage to crops and disruption of food supplies, destruction of property causing lack of shelter that may lead to increased exposure to disease-vectors.

- **Fire related disasters:** Burns, suffocation, respiratory distress, poisoning, chemical leaks, shock wave injuries (blast in boilers/ furnace/ compressors/ gas pipelines etc),

TRIAGE CATEGORIES FOR PATIENTS

Immediate care	Delayed care	Minor care	Dead
Red	Yellow	Green	Black

- **Red – First Priority i.e. category 1**

  • Most urgent

  • Life threatening shock or hypoxia is present or imminent. But the patient can likely be stabilized and if given immediate care, will probably survive.

  Yellow – Second priority i.e. category 2

  • Urgent, the injuries have systemic implications or effects, but patients are not yet in life threatening. Shock or hypoxia although systemic decline may ensure, given appropriate care, can likely withstand a 45-to-60-minute wait without immediate risk.

- **Green –Third priority i.e. category 3**
- • Non urgent
- • Injuries are localized without immediate systemic implications; with a minimum of care, these patients generally are unlikely to deteriorate for several hours, if at all.
- **Black – Dead**
- • No distinction can be made between clinical and biologic death in a mass Emergency incident and any unresponsive patient who has no spontaneous ventilation or circulation is classified as dead.

- The disaster victims are tagged using colour coded wrist bands as per their triage category.
- * Triage is not a one time activity. It is dynamic.
- It is done at multiple levels while decision making for delivery of clinical care

FIRST AID & ITS AIM

- Definition “the assessment and interventions that can be performed by a by standard or a victim himself immediately with minimal or no medical equipment. The primary objective of first aid is “to elevate suffering facilitate the healing process and minimise damage”. Often the first action taken for the management of injuries and common illness decides the future goes of disease and complication rates.
- First aid is the FIRST ASSISTANCE or support given to a casualty or a sick person for any injury or sudden illness before the arrival of an ambulance, a qualified paramedical or medical person before arriving at a facility that can provide professional medical care.
- First Aid **is not** about giving medicine or diagnosing a condition.

ROLE OF FIRST AIDER

- Remember **PACT**
- **P-** Protect
- **A-** Assess (the victim/ the scene)
- **C-** Care
- **T-** Transport/ Triage (Red, Yellow, Green, Black, Blue)

INDIAN GOOD SAMARITAN

- A Good Samaritan in legal terms refers to "someone who renders aid in an emergency to an injured person on a voluntary basis".
- The Ministry of Road Transport and Highways has published the Indian Good Samaritan and Bystanders Protection Guidelines in The Gazette of India in May 2015 (Notification No 25035/101/2014 - RS dated 12 May 2015).
- The guidelines are to be followed by hospitals, police and other authorities for the protection of Good Samaritans. The bystander or Good Samaritan shall not be liable for any civil and criminal liability. The disclosure of contact details of the Good Samaritan is to be voluntary. The lack of response by a doctor in an emergency pertaining to road accidents (where s/he is expected to provide care) shall constitute 'Professional Misconduct'.

HEAD INJURY/ CERVICAL INJURY

- **The Signs:** After a bump to the head, red flags of a concussion can include passing out (even briefly), severe headache, vomiting, confusion, sleepiness, or difficulty walking.
- Check the victim. If he seems to have hurt his neck (which is possible if he fell on his head, or has any weakness or tingling in his arms, keep him still and call the ambulance.
- Critical emergency situations: if the victim passes out after a fall and has any trouble waking up, severe headache or if he is confused, much sleepier than usual, stumbling, persistently vomiting, or doing anything else that's worrisome.
- **Don't:** Give ibuprofen to the victim with a head injury. The drug may increase bleeding, which can be dangerous when there's the potential risk (even a super-slight one) of a brain injury

NOSEBLEED

- **The Signs:** This injury is hard to miss. But most nosebleeds look worse than they are.
- **What to Do Immediately:** Have the victim tilt the head forward slightly, and then pinch the nose tightly just below the nasal bone with a towel or a tissue. Hold this position for ten to 15 minutes to try to stop the bleeding. Be patient!. An hour or so after the nosebleed stops and a clot forms, you can dab Vaseline on the inside of the nostril to keep it moist.
- **Don't:** Allow the victim to lean back because blood may go down the throat and into stomach, which can cause vomiting. Discourage him from blowing the nose for several hours, as even a short, gentle blow could trigger the bleeding again. Don’t stuff tissue or cotton up the nostril either
- **When to Get Help:** If the bleeding doesn’t stop within 30 minutes or if you suspect her nose is broken as a result of trauma.

