“Saving Lives in the Medical Surgical Unit”
and
“Establishing a Successful Capnography Monitoring Program For Patients Receiving Opioid Medications”
Monday, March 14, 2016
12 p.m. – 1 p.m. Eastern
Audience Questions

Speakers:

- Tina Tucciarone RN, MSN, CPHRM, Corporate Director of Risk Management, Virtua
- Harold Oglesby, RRT/RCP – Manager, Pulmonary Medicine at St. Joseph's/Candler Health System

1. What equipment do you use?
   a. Currently we utilize the Capnostream monitor. Tina Tucciarone RN, MSN, CPHRM, Corporate Director of Risk Management, Virtua
   b. We use Medtronic Capnography modules on the Alaris infusion platform as well as stand-alone Capnostream monitor. Harold Oglesby, RRT/RCP, Manager, The Center for Pulmonary Health, St. Joseph's/Candler Health System.

2. Other than RR < 8 what were the other criteria you used to call the physician?
   a. The Modified Pasero Opioid-induced Sedation Scale referenced in the webinar includes a variety of criteria to guide the staff as to when to involve the physician. This includes the sedation scores, SpO2, Integrated Pulmonary Index (IPI), EtCO2, HR. Please refer to the Modified Pasero Opioid-induced Sedation Scale in the webinar for exact criteria. Tina Tucciarone RN, MSN, CPHRM, Corporate Director of Risk Management, Virtua
   b. Immediately notify physician managing the PCA orders for the following: 1. When ordered mediation dosage exceeds maximum Guardrail limit (must verify dose with physician). 2. Inadequate pain relief (greater than “5”) utilizing the appropriate pain scale “0-10”. 3. Prior to administering an additional narcotic while PCA pump is in use. 4. If assessment reveals that dose adjustment is indicated Harold Oglesby, RRT/RCP, Manager, The Center for Pulmonary Health, St. Joseph’s/Candler Health System.

3. We use the ETcO2 with the bowl and patients lock out while eating etc. Can you explain what the criteria are to transition from the bowl ETcO2 to the one without?
   a. We evaluate the quality of the EtCO2 readings as well as patient comfort. If the patient is awake talking, eating or complaining about the bowl then the staff will likely more that patient to the cannula without the bowl. If the patient has the non-bowl cannula in place but being to mouth breathing (e.g….while sleeping at night) then the staff may convert that patient back to the bowl type cannula. Harold Oglesby, RRT/RCP, Manager, The Center for Pulmonary Health, St. Joseph’s/Candler Health System.
4. The context of a “shift” has changed greatly at our sites. Is a shift check at your facilities generally Q 8 hours or Q 12 hours? 2 versus 3 checks per day could be important for some patients.

   a. In regards to how often patients are assessed/reassessed the assessments are ordered by frequency of hour, i.e. every 4 hours, not by shift. Tina Tucciarone RN, MSN, CPHRM, Corporate Director of Risk Management, Virtua.

   b. In our facility the nursing staff see the patient frequently (at least every 4 hour), however it is Respiratory Therapy who visit the patient once every 12 hours at which time they perform their EtCO2/patient assessment. Harold Oglesby, RRT/RCP, Manager, The Center for Pulmonary Health, St. Joseph's/Candler Health System.

5. For patients with sleep apnea or on CPAP, how do you perform ETC02 while on CPAP?

   a. We can assess using EtCO2 patients while on CPAP, however the staff have to ensure proper cannula and mask placement. Harold Oglesby, RRT/RCP, Manager, The Center for Pulmonary Health, St. Joseph's/Candler Health System.

6. Our highest trend in opioid oversedation has not been from parenteral opioids or pca. It has been from oral opiates. How can this monitoring help with this?

   a. In the scenario you describe, non-invasive capnography would be used the same as we utilize for the PCA. Tina Tucciarone RN, MSN, CPHRM, Corporate Director of Risk Management, Virtua.

7. Tina - Do you use the Integrated Pulmonary Index on the monitor?

   a. Yes, the Integrated Pulmonary Index (IPI) is one of the measurements our capnography monitor (Capnostream) reports out on. The IPI alerts caregivers to repetitive patterns of apneas and oxygen desaturation, revealing a more complete picture of a patient’s respiratory status. We included the IPI measurement in the “Modified Pasero Opioid-induced Sedation Scale” with interventions to guide the medical team. Tina Tucciarone RN, MSN, CPHRM, Corporate Director of Risk Management, Virtua.

8. Harold - Some suggest monitoring RR is enough but your alarm graph suggests many high CO2 conditions occur at relatively normal RR (12-14). What are your thoughts of only monitoring RR in these patients?

   a. I suggest those stating the respiratory rate alone is good enough need to consider the quality of the respiration. A patient breathing eight times a minute with a significant tidal volume maybe fine while another patient with a rate of fourteen breaths/min of minimal tidal volume would likely not fair very well. Harold Oglesby, RRT/RCP, Manager, The Center for Pulmonary Health, St. Joseph’s/Candler Health System.

9. Harold - What has happened to your serious event rate since you started monitoring capnography?

10. Does Virtua’s analysis confirm that patient education is sufficient to produce patient compliance with wearing the nasal cannula needed for etCO2 monitoring?

   a. Patient education is a continuous effort. The combination of education and continued assessment is what produces the most success in compliance. Tina Tucciarone RN, MSN, CPHRM, Corporate Director of Risk Management, Virtua

11. Why do Virtua and St. Joseph’s/Candler Health System use SpO2 monitoring in addition to capnography?

   a. The SpO2 is a metric captured by the capnography monitor. We utilize all the vital signs (SpO2, EtCO2, heart rate, blood pressure) to provide a picture of the patients overall status. Tina Tucciarone RN, MSN, CPHRM, Corporate Director of Risk Management, Virtua

   b. We elect to use SpO2 and EtCO2 to ensure that we optimize patient safety by monitoring both our patients’ oxygenation and ventilatory statuses via these two monitoring methodologies. Harold Oglesby, RRT/RCP, Manager, The Center for Pulmonary Health, St. Joseph’s/Candler Health System.