

# MADE TO MOVE: PICU Early Mobility

The critically ill patient population carries an intense persona with them such that a still, sedated and quiet patient is a safe patient.

However, our bodies are made to be mobile and active.

When our patients lie in bed for days without any mobilization, a significant amount of muscle wasting occurs and normal bodily organ processes are hindered.

The decline in muscle mass is approximately

**2 - 4%  
PER DAY**

within the first week of an ICU stay.

## PURPOSE

Monument Health Rapid City Hospital is a rural hospital that, in the past, admitted pediatric patients only requiring up to an intermediate level of care. Our Pediatric Intensive Care Unit reopened in January of 2022, now caring for patients requiring intensive care therapy. Our pediatric team set out to establish a mobility plan for ICU patients based on specific criteria within the first 24 hours of admission. Our goal was to decrease overall muscle wasting and delirium in this critical state thus improving overall outcomes for our patients.

## METHODS

We collaborated with Physical Therapy, Occupational Therapy, Nursing and Nursing Support as well as Physicians to develop a program lining out a progressive mobility plan. We utilized the PICU Up! Program from Johns Hopkins University to establish inclusion criteria for our patients and the activities appropriate for the patient (Wieczorek et al., 2016). If the patient did not meet these criteria, passive range of motion and quality measures have been instituted.

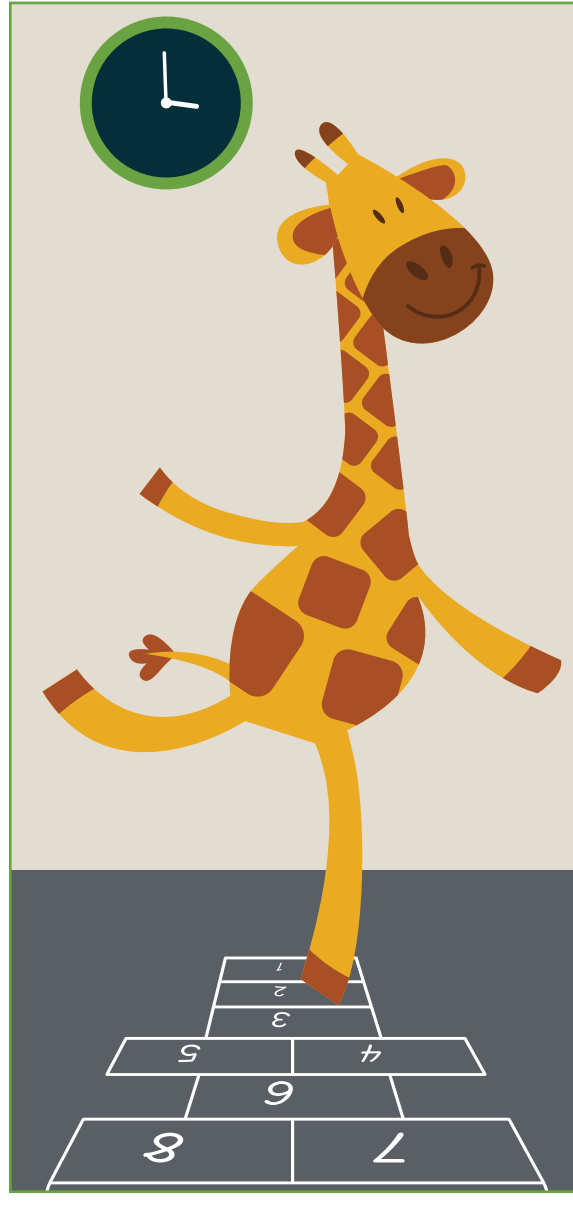

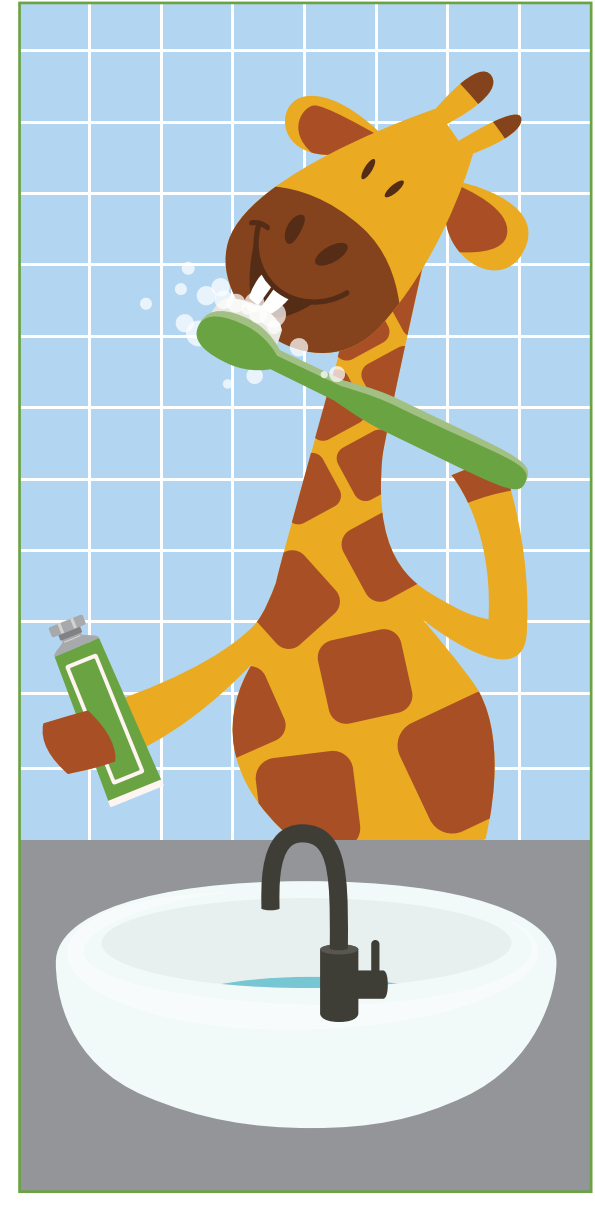


## SUMMARY / CONCLUSION

The idea to promote mobility for our patients and maintain the strength to overcome an ICU stay has been at the center of our multidisciplinary team. With the PICU Early Mobility program implementation, we have seen an increase of 86% of patients assessed by PT/OT by day two of ICU admission. We are

