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Mother & Child Care

Infant Positioning Assessment Tool (IPAT)

Background

Developmentally supportive positioning in premature and critically-ill infants is one of the seven core measures for family-centered developmental care detailed in the Philip's Neonatal Integrative Developmental Care (NIDC) Model.[1,2] (Philips HealthTech, Cambridge, MA). Positioning infants in the NICU is a neuromotor developmental intervention used to minimize positional deformities and to improve muscle tone, postural alignment, movement patterns, and ultimately developmental milestones.[3] Developmentally supportive positioning positively influences physiologic function and stability, sensory development, neurobehavioral organization, skin integrity, thermoregulation, bone density, sleep facilitation, optimal growth, brain development, and neonatal developmental outcomes.[1-9] The core measure 'Positioning & Handling' incorporates the Infant Positioning Assessment Tool (IPAT), which was developed with three goals for use:

1. as a reference and educational tool for teaching,
2. as an evaluation instrument, and
3. as a method of standardizing best positioning practices of premature infants in the neonatal intensive care unit.[4]

Introduction

The IPAT is a validated and reliable easy-to-use pictorial tool used to evaluate posture of premature infants in six areas of the body (head, neck, shoulders, hands, hips/pelvis, and knees/ankles/feet), with cumulative scores ranging from **0 – 12**. A two-point scoring system is used on each area of the body with a score of **2** for ideal therapeutic positioning, **1** for acceptable positioning, and **0** for unacceptable positioning. Any asymmetrical positioning of the arms or legs is scored a **1** (a full score of **2** is never granted). According to the IPAT, a full score of **12** is indicative of ideal positioning, scores of **9** to **11** are acceptable as it accommodates for asymmetry of positioning often needed when technology interfaces (infants with various venous or arterial access needs, drains, surgical sites, etc.) are present, and scores of **8** or lower indicate a need for positioning support that offers containment, promotes flexion and ensures proper body alignment.[4,5,6] Routine utilization of a validated & reliable positioning assessment tool provides appropriate positioning and encourages accountability.

How to use the tool (A, B, Cs)

A) Utilize the IPAT prior to engaging in caregiving interactions to identify infant movements that may benefit from developmentally supportive positioning, as well as ensure that the infant is repositioned appropriately to promote self-regulation, musculoskeletal development, sleep, comfort, sensory system development, and growth. Spontaneous movement is a natural phenomenon for infants; however, in the absence of therapeutic positioning supports, these spontaneous movements may leave the infant 'stranded' in a suboptimal position.

B) Assess and score the infant utilizing the IPAT in each of the six body-part areas.

1. Score a **2** for an ideal therapeutic position
2. Score a **1** for acceptable alternative positioning
   - Score any asymmetrical positioning of the arms or legs
3. Score a **0** for unacceptable positioning.
4. Total the cumulative score.
5. Once this baseline information/IPAT score is assimilated by the clinician, s/he is ready to provide consistent developmentally supportive positioning.

C) Positioning in the NICU simulates the flexed/contained/midline posture of the infant in utero; external supports provide a temporary substitute for the immature infant's diminished internal motor control. Provide premature infants with positioning aids and boundaries to help them maintain optimal tone and position, remain either in a quiet, restful sleep or a relaxed, comfortable wakefulness. Consistency in positioning for the infant can promote strong neuronal connections. Positioning aids provide greater ease-of-use and consistency among caregivers.

References

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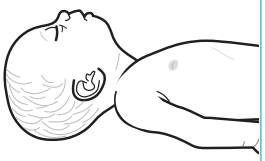
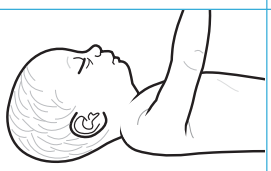
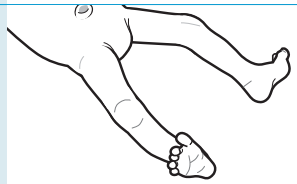
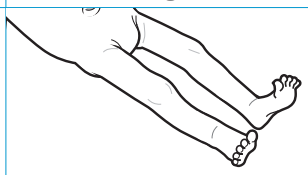
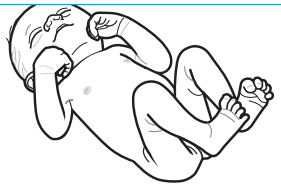
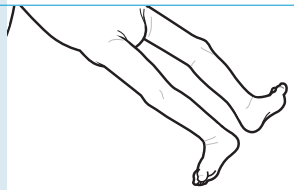
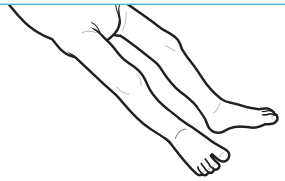
Infant Positioning Assessment Tool (IPAT)

Patient's name: _____ Birth gestational age/corrected gestational age: _____

Clinician's name: _____ Date/time of assessment: _____

Infant position: ☐ Supine ☐ Side-lying ☐ Prone

Indicator	0	1	2	Score
Head	 Head rotated laterally (L or R) > 45° from midline	 Head rotated laterally (L or R) 30 - 45° from midline	 Head aligned (L or R) 0 - 30° from midline	
Neck	 Neck in hyperextension or hyperflexion	 Neck neutral	 Neck neutral, aligned, head slightly flexed forward 10°	
Shoulders	 Shoulders retracted	 Shoulders aligned, flat to surface	 Shoulders rounded forward towards midline	
Hands	 Hands away from body	 Hands touching torso	 Hands touching face	
Hips/pelvis	 Hips/pelvis abducted, externally rotated	 Hips/pelvis aligned but extended	 Hips/pelvis aligned and softly flexed	
Knees/ ankles/feet	 Knees extended, ankles and feet externally rotated	 Knees, ankles, feet aligned but extended	 Knees, ankles, feet aligned and softly flexed	
12 = ideal cumulative score. 9 – 11 = acceptable cumulative score. ≤ 8 = need for repositioning.			**Total cumulative score**	

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