Airway Management

MCA'S are responsible for training on all airway devices, techniques, securing methods and documentation. All pediatric advanced airway interventions will have a 100% review by the MCA. All cricothyroidotomy procedures will have a 100% review by the MCA.

	MFR	EMT	EMT-A (Specialist)	PARAMEDIC
Basic Airway				
Oropharyngeal Airway	X	X	X	X
Nasopharyngeal Airway	X	X	X	X
Bag-Valve-Mask Ventilation	X	X	X	X
Oral Suctioning	X	X	X	X
CPAP		X	X	X
Advance Airway-Supraglottic				
i-Gel (Adult sizes)	MCA Selection Required	X	X	X
i-Gel (Pediatric sizes)				X
Air-Qsp3 or AirQsp3G (Adult sizes only patients > 35 kg)		X	X	X
LMA Supreme (Adult and Pediatric sizes)		X	X	X
King (Adult and Pediatric sizes)		X	X	X
Advance Airways Paramedic Only				
Oral Endotracheal Intubation				X
Needle / Surgical Cricothyroidotomy				MCA Selection Required
Tracheal Suctioning				X
Monitoring				
Waveform capnography		MCA Selection Required	X	X
Numeric capnometry		X	X	X
Colorimetric capnometry	X	X	X	X

Management Overview

1. Maintain a patent airway
2. Provide effective oxygenation and adequate ventilation using the least invasive possible method to achieve those goals paired with pulse oximetry and end-tidal capnography (EtCO2) data
3. Anticipate, recognize, and alleviate respiratory distress
4. Provide necessary interventions quickly and safely to patients with the need for respiratory support
5. Anticipate, identify, and plan for a potentially difficult airway
6. Optimize the patient for any advanced airway attempt

Indications

1. Airway obstruction
2. Need for positive pressure ventilation
   a. Respiratory or cardiac arrest (including agonal respirations)
   b. Respiratory failure (inadequate respiratory rate/volume)
3. Airway protection, such as an unconscious patient without a gag reflex.
4. Trauma patient with a Glasgow Coma Score of 8 or less.
5. Patients with signs of severe respiratory distress/respiratory failure
6. Patients with evidence of hypoxemia or hypoventilation with medical or traumatic etiology

Contraindications

1. Presence of a gag reflex may be a contraindication to some specific airway interventions.
2. Specific supraglottic airways may have contraindications due to caustic ingestion or known esophageal varices.

Pediatrics

1. Pediatric patients should not be intubated UNLESS efforts to manage the airway from least invasive methods (OPA, NPA, BVM) to more invasive airways (supraglottic airways) are ineffective.
2. Refer to MI MEDIC cards for device sizes.

AIRWAY MANAGEMENT
(Basic Airway Management)

1. In cases of foreign body airway obstruction, refer to **Foreign Body Airway Obstruction-Treatment Protocol.**
2. Patients with significant respiratory distress should have continuous pulse oximetry.
3. Patients with significant respiratory distress should have waveform capnography monitoring for both assessment and for guiding therapy.
4. UNCONSCIOUS PATIENTS
   a. When the airway is not self-maintained, open the airway using basic maneuvers (chin lift or jaw thrust). Patients with a potential cervical spine injury should have a modified jaw thrust performed attempting to minimize neck flexion and extension.
   b. Perform oral pharyngeal suctioning as needed to remove body fluids and minimize risk of aspiration. When possible, suctioning should be limited to no more than 15 seconds and should not extend beyond the pharynx.
   c. In unconscious patients without a gag reflex, insert a properly sized oropharyngeal airway. Immediately remove upon return of gag reflex.
   d. In unconscious patients with gag reflex, consider insertion of a properly sized nasopharyngeal airway, using water-soluble lubrication when available.
5. CONSCIOUS PATIENTS
   a. CPAP should be considered early for patients with severe respiratory distress that do not improve with supplemental oxygen administration (see **Oxygen**

Administration – Procedure Protocol) in accordance with the **CPAP-Procedure Protocol**

(Positive Pressure Ventilation)

6. In patients requiring bag-valve-mask ventilations, consider inserting both oral and nasopharyngeal airways to optimize ventilations.
7. For patients with respiratory arrest or significant respiratory depression (e.g., adult patient with respiratory rate less than 8 per minute) perform bag-valve-mask (BVM) ventilations.
    a. Note: BVM ventilations should be performed by 2 rescuers whenever possible. Use supplemental oxygen and reservoir system, focusing on adequate chest rise and ventilations that are not too forceful.
8. Ventilate at an appropriate rate. Avoid hyperventilation. Generally appropriate rates for ventilation are:
    a. Adults >8 y/o 10 breaths / minute
    b. Children 1-8 y/o 20 breaths / minute
    c. Infants < 1 y/o 25 breaths / minute
9. A pocket mask or face shield is an acceptable alternative for single rescuer ventilations.
10. When caring for patients with stomas, use pediatric masks over the stoma to achieve seal.
11. For patients with a tracheostomy tube and home ventilator connect BVM (without mask) directly to tracheostomy tube and ventilate at appropriate rates.

