

## Background Information

Emergence delirium (ED) is a dissociative state of consciousness with non-purposeful agitation and inconsolability during emergence from anesthesia.

ED can happen to anyone, but children are at highest risk. Studies show that 30-50% of children less than 10 years old will experience ED.

Children experiencing ED will typically present with crying, thrashing, agitation, inconsolability, and lack of eye contact.



ED lasts an average of 14 minutes.

ED can result in damage to the surgical site, loss of IV, increased use of narcotics, increased staffing demands, and harm to the patient, staff, or parents.

Patients that experience ED may show prolonged behavior changes such as: sleep disturbances, anxiety, and poor attention lasting an average of 2 weeks after surgery.

ED is most commonly measured using the Pediatric Anesthesia Emergence Delirium (PAED) scale. Patient are given a number 0-20 with 20 being the most severe presentation of ED.

Depending on the facility and anesthesia provider, a PAED score greater than 8-12 indicates ED.

### Pediatric Anesthesia Emergence Delirium Scale

Behavior	Frequency				
	None	Some	Modest	Much	Extreme
Child makes direct eye contact	0	1	2	3	4
Child's actions are purposeful	0	1	2	3	4
Child is aware of their surroundings	0	1	2	3	4
Child is restless	4	3	2	1	0
Child is inconsolable	4	3	2	1	0

A review of the literature showed that dexmedetomidine (Precedex) for pediatric surgeries can significantly reduce the rates of ED, as well as decrease the use of analgesics by up to 71%, reduce postoperative nausea, and decrease shivering.

## Background Information (cont.)



An American Society of PeriAnesthesia Nurses (ASPAN) member at Oconee Memorial Hospital noticed an opportunity for improvement in ED for pediatric patients and began the evidence-based practice project.

## Objectives of the Project

The purpose of this evidence-based practice project was to decrease emergence delirium in pediatric patients aged 1-7 years through the administration of intravenous (IV) dexmedetomidine.

## Process of Implementation

An American Society of PeriAnesthesia Nurses (ASPAN) member collaborated with the anesthesia providers to review the literature and discuss a new process change of administering dexmedetomidine to pediatric patients prior to emergence.

