Sedation Scales in the Pediatric ICU

Caroline M. Bollinger RN, BSN

Lehigh Valley Health Network, caroline_m.bollinger@lvhn.org

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Sedation Scales in the Pediatric ICU

Caroline Bollinger RN, BSN
Sedation scoring tools help assess the patient to achieve optimal sedation, minimizing risks of oversedation and undersedation.

Risks:
- Undersedated: lung injury, increased oxygen needs, intolerance of mechanical ventilation, increased use of PRNs
- Oversedated: VAP, lung injury, prolonged mechanical ventilation, increased risk for withdrawal

Without a validated sedation scale, there is not a standard assessment for sedation leading to
- Variable levels of sedation
- Increased overall use of sedation medications
Background/Significance

• The current sedation scale being utilized on the PICU, the Agitation-Sedation Scale Documentation, is not a validated tool and does not accurately assess the level of sedation.

• The Agitation-Sedation Scale Documentation does not measure level of sedation, rather goes straight to oversedation, making it difficulty to achieve a sedation goal.

• Did not carry it over to EPIC for this reason.
PICO QUESTION

For patients in a pediatric intensive care unit requiring sedation, which validated sedation scale compared to our current scale, would help achieve optimal sedation and decrease overall usage of sedation medication.
Problem Focused Trigger: Variable sedation levels leading to possible increased overall usage of sedation medications.

Knowledge Focused Trigger: When the patient is assessed using a standardized validated tool, an optimal sedation level can be identified and achieved utilizing a decreased overall use of sedation meds.
Evidence

- Search Engines used: EBSCO, CINHAL
- Key words: sedation, pediatric, scale
Insert comfort scale here
Comfort Scale

- Analyzed in multiple studies across a pediatric population in ICUs.
- Subjective in evaluation of certain parameters and the hemodynamic variables can be influenced by other factors other than sedation.
- Evidence of undersedation were addressed and children were more adequately sedated after using the scale.
- Shown to be easily used by nurses of varying education backgrounds.
- The evidence was inconclusive whether the implementation of the Comfort Scale improved sedation treatment.
- Also used to assess pain.
Comfort B Scale

- Insert comfort b scale here
The Comfort B Scale was adapted from the Comfort scale. Physiological factors, such as blood pressure and heart rate were excluded from the scale.

Evidence showed higher reliability with physiological factors excluded.

The Comfort B Scale is recommended for ages <18 yrs.

Very limited evidence.
Pediatric Sedation Agitation Scale (P-SAS)

- Insert p-sas here
Pediatric Sedation Agitation Scale (P-SAS)

- The Pediatric Sedation Agitation Scale (P-SAS) was analyzed across a ten bed PICU.
- Evaluates the sedation depth across mechanically intubated children; the level of response to a stimulus. Each age group, 0-1 year, 1-3 years, 4-7 years and 8-18 years, is individually assessed.
- The P-SAS content validity is not validated.
- The P-SAS is not comprehensive in its evaluation: it does not assess respiratory response, alertness, muscle tone or facial tension.
State Behavioral Scale

- Insert scale here
The State Behavior Scale (SBS) was analyzed in a study of a pediatric population in a Medical-Surgical ICU and Cardiovascular ICU. The SBS evaluates the mechanically intubated child’s respiratory effort, response to ventilation, coughing, best response to stimulation, attentiveness to care provider, tolerance to care, consolability and movement after consoled. SBS scale has clearly defined dimensions that are easily rated by nurses. SBS scale is recommended in children from ages 6 weeks – 6 years.
Current Practice at LVHN

- Prior to EPIC: Agitation-Sedation Scale
- Currently subjective sedation assessment among providers/nurses
  - Sedation goals discussed daily in rounds.
- No protocols/pathways in place for sedation
Implementation

1. Presented evidence at PICU PI meeting
2. Consensus between SBS and Comfort tool to be determine after pilot.
4. Gather data related to overall use of sedation medication in mg/kg totals.
5. Small scale pilot tool on unit.
6. Availability of tool in EPIC.
7. Education roll out.
8. Incorporation of tool in Pediatric Sedation Pathway.
Practice Change

- Implement validated sedation scale in PICU
- Small scale pilot on unit for nurse interrater reliability/ease of use on unit utilizing experienced/novice nurses for 4-6 patients.
Goal

- Implement Pediatric Sedation Clinical Pathway with utilization of Pediatric sedation scale.
Results

- Next steps: small scale pilot on PICU.
- Take evidence to Pediatric Practice Council for approval.
Implications for LVHN

- Better assessment of sedation leading to improved patient care.
- Pediatric Sedation clinical pathway.
Strategic Dissemination of Results

- Unit based project:
  - PICU PI
  - Children’s Practice Council
  - Staff education with key champions.
Lessons Learned

- Barriers:
  - EPIC implementation slowed progress
  - Lack of validated pediatric sedation scales
  - Data collection/identifying appropriate metric
References


Johnson, PN., Miller, JL., Hagemann, TM. Sedation and Analgesia in Critically Ill Children. *AACN Advanced Critical Care.* 23(4), 415-34.


Make It Happen

- Questions/Comments:

Contact Information: