

**PEDIATRIC NEWBORN
MEDICINE CLINICAL
PRACTICE GUIDELINES**

General Pediatric Care of
the Healthy Late Preterm
Newborn





Clinical Practice Guideline: Care of the Late Preterm Newborn

Points of emphasis/Primary changes in practice:

1. Approximately 8% of all births in the United States occur between 34 and 36 6/7 weeks of gestation.
2. Compared to their term counterparts, late preterm newborns are at increased risk for respiratory compromise, feeding difficulties, jaundice, hypoglycemia, hypothermia, and the need for sepsis evaluation. As a result, these infants have twice the risk for readmission after birth hospitalization discharge in the first month of life.
3. There is little consensus on the ideal model of care for late preterm newborns. The goal of this CPG is to review the existing literature on care recommendations and formulate guidelines for care at BWH that are based on evidence when it is available, and consensus when experience and clinical judgment must suffice.

Questions? Please contact: Associate Director for Well Newborn Care, Clinical Practice Council



Clinical Guideline Name	Care of the Late Preterm Newborn
Effective Date	
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Contact Person	Associate Director for Well Newborn Care, Clinical Practice Council
Approved By	Newborn Clinical Practice Council _10/10/19 CWN Policy Procedure and Guideline Committee BWH Standards Policy and Procedure Committee Nurse Executive Board

This is a clinical practice guideline. While the guideline is useful in approaching the care of the healthy late preterm newborn, clinical judgment and / or new evidence may favor an alternative plan of care, the rationale for which should be documented in the medical record.

I. PURPOSE

The purpose of this CPG is to provide guidance for a standardized approach to the care of the healthy late preterm newborn during the birth hospitalization along with discharge recommendations for care and follow up by the medical home.

All CPGs will rely on the [NICU Nursing Standards of Care.](#)

[1.13.19 Well Newborn Nursery: Newborn Orders](#)

[WNH A.1 Alternate Feeding Methods for Infants](#)

[WNH B.2 Infant Heel stick Blood Sampling](#)

[Neonatal Glucose Assessment and Clinical Management Clinical Practice](#)

[WNH B.3 Breast Pump Use and Skilled Hand Expression](#)

[WNH B.8 Infant Bilirubin Screening](#)

[WNH B.9 Infant Feeding](#)

[WNH C.6 Critical Congenital Heart Disease Screening](#)

[WNH D.6 Use and Storage of Pasteurized Donor Human Milk \(PDHM\)](#)

[WNH F.4 Infant Formula Use and Storage](#)

[WNH H.3 Newborn Hearing Screening](#)

[WNH H.6 Human Milk Administration](#)

[WNH S.1 Skin to Skin Care](#)

[WNH S.6 Obtaining Newborn Screening Specimen](#)

Lactation consultation

<https://hospitalpolicies.ellucid.com/documents/view/3243/active>

Request for special formula and food form

<https://www.mass.gov/files/documents/2019/02/05/request-for-special-formula-and-food-form.pdf>



II. BACKGROUND

Rationale

Approximately 8% of all births in the United States occur between 34 and 36 6/7 weeks of gestation. The past decade has seen a surge in research that has begun to articulate the risks associated with even this mild degree of prematurity. Compared to their term counterparts, late preterm newborns are at increased risk for respiratory compromise, feeding difficulties, jaundice, hypoglycemia, hypothermia, and the need for sepsis evaluation.[1, 2] These infants have twice the risk for readmission after birth hospitalization discharge in the first month of life.[3] They continue to be at higher risk for both mortality and morbidity during their first year of life compared to full term newborns with issues such as poor growth, iron deficiency, and feeding problems of particular note. [4-7] An increasing body of literature is also identifying this population of children to have mildly elevated risks for adverse neurodevelopmental outcomes throughout childhood.[8] Finally, there is good evidence that the experience of parenting a late preterm infant may be uniquely stressful; studies show increased rates of maternal anxiety and lack of confidence among mothers of late preterm newborns compared to mothers of term newborns.[9] Given the large number of late preterm infants, even small increases in risk translate into significant public health impacts.

