15:2 ratio.

•Each time the airway is opened in CPR, look for an object in the patient's mouth and remove it if seen.

•Position the airway and attempt to ventilate; if unable to ventilate, continue chest compressions.

•Repeat cycles of chest compressions and ventilations at 15:2 ratio until either ventilation is successful or advanced life support measures become available.

4. Airway Obstruction if Pediatric Patient Found Unresponsive

•If a pediatric patient is found unresponsive and with no breathing or no normal breathing (only gasping), then CPR shall be started immediately.

•If the patient is unable to be ventilated with the BVM or supraglottic airway, then airway obstruction should be considered.

•Chest compressions should be continued, and each time the airway is opened in CPR, look for an object in the patient's mouth and remove it if seen.

•Position the airway and attempt to ventilate; if unable to ventilate, continue chest compressions.

•Repeat cycles of chest compressions and ventilations at 15:2 ratio until either ventilation is successful or advanced life support measures become available.

5. Airway Obstruction in Unresponsive Pediatric Patient by Advanced Life Support

•Perform a progressive laryngoscopy until foreign body is visualized.

•Insert closed Magill forceps into oral cavity, open forceps, grasp foreign body and remove.

I. CPAP - Continuous Positive Airway Pressure [ALS]

CPAP is a method of patient ventilation which provides a noninvasive continuous positive-pressure ventilation to prevent alveolar collapse. It decreases the work of breathing, enhances oxygen and carbon dioxide exchange and increases cardiac output.

1. Indications

Mask CPAP ventilation is indicated for the treatment of impending ventilatory failure in an attempt to avoid intubation and standard mechanical ventilation. This non-invasive pressure support system seems best applied to patients whose respiratory failure is expected to quickly respond to medical therapy, as continuous mask CPAP or ventilation requires close attention. The patient shall meet all of the following criteria:

a. Dyspnea with pulmonary edema or wheezes, or near drowning or submersion with possible aspiration
b. An awake patient, adult or pediatric, who is able to follow commands
c. The ability to maintain an open and protected airway and handle secretions
d. Two or more of the following signs:
   •Respiratory rate > 24 / min.
   •Pulse Oximetry of < 94% at any time
   •Use of accessory respiratory muscles

2. Contraindications

a. Decreased level of consciousness / Unconsciousness
b. Unable to maintain a patent airway
c. Pneumothorax (unilateral absence of breath sounds)
d. Hypotension (SBP < 90 mmHg)
e. Recent surgery to face or mouth, epistaxis, or other impediment to proper mask placement or fitting
f. Pediatric patient who is too small for the CPAP mask to fit appropriately

3. Usage

a. Assure patent airway.
b. Perform appropriate patient assessment, including obtaining vital signs, pulse oximeter (SpO_2) reading and cardiac rhythm.
c. Prior to initiation of the mask CPAP treatment, the patient must be informed of the purpose of the mask and cooperation ensured.
d. The Mask CPAP System components are assembled (CPAP mask, tubing, pressure relief valve) and connected to the oxygen cylinder.
e. Connect the pressure tubing and pressure relief valve to the connection port.
f. Turn on gas supply.
g. Verify controls are set (FiO_2).
h. Hold the mask in place as the patient adjusts to the ventilatory support. With the mask in place, modify the CPAP System settings to optimize the patient's ventilatory status. Titrate to effect, generally a range of 5 - 10 cm H_2O of PEEP in adults and 3 - 5 cm H_2O of PEEP in pediatric patients.
i. Encourage the patient to breathe deeply.
j. Adjust the mask for comfort and to minimize air leak especially about the eyes.
k. Periodic evaluation of the patient's status should be coupled with ongoing vital sign and pulse oximetry measurements. Consider usage of $ETCO_2$ monitoring.
l. If patient's anxiety level prevents patient from tolerating the device, consider contacting on-line medical control for sedation.
m. Monitor and document the patient's respiratory response to the treatment.
n. Continue to coach patient to keep mask in place and readjust as needed.
o. For patients requiring nebulized medication, utilize the T-Piece to administer nebulized medicine concurrently with CPAP.

J. Needle Thoracostomy [ALS]
1. Indication
a. Emergent treatment of a clinically unstable patient with a tension pneumothorax.
b. A tension pneumothorax is the progressive collection of air in the pleural space with subsequent increasing pleural pressures and respiratory compromise.
c. Treatment of a tension pneumothorax should begin as soon as it is clinically recognized.
2. Relative contraindications
a. Insertion of needles through an area of infection. Select alternative insertion site.
b. In patients being manually ventilated, use extreme caution. If the presumption of tension pneumothorax is incorrect, insertion of the needle may create a pneumothorax which, with positive pressure ventilation, can convert into a tension pneumothorax.
3. Insertion Site
a. Primary site: Lateral approach, patient in a supine position with the head of the stretcher elevated 30° and the patient's arm extended above the head. Insertion site is the fourth/fifth intercostal space in the midaxillary line.
b. Alternative site: Anterior approach, patient in a supine position with the head of the stretcher elevated 30°. Insertion site is the second intercostal space in the midclavicular line.