I. **Purpose:** Capnography monitors exhaled carbon dioxide indicating ventilation status.

This policy does not apply to procedural/immediate post procedural monitoring in specific departments, such as Radiology, Special Services/PACU, Surgical Suite, Obstetrics, Cardiac Cath Lab.

II. **Definition:** End-Tidal carbon dioxide is a noninvasive measurement of the maximum amount of exhaled CO₂ at the end of respiration. It provides information about the effectiveness of a patient's ventilation effort. ETCO₂ is effective in identifying hypo and hyper ventilation. Normal ETCO₂ values range from 35-45 mmHg. Analysis of the capnography waveform can help identify bronchospasm, increased respiratory depression, etc. Poor ventilation as a result of sedation results in a buildup of CO₂. Conversely, a drop in SPO₂ is considered a late indicator of hypoventilation and apnea.

<table>
<thead>
<tr>
<th>ETCO₂ Reading</th>
<th>Interpretation</th>
<th>Intervention</th>
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</thead>
<tbody>
<tr>
<td>35-45 mmHg</td>
<td>Normal ETCO₂</td>
<td>Maintain ventilation</td>
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<tr>
<td>Greater than 45</td>
<td>Hypoventilation</td>
<td>Increase ventilation</td>
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<tr>
<td>Less than 35</td>
<td>Hyperventilation</td>
<td>Decrease ventilation</td>
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III. **Policy:**

Patients who are high risk for respiratory depression or who receive therapies that increase the risk will have ETCO₂ monitoring. Candidates for End Title Carbon Dioxide (ETCO₂) Monitoring include but are not limited to:

A. Patients with Patient Controlled Analgesia infusions
B. Patients with Epidural Analgesia infusions containing narcotics
C. Patients with diagnosed Obstructive Sleep Apnea with Intravenous Opioids and/or sedatives prescribed
D. Physician prescription of ETCO₂ monitoring

(EXCEPTION: Patients in Labor with epidural infusions will NOT have capnography monitoring.)

Respiratory Therapy will set up monitoring for the patient. Respiratory Therapists, RNs, and PCAs who have attended the education for the Capnography monitoring may obtain the readings. RNs will consult with Respiratory Therapy for patients with abnormal ETCO₂ readings and collaborate to notify the physician.

IV. Procedure:

A. Consult respiratory therapy for end tidal CO₂ monitor and appropriate cannula (scoop or non-scoop).
B. Respiratory therapy connects patient to the equipment and determines appropriate waveform and accuracy of capnography measurement.
C. Nursing monitors end tidal CO₂ readings with vital signs and as needed.
D. If end tidal CO₂ is abnormal, consult RCS for patient management and collaborate re: need for physician notification.
E. Document in EMR

Reviews/Revisions:

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<th>Date</th>
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<td>By</td>
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