

process. Passive warming (multiple sheets or blankets) techniques are frequently necessary to preserve body temperature.

- f. Continually Monitor: Monitor the patient for changes in condition and document vital signs every 5 minutes for unstable patients and every 15 minutes for stable patients. Assess and record a minimum of two sets of vital signs for each patient transported.
- g. Event Sequence: Application of the above sequence of events in the evaluation of a patient will vary depending on the patient's condition. EMT's and paramedics are to use their best judgment when initially evaluating a patient. Necessary treatment takes precedence over completing a history and physical.

7.02 Airway Management

Pulse Oximetry shall be assessed and maintained on all pulsatile patients requiring ventilation assistance.

A. Two Person Bag-Valve-Mask Ventilation [BLS/ALS]

1. Insert appropriately sized oropharyngeal airway and/or nasal trumpet.
2. Whenever possible, two-persons should operate a bag-valve-mask device.
3. Rescuer #1 uses both hands to form a tight mask-to-face seal. Use pads of thumbs to press mask to face, wrap fingers beneath jawbone to raise jawbone toward mask.
4. Rescuer #2, after ensuring 100% oxygen is being delivered to reservoir bag, delivers one second ventilations which produce visible chest rise.

B. One Person Bag-Valve-Mask Ventilation [BLS/ALS]

1. Insert appropriately sized oropharyngeal airway and/or nasal trumpet.
2. Use non-dominant hand to form a C-clamp (thumb over mask at bridge or patient's nose, index finger over mask over the patient's chin, remaining fingers wrapped beneath patient's jaw) forming a tight seal between the mask and the patient's face.
3. Dominant hand is then used to squeeze the bag, delivering one second ventilations which produce visible chest rise.

Note: Overaggressive squeezing of the bag will generate high airway pressures and force air into the esophagus and stomach.

C. Orotracheal Intubation [ALS]

1. If present, video laryngoscopy should be the primary method of orotracheal intubation in adults/adolescents. Use of the bougie may also be used primarily as an airway adjunct. Utilize direct laryngoscopy for children/infants/neonates, or if a video laryngoscope is not present.
2. Place pulse oximetry on patient and pre-oxygenate the patient with Bag-Valve-Mask Ventilation (and oropharyngeal or supraglottic airway if tolerated) to maximize pre-intubation oxygen saturation.
3. Prepare all required equipment
 - Laryngoscope - If unit has video laryngoscope, verify battery is inserted and scope turns on. For children/infants/neonates or personnel without video laryngoscope, ensure appropriate sized blade with a functional light.
 - Turn suction on and verify working with yankauer attached.
 - Select appropriately sized endotracheal tube and verify integrity of the cuff/pilot balloon, and stylet placed in tube. Utilize Pediatric Dosing Guidelines for pediatric ET tube sizes.
 - Have bougie tube introducer available, along with other ET tube sizes as needed.

4. Position head. Hyperextend the head, flex the neck; “sniffing position” for non-trauma patients. Trauma patients with suspected spinal injury are to be intubated with the c-collar removed and manual in-line stabilization of the c-spine by a second provider performed.
5. Open patient’s mouth. Suction patient’s oropharynx. Insert blade into right side of patient’s mouth and gently advance blade to correct depth while sweeping blade and tongue to the left and observing landmarks - look for epiglottis, arytenoid cartilages and vocal cords.
 - Maintain visualization of the vocal cords.
 - Advance endotracheal tube or bougie between vocal cords and beyond. Visualize tube/bougie between the vocal cords on video camera screen or by direct visualization.
6. If the bougie is used, have an assistant place the ET tube over the bougie and advance to the fingers of the intubating medic. While keeping the blade in the patient’s mouth, slide the ET tube over the bougie and into the trachea to the appropriate depth while visualizing with the camera or with direct visualization. Gently remove the bougie from the ET tube while holding the ET tube tightly while maintaining visualization of the cords, then remove the laryngoscope blade from the mouth and verify ET tube placement.
 - In all patients, the correct tube depth can be estimated by the formula

$$\text{ET Depth (cm)} = 3 \times \text{ET Tube Size}$$

In an adult patient, a 7.0 tube should generally be placed around the 21 cm mark at the teeth/gumline. In a pediatric patient, a 3.0 tube should generally be placed around the 9 cm mark at the teeth/gumline. Utilize pediatric dosing guidelines for pediatric ET tube size.
 - If the bougie is not used, remove the ET tube stylet without moving the ET tube while maintaining visualization of the cords and then remove the laryngoscope blade from the mouth and verify ET tube placement as described below.
 - Inflate cuff before removing the stylet or bougie.
 - Auscultate over epigastric area. If no sounds are heard over epigastric area, auscultate for breath sounds over lateral chest walls. If sounds are heard over epigastric area, visually reconfirm placement of tube between vocal cords or reattempt intubation after re-oxygenating the patient. When in doubt – TAKE IT OUT.
 - Attach end-tidal CO₂ detector. Observe for waveform on CO₂ monitor screen.
 - Reconfirm endotracheal tube placement with absence of ventilatory sounds over epigastric area and auscultation of equal breath sounds at lateral chest wall locations, as well as continued presence of an end tidal CO₂ waveform.
 - Reconfirm placement with each movement of the patient (floor to backboard, into ambulance, etc.).
 - Reconfirm correct placement of endotracheal tube upon arrival at hospital, just prior to exiting ambulance. Document ETCO₂ in record or by printing rhythm strip on the LifePak 15.
7. End Tidal CO₂ monitoring shall be used on each and every intubated patient for confirmation of tube placement and continuous monitoring.
8. No more than three intubation attempts shall occur on each individual patient.

D. Nasotracheal Intubation [ALS]

1. Eligibility of patient confirmed:
 - Patient is NOT apneic (patient is breathing).
 - Patient does NOT have injury to bones of the face.
 - Patient does NOT have evidence of basilar skull fracture (ecchymosis beneath eyes or behind ears and no CSF from the nose or ears).
2. Pre-oxygenate patient with high flow O₂ by non-breather mask or Bag-Valve-Mask as appropriate.
3. Examine nostrils and select correct size endotracheal tube.