BROKEN BONE- LONG BONE FRACTURE/ PELVIC FRACTURE

- **The Signs:** If the bone is crooked or sticking out, it's broken. But often it's less clear. After an injury, if the victim is in a lot of pain, has swelling in the injured area, throws up, or feels light-headed, it is possible that a bone is broken.
- **What to Do Immediately:** Make him comfortable. Move the affected limb as little as possible.

BLEEDING WOUND/ SEVERE BLEEDING

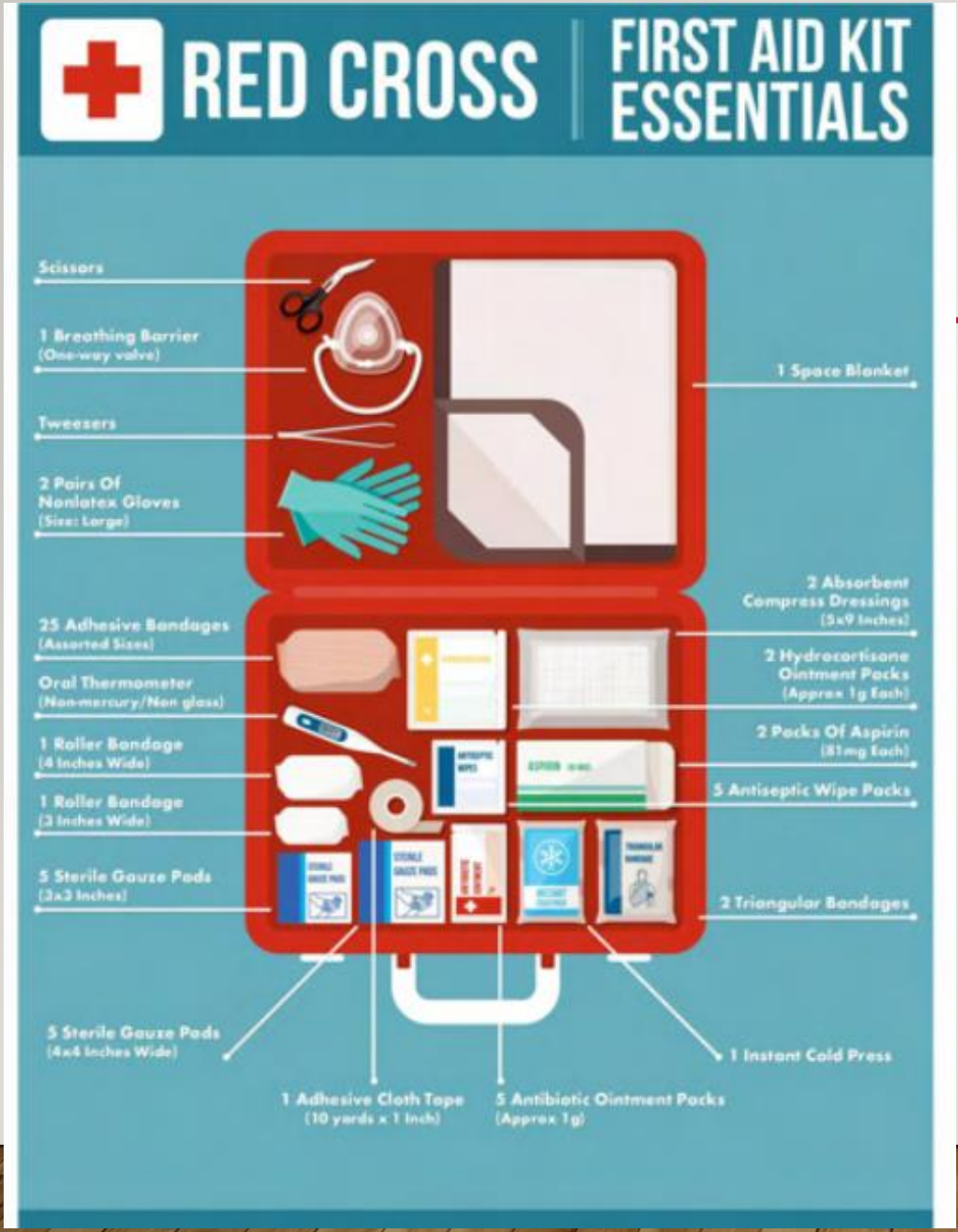
- **The Signs:** A cut is serious when the bleeding doesn't stop after you've applied pressure for a few minutes. (victim may go into hypovolemic shock). Trauma may be in abdomen, chest, spleen rupture.
- **What to Do Immediately:** Flush the wound with tap water and soap, dab on an antibiotic ointment, and put on a bandage. If you see blood through the bandage, apply direct pressure for 15 minutes and elevate the injured area above the heart to stop the bleeding.
- **Don't:** Clean a cut with alcohol, hydrogen peroxide, or Betadine (an antiseptic). Alcohol stings like mad and hydrogen peroxide and Betadine can damage skin, preventing healing.
- **When to Get Help:** If a wound is large, gaping, or gushing blood, the victim might need stitches, so wait for the professional help. If you see deep tissues, ligaments, or bone and you can't stop the bleeding within 15 minutes; or if you think there may be a foreign body embedded. Try mobilizing the victim to nearest health facility.

