P100 LFD PROCEDURE PROTOCOL: OROTRACHEAL INTUBATION

EMT-I	Paramedic

Indications:

- Respiratory failure
- Absence of protective airway reflexes
- Present or impending complete airway obstruction
- Anticipated prolonged need for positive pressure ventilation

Contraindications:

- There are no absolute contraindications. However, in general the primary goals of airway management are adequate oxygenation and ventilation, and these should be achieved in the least invasive manner possible
    - Orotracheal intubation is associated with worse outcomes among pediatric patients and head injured patients when compared to BLS airway maneuvers. Therefore, it is relatively contraindicated in these populations
    - Intubation is associated with interruptions in chest compressions during CPR, which is associated with worse patient outcomes. Additionally, intubation itself has not been shown to improve outcomes in cardiac arrest
    - With traumatic brain injury, secondary insult from hypoxia or hypotension have been associated with worse outcomes. Caution should be taken to minimize these potential side effects with intubation.

Technique:

1. Initiate BLS airway sequence
2. Suction airway and pre-oxygenate with BVM ventilations, if possible
3. Check equipment and position patient:
    a. If trauma: have assistant hold in-line spinal immobilization in neutral position
    b. If no trauma, sniffing position or slight cervical hyperextension is preferred
4. Perform laryngoscopy
    a. To improve laryngeal view, use right hand to manipulate larynx, or have assistant apply backwards, upwards, rightward pressure (BURP)
5. Place ETT. Confirm tracheal location and appropriate depth and secure tube
    a. Correct tube depth may be estimated as 3 times the internal diameter of tube at teeth or gums (e.g: 7.0 ETT is positioned at 21 cm at teeth)
6. Confirm and document tracheal location by:
    a. $ETCO_2$
    b. Presence and symmetry of breath sounds
    c. Rising SpO_2
    d. Other means as needed
7. Ventilate with BVM. Assess adequacy of ventilations
8. During transport, continually reassess ventilation, oxygenation and tube position with continuous $ETCO_2$ and Spo_2
9. Best practice is to check the ET cuff inflation pressure using the Posey* Cufflator. A minimum pressure of 20 cmH_2O will prevent aspiration and a maximum pressure of 34 cmH_2O will decrease the incidence of mucosal ischemia and stenosis.

Precautions:

- Ventilate at age-appropriate rates. Do not hyperventilate
- If the intubated patient deteriorates, think “DOPE”
    - **D**islodgement
    - **O**bstruction
    - **P**neumothorax
    - **E**quipment failure (no oxygen)
- Reconfirm and document correct tube position after moving patient and before disconnecting from monitor in ED
- Unsuccessful intubation does not equal failed airway management. Many patients cannot be intubated without paralytics. Use King airway or BVM ventilations if 2 attempts at intubation unsuccessful.