There is little consensus on the ideal model of care for late preterm newborns. Surveys of birth hospitalizations reveal tremendous variability in where and how these infants are cared for, ranging from routine admission to the NICU to rooming in with their mothers on the postpartum ward. The goal of this CPG is to review the existing literature on care recommendations and formulate guidelines for care at BWH that are based on *evidence* when it is available, and *consensus* when experience and clinical judgment must suffice.

Scope

This CPG focuses on the care of the healthy late preterm newborn under the care of general pediatricians either from birth or following initial monitoring in the NICU. The NICU care of infants with complications of prematurity, or other pathologic conditions is beyond the scope of this CPG. Although late preterm gestation is defined as 34 to 34 6/7 completed weeks of gestation, we have excluded infants from 34 to 34 6/7 weeks gestation from this CPG.

Team Approach to Care

Optimal care of the late preterm newborn and his/her family requires a balance between close monitoring of the less mature infant and encouragement of contact between baby and family. Best care is provided when hospital staff share common philosophy and language as the family moves from the Center for Labor and Birth, the NICU, and the mother-baby unit.



Location of Care for Well-appearing Late Preterm Newborns

	35 0/7 – 35 6/7 weeks	36 0/7 – 36 6/7 weeks	BW <2000 grams
Vaginal birth	Entire hospitalization in NICU*	Mother- baby unit**	Entire hospitalization in NICU*
Cesarean section	48 hour observation in NICU, then transfer to mother-baby unit**	Mother-baby unit**	Entire hospitalization in NICU*

*If maternal illness extends beyond baby’s need for hospitalization, baby may be transferred to mother baby unit to room in with mother.

**If baby requires hospitalization beyond mother’s length of stay, ongoing care may be provided on CWN 6,9, or 10

III. ROUTINE MONITORING

Following initial assessment and determination of the location of care. Stable newborns in the well newborn nursery will have vital signs per protocol after birth, infants will be evaluated at a minimum of q4h throughout the hospital stay by assessing:

- Axillary temp (AxT)
- Pulse
- Respiratory rate and status
- Color
- Activity
- Feedings
- Output

A Newborn Rapid Response call will be made for infants who are assessed to be unstable (e.g. respiratory distress,). Refer to early warning criteria in

[WNH R.4 Newborn Rapid Response Situations and Infant Codes](#)

IV. RESPIRATORY MATURITY/CAR SEAT CHALLENGE

Late preterms are at risk for decreased muscle tone with airway compromise in a more upright position as well as immaturity of respiratory control leading to desaturation in an infant car seat. All late preterm infants should be given a car seat challenge prior to discharge, preferably as soon as possible after 24 hours of age if in the mother-baby unit. Parent information regarding specifications based on baby’s weight should be provided to families soon after admission so that they can provide the appropriate seat (or bed) for their child.

[Department of Pediatric/Newborn Medicine Clinical Practice Guideline: Infant Car Seat/Car Bed Challenge](#)



V. NUTRITIONAL GUIDELINES

Late preterm infants have unique nutritional needs that are higher than term born infants and lower than preterm infants born at <32 weeks post-menstrual age. Nutritional requirements are designed to accommodate exponential brain volume growth that occurs between 34-40 weeks gestation and ongoing bone mineralization; 80% of which occurs during the 3rd trimester. [6, 10]

Categorization SGA, AGA, LGA

Use of the Olsen growth charts is recommended for all infants born <37 weeks gestation. Olsen growth charts are available for use in EPIC. The Olsen growth charts are gender-specific intrauterine growth curves for weight-, length-, and head circumference-for-age based on a diverse United States population.[11] All infants should be plotted on the growth chart to determine their status as small (<10th percentile), appropriate (10th to 90th percentile), or large (>90th percentile for gestational age. Small-for-gestational age infants may be at higher nutritional risk than infants born appropriate-for-gestational age

