adequate oxygenation. Color change on $EtCO_2$ is less accurate than clinical assessment, and wave-form capnography is superior. Misting observed in the tube is not a reliable method of confirmation. Re-visualization with video laryngoscopy, when available, may assist in confirming placement when unclear due to capnography failure or conflicting information

j. Video laryngoscopy may be a useful tool for endotracheal intubation in the hands of a practiced clinician

6. Manual vs. Mechanical ventilation: If mechanical ventilation is available, it is preferred to manual ventilation due to the increased consistency of tidal volume and ventilatory rate, and its ability to limit risk of overventilation. [See Mechanical Ventilation (Invasive) Guideline]
7. For patients being transferred from a hospital ventilator to a transport ventilator, the patient's current ventilator settings are generally a reasonable starting point if the patient is being adequately oxygenated and ventilated based on pulse oximetry and capnography
8. Currently, there is limited experience with high-flow nasal cannula in the EMS environment, so evidence-informed recommendations are not included in this guideline
9. Anxiety should be presumed due to hypoxia or inadequate minute ventilation and treated primarily with ventilatory support. Routine use of sedation is not recommended for treatment of anxiety in patients on NIV

Pertinent Assessment Findings

1. Ongoing assessment is critical when an airway device is in place.
2. Acute worsening of respiratory status or evidence of hypoxemia can be secondary to displacement or obstruction of the airway device, pneumothorax, or equipment failure

Quality Improvement

Associated NEMSIS Protocol(s) (eProtocol.01) *(for additional information, go to www.nemsis.org)*

- 9914001 – Airway
- 9914133 – Medical - Newborn/Neonatal Resuscitation

Key Documentation Elements

- Initial vital signs and physical exam
- Interventions attempted including the method of airway intervention, the size of equipment used, and the number of attempts to achieve a successful result
- Indications for advanced airway management
- Subsequent vital signs and physical exam to assess for change after the interventions
- Occurrence of peri-intubation hypoxia (less than 90% SPO_2), bradycardia (per age), hypotension (SBP less than 90mmHg or lowest age-appropriate SBP) or cardiac arrest. The peri-intubation period encompasses the time from sedative administration to up to 10 minutes post any invasive airway attempt
- Post-intubation with advanced airway, $EtCO_2$ value and capnograph should be documented immediately after airway placement, with each patient movement (e.g., into and out of ambulance), and at the time of patient transfer in the ED
- Recordings of video laryngoscopy may be useful for quality improvement purposes