Background

- Capnography, also known as End-Tidal CO2 (EtCO2), measures the partial expired tidal volume of carbon dioxide.
- It is an indicator to assess respiratory function and ventilation status.
- It can detect rapidly developing respiratory acidosis and can identify a patient in respiratory distress 2-3 minutes prior to a pulse oximetry.
- EtCO2 is a valuable underutilized tool for Perianesthesia Nurses to use post-operatively.
- The American Society of PeriAnesthesia Nurses (ASPAN) does not currently have a practice recommendation requiring continuous monitoring of etCO2 in the Phase I Post Anesthesia Care Unit (PACU). “Practice Recommendation 2, Components of Assessment and Management for the Perianesthesia Patient,” states that vital signs are monitored, including “end-tidal CO2 (capnography) monitoring if available and indicated.”

Objectives

- Purpose: to educate 100% of the Perianesthesia Registered Nurses on capnography.
- Understand the basics of capnography monitoring.
- Recognize the difference between pulse oximetry and capnography.
- Identify components of a normal end tidal waveform.
- Interpret what EtCO2 values.
- Demonstrate proper set up of the EtCO2 device.

Process of Implementation

- As part of the Perianesthesia Shared Governance Committee, clinical nurses requested to start utilizing ETCO2 in the PACU. 2 volunteers conducted the education and participated in the leading each class.
- Created EtCO2 Guidelines in partnership with Anesthesia & Regulatory to drive practice. An EtCO2 Monitoring EMR order was created for the PACU order set.
- Clinical Engineering evaluated the patient monitors to ensure proper installment and connection of the EtCO2 device. Reviewed inventory with Sterile Processing Department for ordering and stocking of supplies.

Statement of Successful Practice

- 13 education sessions were offered during the 2023 Nursing Competency Cycle.
- Each RN participated in the didactic, demonstrated proper set up of the device and monitor, and completed an ETCO2 knowledge assessment.
- 100% of the Perianesthesia RNs completed the competency.
- Badge buddies of normal and abnormal waveforms and indications were created for quick reference.
- Educational materials were posted to the Perianesthesia SharePoint as an available resource.

Conclusion

- Implementing and installing EtCO2 monitoring on the unit increases autonomy of Perianesthesia Nurses for the most vulnerable patients.
- Feedback from the RNs revealed that the education was positively received and engaging in nature.

References