

Mechanical Ventilation: Pressure Support, Pressure Control, and Volume-Assured Pressure Support (Respiratory Therapy)

CHECKLIST

S = Satisfactory U = Unsatisfactory NP = Not Performed

Step	S	U	NP	Comments
Performed hand hygiene before patient contact.				
Introduced self to the patient.				
Assessed the need for mechanical ventilation before initiating ventilator support.				
Before initiating mechanical ventilation, ensured that the ventilator and associated equipment were functioning properly per the manufacturers' specifications and the organization's practice. Checked the system microprocessor or ventilation system, circuit compliance, HME or humidifier, and filters, and performed a circuit leak test.				
Ensured that the patient and family understood preprocedure teaching. Answered questions as they arose and reinforced information as needed.				
Ensured that the patient was positioned with the head of the bed elevated 30 to 45 degrees, unless contraindicated.				
Pressure Support Ventilation (PSV)				
Performed hand hygiene and donned gloves.				
Explained the procedure to the patient and ensured that he or she agreed to treatment.				
Selected the PSV level to lower the spontaneous respiratory rate to less than or equal to 20 breaths/min and to attain a VT of 6 to 8 ml/kg IBW. If necessary, increased the VT if the PaCO ₂ increased or decreased below the normal values, causing the patient to become hypercarbic or alkalotic.				
Set the trigger sensitivity between -1 and -2 cm H ₂ O pressure.				
Selected the PEEP level.				
1. Adjusted PEEP as needed after evaluation of tolerance.				
2. Increased PEEP levels to restore FRC and allow reduction of FIO ₂ to safe levels.				
Placed the patient on 100% oxygen unless information was available that identified a precise FIO ₂ . Adjusted the FIO ₂ downward, as tolerated, using SaO ₂ and ABG values to guide level selection. Titrated the FIO ₂ to				

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obtain a PaO ₂ of 60 to 80 mm Hg and an SpO ₂ or SaO ₂ of 90% or greater.				
Ensured that the ventilator alarms were set appropriately.				
Provided circuit humidification.				
Placed the capnography device and appropriate adapter in the ventilator circuit, if ordered, or per the organization's practice.				
Checked for secure stabilization and maintenance of the ET tube.				
Confirmed ET tube placement, ideally by clinical assessment and continuous waveform capnography. If continuous waveform capnography was not available, used a nonwaveform numeric exhaled carbon dioxide monitor.				
Monitored SpO ₂ continuously.				
Monitored the inline thermometer to maintain inspired gas temperature between 34°C and 41°C (93.2°F and 105.8°F).				
Kept the ventilator tubing clear of condensation. Drained tubing from the patient toward the expiratory limb.				
Ensured the availability of a self-inflating MRB and appropriate-size face mask attached to supplemental oxygen at the head of the bed. Attached or adjusted the PEEP valve if the patient was on PEEP.				
Checked the ventilator settings on a routine basis to ensure that they matched the prescribing order.				
Explored any change in PIP or decreased VT on PSV. Immediately explored the cause of high-pressure alarms. Considered the possibility of a tension pneumothorax if the patient had a shift in the trachea, decreased breath sounds on one side, and increased peak pressures. If a tension pneumothorax occurred, performed a needle thoracotomy.				
Placed a bite block between the teeth if the patient was biting on the oral ET tube.				

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Changed the patient's body position as often as possible. Maintained the head of the bed or backrest elevation at 30 to 45 degrees.				
Evaluated for patient-ventilator dyssynchrony.				
Observed for hemodynamic changes associated with increased V_T , PEEP, or decreased cardiac output. Considered the potential for pneumothorax with acute changes, such as a tracheal shift, decreased breath sounds, and increased PIP readings on the ventilator.				
Suctioned the patient, using the closed technique if possible, only when needed and not routinely.				
On an ongoing basis, monitored the patient for complications of mechanical ventilation, such as barotrauma, volutrauma, VAP, pneumothorax, or accidental extubation.				
Observed the patient for signs or symptoms of pain. If pain was suspected, reported it to the authorized practitioner.				
Discarded supplies, removed gloves, and performed hand hygiene.				
Documented the procedure in the patient's record.				
Pressure Control (PC)				
Performed hand hygiene and donned gloves.				
Explained the procedure to the patient and ensured that he or she agreed to treatment. Selected PC.				
Selected the IPL.				
Selected the respiratory rate.				
Selected the T_I or inverse I:E ratio.				
Selected the PEEP level.				
Set the trigger sensitivity to between -0.5 and -1.5 cm H ₂ O pressure.				
Placed the patient on 100% oxygen unless information was available that identified a precise F_{IO_2} . Adjusted the F_{IO_2} downward, as tolerated, using SaO_2 and ABG values to guide level selection. Titrated the F_{IO_2} to				

