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.

**PRESENTATION**

Pediatric patient admitted as inpatient

**INITIAL ASSESSMENT**

Nurse to calculate PEWS by assessing pediatric patient’s:
- Behavior
- Cardiovascular system
- Respiratory system

**SCORE**

- PEWS 0-2
  - Reassess and calculate score every 4 hours

- PEWS 3-4
  - Consult with another RN to confirm score
  - Notify Charge RN
  - Reassess and calculate score every 2 hours

- PEWS 5
  - Consult with Charge RN and PICU Resource RN to confirm score
  - Notify Resident or Pediatric Primary Team
  - Perform intervention(s) as ordered
  - Reassess and calculate score every 1 hour

- PEWS ≥ 6 or a score of 3 in any single category
  - Immediate consult with Charge RN and PICU Resource RN to confirm score
  - Notify:
    - MERIT (713-792-7090)
    - In house covering Provider
    - Fellow (who will notify attending)
    - PICU Attending (Nocturnalist if after 5pm)
  - Perform intervention(s) as ordered
  - Reassess and calculate score every 30 minutes

**NURSING INSTRUCTIONS**

PEWS = Pediatric Early Warning Score
PICU = Pediatric Intensive Care Unit

1 See Appendix A for Modified PEWS tool. Score should be documented in the patient’s medical record.
# APPENDIX A: Modified PEWS Tool

<table>
<thead>
<tr>
<th>Score</th>
<th>Behavior</th>
<th>Cardiovascular System:</th>
<th>Respiratory System:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Playing</td>
<td>Rate</td>
<td>Rate, Effort, Oxygen</td>
</tr>
<tr>
<td></td>
<td>Appropriate</td>
<td>Within normal parameters for age</td>
<td>Within normal parameters for age</td>
</tr>
<tr>
<td>1</td>
<td>Irritable, but consolable</td>
<td>Tachycardia &lt; 20 above normal for age</td>
<td>Tachypnea 10-19 above normal parameters for age</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pale or dusky</td>
<td>Mild retractions/accessory muscle use</td>
</tr>
<tr>
<td>2</td>
<td>Irritated, but not consolable</td>
<td>Tachycardia 20-29 above normal for age</td>
<td>Tachypnea ≥ 20 above normal parameters for age with retractions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mottled</td>
<td>Moderate retractions/accessory muscle use (including tracheal tugging)</td>
</tr>
<tr>
<td>3</td>
<td>Lethargic</td>
<td>Tachycardia ≥ 30 above or bradycardia ≥ 10 below normal for age</td>
<td>Bradypnea ≥ 5 below normal parameters for age with retractions</td>
</tr>
<tr>
<td></td>
<td>Confused</td>
<td>Gray</td>
<td>Severe retractions/accessory muscle use (including tracheal tugging) and grunting</td>
</tr>
<tr>
<td></td>
<td>Reduced response to pain</td>
<td>Capillary refill ≥ 5 seconds</td>
<td>Oxygen required to maintain normal oxygen saturation</td>
</tr>
</tbody>
</table>

1. Add 2 extra points if patient requires frequent interventions (e.g., suctioning, positioning, change in oxygen 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.

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SUGGESTED READINGS


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DEVELOPMENT CREDITS

This practice consensus statement is based on majority opinion of the Pediatric experts at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

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