Detecting Pediatric Patient Deterioration Using PEWS

**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 PICS 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 PICS Resource RN to confirm score
  - Notify:
    - MERIT (713-792-7090)
    - In house covering Provider
    - Fellow (who will notify attending)
    - PICS Attending (Nocturnalist if after 5pm)
  - Perform intervention(s) as ordered
  - Reassess and calculate score every 30 minutes

**NURSING INSTRUCTIONS**

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

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.

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></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Behavior</strong></td>
<td>• Playing</td>
<td>• Irritable, but consolable</td>
<td>• Irritated, but not consolable</td>
<td>• Lethargic</td>
</tr>
<tr>
<td></td>
<td>• Appropriate</td>
<td></td>
<td></td>
<td>• Confused</td>
</tr>
<tr>
<td></td>
<td><strong>Cardiovascular System</strong></td>
<td></td>
<td></td>
<td>• Reduced response to pain</td>
</tr>
<tr>
<td><strong>Rate</strong></td>
<td>• Within normal parameters for age</td>
<td>• Tachycardia &lt; 20 above normal for age</td>
<td>• Tachycardia 20-29 above normal for age</td>
<td>• Tachycardia ≥ 30 above</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>• Pink</td>
<td>• Pale or dusky</td>
<td>• Mottled</td>
<td>or bradycardia ≥ 10 below normal for age</td>
</tr>
<tr>
<td><strong>Perfusion</strong></td>
<td>• Capillary refill 1-2 seconds</td>
<td>• Capillary refill 3 seconds</td>
<td>• Capillary refill 4 seconds</td>
<td>• Gray</td>
</tr>
<tr>
<td><strong>Respiratory System</strong></td>
<td></td>
<td></td>
<td></td>
<td>• Capillary refill ≥ 5 seconds</td>
</tr>
<tr>
<td><strong>Rate</strong></td>
<td>• Within normal parameters for age</td>
<td>• Tachypnea 10-19 above normal parameters for age</td>
<td>• Tachypnea ≥ 20 above normal parameters for age with reclusions</td>
<td>• Bradypnea ≥ 5 below normal parameters for age with reclusions</td>
</tr>
<tr>
<td><strong>Effort</strong></td>
<td>• No retractions</td>
<td>• Mild retractions/accessory muscle use</td>
<td>• Moderate retractions/accessory muscle use (including tracheal tugging)</td>
<td>• Severe retractions/accessory muscle use (including tracheal tugging and grunting)</td>
</tr>
<tr>
<td><strong>Oxygen</strong></td>
<td>• N/A</td>
<td>• Oxygen required to maintain normal2 SpO2&lt;br&gt;○ FiO₂ 24-40%&lt;br&gt;○ 2 L/minute O₂&lt;br&gt;• Any assisted ventilation3 or initiation of O₂</td>
<td>• Oxygen required to maintain normal2 SpO₂&lt;br&gt;○ FiO₂ 40-49%&lt;br&gt;○ O₂ ≥ 3 L/minute</td>
<td>• Oxygen required to maintain normal2 SpO₂&lt;br&gt;○ FiO₂ ≥ 50%</td>
</tr>
</tbody>
</table>

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1 Add 2 extra points if patient requires frequent interventions (e.g., suctioning, positioning, change in O₂ 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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