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Ensured that the ventilator alarms were set appropriately.				
Provided circuit humidification.				
Placed the capnography device and appropriate adapter in the ventilator circuit, if ordered, or per the organization's practice.				
Checked for secure stabilization and maintenance of the ET tube.				
Confirmed ET tube placement, ideally by clinical assessment and continuous waveform capnography. If continuous waveform capnography was not available, used a nonwaveform numeric exhaled carbon dioxide monitor.				
Monitored SpO ₂ continuously.				
Monitored the inline thermometer to maintain inspired gas temperature between 34°C and 41°C (93.2°F and 105.8°F).				
Kept the ventilator tubing clear of condensation. Drained tubing from the patient toward the expiratory limb.				
Ensured the availability of a self-inflating MRB and appropriate-size face mask attached to supplemental oxygen at the head of the bed. Attached or adjusted the PEEP valve if the patient was on PEEP.				
Checked the ventilator settings on a routine basis to ensure that they matched the prescribing order.				
Explored any change in PIP or decreased VT on PSV. Immediately explored the cause of high-pressure alarms. Considered the possibility of a tension pneumothorax if the patient had a shift in the trachea, decreased breath sounds on one side, and increased peak pressures. If a tension pneumothorax occurred, performed a needle thoracotomy.				
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Suctioned the patient, using the closed technique if possible, only when needed and not routinely.				
On an ongoing basis, monitored the patient for complications of mechanical ventilation, such as barotrauma, volutrauma, VAP, pneumothorax, or accidental extubation.				
Observed the patient for signs or symptoms of pain. If pain was suspected, reported it to the authorized practitioner.				
Discarded supplies, removed gloves, and performed hand hygiene.				
Documented the procedure in the patient's record.				
Volume-Assured Pressure Support (VAPS)				
Performed hand hygiene and donned gloves.				
Explained the procedure to the patient and ensured that he or she agreed to treatment.				
Selected VAPS.				
Selected the desired V_T .				
Selected the parameters. Consulted the specific ventilator manual as needed for additional parameter settings.				
Placed the patient on 100% oxygen unless information was available that identified a precise F_{IO_2} . Adjusted the F_{IO_2} downward, as tolerated, using Sa_{O_2} and ABG values to guide level selection. Titrated the F_{IO_2} to obtain a Pa_{O_2} of 60 to 80 mm Hg and an Sp_{O_2} or Sa_{O_2} of 90% or greater.				

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Ensured the availability of a self-inflating MRB and appropriate-size face mask attached to supplemental oxygen at the head of the bed. Attached or adjusted the PEEP valve if the patient was on PEEP.				
Checked the ventilator settings on a routine basis to ensure that they matched the prescribing order.				
Explored any change in PIP or decreased VT on PSV. Immediately explored the cause of high-pressure alarms. Considered the possibility of a tension pneumothorax if the patient had a shift in the trachea, decreased breath sounds on one side, and increased peak pressures. If a tension pneumothorax occurred, performed a needle thoracotomy.				
Placed a bite block between the teeth if the patient was biting on the oral ET tube.				
Changed the patient's body position as often as possible. Maintained the head of the bed or backrest elevation at 30 to 45 degrees.				

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On an ongoing basis, monitored the patient for complications of mechanical ventilation, such as barotrauma, volutrauma, VAP, pneumothorax, or accidental extubation.				
Observed the patient for signs or symptoms of pain. If pain was suspected, reported it to the authorized practitioner.				
Discarded supplies, removed gloves, and performed hand hygiene.				
Documented the procedure in the patient's record.				

Learner: _____ Signature: _____

Evaluator: _____ Signature: _____

Date: _____