

2019 Maine EMS Comprehensive Airway Review Program

The purpose of this outline is to provide a list of the airway topics that must be covered in a comprehensive airway review program. Excellent management of an airway is key to reducing the morbidity and mortality of critically ill or injured patients. Proficiency in airway management requires regular training and quality review of airway cases. Airway skills are used infrequently, but have such high criticality that review and practice should happen frequently throughout the year.

The comprehensive review outlined in this document, provides the guidance needed to assure all areas of airway management are covered. The review will include:

- Airway management strategies for geriatric, adult, and pediatric populations.
- Airway management techniques with an emphasis on best practices and skill development.
- Performance of common and seldom used airway management skills with peer review and feedback.
- Development of critical thinking skills for assessing patient needs and utilizing the best techniques and equipment to achieve patient goals as it related to airway management.
- Best practices for documentation of airway management.

The teaching content must be derived from recent or continually substantiated, evidence based, peer-reviewed, and reputable research. Each instructor should develop their comprehensive airway program using resources – including people and equipment - that are available within their EMS service, region, state and nationally. The regional EMS medical director and EMS training centers can serve as resources for both content expertise and equipment. Ideally the equipment used for airway training should be the same as used for actual field practice. Human models (live people), as appropriate for non-invasive skills such as ventilation with a bag valve mask device, as well simulation mannequins for invasive procedures should be used to practice and develop airway skills and techniques. Maine EMS airway protocols should be reviewed. The goal is to prepare EMS providers at all levels to proficiently manage airways at the scope of their practice, assist other members of the EMS team with airway management, apply critical thinking skills to assessment and the airway needs of the patients and provide thorough, organized documentation of airway management.

Anatomy Review of Airway:

- Upper and lower airway
- Ventilation versus respiration
- Gas exchange
- Procedural landmarks

Opening Airway –

- Airway maneuvers

- Positioning
- Padding
- Airway adjuncts – oral and nasal

Assessing the need for maintaining an airway:

- Inspecting the airway
 - Mouth opening and size
 - Facial hair and tissue
 - Teeth
 - Dentures
 - Obstructions
 - Blood and other secretions
 - Surgical openings (E.g. stoma, tracheostomy)
- Adequacy of patient ventilation and oxygenation
 - Rise and fall of chest
 - Symmetry
 - Rate, rhythm, quality, and depth
 - Level of consciousness
 - Lung sounds
 - Oxygen saturation
 - End tidal carbon dioxide
 - Other contemporary monitoring devices
- Anticipating complications
 - Difficult airway assessment methods and mnemonics
 - Pre-existing conditions
 - Injuries
 - Structural abnormalities
- Documentation of the airway assessment

Clearing an airway –

- Positioning
- FBAO removal techniques
- Magill forceps
- Suction methods and devices
 - Techniques for suctioning the upper airway
 - Techniques for suctioning the lower airway
 - Usage and selection of suction catheters and devices

Continuous Positive Airway Pressure (CPAP)

- Decision-making process
 - Advantages and disadvantages
 - Indication and contraindications
 - Assessment of need
- Equipment needed
- Sizing
- Positioning of patient
- Placement technique
- Assessing placement
- PEEP and FiO₂ selection
- ETCO₂ Monitoring
- Medication usage with CPAP
- Removal
- Documentation
- Troubleshooting

End tidal Carbon Dioxide and Capnography

- Waveform identification
- Treatment indications based on capnometry and capnogram

Ventilation Devices and Adjuncts

Bag Valve Mask Device (BVM)

- Bag-valve device selection
- Mask selection and placement
- Mask seal techniques and strategies
- Ventilation rates and depth
- ETCO₂
- Troubleshooting
- Special conditions –
 - E.g. Head injury, asthma, etc.

Preparation for and insertion of an extraglottic airway device:

- Decision-making process
 - Advantages and disadvantages
 - Indications and contraindications
 - Assessment of need
- Equipment needed and checklist
- Back up equipment
- Sizing
- Positioning of patient and airway

- Placement technique
- Securing device
- Confirming placement
- ETCO₂
- Placement of gastric tube
- Medications
- Removal
- Documentation
- Troubleshooting
- Special conditions –
 - E.g. Head injury, asthma, etc.

Preparation for and insertion of Endotracheal Tube – oral, nasal, direct video laryngoscopy:

- Decision making process
 - Advantages and disadvantages
 - Indications and contraindications
 - Assessment of need
- Equipment needed and checklist
- Back up equipment
- Sizing
- Positioning of patient and airway
- Placement technique
- Securing device
- Confirming placement
- ETCO₂
- Placement of gastric tube
- Medications
- Removal
- Documentation
- Troubleshooting
- Special conditions –
 - E.g. Head injury, asthma, etc.

Surgical Airway and Needle Cricothyrotomy

- Decision-making process
 - Advantages and disadvantages
 - Indications and contraindications
 - Assessment of need
- Equipment needed
- Preparation of equipment
- Performing technique
- Confirming placement

- Securing device
- Documentation
- Troubleshooting

Chest Decompression:

- Decision-making process
 - Advantages and disadvantages
 - Indications and contraindications
 - Assessment of need
- Equipment needed
- Preparation of equipment
- Performing technique
- Confirming placement
- Securing device
- Documentation
- Troubleshooting

Gastric Tubes:

- Decision-making process
 - Advantages and disadvantages
 - Indications and contraindications
 - Assessment of need
- Equipment needed
- Preparation of equipment
- Performing technique
- Confirming placement
- Securing device
- Documentation
- Troubleshooting

Protocol Review:

- Maine EMS – Prehospital Protocols – pertinent protocol review

Service Specific Device Review:

- Examples might include; ventilators, Turkel needles, transtracheal jet ventilation, etc.
- VL device trouble shooting
 - Screen stops working
 - Battery is dead
 - Etc.