# IN FOCUS...

SIP QUARTERLY NEWS

AUG 2021

This quarter's focus is:

# Opioid-induced Advancing Sedation and Respiratory Depression

## Nursing Guidelines for Identifying High-Risk Patients During First 24 hours of Admission.

Death or serious anoxic brain injury related to opioid-induced respiratory depression (OIRD) in the acute care setting is increasing and one of the leading causes of preventable deaths in the US.[i] The ramifications of such a serious adverse event are significant to all involved. ***The legal impact of an OIRD cases not only centers on nursing management of the patient, but also focuses on the physician's orders specific to dosing and monitoring.***

Although there are tools that guide nursing in their assessment of patients receiving opioid therapy such as the Pasero Opioid Induced Sedations Scale (POSS) score or Richmond Agitation and Sedation Scale (RASS), serious adverse events related to opioid administration persist.

The scope of the problem[ii]

- More than 50% of patients admitted to the hospital receive systemic opioid medications.
- 0.003% - 4.2% of those will experience an opioid adverse event defined by requiring naloxone.
- There is a 3.4 times greater increase in inpatient mortality when suffering from OIRD event.

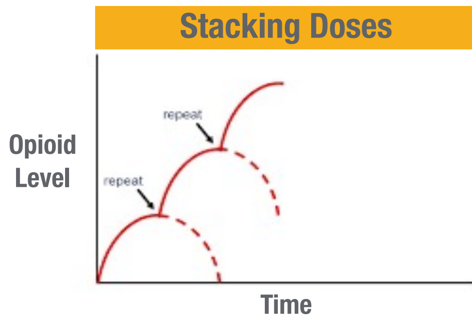
In 2020, the American Society for Pain Management Nursing charged an expert panel to review the most recent 10 years of evidence regarding OIRD and revise/update the 2011 nursing guidelines.[iii] Other recent retrospective hospital studies were published with reviews of OIRD cases in an attempt to further identify criteria that places the non-post-operative patient at

even higher risk for OIRD beyond previously identified risk factors.[iv]

There are several known factors that increase the risk of OIRD that are patient specific that include: age, history of sleep apnea, BMI > 30, history of cardiac and/or pulmonary disease, impaired liver and renal function, and substance use disorder.[v] From recent retrospective reviews of OIRD adverse events, additional factors that heighten the risk of OIRD during the initial 24 hours of opioid therapy include:

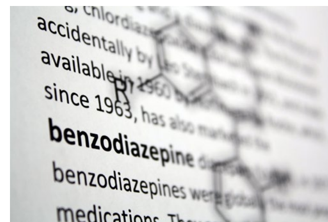
- **Duration — the Peak effect may be longer than normal.**
  - Although many nursing policy and procedures set the post-pain medication assessment at 30-60 minutes after administration, in one retrospective study, 46% of patients suffering from OIRD occurred after the opiate was thought to have passed its peak.[vi] This lead researchers to discover in their own institution that 50% of the serious adverse cases of OIRD occurred after what was thought to be the peak effect.

- **Stacking — one dose after another**
  - In addition to the prolonged effect which may occur in patients, dose stacking a PRN medication puts the patient at increased risk regardless of whether it occurs during the day or night.[vii]




- **Concomitant benzodiazepine administration**
  - A retrospective review of 133 patients experiencing severe OIRD showed that there was a significant association between opioids being combined with a concomitant CNS depressant (benzodiazepine).[viii]

**Is benzodiazepine use being overlooked during the Opioid Administration?**




## LOSS/PREVENTION STRATEGIES FOR NURSING[ix]

1. **Pay close attention to the patient during the first 24 hours of receiving opioid therapy**
2. **Nursing assessments need to be multi-parameter**
   a. **Assess respiratory rate *AND* quality**
   b. **Monitor pulse oximetry**
   c. **Observe the level of sedation before opioid administration and again at peak effect**
   d. **Reassess frequently and monitor trends — consider other patient factors — e.g. renal and liver impairment**
3. **Timing of nursing assessment — the peak effect may occur after the 30-60 minute post administration assessment**
4. **If stacking doses (e.g. PRN administration is consistent), monitor more frequently**
5. **Monitor the patient even closer if concomitant benzodiazepine treatment (be sure to look at ED records or what was given the shift before)**
6. **Chain of command — Call a rapid response team at once if there is concern for OIRD**
7. **Encourage safe prescribing — Communicate with physicians and mid-level providers regarding care of the patient**

REFERENCES

i. Garrett, J.S., Vanston, A., Nguyen, H.L., Cassity, C., Straza, A. Timing of Oversedation Events Following Opiate Administration in Hospitalized Patients, J Clin Med Res: 2021; 13(5):304-308.

ii. Jungquist et al.

iii. Jungquist, C., Colwell, A.Q., Carlisle, H.L., Cooney, H., Dunwoody, D., Meyers, A., Singh, N. and Watson, C. American Society of Pain Management Nursing Guidelines on Monitoring for Opioid-Inducing Advancing Sedation and Respiratory Depression: Revisions, Pain Management Nursing 21 (2020)7-25.

iv. Boitor, M., Ballard, A., Emed,J., Le May, S., Gelinas, C. Risk Factors for Severe Opioid-Induced Respiratory Depression in Hospitalized Adults: A Case-Control Study, Canadian Journal of Pain, 2020, Vol 4, NO. 1, 103-110. See Also Garrett et al.

v. Junquist et al.

vi. Garrett et al.

vii. Garrett et al.

viii. Boitor et al.

ix. Jungquist et al; See Also Boitor, M., et al.

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