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USE OF THE PASERO OPIOID-INDUCED SEDATION SCALE TO REDUCE OVERSEDATION AND RESPIRATORY DEPRESSION

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PROBLEM: Older adults receiving opioids are at greater risk for developing unintended opioid-induced sedation that may progress to respiratory depression.

SOLUTION: Provide nurses with an appropriate scale for monitoring of opioid-induced sedation. The goal is to facilitate early recognition and intervention to prevent serious adverse events related to unintended advancing sedation and opioid-induced respiratory depression.

Problem Identified Older patients receiving opioids for pain management are at increased risk for unintended advancing sedation which may progress to opioid-induced respiratory depression. Increased risk for falls, delirium, and impaired psychomotor function also are common adverse events with opioid use in the older adult.



Nurses Improving Care for Healthsystem Elders

Solution Formulated A multi-hospital study was conducted to test reliability, ease of use, and applicability of sedation scales for patient monitoring of opioid-induced sedation and respiratory depression following opioid administration for pain management. The study team also wanted to use the results to select a sedation scale for clinical practice and inclusion in the electronic medical record (EMR). Two sedation scales were selected for the study; the Richmond-Agitation-Sedation Scale (RASS) and Pasero Opioid-Induced Sedation Scale (POSS).

RASS is a goal-directed sedation scale that links conditions such as agitation or anxiety to sedation levels and often is used to monitor sedation regardless of the desired patient outcome. Agitation and anxiety are not indicators of unintended advancing opioid-induced sedation. The POSS does not link other conditions to sedation levels, and is intended for use only for sedation assessment after opioid administration to recognize unintended advancing sedation. This scale also provides recommendations for nursing interventions for each sedation level.

Eighty RNs participated in the study and conducted 252 sedation assessments on 84 patients. Every RN who participated in the study also completed an ease-of-use and applicability survey.

NICHE Role The NICHE Geriatric Resource Nurse (GRN) core curriculum is designed for use by those at NICHE sites who train nurses in best practices for hospitalized older adults. GRNs are the foundation of system-wide improvement to achieve positive outcomes for hospitalized older adults. The NICHE program, available to hospitals throughout North America, offers evidence-based, interdisciplinary approaches to promote improved care for the hospitalized older adult.

Evaluation/Results Data analysis measuring reliability using Cronbach's alpha revealed high reliability of both scales (POSS 0.909 RASS 0.949) ($p < 0.001$). Seventy-six percent of nurses rated the POSS as easiest to use; 49% rated the POSS and 51% rated the RASS as applicable to the majority of their patients. Forty-nine percent requested that the POSS be available for patients receiving opioids for pain management and the RASS be available for goal-directed sedation. Based on study results, the POSS is now used when the desired patient outcome is prevention of opioid-induced sedation and respiratory depression. The RASS is used when the desired patient outcome is purposeful, goal-directed sedation. Both scales are included in the EMR. Review of opioid-induced adverse events over a 12-month period at one of the study sites, revealed that 43 patients receiving opioids for pain management experienced unintended advancing sedation. Of these 43 patients, 23 also experienced opioid-induced respiratory depression. During the six-month period following sedation assessment using the POSS, no opioid-induced sedation events requiring reversal agents or opioid-induced respiratory depression events were reported.

For more information

1. Dempsey, S.J., Davidson, J., Cahill, D., & Agan, D. (2009). Selection of a sedation assessment scale for clinical practice: Inter-rater reliability, ease of use and applicability testing of the Richmond Agitation-Sedation and Pasero Opioid-Induced Sedation Scales. Publication pending.
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3. Nisbet, A., & Mooney-Cotter, F. (2009). Comparison of selected scales for reporting opioid-induced sedation. *Pain Management Nursing*, 10(3), 154-164.
4. Pasero, C., & McCaffery, M. (Eds.). (2011). *Pain assessment and pharmacologic management*. St. Louis: Mosby/Elsevier.
5. Sessler, C.N., Gosnell, M., Grap, M.J. et al. (2002). The Richmond Agitation-Sedation Scale: Validity and reliability in adult intensive care unit patients. *American Journal of Respiratory Critical Care Medicine*, 166(31), 1338-1344.

NICHE-related resource

1. NICHE GRN Module: Critical Care Nursing Of Older Adults: Acute Respiratory Failure and Mechanical Ventilation in the Older Adult <http://elearningcenter.nicheprogram.org/course/view.php?id=93&page=709>

About NICHE

NICHE (Nurses Improving Care for Healthsystem Elders) is an international program designed to help hospitals improve the care of older adults. The vision of NICHE is for all patients 65-and-over to be given sensitive and exemplary care. The mission of NICHE is to provide principles and tools to stimulate a change in the culture of health care facilities to achieve patient-centered care for older adults. NICHE, based at NYU College of Nursing, comprises hospitals and health systems located in 46 states, Canada, and Bermuda. For more information visit nicheprogram.org.

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