BURNS (FIRE/ CARBON MONOXIDE)

- **The Signs:** The victim's skin could be very red and blistered. A third-degree burn, the worst kind, can appear white or black.
- **What to Do Immediately:** Hold the area under a cool tap for ten to 15 minutes to cool the skin, ease pain, and halt inflammation, (You can repeat this process as needed—or substitute ice wrapped in a towel—for the next 24 to 48 hours.) Next, apply an antibiotic ointment like bacitracin to soothe the burn and help skin cells regenerate. You can give the victim ibuprofen or acetaminophen, too, if you feel he's still in pain. But if a blister forms, let it be: That bubble is a barrier that helps prevent infection. Once the blister pops on its own, apply an antibiotic ointment and a clean bandage.
- **Don't:** Use vitamin E or butter—both of these can be irritating. And never place ice directly on a burn; doing so can cause tissue damage.

CHOKING/ DROWNING

- **The Signs:** The victim have trouble breathing and may hold her hands to her throat or faint.
- **What to Do Immediately:** Keep talking. If the victim can answer you with simple sounds, his airway is clear. If he can’t respond, activate emergency response by performing the Heimlich maneuver: Wrap your arms around your child’s waist, make a fist, and place the thumb side of your fist against his upper abdomen (just below his rib cage). Now grasp your fist with your other hand and perform quick, upward thrusts until the item is expelled.
- **Don't:** Respond aggressively. “If the victim is coughing but can talk, let him cough up the item,” Resist the urge to put your fingers in his mouth or down his throat.



The components of first aid kit include scissors, breathing mask Tweezers, pair of non latex gloves, adhesive bandages, oral thermometer, roller bandage, sterile gauge pad, blanket, absorbent compressed dressings, hydrocortisone ointment pack, pack of Aspirin, antiseptic wipes pack, instant cold pack

ADULT BASIC LIFE SUPPORT

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American heart Association Guidelines for Cardiopulmonary Resuscitation

Step I – Assess Responsiveness: by shouting at the victim and tapping the victim on the shoulder.

If the victim is unresponsive, not breathing or has no normal breaths or is gasping, the rescuer should assume the victim is in cardiac arrest and immediately activate the CPR process/ activate code blue.

Step 2 - Get an AED/Defibrillator if nearby and easily accessible or send second rescuer (if available) to do this.

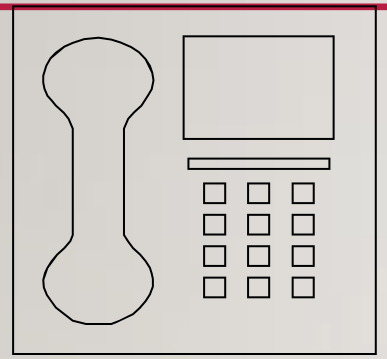
Unresponsive

No breathing or no normal breathing (ie only gasping)

Check response by gently tapping the shoulders

Activate emergency response system

Get AED/defibrillator or send a 2nd rescuer to do this



Dial 395/ 9/ 1/ etc

Announce “Code Blue” &

inform location

Step 3 - Check carotid pulse if possible within 10 seconds (If definite pulse present give 1 breath every 5 to 6 seconds. Recheck pulse every 2 minutes)

Step 4 - Immediately start chest compression method:-

- Place the heel of one hand on the lower half of the sternum and the heel of the other hand on top of the first so that the hands are overlapped and parallel.
- The adult sternum should be depressed at least 2 inches or 5cm. The chest compression and chest recoil or relaxation time should be approximately equal.
- Allow the chest to completely recoil after each compression.
- Chest compression should be given at the rate of at least 100/minute.
- Minimize interruption in chest compression.
- Begin cycles of 30 compression and 2 breaths.

Check Pulse

Definite pulse within 10 seconds?

