

Initiating a Validated Pediatric Anesthesia Emergence Delirium Scale in the Pediatric Post Anesthesia Care Unit

Cassandra R. Duncan-Azadi, MD FASA; Sorochi Esochagi, MD; Toni Strickland, BSN, RN, CPAN; Julia Newton, BS, MS3

Oklahoma Children's Hospital
Department of Anesthesiology, Division of Pediatric Anesthesiology, University of Oklahoma Health Sciences Center, Oklahoma City, OK, USA

Oklahoma City, OK



Background

- A Emergence Delirium(ED) is a frequent occurrence in the pediatric PACU. Patients experience a dissociated state of conscience after general anesthesia and are confused, inconsolable, irritable, and uncooperative
- It can be difficult for nurses to determine if ED is occurring because it is often confused with uncontrolled post-op pain or anxiety. This delay's treatment and can result in post surgical complications such as dislodging IV catheters, disruption of surgical wounds, distress to the parents and children, creating feelings of dissatisfaction for medical caregivers
- The PAED scale is a research-validated tool that has been shown to help nurses and anesthesiologists recognize and appropriately treat ED
- OCH PACU did not utilize a scale to assess for PAED

Objective

- to assess our PACU nurse's initial knowledge and comfort with managing ED
- Determine how the implementation of the PAED scale affected knowledge of PAED and nursing satisfaction
- To ascertain how these changes were maintained over time

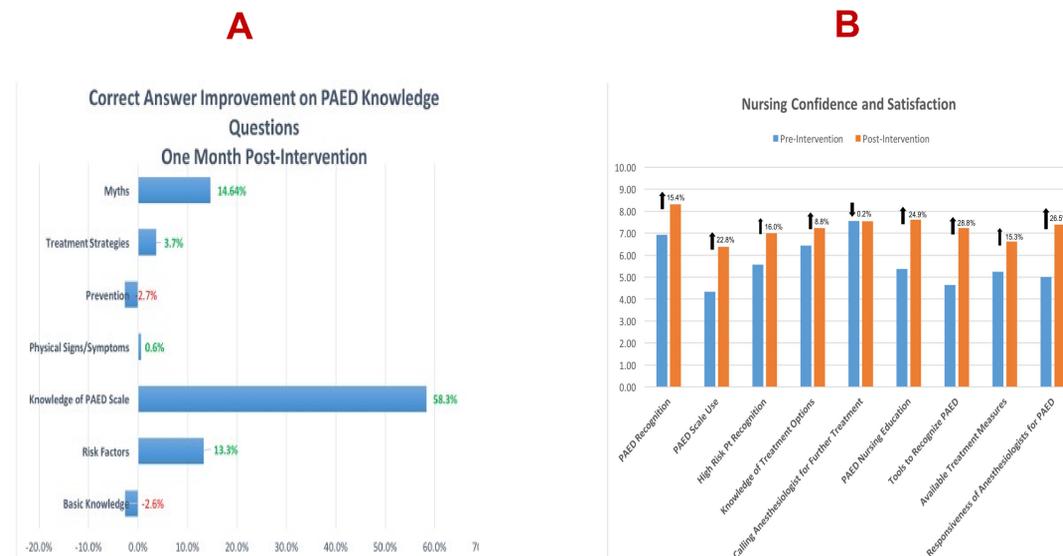
Study Design

- An email with a link to an online survey was sent to all nurses who worked in the pediatric PACU
- The invitation email included "identifiers will be removed, and the de-identified information may be used for future research without additional notification"
- Pre-intervention data was collected via anonymous answers from the online survey
- Survey was open for approximately two weeks with two reminder emails sent within this time period to invite all nurses to take the online survey
- After two weeks, the survey was closed and scheduled training for the PAED scale was implemented
- One-month post initiation, the survey invitation was sent out again with two reminder emails. It was open for two weeks and then closed
- Six-months post initiation, the survey invitation was re-sent with 2 reminder emails .
- Each survey knowledge questions was scored and results were analyzed using the T-test

Results

- The nursing education initiative and implementation were successful in increasing knowledge of the PAED scale (up 58.3%, $p < 0.00021$), knowledge about patient risk factors (up 33.3%, $p = 0.01$), and dispelling common myths about surrounding PAED (UP14.6%, $p = 0.01$) It is unclear at this time if the education initiative was ineffective in regards to the other goals of PAED knowledge, or if our pediatric PACU nurses simply pre-possessed much of this knowledge prior to implementation.
- Nursing confidence and satisfaction also increased with the largest gains being seen in their satisfaction with the tools they have at their disposal ($\uparrow 28.8\%$) and the responsiveness of anesthesiologists ($\uparrow 26.5\%$).
- The anesthesiologists were not included in the education sessions; therefore the increase in satisfaction is likely due to either a change in nursing perception or a change in anesthesiologist behavior due to nurses reporting the PAED score.

Figures A and B. Correct answer improvement from pre-intervention survey shown (A) Nursing confidence and satisfaction shown (B)



Results (cont.)

Table. Pediatric Emergence Delirium Scale

PEDIATRIC EMERGENCE DELIRIUM SCALE (PAED)					
	not at all	just a little	quite a bit	very much	extremely
Eye Contact	4	3	2	1	0
Purposeful Movements	4	3	2	1	0
Perception of the Environment	4	3	2	1	0
Restlessness	0	1	2	3	4
Inconsolability	0	1	2	3	4
(> 10 points=ED probable) <small>NIH.gov Sikish PAED Scale</small>					

Scan for survey questions used



Conclusions

- The findings have demonstrated that the pediatric PACU nurses are more confident in identifying true ED
- Additionally, it showed that they are more aware of the tool used to score delirium and what intervention(s) are the best to implement
- The documentation piece has taken several months to get built as we have 3rd party vendors to develop most of our screens. Currently we are waiting for the screen to be included in our assessment options. During the study, a verbal reporting of the score was provided to the anesthesia provider. Further studies to determine documentation compliance would be helpful.