

Table 3: Clinical Indications for Invasive Mechanical Ventilation

Apnea or impending respiratory arrest

Exacerbation of COPD*, with dyspnea, tachypnea, and acute respiratory acidosis (hypercapnia and decreased arterial pH), plus at least one of the following:

- Acute cardiovascular instability
- Altered mental status or persistent uncooperativeness
- Inability to protect the lower airway
- Copious or unusually viscous secretions
- Abnormalities of the face or upper airway that would prevent effective NPPV
- Progressive respiratory acidosis or other deterioration despite intensive initial therapy, including noninvasive ventilation

Acute ventilatory insufficiency in neuromuscular diseases, in the presence of any of the following:

- Acute respiratory acidosis (hypercapnia and decreased arterial pH)
- Progressive decline in vital capacity to less than 10-15 mL/kg
- Progressive decline in maximum inspiratory pressure to less than 20-30 cm H₂O

Acute hypoxemic respiratory failure with tachypnea, respiratory distress, and persistent hypoxemia despite administration of high FiO₂ via high-flow system, or in the presence of any of the following:

- Acute cardiovascular instability
- Altered mental status or persistent uncooperativeness
- Inability to protect the lower airway

Presence of the need for endotracheal intubation to maintain or protect the airway or to manage secretions, in the following settings:

- Endotracheal tube 7.0 mm internal diameter or less with minute ventilation > 10 L/min
- Endotracheal tube 8.0 mm internal diameter or less with minute ventilation > 15 L/min

In the absence of the above conditions, emergent intubation and mechanical ventilation are not necessarily indicated in the following circumstances before other therapies have been tried:

- Dyspnea; acute respiratory distress
- Acute exacerbation of COPD
- Acute severe asthma
- Acute hypoxemic respiratory failure in immunocompromised patients
- Hypoxemia as an isolated finding
- Traumatic brain injury
- Flail chest

*Also applies to acute severe asthma if respiratory acidosis or airflow obstruction has worsened despite aggressive management.