

Vomiting

Causative Factors	Suggested Approach
<p>Asynchronous BVM ventilation in the spontaneously breathing patient</p>	<ul style="list-style-type: none"> ▪ Able to maintain SPO₂ >90% with oxygen face mask (OFM)? → Continue ▪ Failure to maintain SPO₂ >90% with OFM? → Synchronously assist ventilation with BVM & high flow oxygen. ▪ Minimize gastric distention by providing low to moderate inspiratory flows with BVM e.g. 2 seconds to deliver tidal volume <p>* For tachypneic patients, recommend assisting respiration on a 1:2 to 1:3 ratio</p>
<p>Excessive BVM ventilation in the obtunded patient</p>	<ul style="list-style-type: none"> ▪ Able to maintain SPO₂ >90% with oxygen face mask (OFM)→ Continue ▪ Placement of Oropharyngeal airway ▪ Unable to maintain SPO₂ > 90% → Synchronously assist ventilation with BVM, and sellicks maneuver
<p>Positive pressure (BVD) ventilation of the esophageally placed endotracheal tube</p>	<ul style="list-style-type: none"> ▪ ETCO₂ measurement in concert with initial attempt to ventilate ▪ Recognize esophageal placement immediately ▪ Discontinue BVD ventilations as soon as ETT determined to be esophageally placed. <p>* Maintain high index of suspicion in cases of: gastric content in ETT, difficulty ventilating and deteriorating physical exam and hemodynamic measurements</p>
<p>BVM ventilation in the chemically paralyzed patient (unprotected glottis)</p>	<ul style="list-style-type: none"> ▪ (2) Person BVM ventilations ▪ Oropharyngeal airway ▪ Ensure adequate manual airway opening (jaw thrust) ▪ Sellicks maneuver (Cricoid pressure) ▪ Limit excessive BVM tidal volumes

Aspiration

System Impact	Affect	Result
Cardiopulmonary	Diffusion Defect: Aspirate content hinders gas exchange and ability for oxygen to efficiently diffuse across alveolar capillary membrane	<ul style="list-style-type: none"> ▪ Difficulty maintaining adequate PaO₂ and ability to optimally supply oxygen to cell's ▪ Often requires use of high and prolonged levels of oxygen and PEEP ▪ Prolonged ventilator days ▪ Prolonged ICU/Hospital length of stay ▪ Need for bronchoscopy
Pulmonary	Aspirate content triggers pulmonary inflammation lung tissue injury (chemical pneumonitis)	<ul style="list-style-type: none"> ▪ Inflamed and stiffened lung tissue requires higher inspiratory pressures in order to adequately ventilate. ▪ High inspiratory pressures predispose damaged lung to pneumothorax ▪ Inflamed and damaged lung reduces inspiratory volumes hindering abilities to oxygenate and ventilate ▪ Often requires use of high level and complex ventilator strategies such as High Frequency Oscillation Ventilation (HFOV) ▪ Prolonged ventilator days ▪ Prolonged ICU/Hospital length of stay ▪ Need for bronchoscopy
Central Nervous System	Secondary Brain Injury	<ul style="list-style-type: none"> ▪ Hinders ability to optimally oxygenate the injured brain ▪ Prolonged ventilator days ▪ Prolonged ICU/Hospital length of stay
Immunologic	Pulmonary Infection	<ul style="list-style-type: none"> ▪ Aspiration Pneumonia ▪ Sepsis ▪ Prolonged ventilator days ▪ Prolonged ICU/Hospital length of stay