Palpable pulse

Give 1 breath every 6 seconds OR

10 breaths / minute

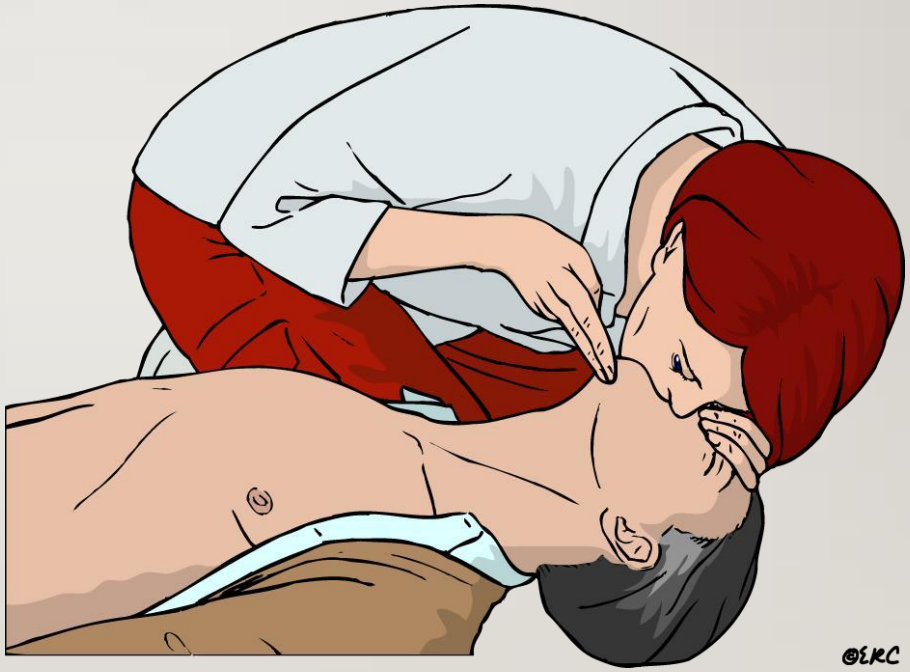
Recheck pulse every 2 minutes

Step 5 - Open the airway and give rescue breaths:-

- Open the airway of the victim by head tilt and chin lift technique.
- To provide mouth to mouth rescue breaths, open the victim's airway, pinch the victim's nose and create an airtight mouth to mouth seal. Deliver each rescue breath over 1 second. Give a sufficient tidal volume to produce visible chest rise.
- To provide bag mask ventilation, open the airway and seal the mask to the face with one hand and squeeze the bag with other hand. An adult bag should be used to deliver 500-600ml of tidal volume sufficient to produce visible chest rise.

Start CPR: Cardio Pulmonary Resuscitation

30: Compressions



2 Rescue Breaths

*If two or more rescuers are available, switch chest compression approximately every 2 minutes or after about 5 cycles of compression and ventilation at a ratio of 30:2 to prevent decreases in the quality of compression.

Every effort should be made to accomplish this switch in <5 seconds.

PAEDIATRICS BASIC LIFE SUPPORT

PAEDIATRICS BASIC LIFE SUPPORT

- Pediatric BLS refers to the provision of CPR, with no devices or with bag-mask ventilation or barrier devices, until advanced life support (ALS) can be provided
- Among children respiratory failure is the most common cause of cardiopulmonary deterioration and arrest.
- Cardiac arrest in children typically represents the terminal event of progressive shock or respiratory failure. Either shock or respiratory failure may include a compensated state from which children can rapidly deteriorate to a decompensated condition with progression to respiratory or cardiac arrest.

- The causes of pediatric cardiopulmonary arrest are heterogeneous, including SIDS, asphyxia, near-drowning, trauma, and sepsis.
- If the child collapses suddenly, a lone bystander should first activate the local emergency medical response system and then return to the victim to begin CPR.

STEPS OF CPR

- Check pulse within 10 seconds (femoral or carotid in a child).
- If the pulse is not palpable within 10 seconds, immediately start chest compression.
- In case of a palpable pulse ≥ 60 per minute but inadequate breathing, give rescue breaths at the rate of about 12 to 30 breaths per minute (1 breath every 3 to 5 seconds) until spontaneous breathing resumes.
- Reassess the pulse every 2 minutes. But spend no more than 10 seconds doing so.

CONTD....

- If the pulse is < 60 per minute and there are signs of poor perfusion (i.e., pallor, mottling, cyanosis) despite support of oxygenation and ventilation, begin chest compression (5 cms (2 inches))
- In case of one rescuer, give 30 chest compression and then open the airway of the child using head tilt and chin lift maneuvers and give 2 breaths. If there is evidence of spinal injury, use a jaw thrust without head tilt to open the airway.

