

REDUCING OXYGEN DESATURATION FOR OUTPATIENTS

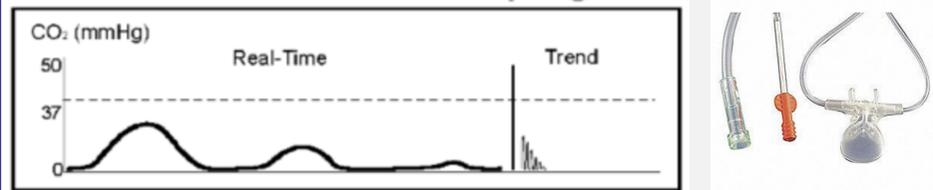
RECEIVING CONSCIOUS SEDATION IN THE INTERVENTIONAL RADIOLOGY UNIT

Kari Velez, BSN, RN, PCCN; Brianna Revard, BS



Introduction

The Salem Health Interventional Recovery Unit (IRU) adopted capnography monitoring, an evidence-based practice change, to improve detection of ventilation changes and reduce oxygen desaturation events in patients receiving sedation.



Background

Oxygen saturation is an important measure reflecting the well-being of patients during various procedures. During periods of oxygen desaturation vital organs such as the brain, heart, lungs and kidney do not function correctly. In fact, steps toward organ failure begin, from which the patient may not completely recover. Technology that alerts the health care team to impending desaturation improves patient safety. Capnography detects ventilation changes earlier than traditional pulse oximetry. In addition, the shape and trends of the waveform contain valuable information that is not available from other sources.

Challenge

In the fourth quarter of 2017, 16% of IRU patients receiving moderate sedation experienced an oxygen desaturation event.

Goal/Purpose

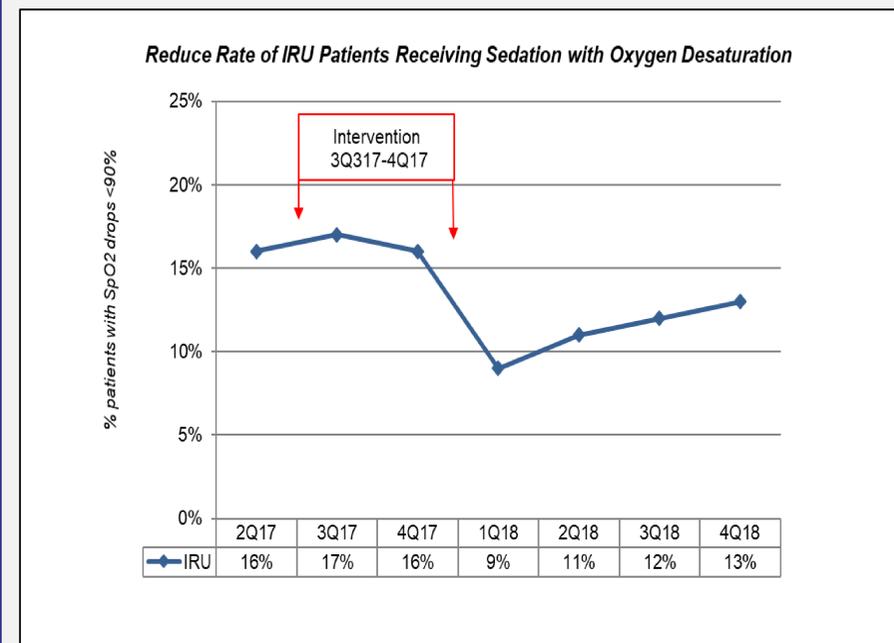
To reduce the percentage of oxygen desaturation events (SpO2 drops below 90 percent) in IRU patients receiving sedation using capnography as a preventative measure.

Methodology

IRU nurses employed a continuous quality improvement or Lean approach. Educational sessions in unit meetings and HealthStream provided staff with the needed knowledge of new technology. Process metrics included weekly audits of implementation. Nurses measured the outcome metric as the number or percentage of observed oxygen desaturations.

Results

Compliance with use of capnography monitoring reached 100% and surveys showed that 84% of nursing staff implemented the recommended interventions to prevent respiratory compromise. With the use of capnography, the percent of oxygen desaturation events in IRU patients receiving sedation dropped from 16% in Q4 2017 (baseline) to an average of 11.25% post-intervention.



Conclusion

Capnography is a useful evidence-based method to detect ventilation changes several minutes before oxygen desaturations occur. Utilization of capnography technology keeps nursing interventions on the prevention side rather than the side of rescuing from a negative outcome. Improving nursing knowledge and response to Capnography alerts will improve patient safety during out-patient procedures.

References

- Baerlocker MO, Nikolic B, Silberzweig JE, Kinney TB, Kuo MD. & Rose SC., (2013). Society of Interventional Radiology Position Statement of Recent Change to the ASA's Moderate Sedation Standards: Capnography. *Journal of Vascular and Interventional Radiology*, 24(7) 939-940.
- Carroll P. (2002). Procedural sedation: Capnography's heightened role. *RN* 65(10)54-60.
- Caperelli-White L & Urman RD (2014). Developing a moderate sedation policy: essential elements and evidence-based considerations. *AORN*.99(3).416-430.

Acknowledgements

Project Team:

Name	Credentials	Discipline	Department/Unit	Job Title
Kari Velez	BSN, RN, PCCN	Nursing	Clinical Nurse	IRU
Chelsea Armantano	BSN, RN, PCCN, CMSRN	Nursing	Clinical Nurse	IRU
Carol Ann Anderson	BSN, RN	Nursing	Assistant Nurse Manager/Clinical Nurse	IRU
Amy Crain	BSN, RN	Nursing	Clinical Nurse	IRU

Contact: kari.velez@salemhealth.org