

TRAUMA PRACTICE MANAGEMENT MANUAL

2. CLINICAL MANAGEMENT GUIDELINES A. Emergency Airway Management

Emergency Airway Management Guideline

Purpose:

To provide a standardized approach to emergency airway management for trauma patients.

Scope:

Applicable in all clinical settings.

Responsibility:

Emergency Medicine Physicians, Anesthesiologists, Trauma Surgeons, and Respiratory Therapists.

Overview:

1. Decision-Making Authority:

The Trauma Attending Physician has the primary responsibility for deciding when a definitive airway is required. If airway difficulty is anticipated or identified, the decision will be made in consultation with the on-call Anesthesiologist.

2. Providers and Initial Airway Management:

- **Emergency Medicine (EM) Physicians** will make the initial attempt to establish an airway using orotracheal intubation with video laryngoscopy (VL) for patients in the trauma bay.
- **Escalation to Anesthesiologists:** For patients outside of the trauma bay, and for patients in the trauma bay where the EM physician's attempt is unsuccessful or if a difficult airway is anticipated, the on-call Anesthesiologist will assume responsibility for airway management. Anesthesiologists are physically present for Level I trauma activations.
- **Respiratory Therapists (RTs):**
 - RTs will assist with pre-oxygenation and setup of airway management equipment.
 - RTs with completed intubation competency may attempt intubation under direct supervision of a qualified provider (Anesthesiologist, EM Physician, or Trauma Surgeon) if delegated.
- **Trauma Surgeons** will be consulted for additional surgical airway interventions (e.g., cricothyroidotomy) if other methods fail or are not feasible.

3. Indications for Intubation:

- Airway obstruction
- Hypoventilation or persistent hypoxemia (SaO₂ <90%) despite supplemental oxygen
- Severe cognitive impairment (Glasgow Coma Scale ≤ 8)

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- Severe hemorrhagic shock
- Cardiac arrest
- Facial or neck injury with potential airway obstruction
- Cervical spinal cord injury with respiratory insufficiency
- Smoke inhalation injury with potential for airway obstruction
- Persistent combativeness refractory to pharmacologic agents

4. Procedural Options for Airway Management:

- **Primary Technique:** Orotracheal intubation with video laryngoscopy (VL).
- **Additional Techniques:** If VL fails, consider:
 - Direct laryngoscopy
 - Supraglottic devices (e.g., LMA, Combitube, King Airway)
 - Bougie-assisted intubation
 - Surgical cricothyroidotomy
 - Fiberoptic intubation
- **Rapid Sequence Intubation (RSI):** Preferred method for airway management in trauma patients.
 - All patients are treated as having a full stomach; maintain cervical spine precautions.
 - Pharmacologic agents for RSI (Succinylcholine, Rocuronium, Etomidate, Midazolam, Propofol, Ketamine) should be chosen based on patient factors (e.g., hemodynamic stability, traumatic brain injury).

5. Difficult Airway Management and Escalation:

- Use the **LEMON** mnemonic to assess difficult airways:
 - **L:** Look externally (e.g., facial trauma, large teeth)
 - **E:** Evaluate (3-3-2 rule: incisor distance, hyoid-mental distance, thyroid to mouth distance)
 - **M:** Mallampati score
 - **O:** Obstruction signs
 - **N:** Neck mobility (requirement for cervical in-line stabilization)

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○ **Escalation Pathway:**

- If the initial intubation attempt fails, notify the **Anesthesiologist** immediately for assistance.
- If the Anesthesiologist cannot secure the airway, escalate to the **Trauma Surgeon** for surgical airway consideration.
- Use the **Code Blue** protocol for rapid multidisciplinary response, including Anesthesia, Trauma Surgery, and Respiratory Care Teams, if the patient's condition deteriorates or airway compromise is imminent.

6. Confirmation of Successful Intubation:

- Verify tube placement through:
 - Direct visualization of the endotracheal tube passing through the vocal cords.
 - End-tidal CO₂ monitoring or continuous waveform capnography.
 - Bilateral breath sound auscultation.
 - Chest radiograph as a secondary confirmation.
- In case of failed intubation or need for tube exchange, use an airway exchange catheter or fiberoptic bronchoscopy.

7. Surgical Airway Consideration:

- If oral intubation fails after three attempts or in cases of complex maxillofacial trauma, consider a surgical airway as the first or best choice. The **Trauma Surgeon** will perform the surgical airway, with support from the Anesthesiologist and Respiratory Therapists.

References:

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