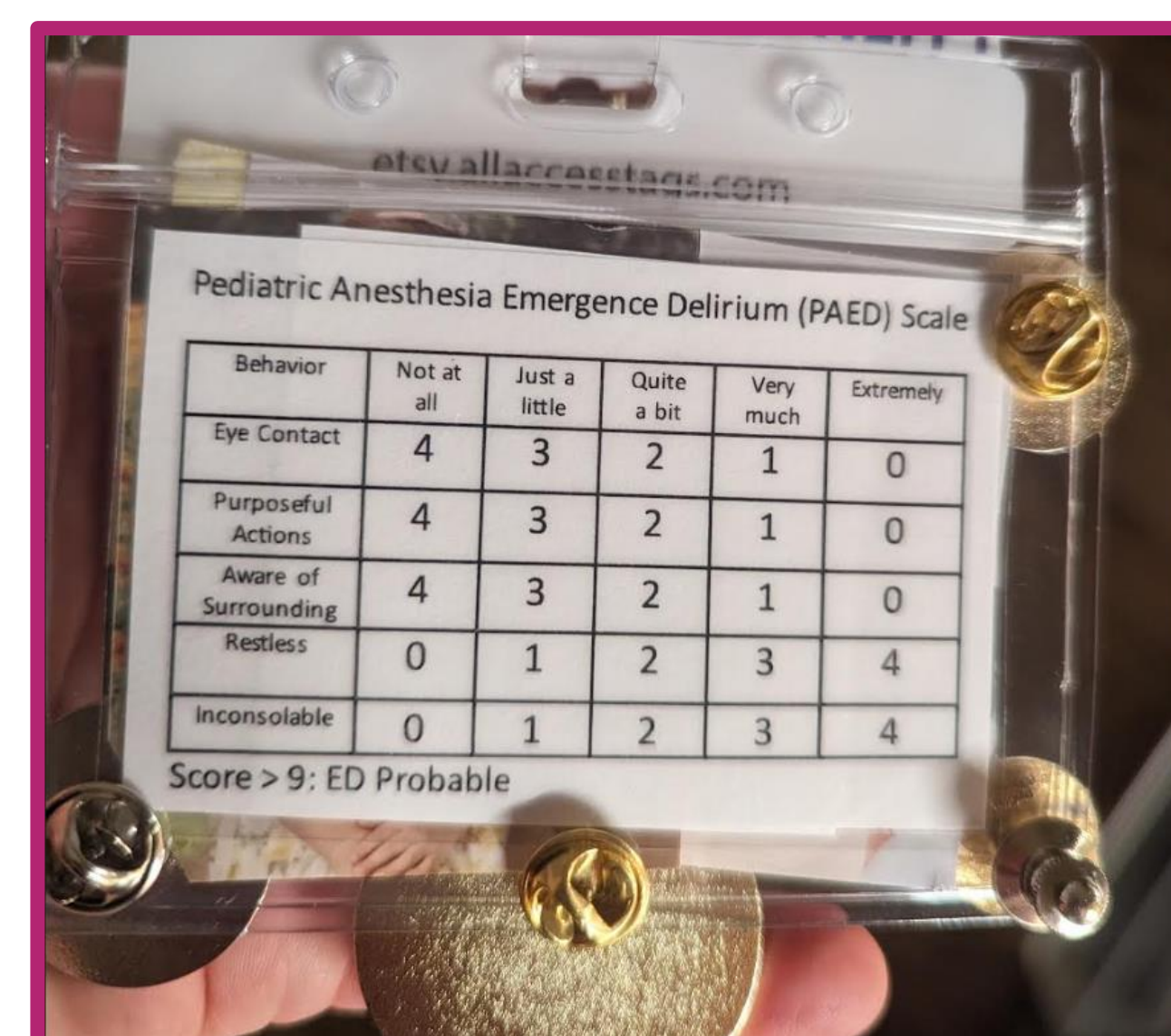
Nursing staff were provided education in the following ways:

- Journal clubs** – Staff reviewed evidenced based practices on the use of Dexmedetomidine for pediatric ED
- Screening criteria** – Anesthesia providers explained which patients would be the best candidates to receive dexmedetomidine and which patients would be excluded (age <1year, bradycardia, reduced cardiac output)

### •Badge Buddies

Postanesthesia Care Unit (PACU) nurses were given badge buddies with the PAED scale and reviewed how to use it to ensure consistency in documentation

Preoperative nurses were given badges buddies with a list of ED risk factors and contraindications to help anesthesia providers screen for patients that could receive dexmedetomidine



PACU badge buddies

## Process of Implementation (cont.)

Prior to the process change of using dexmedetomidine, PACU nurses collected PAED scores on surgical patients ages <8. Data was collected on 26 patients and it was found that the average PAED score was 10.0, which is high enough to be considered ED.

This information was shared with all anesthesia providers who agreed this number was higher than desired. Providers decided to move forwards with administering dexmedetomidine prior to emergence with a goal to reduce the average PAED score to less than 8.

