

A-PA4 ENDOTRACHEAL INTUBATION



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.

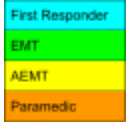
Indications

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

Equipment (*age appropriate*)

- Manual resuscitator device (BVM) with O₂ 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 ETCO₂)
- RSI medications [see **A-04**]
- Rescue equipment:
 - Magill forceps
 - Needle Crich [**A-PA6**] 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-PA7**] 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 O₂ 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 CO₂**.

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-PA5**] 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.

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, ET CO_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.