

BACKGROUND

- The Pediatric Early Warning Score (PEWS) is an established pediatric tool used to identify and trend pediatric patients at risk for clinical deterioration.
- PEWS provides an objective score and corresponding action plan based on a patient's vital signs and current assessment.
- The PEWS Scoring system was previously validated and implemented in the ED, ICU, and Acute Care units.
- A need was identified to recognize perioperative patients at risk for clinical deterioration prior to transfer to acute care units leading to the implementation of PEWS in the PACU.

OBJECTIVES

- Identify perioperative patients at risk for clinical deterioration prior to transfer to Acute Care Units via an objective scoring tool utilized throughout the hospital
- Follow corresponding action plan to guide the nurse and physician in determining the most accurate level of care for the patient
- Provide the first PEWS score in the PACU prior to transfer to facilitate score trending

METHODS

- PEWS tool modified and action plan developed for PACU use
- PEWS Tool validated for use in the PACU
Validation: 26 patients from 6 OR Services

Tool Evaluation:

- Did the PEWS score accurately reflect the patient's current acuity/condition?
- Did the score prompt unnecessary additional assessment and intervention?

- Following validation, results were presented to the organization's Resuscitation Committee for endorsement
- Education to PACU nursing staff, anesthesia providers, and proceduralists followed endorsement for use in the PACU

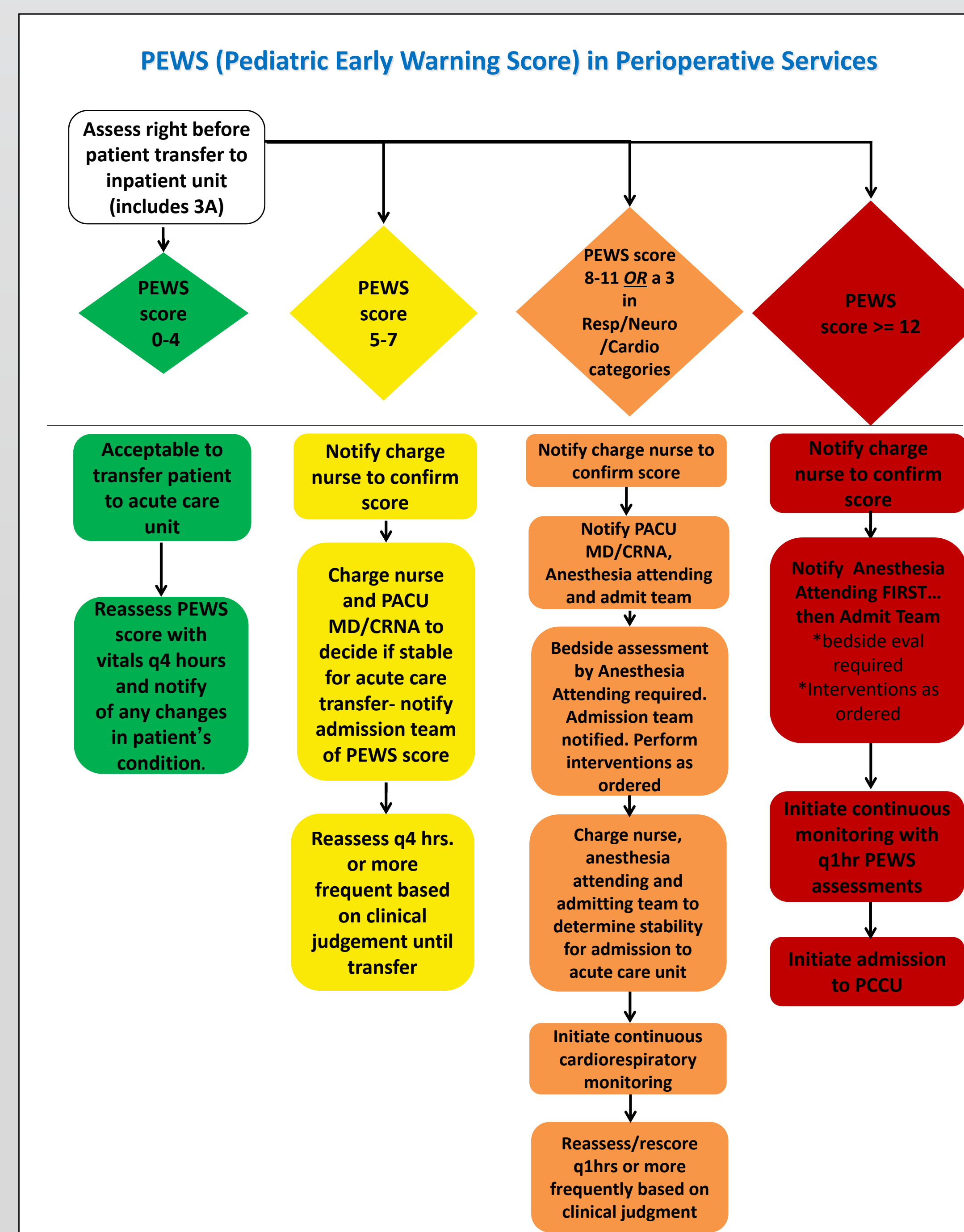
Education included:

