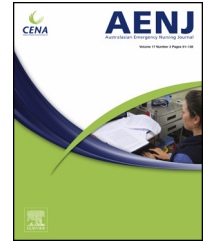




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LITERATURE REVIEW

Assessing, monitoring and managing continuous intravenous sedation for critically ill adult patients and implications for emergency nursing practice: A systematic literature review



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KEYWORDS

Sedation;
Nursing practice;
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Summary

Background: Critically ill mechanically ventilated patients in ED have complex needs; chief among these is adequate sedation in addition to effective pain-relief. Emergency nurses are increasingly responsible sedation and analgesia for this complex cohort of patients. The aim of this review was to examine (1) the evidence around assessing, monitoring and managing continuous intravenous sedation for critically ill adult patients, and (2) the implications for emergency nursing practice.

Study design: Systematic review.

Method: The review of literature extended from 1946 to 2013 and examined peer review journal articles, policy and guidelines to provide a more complex understanding of a phenomenon of concern. A total of 98 articles were incorporated and comprehensively examined.

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Results: Analysis of the literature identified several implications for emergency nursing practice and the management of continuous intravenous sedation: workload, education, monitoring and assessing sedation and policy.

Conclusion: Limited literature was found that directly addressed Australasian emergency nursing practices' in managing on-going intravenous sedation and analgesia for patients. Balancing patient sedation and analgesia requires highly complex knowledge, skills and expertise; the degree of education and training required is above that obtained during pre-registration nurse training. No state or national models of education or training were identified to support ED nurses' practices in managing sedation. Little research has addressed the safety of continuous sedation use in ED.

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What is known

- The number of critically ill patients admitted to EDs has increased by over 25%, some of whom require mechanical ventilation and continuous intravenous sedation.
- Emergency nurses working in the resuscitation area are increasingly responsible for the management of analgesia and sedation for critically ill patients, which requires highly developed skills, knowledge and expertise.
- Adequate analgesia and sedation are paramount in optimising comfort, pain-relief and well-being of critically ill patients, who are often inflicted with a wide range of noxious stimuli with limited physiological reserves.

What this paper adds

- There is little research exploring the role of the emergency nurse in managing continuous intravenous analgesia and sedation for critically ill mechanically ventilated patients.
- Research and policy have primarily focused upon the safety and effectiveness of procedural sedation administered in ED.
- Unlike other roles emergency nurses undertake (e.g. Triage), there are no practice standards, education or training programs to support nurses transitioning into the resuscitation nurse role, and to manage of continuous intravenous analgesia and sedation for critically ill mechanically ventilated patients.

Introduction

Two areas of practice involving the use of sedation have emerged within the emergency department setting. The first area concerns procedural sedation to enable patients to tolerate succinct, definitive interventions such as cardioversion, orthopaedic procedures, incision and drainage and insertion of chest drains. The second area involves the critically ill patient group, who often require continuous

sedation to tolerate necessary life-supporting invasive, agitating and painful interventions such as mechanical ventilation and endotracheal intubation.¹ While the incorporation and effectiveness of procedural sedation in ED has been well documented,²⁻⁶ the safety and effectiveness of continuous intravenous sedation in ED has not.⁷ Emergency nurse are responsible for the continuity of patient care, assessment, monitoring and optimisation of sedation and pain control for critically ill sedated patients. Emergency nursing practice often occurs in isolation due to geographical layout of the resuscitation area and workload demands of other clinicians. Therefore, the safety and effectiveness of continuous intravenous sedation for the critically ill adult patient in ED is dependent on the skill, knowledge and decision-making abilities of the emergency nurse.

Adequate sedation and analgesia are paramount in optimising comfort, pain relief and wellbeing of critically ill mechanically ventilated patients,⁸ who are inflicted with a barrage of noxious stimuli and invasive procedures such as insertion of endotracheal tubes, central venous catheters, indwelling urinary catheters and monitoring devices. Critically ill or injured patients require sedation and analgesia balanced to their needs and physiological tolerances.^{2,6} Within the ED, emergency nurses are increasingly responsible for managing sedation and analgesia of critically ill patients,⁹ therefore the knowledge, skills and expertise of the emergency nurse are paramount for maintaining patient comfort, wellbeing and safety. The aim of this systematic literature review was to examine (1) the evidence around assessing, monitoring and managing continuous intravenous sedation for critically ill adult patients, and (2) the implications for emergency nursing practice. We also define areas of education, research, policy and standards that have not been covered and suggest some potential courses of action.

Review search strategy

The search covered the period from 1946 to 2013. No date or language restrictions were applied. Several search terms were used to identify potential studies concerning the assessment, monitoring and administering continuous intravenous sedation for the critical ill adult (>16 years) patient in ED: 'assessment AND sedation AND emergency department', 'sedation AND emergency department', 'continuous sedation', 'emergency OR nurse AND sedation', 'measuring sedation' and 'sedation scale'. A total of 210 articles

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