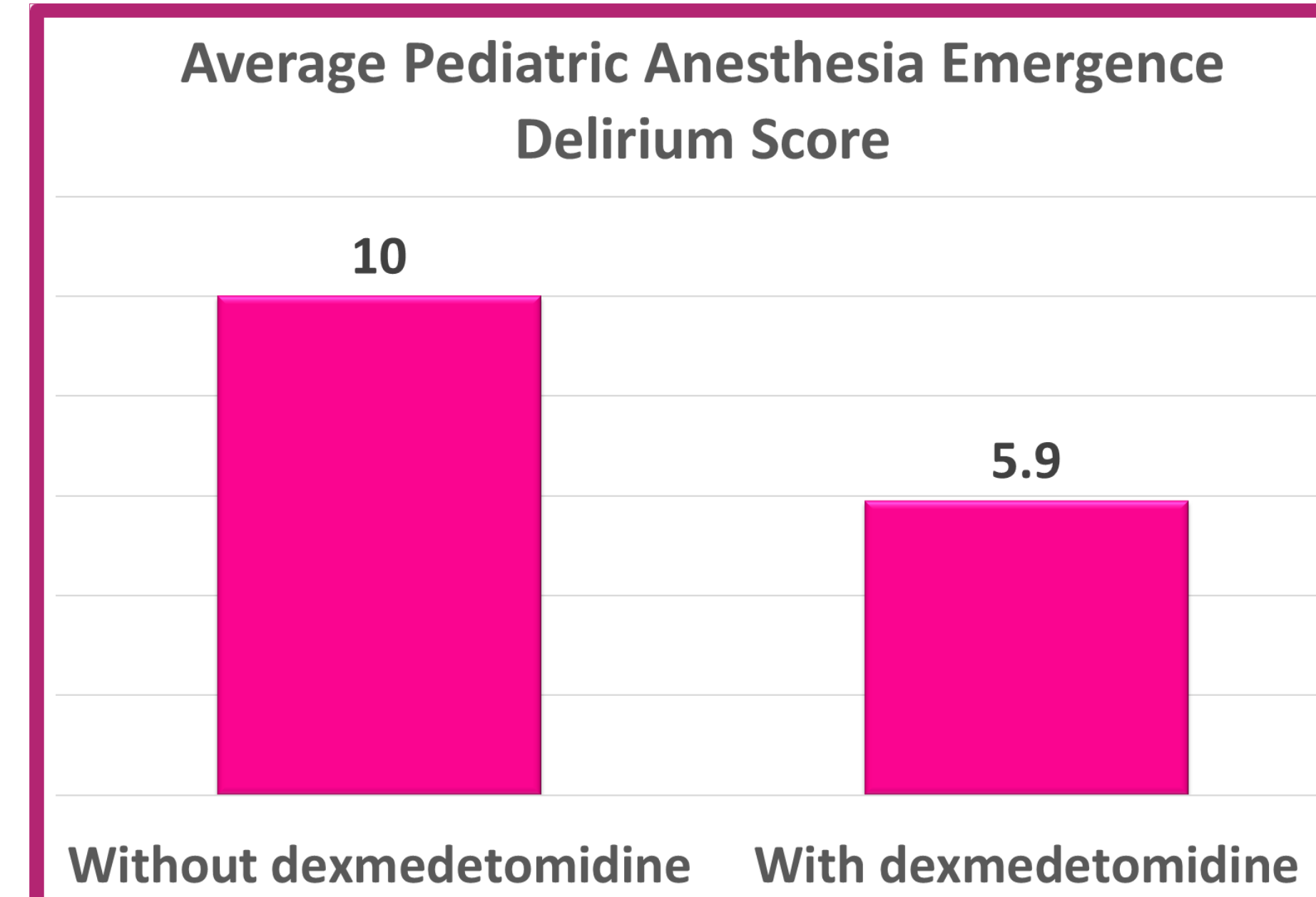
## Statement of Successful Practice

Six weeks after the implementation of this process change, PAED scores were collected again for comparison.

PAED scores were reanalyzed on 23 patients and it was found that the patients who received dexmedetomidine had an average PAED score of 5.9.

This process change has been implemented into the standard of care for pediatric surgical patients.

This interprofessional process change resulted in a **41% decrease in PAED scores.**



Pediatric patient being transported to the OR

## Implications for Advancing the Practice of PeriAnesthesia Nursing

The literature supports that reducing ED can decrease the risk of injury to patient and staff, lessen parental anxiety, decrease post-operative nausea, reduce narcotic use, and prevent postoperative maladaptive behaviors.

By collaborating with inter-professional partners and successfully implementing this evidence-based practice, ED was decreased, and patient outcomes were improved.

## Acknowledgements

Thank you to those that assisted with or supported the project: OMH anesthesia and perioperative department, Racheal Cavenaugh, David Von Clef, Mike Drake, Connie Spykerman, Tracie Smith, Diana McIntyre, Celeste Romp, and Michelle Westmoreland



OMH Perioperative Staff

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