- Inclusion Categories
- Scoring Criteria and Method
- Action plan algorithm

- The organization received an email SBAR communication for awareness when implementation began

FIGURES

PEWS (Pediatric Early Warning Score) in Perioperative Services					
	0	1	2	3	Score
Neuro/ Behavior	• Awake/Alert • Appropriate • At Baseline • RASS 0	• Sleeping intermittently but arouses easily OR • Fussy/Irritable but consolable • RASS +1/-1	• Difficult to arouse/decrease response to verbal stimuli • Irritable/Inconsolable/Aggressive • RASS +2/3 or -2/3	• Lethargic/Confused OR • Agitated/combatative OR • Decreased response to painful stimuli • Acute neuro change • RASS +4/5 or -4/5	
Cardio	• Capillary refill 1-2 seconds	• Capillary refill 3 seconds	• Capillary refill 4 seconds OR • HR increase or decrease >20 since last assessment	• Capillary refill 5 seconds or above OR • HR increase or decrease >30 since last assessment /baseline /admission vitals • OR • Systolic blood pressure 20 mm < baseline/admission vitals despite fluid bolus administration	
If score of 3 in either Neuro or Cardio category, automatically advance to orange algorithm					
Respiratory Rate	0-3 Months: 30-40 3mo-12mo: 20-30 1-3 Years: 18-26 4-5 Years: 16-24 6-12 years: 14-20 >12 Years: 12-18	41-50 31-40 27-34 25-30 21-26 19-23	51-60 41-50 35-39 31-35 27-30 24-27 OR • An increase in RR >10 bpm since last assessment	≥60 or ≤20 ≥50 or ≤20 ≥40 or ≤18 ≥35 or ≤15 ≥31 or ≤14 ≥28 or ≤12 OR • An increase in RR >20 bpm since last assessment	
Oxygen Saturation vs Baseline	• Within expected range on room air or baseline oxygen requirement	• Within expected range with 0.5 - 1 lpm oxygen requirement above baseline requirement	• Within expected range with 2 lpm oxygen requirement above baseline requirement	• Within expected range with 3-4 lpm oxygen requirement above baseline requirement OR • Inability to maintain desired saturations	
Auscultation	• Good aeration throughout	• End expiratory wheezes OR • Mild crackles/rales	• Expiratory wheezes OR • Coarse crackles/rales	• Inspiratory/expiratory wheezing, rhonchi, stridor at rest OR • Diminished breath sounds	
Work of Breathing	• None	• Intercostal retractions	• Intercostal & subcostal retractions OR • Nasal flaring	• Intercostal, subcostal & suprasternal retractions OR • Grunting	
Add 1 point for each <input type="checkbox"/> 24 hrs. of admission or transfer from Periop <input type="checkbox"/> Albuterol or racemic epi w/in 2 hours					
PEWS ACTION PLAN SUMMARY					
0-4		5-7		8-11	
<ul style="list-style-type: none"> Acceptable to transfer patient to acute care unit Reassess PEWS score with vitals q4 hours 		<ul style="list-style-type: none"> Acute Care vs. Remain in Periop Notify Charge RN and PACU MD/CRNA Send FYI to admitting team Reassess PEWS score with vitals q4 hours or more frequently as needed 		<ul style="list-style-type: none"> Remain in Periop until bedside Eval. Notify Charge RN, PACU MD/CRNA, Anesthesia Attending, & admitting team Determine if stable for transfer to admitting Floor-q1hr evals Initiate continuous cardioresp. monitoring 	
				≥12	
				<ul style="list-style-type: none"> Remain in Periop Notify Charge Nurse Notify Anesthesia attending Notify admit team Initiate admit to PCCU 	



OUTCOMES

Since implementation in July of 2018, 5 pediatric perioperative patients have been identified as at risk for clinical deterioration prior to transfer to Acute Care Units with successful action plan steps followed.

PEWS ACTION PLAN SUMMARY

0-4	5-7	8-11	≥12
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IMPLICATION TO PRACTICE

Use of this tool in pediatric perioperative patients:

- Assists the PACU bedside nurse in providing objectivity to the subjectivity of patient acuity
- Encourages multidisciplinary collaboration to ensure appropriate resource utilization and post-operative care plans



ACKNOWLEDGEMENTS

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