Air Quality Alert
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Background Information: 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.

Objectives of Project: EtCO2 education sessions included understanding the basics of capnography monitoring, the difference between a pulse oximetry and EtCO2, identifying the components of a normal waveform, interpreting what EtCO2 values can indicate, and demonstrate proper set up for ETCO2 device.

Process of Implementation: EtCO2 was selected for the annual nursing competency cycle, which requires 100% of Perianesthesia Nurses to complete an education session on the new technology. The educational modalities included didactic content, skills sessions, and a knowledge assessment. The training was developed and instructed by the Perianesthesia Shared Governance Nurses and the Clinical Nurse Education Specialist (CNES). Thirteen in-person sessions were offered within a one-month timeframe.

Collaboration included working with an electronic medical record (EMR) analyst to create an EtCO2 monitoring order, to be available in the Anesthesia order sets. Additional stakeholders involved the Anesthesia Providers to discuss the availability of monitoring and order sets. The bio-medical engineering department installed new EtCO2 equipment to stream line all monitoring devices. This ensured consistency in the connection and set up of capnography in Phase I PACU.

EtCO2 guidelines for monitoring in the perianesthesia setting were created as a guide for monitoring recommendations. These guidelines were tailored for both intubated and non-intubated patients, based on a patient's individualized signs and symptoms.

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

Implications for Advancing the Practice of Perianesthesia Nursing: The team leaders hope that an increase use of capnography will courage the American Society of PeriAnesthesia Nurses (ASPAN) to create recommendations. With the availability of EtCO2, Perianesthesia Nurses are better able to monitor for early detection of post-operative respiratory comprise and the ability to improve patient safety and outcomes.