Table 11: Complications of Invasive Mechanical ventilation

Adverse Physiologic Effects

- Impaired cardiac function
- Increased intracranial pressure
- Gastric distension
- Respiratory alkalosis
- Renal and hepatic dysfunction

Dynamic Hyperinflation and Auto-PEEP

Clinical Barotrauma (ventilator-related extra-alveolar air)

- Pulmonary interstitial emphysema
- Systemic air embolism
- Pneumomediastinum
- Pneumothorax
- Pneumoretroperitoneum/pneumoperitoneum

Complications of Intubation, Tracheostomy, and Artificial Airways

During intubation or performance of tracheotomy

- Difficult intubation; loss of airway
- Tissue injury; hemorrhage

While tube is in place

- Increased airway secretions
- Loss of endogenous humidification system
- Impaired mucociliary clearance
- Mucosal injury
Table 11, continued:

Alteration of mouth flora/lower airway colonization
Increased work of breathing
Loss of ability to speak
During extubation or decannulation
After extubation or decannulation
Immediate (laryngeal edema, vocal cord dysfunction)
Early (aspiration, pneumonia)
Late (tracheal stenosis)

Consequences of Ventilator Malfunction

Ventilator-Associated Pneumonia

Agitation and Respiratory Distress developing during mechanical ventilation

Worsening Oxygenation During Mechanical Ventilation

Ventilator-related problems
Progression of underlying disease
Onset of new medical problem
Effects of interventions/procedures
Medications

Technological/Communication Problems