A-P5 ENDOTRACHEAL INTUBATION		First Responder EMT AEMT Paramedic

***If available*, the use of a *Video Laryngoscope* is MANDATORY on ALL endotracheal intubation attempts, and a BOUGIE is mandatory on the second and all subsequent attempts.**

Indications

- See Airway/O2 Maintenance [**A-01**] for indications/decision-making
- See Drug-Assisted Intubation/RSI [**A-04**], if needed

Equipment (*age appropriate*)

- Manual resuscitator device (BVM) with O_2 delivery system
- Oral & nasal airways (OPA/NPA)
- Endotracheal intubation equipment:
  - Laryngoscope handle and appropriate blade
  - Endotracheal tube, stylet, and 10 cc syringe
  - Lubricant (such as xylocaine jelly)
  - Suction equipment
  - Tape or securing device
  - Secondary device to verify tube placement (e.g. color capnography or $ETCO_2$)
- RSI medications [see **A-04**]
- Rescue equipment:
  - Magill forceps
  - Needle Crich [**A-P7**] supplies (or similar kit):
    - Cleanser (betadine, chloraprep, etc.)
    - Large-bore angiocath/IV needle (like for chest decompression)
    - 3 mL syringe and an ETT adapter for BVM (usually from a 7.5 ETT)
  - Surgical Crich [**A-P7**] supplies (or similar kit):
    - Cleanser (betadine, chloraprep, etc.)
    - Scalpel (#11 blade)
    - Curved sharp hemostat (or trach hook)

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Prepare the patient:

- Position the patient for optimal visualization, providing c-spine stabilization as needed (consider removing the anterior portion of the collar).
- Preoxygenate with high flow O_2 via NRB for 2 or more minutes if possible. (*This establishes an oxygen reserve which will allow for several minutes of apnea.*)
- Assist with a manual resuscitator only if spontaneous ventilation is inadequate/absent. (*Avoiding positive pressure ventilation will help prevent gastric insufflation*)
- Establish IV access, and if potentially/currently hypotensive provide fluids.
- Attach cardiac monitor and pulse oximetry, and **end-tidal CO_2**..

Procedure (Endotracheal Intubation)

- Consider the need for Sedation/Paralytic Medications per Drug-Assisted Intubation Guideline [**A-04**]
- Have all equipment within reach (*see above*).
- Position the patient and the patient's head in the best position possible.
    - Supine with head extended is optimal.
    - Consider removing the anterior c-collar, and have an assistant hold spinal immobilization if indicated by Spinal Immobilization Guideline [**1-06**].
    - Consider a roll under the patient's shoulders (especially in children).
- Provide 100% O2 and ventilation assistance only if needed.
- Advance the laryngoscope blade and identify the epiglottis.
    - Insert the blade on the right side of the mouth, sweeping the tongue out of the way as the blade is advanced.
    - The epiglottis should be visualized around the base of the tongue.
    - The vocal cords will be just behind (inferior and anterior to) the epiglottis.
    - To help with visualization consider applying cricoid pressure (Sellick Maneuver), or gentle backward/upward/rightward pressure (BURP Technique).
    - If the epiglottis cannot be visualized, slowly remove the blade and it will likely drop into view.
    - If the epiglottis obscures the vocal cords consider repositioning the patient, using a straight (Miller) blade--especially in children--to lift the epiglottis, OR consider using a Bougie introducer [**A-P6**] as an adjunct to advance the tube.
- Advance the ET tube with introducer or over the Bougie.
- Inflate the cuff, remove stylet, ventilate and confirm ET tube placement (*as below*).
- Always observe for oxygen desaturation (<95%) and begin ventilating back to 100% before reattempting intubation.

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Verify Correct ETT placement

- Visualize vocal cords and tube passage during **ETT** placement
- Auscultate bilateral breath sounds and abdomen to determine if air entry is adequate and symmetrical to all lung fields and absent over the epigastrium.
- Observe for symmetric chest wall expansion with ventilation
- Apply an secondary confirmation device (color capnography, $ETCO_2$, etc.)
- Secure and document appropriate depth mark at lips in accordance with **ETT** size

Documentation Requirements

- Indication for intubation
- Pre-oxygenation prior to intubation and oxygen saturation
- Classification and condition of airway: clear, emesis, blood, etc.
- Difficulty with the procedure, including number of attempts
- Tube size, depth of insertion, and how the tube is secured
- Who performed the procedure
- Cricoid pressure, manual c-spine immobilization, or similar maneuvers if used
- Means by which patient was ventilated **after** intubation and oxygen delivered
- Cardiac rhythm
- Status of ETT and vitals/condition after each movement of patient (breath sounds, oxygen saturation, End tidal CO_2, clinical improvement/stability, etc.)

QI Review Parameters:

1.