Subject: Scope of Practice/Procedure – ALS
Adult Endotracheal Intubation Protocol

I. Indications
- A. Respiratory insufficiency/arrest in patients who are longer than the length-based resuscitation tape or known to be greater than 40kg.

II. Therapeutic Effects
- A. Isolates the trachea and permits complete control of the airway.
- B. Prevents gastric distension.
- C. Provides direct route for suctioning of respiratory passages.
- D. Permits administration of medications via endotracheal tube. Should be used only as a last resort.
  1. Medications that can be administered:
     - a. Epinephrine.
     - b. Atropine.
     - c. Narcan.
     - d. Lidocaine.

III. Contraindications
- A. Absolute:
  1. None.
- B. Relative:
  1. Severe pharyngeal or esophageal burns: thermal or caustic.
  2. Possible epiglottis.

IV. Equipment
- A. Adult laryngoscopes.
- B. Adult endotracheal tubes (5.0mm-9.0mm).
- C. Tape or other device for securing tube.
- D. Inserting stylets.
- E. 10 ml syringe.
- F. Bag-Valve-Mask.
- G. Adult Magill forceps.
- H. Suction device.
- I. Stethoscope.
- J. CO2 Detector Device-Adult

V. Adverse Effects
- A. Hypoxia.
- B. Esophageal or right main stem bronchus-intubation.
- C. Aspiration during the procedure.
- D. Vagal stimulation with severe bradycardia and hypotension.
- E. Laryngospasm.

F. Vocal cord damage.
G. Displacement of a cervical fracture and paralysis.
H. Complete obstruction of airway in epiglottis.

VI. Procedure
A. Insertion:
1. Ensure that the equipment is working, and that suction is available.
2. Select appropriate size ET tube:
a. Adult: Average adult sizes of 7.0, 7.5 and 8.0 cuffed tubes.
3. Insert stylet and bend ET tube into a "Lazy J". The distal end of the stylet should be recessed from the tip of the tube.
4. Position patient:
a. Medical patient: Sniffing position.
b. Trauma patient: Neutral position with inline axial stabilization.
5. Preoxygenate the patient.
6. Grasp laryngoscope in the left hand and ET tube in the right.
7. Exert traction upward along the axis of the laryngoscope handle until glottic opening is exposed. Do not use top teeth as a fulcrum.
8. Insert ET tube into the trachea.
9. Inflate cuff in adult patient with 10cc air.
10. Remove syringe and stylet, maintaining tube position.
11. Ventilate patient and watch for chest rise, auscultate lung fields and epigastic area.
12. Place CO_2 Detector:
a. Place on ET tube and ventilate patient.
b. Observe CO_2 detector for appropriate color change.
13. When Capnography is available,
a. Attach sensor endotracheal tube.
b. Note CO2 level and waveform changes.
c. Capnography should remain in place and monitored through out transport.
14. Note tube position and secure tube in place with tape or ET tube hold device.
15. Reassess ventilations, watch for chest rise and auscultate lung fields

VII. When considering need for Extubation:
1. No chest rise with ventilation.
2. Absent breath sounds.
3. Presence of epigastric ventilation sounds.

4. Purple color on CO_2 detector with exhaustion for patient with a pulse.
5. ETCO2 less than 20 in a patient with a pulse, or less than 10 in a pulseless patient.
6. Only consider extubation on the patient who have return of spontaneous respirations, when they have regained consciousness, AND who are coughing, gagging AND struggling against the ET tube.
7. Critical airway patients (IE severe facial burns, severe facial injuries or any respiratory failure patient) that are ALREADY intubated with confirmed tube placement and who are "bucking" the tube or struggling against assisted ventilations, consider "light" sedation with
    a. Versed 1mg IV every 5 minutes or as needed to maintain control of the patient. DO NOT medicate to completely eliminate patient's own respiratory effort.
    b. Consider pain management in the critically injured patient with obvious painful injuries as their agitation may be due to pain.
    c. Consider Morphine OR Fentanyl per protocol.
    d. Always monitor pulse Ox and ECG monitor or ETCO2 when available.

VII. If patient requires extubation:

1. Ensure patient is awake and alert and able to protect their own airway. Patient should be explained the procedure when possible.
2. Turn patient on side or sit them upright and suction oropharynx.
3. If cuff was used, deflate cuff completely.
4. Removing the tube should occur while the patient is exhaling.
5. Gently but quickly remove the tube to avoid the gag reflex.
6. Patient may have a cough or sore throat.

Approved: _____

Approved as to Form: _____