Analyzing FiO₂ on Delivery Systems

Purpose
To standardize the practice of verification of FiO₂ on delivery systems without an integrated oxygen analyzer.

Scope
The Department of Respiratory Care Services verifies the concentration of oxygen delivered to patients by high flow oxygen delivery systems without an integrated oxygen analyzer.

Audience
Licensed Respiratory Care Practitioner in the department of Respiratory Care Services.

Equipment
- O₂ analyzer which has been calibrated per manufacturers procedure
- Analyzer adapter
- 5” flex hose
- Oxyhood, and Sensormedics Oscillator 3100A/B, EnVe transport ventilator

Procedure
Note: The following oxygen delivery systems are to be analyzed continuously when in use: oxyhoods, High Frequency Oscillators, and EnVe transport ventilators. The analyzer should be calibrated a minimum of once per day (night shift).

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
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<tbody>
<tr>
<td>1</td>
<td>Verify patient's FiO₂ order and patient using two identifiers.</td>
</tr>
<tr>
<td>2</td>
<td>Wash hands per hospital policy and follow any isolation procedure indicated.</td>
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<td>3</td>
<td>Introduce yourself and identify the patient.</td>
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<tr>
<td>4</td>
<td>Briefly explain the procedure and purpose to the patient.</td>
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<td>5</td>
<td>Prior to placing the analyzer inline, perform a 2-point calibration, according to manufacturer's instruction.</td>
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<td>6</td>
<td>Place the O₂ analyzer in the appropriate place within the delivery system. Keep the analyzer probe positioned so that condensation will not collect on it.</td>
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| 7    | Reading should be within + 2% of order FiO₂.  
  - If analyzed FiO₂ is not the same as ordered FiO₂, adjust the device until the proper FiO₂ is reached. |
Procedure Continued

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| 7    | • If you are unable to reach the ordered FIO2 by adjusting the device, remove the analyzer and recalibrate it.  
      • Document FiO2 in Epic as part of the respiratory assessment. |
| 8    | Document in EPIC as outlined in RCS Policy # 7.1.1. |

Infection Control

Follow procedures outlined in Healthcare Epidemiology Policies and Procedures #2.24; Respiratory Care Services.  

References

AARC Clinical Practice Guidelines; Oxygen Therapy in the Acute Care Hospital, Respiratory Care; 1991; 38:1410-1413.

