Application of Clinical Practice Guidelines for Pain, Agitation, and Delirium

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KEYWORDS

• Sedation • Pain • Agitation • Delirium • Intensive care unit • Guidelines

KEY POINTS

- Sedative medications are often administered to critically ill patients to prevent and manage commonly experienced and distressful symptoms.
- A recent clinical practice guideline released by the American College of Critical Care Medicine provides clinicians an integrated and evidence-based approach to managing pain, agitation, and delirium in the critically ill.
- Successful adoption of sedation guidelines requires clinicians to acknowledge the prevalence and patient-centered outcomes associated with pain, agitation, and delirium and the hazards of deep sedation.
- Strategies, such as using valid and reliable PAD assessment tools, setting desired sedation target levels, and choosing appropriate sedative medications, may improve patient outcomes.
- Sedative medication exposure may also be reduced through the use of nonpharmacologic symptom management strategies and enhanced interprofessional collaboration.

INTRODUCTION

Tim is a 50-year-old man who presented to the emergency department with shortness of breath; light headedness; chest pain; and a 2-day history of fever, muscle aches, and fatigue. Before his present illness, Tim was employed full-time as an interstate truck driver. He has a history of hypertension that is treated with oral medication,

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and otherwise he does not routinely seek medical care. Within 30 minutes of arrival to the emergency department, Tim was intubated for respiratory failure and admitted to the medical intensive care unit (ICU) with a diagnosis of pneumonia. On arrival to the ICU Tim is frowning, attempting to sit up, and touching his endotracheal tube. He has not received any medications since intubation 90 minutes ago. What evidence-based symptom management strategies should be prioritized to facilitate Tim's successful transition to the ICU?

Within the next 24 hours, Tim's respiratory failure has become progressively more severe and he is diagnosed with acute respiratory distress syndrome. His fraction of inspired oxygen has been increased from 0.6 to 0.8 in the past 4 hours, resulting in a slight increase in his Pa_{O_2} to 60 mm Hg. His target sedation level is drowsy; however, his actual sedation level is agitated with frequent nonpurposeful movement, and he has had increasing ventilator dyssynchrony. He has signs of pain and last delirium assessment was positive. Soft wrist restraints were initiated overnight after repeated movements toward his endotracheal tube. What symptom management interventions should be prioritized?

Despite improving ventilator dyssynchrony with treatment of pain and agitation with medications, Tim's Pa_{O_2} remains critically low. Venovenous extracorporeal membrane oxygenation (ECMO) is initiated via femoral cannulation. Over the course of the next 4 days Tim remains on bedrest. Four days after initiating ECMO Tim's oxygenation improves. ECMO is weaned off and his fraction of inspired oxygen requirement is 0.5. His target score is alert and calm, yet his actual sedation score is light sedation. His pain score is negative and delirium assessment remains positive. He has received two doses of intravenous analgesic medication and two doses of intravenous benzodiazepine medication over the past 24 hours in response to pain and anxiety symptoms. How will ventilator discontinuation be coordinated? What additional interventions should be implemented for resolving Tim's delirium? What is his goal for early mobility?

At each stage of Tim's course in the ICU, questions about pain, agitation, sedation, delirium, and associated clinical outcomes surfaced. These questions are not uncommon for any adult patient receiving mechanical ventilation in the ICU setting and answers to these clinical questions require an evidence-based approach.

CLINICAL PRACTICE GUIDELINES FOR THE MANAGEMENT OF PAIN, AGITATION, AND DELIRIUM IN ADULT PATIENTS IN THE INTENSIVE CARE UNIT

Critically ill patients, such as Tim, experience several severe, distressing, and often life-altering symptoms during their ICU stay.[1] Strong evidence generated over the last few decades suggests the way these symptoms are assessed and managed in the ICU setting is strongly linked to a patient's ability to recover from a serious or life-threatening illness or injury.[2] In 2013, the American College of Critical Care Medicine published its Clinical Practice Guidelines for the Management of Pain, Agitation, and Delirium in Adult Patients in the ICU.[2] The goal of the guideline is to recommend best practices for managing pain, agitation, and delirium (PAD) to improve patient-centered outcomes in critically ill adults. Since its dissemination, numerous hospitals throughout the world are updating their PAD-related policies and procedures, educating clinicians regarding the guideline's major suggestions and recommendations, and engaging critically ill patients and their families to become more actively involved in their ICU care.[3] This article illustrates how the new PAD guidelines could be applied in everyday clinical practice.