1.0 PURPOSE AND INTENT

1.1 To provide a process for transitioning neonates in the NICU from therapeutic positioning during sleep to safe practices consistent with the best evidence and recommendations for safe sleep at home, in preparation for discharge. See algorithm in Appendix A.

Note: These recommendations are for the sleeping infant only. Infants who are awake, alert, feeding, or in skin-to-skin care, and/or directly supervised may have developmental care plans that differ from sleep practices during their awake and treatment times.

Note: All recommendations are approximate guidelines only and practitioners must take into account individual patient characteristics and situation. Concerns regarding appropriate treatment must be discussed with the attending neonatologist.

2.0 PRACTICE OUTCOME

2.1 Infants who no longer require cardiorespiratory monitoring in the hospital are provided with a safe sleep environment and are at minimal risk for sleep-related events while in hospital.

2.2 Parents commit to safe sleep practices in order to decrease the risk of sleep-related death (SIDS, SUID, SUDI) in the home following discharge.

3.0 DEFINITIONS

3.1 Sudden Infant Death Syndrome (SIDS): the sudden death of an infant less than one year of age, which remains unexplained after a thorough case investigation (autopsy, death scene review and clinical history).

3.2 Sudden Unexplained Infant Death (SUID): Alternative terminology to SIDS.

3.3 Sudden Unexplained Death in Infancy (SUDI): Alternative terminology to SIDS.

3.4 Therapeutic Positioning: Positioning infant in supine, prone or side-lying using positioning devices (bean bags, rolls, swaddling devices etc) with head of bed either flat or elevated.

3.5 Plagiocephaly: a misshapen (flat) head caused by constant pressure on one area of the skull, usually the occiput.

3.6 Head turn preference: preferred positioning of the head to one side, a strong push of the head into rotation to one side, and/or an inability to achieve or maintain the head in midline position.

4.0 GUIDELINES

4.1 Provide therapeutic positioning to all infants who weigh less than 1800 grams or are less than 34 week gestation (corrected age), or who demonstrate physiologic instability when in supine position. See Appendix B for therapeutic positioning options. Do not use positioning devices such as bean bags as a mattress or pillow under the baby, or as a restraint on top of the baby.

4.2 Provide cardiorespiratory monitoring for all infants who are not receiving full safe sleep practices.

4.3 Elevate the head of bed for infants who are receiving respiratory support either invasive or non-invasive to prevent ventilator associated pneumonia. Flatten the mattress when the respiratory support is discontinued, even if the infant continues to require therapeutic positioning.
4.4 Assess all infants who weigh >1800 grams and are at least 34 weeks gestation (corrected age) for tolerance of supine sleep positioning. Begin transitioning these infants to supine safe sleep practices.

4.5 Provide modified safe sleep practices for infants who no longer require full therapeutic positioning but have medical reasons for modifications such as head of bed elevated or swaddling based on a physician’s order or recommendations from an occupational or physiotherapist. This may include babies with congenital anomalies or those in active substance withdrawal.

4.6 When infant falls asleep in devices such as car seats, swings and chairs, return infant to their bed to sleep unless disturbing their sleep is contraindicated by infant’s condition (ie. infant in active withdrawal) and infant is on cardiorespiratory monitor.

4.7 Implement the following safe sleep practices for all infants at all times:
- 4.7.1 No loose bedding, blankets or soft objects in the bed or crib unless required for therapeutic positioning.
- 4.7.2 No bumpers, pillows or stuffed toys in the bed or crib.
- 4.7.3 Avoid overheating infant (temp >37.5 degrees Celsius).

4.8 Implement full safe sleep practices when the infant demonstrates physiologic stability in an open bed or crib:
- 4.8.1 Supine position at all times during sleep.
- 4.8.2 Dress infant for sleep to provide warmth but avoid overheating using appropriate sized clothing.
- 4.8.3 If swaddling is required to assist the infant to maintain sleep, provide safe swaddling using a properly fitted sleep or swaddle sac designed for this purpose.
- 4.8.4 If using a blanket, cover infant with only one layer tucked firmly under the bottom and sides of the mattress, keeping infant’s arms free.
- 4.8.5 Use no blanket (preferably) or maximum of one blanket tucked at the sides and bottom of mattress.
- 4.8.6 Place mattress flat with only a single linen layer (no positioning devices under infant), with sheet fitted tightly.


