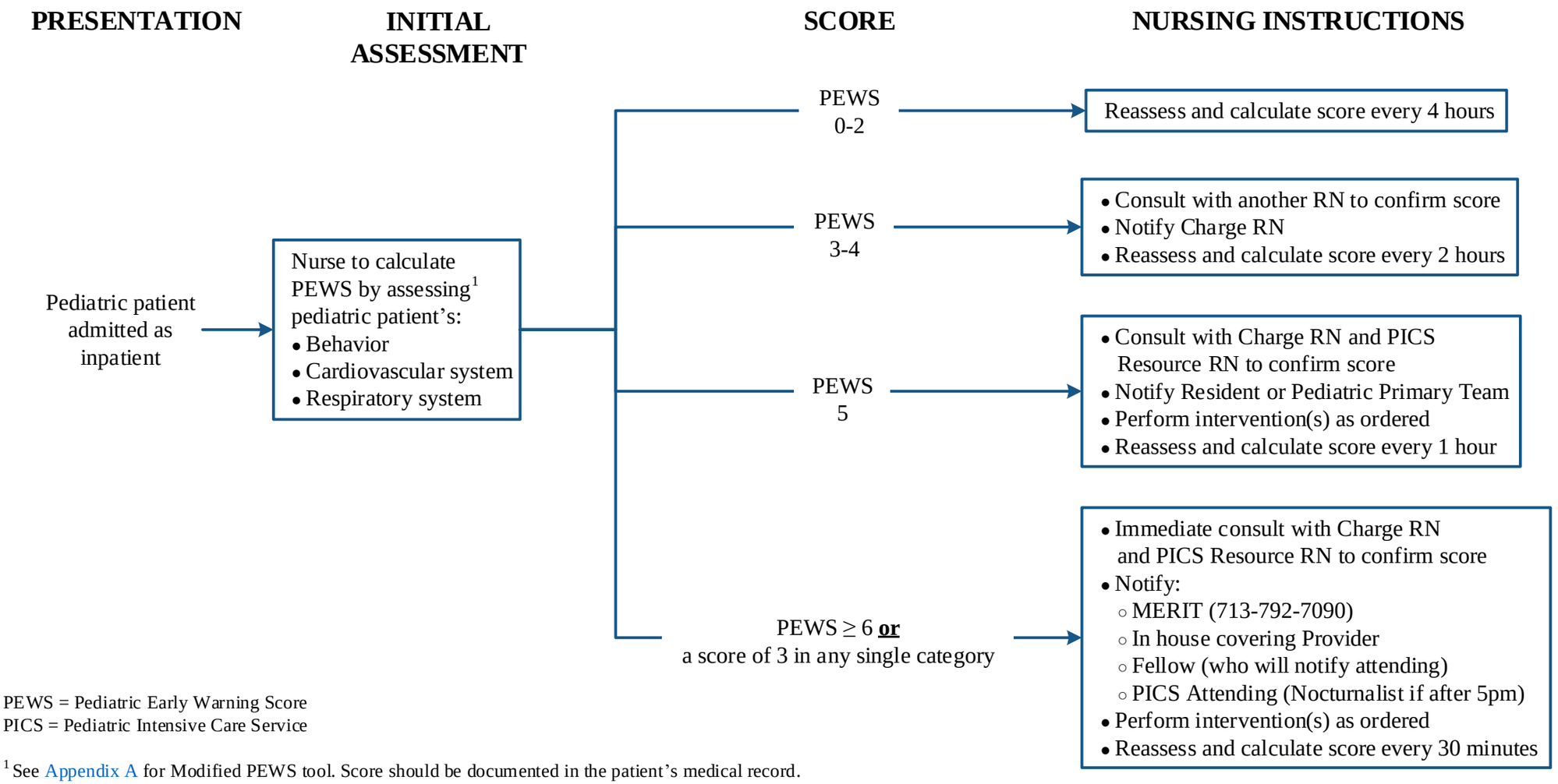
THE UNIVERSITY OF TEXAS MD Anderson Cancer Center
Making Cancer History®

Detecting Pediatric Patient Deterioration Using PEWS

Disclaimer: *This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care. This algorithm should not be used to treat pregnant women.*



PEWS = Pediatric Early Warning Score
PICS = Pediatric Intensive Care Service

[1] See Appendix A for Modified PEWS tool. Score should be documented in the patient's medical record.

Department of Clinical Effectiveness V2
Approved by the Executive Committee of the Medical Staff on 07/30/2019

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APPENDIX A: Modified PEWS Tool

	Score[1]			
	0	1	**2**	**3**
Behavior	• Playing • Appropriate	• Irritable, but consolable	• Irritated, but not consolable	• Lethargic • Confused • Reduced response to pain
Cardiovascular System				
Rate	• Within normal parameters for age	• Tachycardia < 20 above normal for age	• Tachycardia 20-29 above normal for age	• Tachycardia ≥ 30 above **or** bradycardia ≥ 10 below normal for age
Color	• Pink	• Pale **or** dusky	• Mottled	• Gray
Perfusion	• Capillary refill 1-2 seconds	• Capillary refill 3 seconds	• Capillary refill 4 seconds	• Capillary refill ≥ 5 seconds
Respiratory System				
Rate	• Within normal parameters for age	• Tachypnea 10-19 above normal parameters for age	• Tachypnea ≥ 20 above normal parameters for age with retractions	• Bradypnea ≥ 5 below normal parameters for age with retractions
Effort	• No retractions	• Mild retractions/accessory muscle use	• Moderate retractions/accessory muscle use (including tracheal tugging)	• Severe retractions/accessory muscle use (including tracheal tugging) **and** grunting
Oxygen	• N/A	• Oxygen required to maintain normal[2] SpO_2 ◦ FiO_2 24-40% ◦ 2 L/minute O_2 • Any assisted ventilation[3] or initiation of O_2	• Oxygen required to maintain normal[2] SpO_2 ◦ FiO_2 40-49% ◦ O_2 ≥ 3 L/minute	• Oxygen required to maintain normal[2] SpO_2 ◦ FiO_2 ≥ 50%

[1] Add 2 extra points if patient requires frequent interventions (*e.g.*, suctioning, positioning, change in O_2 needs, multiple IV attempts required, **or** every 15-minute or continuous nebulized treatments) **or** has persistent post-op vomiting

[2] As defined in patient's orders

[3] Includes home bilevel positive airway pressure (BiPAP)/continuous positive airway pressure (CPAP) or home ventilator at baseline settings

SUGGESTED READINGS

Fraser, D. D., Singh, R. N., & Frewen, T. (2006). The PEWS score: Potential calling criteria for critical care response teams in children's hospitals. *Journal of Critical Care, 21*(3), 278-279. https://doi.org/10.1016/j.jcrc.2006.06.006

Mandell, I. M., Bynum, F., Marshall, L., Bart, R., Gold, J. I., & Rubin, S. (2015). Pediatric Early Warning Score and unplanned readmission to the pediatric intensive care unit. *Journal of Critical Care, 30*(5), 1090-1095. https://doi.org/10.1016/j.jcrc.2015.06.019

Monaghan, A. (2005). Detecting and managing deterioration in children: Alan Monaghan describes how the introduction of a critical care outreach service and a Paediatric Early Warning Score improved management of acutely ill children. *Pediatric Nursing, 17*(1), 32-35. https://doi.org/10.7748/paed.17.1.32.s27

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