

# Improving sedation on ICU utilising a Clinical Information System (CIS): An audit of current practice.

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## Introduction

Sedation is used to minimise patient discomfort and facilitate often unpleasant interventions. Over or under sedating patients can have a major impact on outcome and future quality of life. Multiple studies have demonstrated over sedation leads to increased morbidity<sup>1</sup> and daily interruptions to sedation can reduce ventilation and time on intensive care<sup>2</sup>. Auditing current sedation practice is essential to ensure the best outcome for patients.

## Method

96 Patients requiring more than 72 hours duration of invasive ventilation and sedation over a three month period were identified using Ward Watcher™ software, Critical Care Audit Ltd, Yorkshire, UK. The CIS (Centricity®, GE Healthcare, Buckinghamshire, UK) electronic records were then reviewed and patients excluded if they had an increased requirement for sedation such as raised intracranial pressure. 41 records were then audited against standards of care including the use of daily sedation breaks and recording of sedation scores.

Record : Nursing Assessment - Neuro/Pai  
Time: 22/08/2012 11:28

GCS: 21/08 08:21 5 points NeuroMusc: Current

Eye open: 21/08 08:21 Never

Verbal/res: 21/08 08:21 Stent No Twitches

Motor resp: 21/08 08:21 Decerebrate flexion

PAIN ASSESS: 21/08 08:21 UTA

Pupil Left: 21/08 08:21 2mm Pain Present

Pupil re Lft: 21/08 08:21 Fixed Pain Charact

Pupil Right: 21/08 08:21 2mm Loca of Pain

Pupil re Rht: 21/08 08:21 Fixed Pain Score

Sedation: ICP

Behaviour: 21/08 08:21 Unable To Assess ICP:

LOC: 21/08 08:21 Not Orientated CPP:

SedationScr: 21/08 08:21 -Subrouscale

Epidural Cite: [Dropdown]

EpiduralSite: [Dropdown]

Left Block: [Dropdown]

Right Block: [Dropdown]

Sedation Scr: [Dropdown]

Epid Site Ap: [Dropdown]

Epid SLR -L: [Dropdown]

Epid SLR -R: [Dropdown]

## Discussion

These results highlight areas of sedation practice in need of improvement. Clinical information technology is associated with improved care through enhanced access to data, tracking quality improvement, reducing error and improved patient monitoring<sup>3</sup>. The CIS system we use is relatively new. It is capable of improving our documentation, providing clinical notification prompts and enhancing the delivery of an optimum sedation package, features not currently fully utilised.

We have now implemented the following changes to the CIS system

- Prompts to record sedation scores on the task list
- Alerts when sedation scores are outside the desired range.
- Sedation scoring and prescribing have been added to the task view page.

Utilising our CIS in combination with revised sedation guidelines and enhanced education we aim to increase awareness of sedation, enhance patient monitoring and hope to show improved practice on subsequent repeat audit.

Results	Standard	2012
Score documented at least 4 hourly	80%	12.2%
Sedation adjusted appropriate to score	80%	51.2%
Daily sedation break or valid exclusion	100%	61%
Patients achieving target sedation score 0 to +1	100%	22%
Median population sedation score		-1

## References

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2. Kress P, Pohlman A, O'Connor M et al. Daily Interruption of sedative infusions in critically ill patients undergoing mechanical ventilation. *N Engl J Med* 2000; 342: 1471-1477
3. Amarasingham R, Pronovost P, Diener-West M et al. Measuring Clinical Information Technology in the ICU Setting: Application in a Quality Improvement Collaborative. *J Am Med Inform Assoc* 2007; 14: 288-294