(Advanced Airway)

12. Use of sedation to facilitate advanced airway placement is prohibited.
13. In the adult patient (> 14 years of age), providers may consider continuing basic airway management techniques (instead of advanced airway) if the airway is able to be maintained adequately.
14. In the pediatric patient (≤ 14 years of age), providers must continue basic airway management, unless the airway is unable to be adequately maintained at which time the provider must move to an advanced airway.
15. Advanced Airways must be:
    a. Placed in accordance with manufacturer's instructions and/or MCA approved training.
    b. Confirmed by positive end-tidal CO_2. Refer to **End Tidal Carbon Dioxide Monitoring-Procedure Protocol**
    c. Confirmed by auscultation for absence of gastric sounds and presence of bilateral lung sounds.
        i. Additional clinical findings consistent with a properly placed advanced airway include chest expansion, improvement in patient's color, and improvement in pulse oximetry.
    d. Re-confirmed at frequent intervals throughout the care of the patient, and after each patient movement.

16. Advanced Airways **MUST** have the following documented:

DEVICE SPECIFICS/PLACEMENT	CONFIRMATION	ADDITIONAL
Type of Device: ET/King/i-gel, etc., specify make of device when more than one option approved in the MCA (e.g., Air-Qsp3 vs AirQsp3G)	Type of end tidal CO2 monitoring used: (waveform capnography, numeric only capnometry, colorimetric capnometry)	Method for securing device
Size of Device	Serial readings of capnography/capnometry	Any complications encountered
Visualization of vocal cords (ET only)	Chest rise with ventilation	Gastric decompression if applicable
Number of attempts to place device	Equality of lung sounds	Tracheal suctioning if applicable
Tube measurement (cm) at teeth for ET and all other devices with measurement markings	Absence of epigastric sounds	
Which tube used for ventilation (Combitube)	Ventilation compliance	

17. Supraglottic Airways (SGA) (may be MFR skill per MCA selection)
    a. Each MCA must select at least one state-authorized supraglottic airway for use in their system.
    b. MCAs are responsible for training for all airway devices selected.
        i. Training MUST include:
            1. Procedures, indications, contraindications and securing for the specific device.
        ii. Training must be submitted to MDHHS.
    c. MCAs selecting more than one supraglottic airway device must maintain and submit to MDHHS, a roster of agencies utilizing non-primary devices.
        i. A roster of all MFR agencies utilizing i-Gels (regardless if primary MCA SGA) must be maintained by the MCA and submitted to MDHHS.

MCA Selection of SGA Device (Must select at least one and a primary)

Primary MCA SGA	Allowable MCA SGA	
Select ONLY ONE	Select AT LEAST ONE	
☑	☑	i-Gel
		☑ MFR use of i-Gel
☐	☑	Air Qsp3/Air Qsp3G
☐	☑	King
☐	☐	Combitube
☐	☑	LMA Supreme

18. Orotracheal Intubation under direct laryngoscopy should be considered when less invasive methods are ineffective, or inappropriate.
    a. Adult patients (> 14 years of age) who do not have a gag reflex, are unable to protect their own airway, require sustained positive pressure ventilation, or are in cardiac arrest.
    b. Pediatric patient (≤ 14 years of age) **MUST** meet **ALL** the following criteria:
        i. Do not have a gag reflex and are unable to protect their own airway.
        ii. Require sustained positive pressure ventilation and all basic airway techniques have been exhausted or proven inadequate (2-person mask ventilation with oropharyngeal airway and/or nasopharyngeal airway, suctioning)
        iii. Supraglottic airway is unavailable or has been attempted and proven ineffective.
    c. Pediatric patient (<14 years of age) refer to MI MEDIC cards for airway device sizes.
19. Deep tracheal suctioning may be performed when indicated using sterile technique and suctioning only during withdrawal of catheter.
    a. Maximum suction time:
        i. Adult patients > 14 years of age: maximum 10 seconds
        ii. Pediatric patients ≥ 1 year of age and ≤ 14 years of age: maximum 10 seconds
        iii. Pediatric patients< 1 year of age): maximum 5 seconds

20. Needle and/or other cricothyroidotomy procedure (per MCA selection) may be performed when:
    a. Airway compromise from injury is present that prevents ventilation with basic techniques and makes supraglottic airway insertion or orotracheal intubation impractical.
    b. The patient needs immediate airway management.
    c. A complete airway obstruction that cannot be corrected by any other means (see **Foreign Body Airway Obstruction – Treatment Protocol**)

(Cricothyroidotomy per MCA Selection)

- ☐ NO Cricothyroidotomy
- ☑ Cricothyroidotomy (select all that apply below)
    - ☑ Surgical cricothyroidotomy
    - ☑ Needle cricothyroidotomy
    - ☑ MCA approved commercial percutaneous cricothyroidotomy device

21. Sedation for tube tolerance following successful tube placement may be indicated in accordance with the **Patient Procedural Sedation-Procedure Protocol.**