Measures to Reduce Airway Events in the Post Anesthesia Care Unit

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**Background**

In a large oncology Post Anesthesia Care Unit (PACU), nurses sought to evaluate interventions that could lead to a reduction in emergent airway events. A group of senior nurses collaborated with the Anesthesia Medical Director, Quality Improvement Specialist and clinical nurses to evaluate all airway events reported in PACU in fiscal year 2017. After reviewing the report, an airway-auditing tool was created, and, monthly action items for team members. Best practice guidelines were also established for monitoring patients for potential airway events in the PACU.

**Objectives**

The aim of this project was to reduce the number of airway events by 5% in PACU from FY17 to FY18.

**Planning**

- Collaborated with multidisciplinary team
- Reviewed all airway events reported in the event reporting system for FY17
- Established set criteria by event type
  - Anesthesia event
  - Complication of surgery r/t anesthesia
  - Airway management
  - Respiratory failure requiring unplanned support
  - Unplanned use of a reversal agents

**Intervention**

- Provided education to all nurses regarding the use of capnography and established PACU standards per ASPAN guidelines
- Provided skills checkout and accountability statement to all clinical nurses
- Monthly staff in-services and education provided on measures to promote lung expansion, ETCO2 monitoring, and escalation process
- Monthly audit tools tracked compliance with capnography monitoring
- Audit tool results shared monthly with PACU team
- Action items implemented based on audit tool findings

**Statement of Successful Practice**

Review of all airway events reported in the Safety Intelligence reporting system for FY17 yielded 31.

After establishing guidelines, staff education, use of capnography and monthly audits, the number of airway events reduced to 14 in FY18, which generated a 54% reduction of airway events in PACU within one fiscal year.

**Results**

**Capnography Audit Tool**

Audit Items

1. Is there a baseline ETCO2 recorded for this patient within 30 minutes of arrival to the unit? (*Current area where you are auditing)
2. Is the observed or audited value normal or abnormal?
3. Is capnography currently displayed on the Dash Monitor?
   - *If No, skip to #6. Do not answer #4 & #5.
4. Is the ETCO2 alarming?
   - *If Yes, then processed to #5.
5. If ETCO2 is alarming, is there a noted nursing intervention?
6. Are airway supplies available (ambu bag/oral airway)?
7. Is suction set up available?
8. Are capnography supplies at bedside?

**Skill Verification Form**

Explain to the patient and family the rationale for the use of Capnograp L. CO2 Module

How to Activate Exhaled CO2:

1. Connect the Exhaled CO2 sampling line to the monitor using the white clip end, the other end connects to the mask.
2. The Exhaled CO2 parameter window will appear on the Dash Display
3. Demonstrate Correct Calibration for Expired CO2 Module

State Established normal values (35-45 mmHg)

Describe 2 nursing interventions for elevated ET CO2 levels

- Apply the oxygen delivery device to the patient CO2 Monitor

How to Discontinue Expired CO2 Monitoring:

1. Disconnect the sampling line from the monitor parameter window will clear
2. Demonstrate how to adjust Expired CO2 alarm limits

Troubleshooting:

1. Message indicates Cannula not connected (connect Cannula)
2. The cannula is blocked (replace cannula)
3. Module was calibrated without the cannula connected (connect the module and calibrate)

**References**


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