Post Sedation Delirium in Pediatrics

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Post Sedation Delirium in Pediatrics

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BACKGROUND

- Delirium is often linked to sedation usage
- It is common for acute patients in PICU to be on multiple sedation drips with additional PRN doses
- Currently our PICU does not have a method of measuring delirium in patients
- Delirium can increase length of stay and have long term neurocognitive effects in children

P I C O

- **P: Inpatient pediatric intensive care unit patients who are receiving sedation**
- **I: Use of Cornell Assessment of Pediatric Delirium (CAPD) scale for recognition of pediatric delirium**
- **C: No use of delirium scale**
- **O: Influence and enhance recognition of pediatric delirium in patients who receive(d) sedation medication**

EVIDENCE

- In one study of ICU level pediatric patients, delirium was present in 20% of the patients (Traube et al., 2014)
- Universal screening for delirium results in quicker identification and earlier implementation of delirium treatments, decreasing delirium prevalence (Simone et al., 2017)
- Patients screened for delirium are more likely to need additional interventions for comfort (Franken et al., 2018)
- Vulnerable patients (developmentally delayed, infants, etc) are more likely to develop symptoms of delirium (Traube et al., 2018)
- CAPD scale is a validated tool, with a Cronbach's *a* of 0.9 and 94.1% sensitivity (Traube et al., 2014)

IMPLEMENTATION

- Re-educate nurses on the State Behavioral Scale (SBS) and how to properly measure a patient's level of sedation
- Educate nurses on S/S of delirium and recognition of delirium in different pediatric patients via assigned TLC PowerPoint
- Educate nurses on how to use delirium scale when assessing patients
- Implement use of scale on all admitted patients via printed out handout on the floor

	Newborn	4 weeks	6 weeks	8 weeks	28 weeks	1 year	2 years
1. Is the child able to make eye contact with the person caring for him/her?	Looks at faces.	Maintains gaze for short periods of time. Eyes follow for 90 degrees.	Maintains gaze.	Eyes follow caregiver or objects crossing his/her center line. Pays attention to object held by tester.	Maintains gaze. Prefers parent. Looks at person talking.	Maintains gaze. Prefers parent. Looks at person talking.	Maintains gaze. Prefers parent. Looks at person talking.
2. Does the child engage in purposeful actions?	Moves head side to side in accordance with neonatal reflex.	Stretches hand out. (OK if this action is somewhat uncoordinated).	Stretches out hand.	Tries to grasp object offered using contrasting side to side movements without resistance.	Stretches out hand smoothly.	Stretches out hand and tries to grasp object. Tries to change position. If able to move, tries to stand.	Stretches out hand and tries to grasp object. Tries to change position. If able to move, tries to stand.
3. Is the child interested in his/her surroundings?	The child is calm and alert.	The child is clearly alert. The child turns in the direction of the caregiver's voice. The child may turn in the direction of the smell of the caregiver.	The amount of time the child is clearly alert increases The child turns in the direction of the caregiver's voice The child may turn in the direction of the smell of the caregiver	Nods head up and down, frowns at the sound of a bell, spoken to gently, expression becomes bright and smiles.	Prefers his/her mother over other family members. Becomes agitated if separated from the preferred caregiver. Is used to a favorite blanket or stuffed animal and is calmed by it.	Prefers parents over other family members. Becomes agitated if separated from the preferred caregiver. Is used to a favorite blanket or stuffed animal and is calmed by it.	Prefers parents over other family members. Becomes agitated if separated from the preferred caregiver. Is used to a favorite blanket or stuffed animal and is calmed by it.
4. Does the child communicate his/her needs and wants?	Cries when hungry or uncomfortable.	Cries when hungry or uncomfortable.	Cries when hungry or uncomfortable.	Cries when hungry or uncomfortable.	Vocalizes or uses gestures when needs something (e.g., hungry, uncomfortable, interested in an object or his/her surroundings).	Uses single words and gestures.	Uses 3-4 words and gestures. Indicates when needs to use the toilet.
5. Is the child restless?	Does not maintain a clearly alert state.	Does not maintain a calm state.	Does not maintain a calm state.	Does not maintain a calm state.	Does not maintain a calm state.	Does not maintain a calm state.	Does not maintain a calm state.
6. Is it impossible to console the child?	Cannot be soothed by rocking, singing, feeding, or making comfortable.	Cannot be soothed by rocking, singing, feeding, or making comfortable.	Cannot be soothed by rocking, singing, feeding, or making comfortable.	Cannot be soothed by rocking, singing, feeding, or making comfortable.	Cannot be soothed using normally used methods (e.g., singing, holding, or talking).	Cannot be soothed using normally used methods (e.g., singing, holding, talking, or reading a book).	Cannot be soothed using normally used methods (e.g., singing, holding, talking, or reading a book), but can be calmed down when throwing a temper tantrum.
7. Has the child's level of activity decreased? Has the amount of movement while he/she is awake decreased?	Almost never bends arms and legs, has no strength other than during neonatal reflex. (Most of the time the child is sleeping comfortably).	Almost never stretches hands out, kicks, or grasps objects (OK even if actions are somewhat uncoordinated).	Almost never stretches hands out, kicks, or grasps objects (OK even if actions are somewhat uncoordinated).	Almost never grasps objects or moves head and arms purposefully. For example, does not try to push away unpleasant things.	Almost never stretches hands out, grasps objects, moves around on the bed, or pushes away objects.	Almost never plays, gets up, or pulls. Even if he/she moves, almost never crawls or walks around.	Almost never engages in more complex play, gets up, or moves around. Almost never stands, walks, or jumps, even though capable of these actions.
8. Does it take time for the child to react to others?	Does not make sounds. Does not react as expected (e.g., grasping reflex, sucking reflex, or the Moro reflex).	Does not make sound. Does not react as expected (e.g., grasping reflex, sucking reflex, or the Moro reflex).	Does not kick or cry in response to an unpleasant stimulus.	Does not babble, laugh, or gaze in reaction to contact with others.	Does not babble, smile, or laugh during contact with others (may even refuse contact).	Does not obey simple instructions. Even if able to understand, does not obey simple instructions provided in the language that can be understood by the child.	Does not obey simple commands with one to two steps. Even if able to speak, does not obey more complex instructions.

OUTCOME

- After completing the assigned sedation/delirium TLC, nurses verbalized a better understanding of the different effects of sedation and their outcomes on pediatric delirium
- During a one month period, of the 6 patients who were applicable for this study, 4 were reported as having S/S of post sedation delirium according to the CAPD
  - In 2 of the patients, S/S of delirium lasted over several days

NEXT STEPS

- Continued use of the SBS every hour for intubated patients
- Implement CAPD score into assessment tools
- Continue frequent neuro and mental status exams on patients with sedation
- Implement open communication with patient families about what delirium could look like

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