



Notes/Educational Pearls

Key Considerations

1. It is important to understand the patient's underlying pulmonary status to choose the appropriate type of ventilation (volume or pressure) and mode (AC or SIMV most common)
 - a. Volume control ventilation is generally preferred initially in adults with compliant lungs (P_{Plat} less than 30) because of better control of minute ventilation
 - b. Pressure control ventilation can be used in patients with non-compliant lungs and elevated P_{Plat}
 - c. Assist Control (AC) mode is acceptable for most patients and provides best control of minute ventilation. Synchronized Intermittent Mandatory Ventilation (SIMV) is an alternative option

Pertinent Assessment Findings

1. Perform a pre-ventilator use inspection including a circuit check on the ventilator prior to placing it on a patient
2. Assess values during transport, including:
 - a. Peak inspiratory pressure (PIP) Compare against baseline value to monitor for compliance changes or obstruction in the circuit
 - b. Respiratory rate. Compare with baseline value, rapid increases could indicate leaks. Overbreathing may require vent setting adjustment
 - c. Exhaled tidal volume. Compare against baseline, if extreme fluctuations, check for leaks in circuit and in ET tube
 - d. Monitor the I:E ratio. 1:2 or 1:3 for normal lungs, longer E times may be needed for patients with obstructive or restrictive lung disease

Quality Improvement

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

None noted

Key Documentation Elements

Documentation of ventilator settings and monitored values should include:

1. Ventilator Settings: Volume or pressure breaths; mode; respiratory rate; inspiratory time; tidal volume or pressure, PEEP, FiO₂; sensitivity
2. Patient Values (baseline and repeated): Peak inspiratory pressure (PIP); exhaled tidal volume; respiratory rate; I:E ratio; minute volume; EtCO₂; SPO₂

Performance Measures

None noted