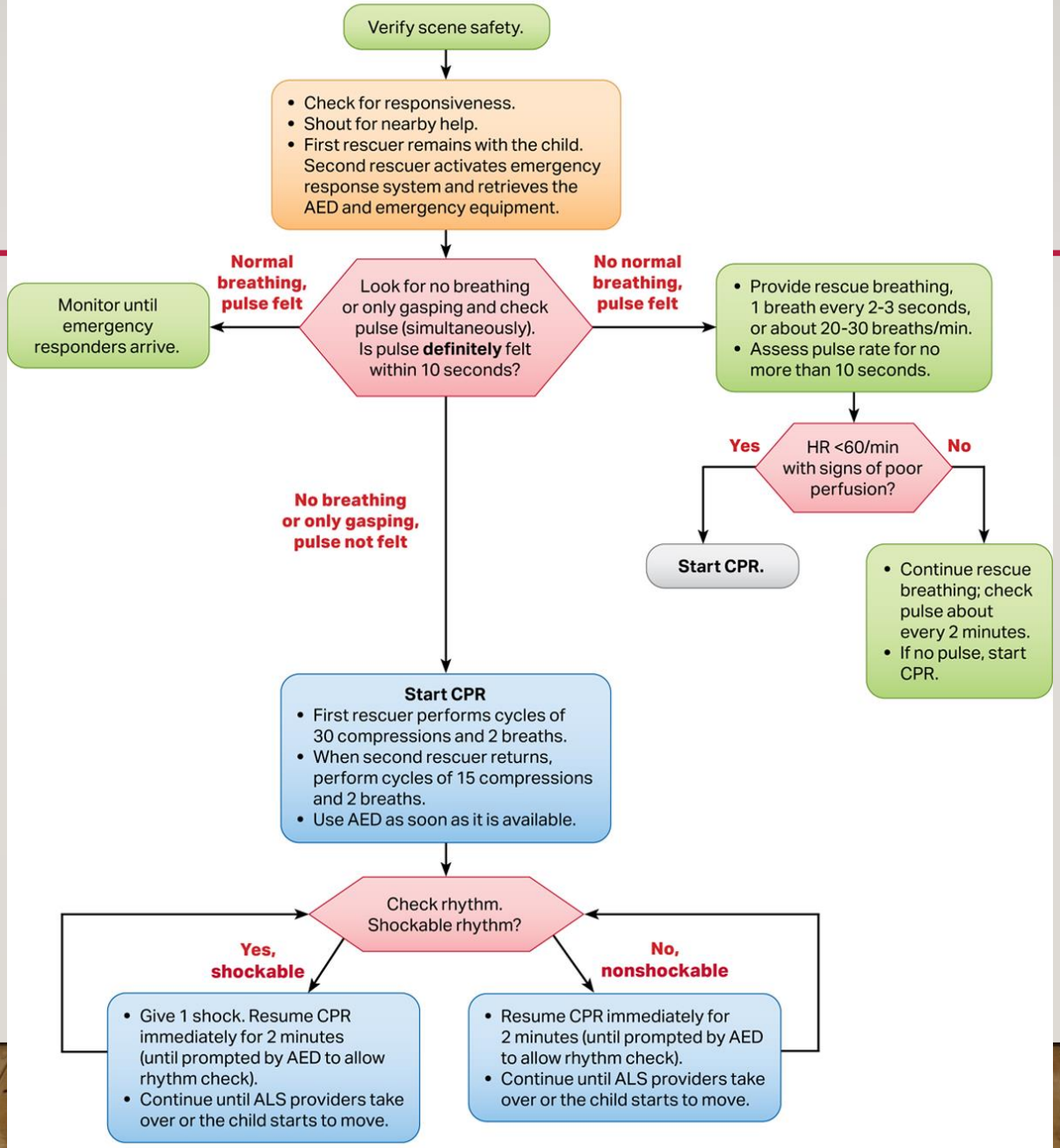
CONTD....

- Bag mask ventilation should be done in case of 2 rescuers by using self inflating bag with a volume of at least 450 to 500 ml for children.
- Each breath should take about 1 second and should produce a visible chest rise. Continue CPR for 2 minutes, check the pulse and if the pulse is not palpable again continue CPR.
- In victims ≥12 years of age in the out-of-hospital setting, the adult Chain of Survival and resuscitation sequence is recommended.

PICTORIAL DEPICTION

Check response by gently tapping the shoulders

Pediatric Basic Life Support Algorithm for Healthcare Providers—2 or More Rescuers



THANKS ANY QUESTIONS

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