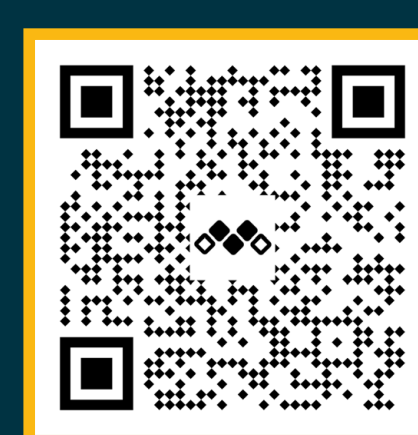
## PICU PROGRESSIVE EARLY MOBILITY GUIDELINES

	LEVEL 1	LEVEL 2	LEVEL 3
<b>PARAMETERS FOR INCLUSION:</b>	Intubated with $\text{FiO}_2 > 60\%$ or Intubated with $\text{PEEP} > 8$ or Intubated difficult airway or New tracheostomy or Acute neurologic event or Sedated and $\text{RASS} \leq -3$ and up or Vasopressor other than milrinone	Intubated or tracheostomy with $\text{FiO}_2 \leq 60\%$ +/- $\text{PEEP} \leq 8$ and $\text{RASS} \leq -1$ to $+2$ or Noninvasive support with $\text{FiO}_2 > 60\%$ or Femoral access	Noninvasive pulmonary support with $\text{FiO}_2 \leq 60\%$ or Baseline pulmonary support or External ventricular drain cleared by neurosurgery and $\text{RASS} \leq -1$ to $+3$
<b>ACTIVITIES:</b>	<ul style="list-style-type: none"> <li>Lights on/shades up by specified time</li> <li>Bed/bath/weight plan with the team</li> <li>Television limited to 30 min at a time and a goal of <math>&lt; 2</math> hr/d for children <math>&gt; 2</math> yr old</li> <li>Head of bed elevated <math>\geq 30^\circ</math></li> <li>Turn every 2 hr during the day and every 4 hr at night unless ordered otherwise</li> <li>Positioned in developmentally supportive position or as recommended by PT/OT</li> <li>PT/OT consult by PICU day 1</li> <li>Lights dimmed/out by 23:00; increase lighting as needed for cares/interventions</li> </ul>	<ul style="list-style-type: none"> <li>Level 1 activities plus</li> <li>Positive touch for infants/toddlers</li> <li>Sitting up in bed TID</li> <li>Team to consider OOB to chair +/- ambulation</li> <li>PT/OT consult by PICU day 1</li> <li>Assess for difficulty with communication or phonation and consult SLP</li> <li>Assess for swallowing readiness in high risk children and consult SLP</li> <li>Assess need for daily schedule</li> <li>Preschool Confusion Assessment Method-ICU or Pediatric Confusion Assessment Method-ICU BID</li> </ul>	<ul style="list-style-type: none"> <li>Level 1 and 2 plus</li> <li>OOB to chair TID or sitting up in bed TID if appropriate chair is not available</li> <li>Ambulate BID if trunk control present</li> </ul>
<b>EXCLUDED FROM PICU EARLY MOBILITY:</b>	<ul style="list-style-type: none"> <li>Extracorporeal membrane oxygenation</li> <li>Open chest</li> <li>Open abdomen</li> <li>Unstable fracture</li> <li>Medical orders specifying alternate activity</li> </ul>		
<b>ACTIVITY REST AND REASSESS:</b>	<ul style="list-style-type: none"> <li>Decrease in heart rate, 20%</li> <li>Change in blood pressure, 20%</li> <li>Decrease in sustained oxygen saturation <math>&lt; 90\%</math></li> <li>Increase end-tidal <math>\text{CO}_2</math>, 20%</li> <li>Ventilator asynchrony</li> <li>Continuous/bilevel positive airway pressure asynchrony</li> <li>Respiratory distress</li> <li>New arrhythmia</li> <li>Hemodynamic concerns</li> <li>Change in mental status</li> <li>Concern for airway device, vascular access, or external ventricular drain integrity</li> <li>Behavior interfering with safe activity</li> </ul> <p><small>*Vital signs changes based on baseline value prior to activity initiation</small></p>		

## ROUTINE ON PEDIATRICS

PLANNING	MORNING	HYGIENE	AFTERNOON	EVENING/NIGHT
				
RN will state activity expectations for the patient on morning assessment	"Lights on/shades up approach"	Identify a plan for hygiene (oral care, bed, bath, etc.)	Identify rest period Plan for mobility activity	Decrease stimuli or "screen time" Lights out/bed time

Included in this program is an outline for the hospital day and night in the ICU as well as on the general pediatric floor. This outline for a routine includes care times, awake times, active times, and "lights out, screens off." Our team collaborated with the patient and family to mimic what a normal routine would be outside of the hospital for them. The goal behind this was to optimize sleep cycles and to create a healing environment that their body was accustomed to. This specific piece was highly valued by our caregivers to support the patient and focus on family-centered care.



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