SGA per Olsen Growth Curves

GA at birth	Birth wt (Male)	Birth wt (Female)
35 weeks	≤ 2000 g	≤ 1900 g
36 weeks	≤ 2175 g	≤ 2000 g

LGA per Olsen Growth Curves

GA at birth	Birth wt (Male)	Birth wt (Female)
35 weeks	≥3100g	≥3000g
36 weeks	≥3400g	≥3300g

Glucose homeostasis

Late preterm infants are at risk for hypoglycemia. Please refer to:

[Neonatal Glucose Assessment and Clinical Management Clinical Practice Guideline](#)
[WNH B.2 Infant Heel stick Blood Sampling](#)

Feeding selection for Late Preterm Infants

Breast milk is the preferred feeding for all infants. Late preterm neonates may need additional supplementation to meet their unique nutritional needs. Supplemental feeding regimens are designed to prioritize as much maternal milk, and feeding at breast as possible, without sacrificing essential energy and nutrients required for optimal growth and development. Late preterm infants are also at risk for feeding difficulties. All late preterm infants, should be closely monitored for growth adequacy, with a low threshold for supplemental feedings of post-discharge infant formula if suboptimal growth is noted.



Suggested feeding selection guidelines

Feeding Type	2000-2500g	>2500g
Exclusive Breastmilk	Breast feed ad lib with close feeding/lactation follow up	
Combination Breastmilk and Formula	22 cal PDF until due date	Standard formula
Exclusive Formula		

(For orally fed late preterm infants after 48 HOL)

***Breastmilk** (MM) includes breastfeeding, expressed mother’s milk, and pasteurized human donor milk

***PDF (Post-Discharge Formula)**: Ready-to-feed is 22 kcal/oz Enfamil EnfaCare, Similac Expert Care NeoSure

***Standard formula**: Ready-to-feed is 20 kcal/oz Enfamil Newborn, Similac Advance

NOTE: If the infant is discharged on any feeding product other than standard term formula and on WIC; ensure *Request for Special Formula and Food* form is filled out and given to families. They are then to pass along to Pediatrician at first appointment. Form can be found here: <https://www.mass.gov/files/documents/2019/02/05/request-for-special-formula-and-food-form.pdf>

Micronutrient supplementation for Late Preterm Infants

All infants require 400 units Vitamin D/day. This is difficult to meet with human milk alone. Full term infants are born with ~4-6 months of iron stores to last until iron-rich and/or iron fortified foods are added. However, preterm and late preterm infants are not born with the same reserves. Infants of diabetic mothers and SGA babies have low iron stores as well. Thus, vitamin D and iron supplementation should be considered in all late preterm infants. (AAP CON 7th edition 2014)

	Vitamin D3	Iron
Exclusively human milk-fed	400 units/day	2 mg/kg/day
Partially human milk-fed	400 units/day	1-2 mg/kg/day
Exclusively formula fed	200 units/day	-

Nutritional discharge teaching and education

Refer to DPNM Intranet site for the following: Select discharge recipes, WHO guidelines: How to Prepare Formula for Bottle-Feeding at Home, how to obtain specialized preterm infant formula



products at discharge. (Recipes/instructions, how to obtain preterm infant formulas, WIC info) [DPNM>Nutrition](#) Continuing the discharge nutrition regimen until term corrected age, to accommodate for increased needs during this time, is suggested. Beyond term corrected age, the pediatrician should follow growth closely and adjust based on growth/anthropometric parameters.

VI. BREASTFEEDING SUPPORT

In addition to the known hypotonia and immaturity of late preterm infants, there is tremendous variation in maternal breast and infant oro-facial anatomy. All of this contributes to the challenge for successful breastfeeding in this population of newborns during the birth hospitalization. It is helpful to inform and reassure families that as their baby matures, breastfeeding will become easier and that it is often possible to exclusively breastfeed by the expected due date if not sooner with extra support from their pediatrician and/or a lactation consultant after discharge.

