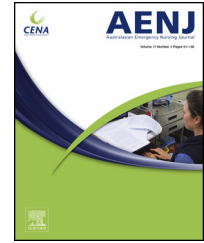




Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

journal homepage: [www.elsevier.com/locate/aenj](http://www.elsevier.com/locate/aenj)



## LITERATURE REVIEW

# The validity, reliability, responsiveness and applicability of observation sedation-scoring instruments for use with adult patients in the emergency department: A systematic literature review



Wayne Varndell, MN (Research), BSc (Hons) Nursing, GradDip (AP),  
PGCert (Ed.)<sup>a,b,\*</sup>

Doug Elliott, BAppSc (Nursing), MAppSci (Nursing), PhD<sup>b</sup>

Margaret Fry, NP, PhD<sup>b,c</sup>

<sup>a</sup> Prince of Wales Hospital Emergency Department, Australia

<sup>b</sup> Faculty of Health, University of Technology, Sydney, Australia

<sup>c</sup> School of Nursing, University of Sydney, Australia

Received 12 May 2014; received in revised form 11 July 2014; accepted 15 July 2014

### KEYWORDS

Assessing sedation;  
Sedation tools;  
Measuring sedation

### Summary

**Aim:** This paper reports a systematic literature review examining the range of published observational sedation-scoring instruments available in the assessment, monitoring and titration of continuous intravenous sedation to critically ill adult patients in the Emergency Department, and the extent to which validity, reliability, responsiveness and applicability of the instruments has been addressed.

**Background:** Emergency nurses are increasingly responsible for the ongoing assessment, monitoring and titration of continuous intravenous sedation, in addition to analgesia for the critically ill adult patient. One method to optimise patient sedation is to use a validated observational sedation-scoring tool. It is not clear however what the optimal instrument available is for use in this clinical context.

**Methods:** A systematic literature review methodology was employed. A range of electronic databases were searched for the period 1946–2013. Search terms incorporated "sedation

\* Corresponding author at: Prince of Wales Hospital Emergency Department, Australia.

E-mail addresses: [wayne.varndell@sesiahs.health.nsw.gov.au](mailto:wayne.varndell@sesiahs.health.nsw.gov.au), [waynevarndell@mac.com](mailto:waynevarndell@mac.com) (W. Varndell).

scale”, “sedation scoring system”, “measuring sedation”, and “sedation tool” and were used to retrieve relevant literature. In addition, manual searches were conducted and articles retrieved from those listed in key papers. Articles were assessed using the Critical Appraisal Skills Program (CASP) making sense of evidence tools.

**Results:** A total of 27 observational sedation-scoring instruments were identified. Sedation-scoring instruments can be categorised as linear or composite, the former being the most common. A wide variety of patient behaviours are used within the instruments to measure depth and quality of patient sedation. Typically sedation-scoring instruments incorporated three patient behaviours, which were then rated to generate a numerical score. The majority of the instruments have been subjected to validity and reliability testing, however few have been examined for responsiveness or applicability.

**Conclusions:** None of the 27 observational sedation-scoring instruments were designed or trialled within ED. The Richmond Agitation and Assessment Scale was identified as most suitable to be trialled prospectively within an Australian ED.

© 2014 College of Emergency Nursing Australasia Ltd. Published by Elsevier Ltd. All rights reserved.

## What is known

- Emergency nurses are increasingly responsible for the assessment, monitoring and titration of continuous intravenous sedation for critically ill adult patients.
- Balancing sedation, in addition to analgesia to the needs of the critically ill patient is paramount in the optimization of patient comfort, pain relief, safety and wellbeing.
- Validated observational sedation-scoring instruments are used with the critical care environment to aid nurses in assessing, monitoring and titrating sedation.
- Despite the availability of validated observational sedation-scoring instruments in intensive care, none have been identified as being used in the ED setting.

## What this paper adds

- This paper examines 27 observational sedation-scoring instruments used to assess sedation in critically ill adults; describing their validity, reliability, responsivity and applicability, and suggests one instrument to be prospectively trialled in ED.
- The number and type of patient behaviours used to judge depth and quality of sedation varies across all identified instruments.
- The degree of validity and reliability testing is variable between instruments, with evaluation of instrument responsiveness and applicability poor.

## Introduction

Sedation is widely administered to patients in the emergency department (ED) for the purposes of optimising comfort and tolerance towards invasive procedures.

Presently, two forms of sedation are practised within the ED: short-term and continuous. Short-term sedation, often delivered as a single or intermittent bolus dose, temporarily enables patients to briefly tolerate uncomfortable procedures, for example: relocation of dislocated joints, cardioversion and wound closure.<sup>1–4</sup> Continuous sedation, administered as an intravenous infusion, is used to intentionally sustain depression of a patient’s awareness and reduce their response to necessary yet invasive procedures, for example endotracheal intubation and mechanical ventilation.

While the use of sedation in the ED is not new, emergency nurses are now increasingly responsible for the continuing assessment, monitoring and titration of sedation for critically ill patients,<sup>5</sup> and for increasing lengths of time.<sup>6,7</sup> The initial resuscitation and subsequent care of critically ill patients is a core component of emergency nursing practice.<sup>8</sup> While critical care was traditionally viewed as being delivered only in ICU, EDs provide critical care to a range of patient groups with increasing frequency and lengths of stay.<sup>6</sup> Critically ill patients experiencing life-threatening illnesses or injuries require sedation in addition to analgesia and prevention of delirium; an emerging concept referred to as the ‘ICU Triad’.<sup>9</sup> The use of sedation can be vital component in managing the critically ill patient,<sup>10,11</sup> yet when performed in the ED several unique challenges are encountered. Firstly, the unplanned and undifferentiated nature of the patients presenting to ED reduces the amount of time to assess and clinically evaluate the patient with any great depth afforded in elective or pre-planned circumstances.<sup>1,12</sup> Secondly, owing to the unpredictable time-sensitive nature of emergency patient presentations to the ED, sedation is often conducted and managed by emergency staff, who may have limited experience in dealing with sedation-related complications.<sup>13–16</sup> Thirdly, while individual patients respond differently to sedation and analgesia,<sup>17</sup> critically ill patients experiencing life-threatening illnesses or injuries have limited physiological reserves to offset the potential side effects of sedation and analgesics.

Download English Version:

<https://daneshyari.com/en/article/2605573>

Download Persian Version:

<https://daneshyari.com/article/2605573>

[Daneshyari.com](https://daneshyari.com)