## KEY PERFORMANCE ELEMENTS

<table>
<thead>
<tr>
<th>Procedural Element (Step):</th>
<th>Description of Satisfactory Performance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Verifies current ventilator settings with physician's orders.</td>
<td>Insures correspondence between physician's orders and pre-set values. Identifies discrepancies. Contacts physician regarding discrepant values. Readjusts discrepant values to correlate with physician's orders. (as appropriate) Correlates recent arterial blood gas to ordered ventilator settings.</td>
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<tr>
<td>7. Properly refills humidifier.</td>
<td>Fills with sterile distilled water to indicated level. Checks for proper seal/leaks.</td>
</tr>
<tr>
<td>10. Inspects and assesses patient status (physical assessment, vital signs, airway).</td>
<td>Refer to proficiency evaluations: PATIENT ASSESSMENT AIRWAY CARE - CUFF MANAGEMENT ASPIRATION OF SECRETION SINGLE POINT COMPLIANCE Records pertinent observations. Notes recent trends in peak and static pressure, compliance and airway resistance, respiratory rate, spontaneous tidal volume, minute ventilation, pulse oximetry, capnography, and hemodynamic values</td>
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<tr>
<td>11. Correlates pre-set values with those monitored (VT, f, F\textsubscript{1}O\textsubscript{2}, etc.)</td>
<td>Measures expired tidal volumes, compares to pre-set value. Measures/records ventilator rate and patient spontaneous rate. Measure F\textsubscript{1}O\textsubscript{2}, compares to pre-set value. Accounts for discrepancies in values.</td>
</tr>
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</table>
II. **REQUISITE PERFORMANCE VARIABLES:**

The student is expected to demonstrate proficiency in regularly checking ventilator function/patient status with the following patient groups and indicated mechanical ventilators:

- **Ventilator**
  - Sechrist
  - Servo 900C
  - Infant Star

III. **ADDITIONAL EVALUATION CRITERIA:**

Flow sheet entries must be complete and accurate as determined by the evaluator.

IV. **ORAL REVIEW QUESTIONS**

1. Identify the likely causes and appropriate action necessary when the following observations are noted on a routine ventilator check:
   - **Patient Behaviors:**
     - tachypnea, tachycardia
     - restlessness, agitation
     - confusion, disorientation
     - somnolence, obtundation
     - dyspnea
     - headache
     - twitching, tetany, convulsions
     - asterixis

2. What would you expect to occur (to the patient and to the ventilator) if the endotracheal tube of an infant receiving time-cycled, pressure-limited ventilation became kinked or plugged?

3. If you were to increase the flow setting during time-cycled, pressure-limited ventilation of an infant, what would happen to your ventilatory parameters?

4. Which factors affect the mean airway pressure (MAP) of infants receiving ventilatory support?

5. List the ventilatory parameter values which might pose a high risk to neonatal patients.
   (For example, peak pressures above 30 cwp may pose a high risk for neonatal patients.)

V. **SCENARIO QUESTIONS**

1. In observing the airway pressure manometer of a ventilator providing continuous flow IMV support to an infant, you note negative deflections of -2 to -4 cwp during spontaneous breathing efforts. What action would you recommend at this time?

2. Ventilatory support parameters for an infant being weaned include: an F\textsubscript{1}O\textsubscript{2} of 45%; a peak pressure (PIP) of 38 cwp; a PEEP level of 6 cwp; a rate of 30/min; and an inspiratory time of 0.5 seconds. Which of these parameters would you recommend trying to reduce first?

3. Ventilator parameters for an infant being weaned include: an F\textsubscript{1}O\textsubscript{2} of 40%; a peak pressure of 20 cwp; a PEEP level of 5 cwp; a rate of 15/min; and an inspiratory time of 0.4 seconds. Assuming that ABG's are acceptable on these settings, what action would you now recommend?
## STEPS IN PROCEDURE OR TASK:

### EQUIPMENT AND PATIENT PREPARATION

1. Selects, gathers, and assembles appropriate equipment. Insures asepsis
2. Verifies, interprets and evaluates physician's order
3. Identifies patient, self, and department
4. Explains procedure and confirms patient understanding

### IMPLEMENTATION AND ASSESSMENT

5. Verifies current ventilator settings with physician’s order
6. Checks humidifier function and water level
7. Properly refills humidifier if required
8. Checks airway temperature and adjusts if necessary
9. Checks circuit integrity of leaks, obstruction, and position
10. Assesses patient status (physical assessment, vital signs, airway)
11. Correlates pre-set values with those monitored (Vt, f, F1O2, etc.)
12. Insures proper ventilator function
13. Verifies all alarm functions/settings
14. Reassures patient

### FOLLOW-UP

15. Maintains and processes equipment, insures asepsis
16. Records pertinent data in chart and departmental records
17. Notifies appropriate personnel
STUDENT’S COMPREHENSION OF COGNITIVE OBJECTIVES RELATED TO THE PROCEDURE - ROUTINE VENTILATOR CHECK: SECHRIST

Upon completion the student will be able to answer oral review questions and discuss clinical scenarios related to the following cognitive objectives:
1. Evaluate and document the patient’s response to mechanical ventilation at the time the check is performed.
2. Assure and document the proper operation of the mechanical ventilator.
3. Verify and document that the ventilator is functioning and is properly connected to the patient.
4. Verify and document that appropriate alarms are activated.
5. Verify and document that inspired gas is properly heated and humidified.
6. Verify and document that inspired oxygen concentration is measured.
7. Verify and document that ventilator settings comply with physician orders.

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<th>Oral Review</th>
<th>Deficiencies:</th>
<th>Specify Evaluator Data</th>
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<td>Knowledge of the cognitive objectives listed above.</td>
<td>Specify applicable skill steps that were omitted or done erroneously. Also note any errors in discussing cognitive objectives. Please give enough detail to allow the student to work on specific remediation.</td>
<td>Please sign your name and state your affiliate name.</td>
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Proficiency Eval. #1 (Routine Ventilator Check - Neonatal) - 58
## STEPS IN PROCEDURE OR TASK:

**EQUIPMENT AND PATIENT PREPARATION**

1. Selects, gathers, and assembles appropriate equipment. Insures asepsis.
2. Verifies, interprets and evaluates physician's order.
3. Identifies patient, self, and department to family and patient.
4. Explains procedure and confirms patient understanding.

**IMPLEMENTATION AND ASSESSMENT**

5. Verifies current ventilator settings with physician's order.
6. Checks humidifier function and water level.
7. Properly refills humidifier if required.
8. Checks airway temperature and adjusts if necessary.
9. Checks circuit integrity of leaks, obstruction, and position.
10. Assesses patient status (physical assessment, vital signs, airway).
11. Correlates pre-set values with those monitored ($V_t$, $f$, $F_{O_2}$, etc.).
12. Insures proper ventilator function.
13. Verifies all alarm functions/settings.

**FOLLOW-UP**

15. Maintains and processes equipment, insures asepsis.
16. Records pertinent data in chart and departmental records.
17. Notifies appropriate personnel.
Upon completion the student will be able to answer oral review questions and discuss clinical scenarios related to the following cognitive objectives:

1. Evaluate and document the patient's response to mechanical ventilation at the time the check is performed.
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Evaluator Data

Please sign your name and state your affiliate name.

Signature

Affiliate