4.10 Prevent the infant from developing positional plagiocephaly by providing regular head repositioning, tummy time (awake and supervised) and periods of cuddling.

4.11 Prevent the infant from developing head side preference by changing the orientation of the baby in the bed, alternating placement of the baby from head to foot of bed during sleep.

5.0 REFERENCES


6.0 PRIMARY AUTHORS

6.1 Doris Sawatzky-Dickson, Neonatal Clinical Nurse Specialist, Health Sciences Centre
6.2 Kori Kagan, Physiotherapist, Health Sciences Centre
6.3 Diane Stanley, Occupational Therapist, Health Sciences Centre
6.4 Christine Froese, Occupational Therapist, Health Sciences Centre
6.5 Michelle Tuck, Clinical Resource Nurse, NICU, St. Boniface Hospital
6.6 Michelle Schmidt, Clinical Educator, NICU, St. Boniface Hospital
NICU Safe Sleep Algorithm

Infant ≥ 1800 grams or ≥ 34 weeks gestation?

- YES
  - Provide Therapeutic Positioning

- NO
  - Provide Therapeutic Positioning

Does the infant have any medical conditions that preclude supine positioning?

- YES
  - Provide Safe Sleep Practices:
    - Back to sleep
    - Flat mattress
    - No loose bedding or toys in bed
    - Safe swaddling or single tucked blanket only

- NO
  - Can the infant maintain their temperature in an open crib?
    - NO
      - Provide Therapeutic Positioning
    - YES
Appendix B

Therapeutic Positioning Points

- Frequent changes of position (every 3-4 hours), are important and strongly encouraged for all babies. Medical stability may be a limiting factor in position options and timing of position changes.

- To prevent head turn preference change the orientation of the baby in the crib – alternate head at either end of the crib either between feeding times or from day to day.

- Infants with demonstrated or at high risk for compromise in skin integrity should be repositioned as often as every 2 hours if they can tolerate the handling.

- All positions should be utilized for most infants taking into account the following benefits and limitations of each:

  - Nesting is the provision of boundaries that provide containment and proper positioning in flexion and midline and promotes physiologic stability. A comfortably soft nest with secure boundaries helps compensate for the infant’s immature postural and motor control. It is achieved using positioning devices that are appropriate for the size and developmental stage of the baby and will maintain the integrity of the appropriate position until the next position change. It is required for all positions and for all gestational age infants. Avoid the following potential pitfalls:

  - A well-positioned baby is comfortably supported in a flexed, contained position with midline orientation of the extremities and with the head and trunk in neutral alignment (for airway patency). In supine, encourage head position in / toward midline to reduce lateral skull flattening.

  - Boundaries must be sufficiently high, secure, and contoured to the infant to provide adequate support and containment. Conversely, boundaries that are too low, don’t touch the infant, and/or allow flat postures, are ineffective.

  - Positioning can still be therapeutic and beneficial even when medical conditions and equipment temporarily compromise ideal postures. The most critical infants also benefit the most from optimum positioning as it decreases unnecessary stress on them.

  - To maintain consistently good infant positioning small adjustments may be required in between repositioning times. At each hourly check the status of positioning should be assessed for flexion, midline, containment, and adjustments made to achieve them if they have been compromised.

  - When using any positioning devices it is important to assess the baby before leaving the bedside. Assess for:
    - Neck in neutral alignment.
    - Extremities flexed and tucked in, hands up near face.
    - Shoulders rounded forward.
    - Hips, knees and ankles in alignment.
    - Foot bracing provided (by positioning device) that allows some foot movement but cannot be removed when baby extends slightly.
    - Baby should appear quiet and comfortable.

  - During procedures, handling times, or while infant “settles” after handling facilitated tuck or “hand swaddling” should be used to maintain the infant in a physiologically appropriate position to enhance the infant’s ability to cope and recover. This can be done using an assistant or a parent to assist. When the infant is calm and the procedure complete, remove hands slowly and gently.

  - All positioning devices should be inspected for structural integrity before each use. “Bead” filled devices should be inspected to ensure seams are not opening up to allow beads to spill out. Anything with a rod should be fully encased. Foam or fluidized devices may become less effective with age.