

Table. Common Respiratory Conditions for Which Mechanical Ventilation Is Often Used, with Suggestions for Ventilatory Modes and Settings

CONDITION:	INITIAL VENTILATORY MODE	INITIAL SETTINGS
Respiratory failure (WITHOUT underlying lung disease)	AC (PRVC) or SIMV	RR: 10-12 breaths/min Initial FiO ₂ : 95-100% TV: ~ 8-10 mL/kg ideal body wt. +/- starting PS of 10 cm H ₂ O (may titrate up to 30 cm H ₂ O) I:E ratio: conventionally 1:2 to 1:4 PEEP: 0-5 cm H ₂ O
Respiratory failure due to severe COPD or asthma	Consider trial of BiPAP if no contraindications exist AC (PRVC) or SIMV if BiPAP not indicated, or following BiPAP failure	IPAP: 8-20 cm H ₂ O (try starting with 10-12 cm H ₂ O) EPAP: 0-15 cm H ₂ O (try starting with 5 cm H ₂ O) There must be a pressure gradient of at least 5 cm H ₂ O between IPAP and EPAP. "Lung-protective strategy" for IPPV: RR: 6-8 breaths/min Initial FiO ₂ : 95-100% TV: 4-6 mL/kg ideal body wt. I:E ratio: expiratory time is increased (by increasing inspiratory flow rate) in order to permit adequate exhalation PEEP: 0-5 cm H ₂ O Plateau airway pressure limit = 30 cm H ₂ O Permissive hypercapnea strategy: Monitor pH, correct pH < 7.2 by increasing RR if possible, or with IV NaHCO ₃
Respiratory failure due to ARDS or fluid overload (e.g. CHF)	Consider trial of BiPAP if no contraindications exist AC (PRVC) or SIMV if BiPAP not indicated, or following BiPAP failure	IPAP: 8-20 cm H ₂ O (try starting with 10-12 cm H ₂ O) EPAP: 0-15 cm H ₂ O (try starting with 5 cm H ₂ O) There must be a pressure gradient of at least 5 cm H ₂ O between IPAP and EPAP. "Lung-protective strategy" for IPPV: RR: 16-18 breaths/min Initial FiO ₂ : 95-100% TV: 4-6 mL/kg ideal body wt. I:E ratio: 1:2 - 1:1; expiratory time is decreased (as tolerated by peak airway pressures) in order to improve oxygenation PEEP: start 0-10 cm H ₂ O, titrate up to improve oxygenation Plateau airway pressure limit = 30 cm H ₂ O Permissive hypercapnea strategy: Monitor pH, correct pH < 7.2 by increasing RR if possible, or with IV NaHCO ₃