Goal is to use evidence-based strategies to:

- Protect infant hydration and growth
- Establish and preserve maternal milk supply until complete feeding at breast can be achieved
- Facilitate baby to breastfeed

Recommendations for support of optimal lactation

- If mother and infant are medically stable after delivery, place infant skin to skin (STS) immediately following birth.
- Allow free access to breast so that the first attempt to breastfeed occurs within the first hour after birth. Encourage mother to put baby to breast at least every 3 hours (8-12x/24 hrs) and more often if baby shows feeding cues. Encourage extended periods of STS for 30 mins prior to each breastfeeding. Observe feedings as often as feasible to help optimize latch and positioning.
- Document LATCH score at least once every shift.
Teach mother to hand express and pump. Begin hand expression and/or pumping within 6 hours after delivery if breast feeding is ineffective and within 3 hours if mother and baby are separated (e.g. baby in NICU).

Allow rooming-in 24hrs/day if infant is physiologically stable.

- A lactation evaluation is recommended within the first 24hrs of life and then daily through the birth hospitalization to fine tune the breastfeeding dyad's needs.
- Along with the infant's immaturity, consider maternal risk factors for low or delayed milk supply:
 - Cesarean section
 - Significant breast edema/engorgement, ineffective or infrequent milk removal
 - Magnesium sulfate
 - Diabetes
 - Obesity
 - PIH, PTL and PPH
 - Hypothyroidism
 - Breast surgery
 - Breast hypoplasia



- PCOS

Evidence of successful breastfeeding

- Established maternal milk supply
- Signs of milk transfer (audible swallowing, pre/post weights)
- Tracking above the 90th percentile on NEWT curve and not crossing percentile lines
- Voiding/Stooling Minimums
 - DOL 1 –1 void/1 stool
 - DOL-2-- 2/2 (no more than 12 hrs. between voids)
 - DOL-3—3/3 (no more than 8 hrs. between voids, green stools)
 - DOL -4—6-8 voids and at least 3-4 yellow stools/day

Recommendations for supplemental nutrition

Late preterm infants may breastfeed effectively on DOL 1 and then gradually become tired and receive less breast milk transfer during feedings by DOL 2-3. Therefore, the following infants will need assessment for possible supplementation with breastfeeding:

- Birth weight <2500 gms
- Poor reserve evidenced by temperature instability or hypoglycemia
- Poor feeding as evidenced by LATCH score <7 or <10 minutes of effective breastfeeding for 2 consecutive feedings
- Use of nipple shield during colostrum phase
- Weight loss no more than 90th percentile on NEWT curve and not crossing percentile lines
- Marginal or inadequate output

Guidelines for the quantity of supplemental feedings

- 0-24 hrs- 5-10 ml/feeding
- 24-48 hrs- 10-20 ml/feeding
- 48-72 hrs- 20-30 ml/feeding
- 72 hours and beyond - 30 ml or more/feeding

(For type of supplemental feedings, please refer to ‘Suggested feeding selection guidelines’ in Nutritional Guidelines section)

Method of supplementation

This will be dependent on the infant’s abilities and parents’ choice and may include one of more of the following:

- Direct breastfeeding
- Nipple shield if baby is unable to latch or sustain latch
- SNS (5 Fr feeding tube) with direct breastfeeding or use with cup/finger-feeding
- Externally paced bottle feeding (described in detail below in Section IV)

Provide each family with an individualized feeding plan to include the following:

- Use awake times for feeding first and delay other care until after feeding (e.g. diaper changing)
- Feed as often as infant cues, minimum of every 3 hours (8-12 feedings/24 hours)



- If infant is able, try to feed for a minimum of 10-20 minutes of effective feeding
- If infant tires easily and requires supplementation, limit direct breastfeeding attempts to 10-15 minutes and consider limiting number of breastfeed attempts per day. Try to limit overall (breastfeeding and supplements) feeding times to 30-40 minutes. This will help to conserve the baby's energy for growth.

VII. FEEDING DIFFICULTIES

Overview and general bottle feeding approach (SOFFI model) for infants who receive any bottle feeds

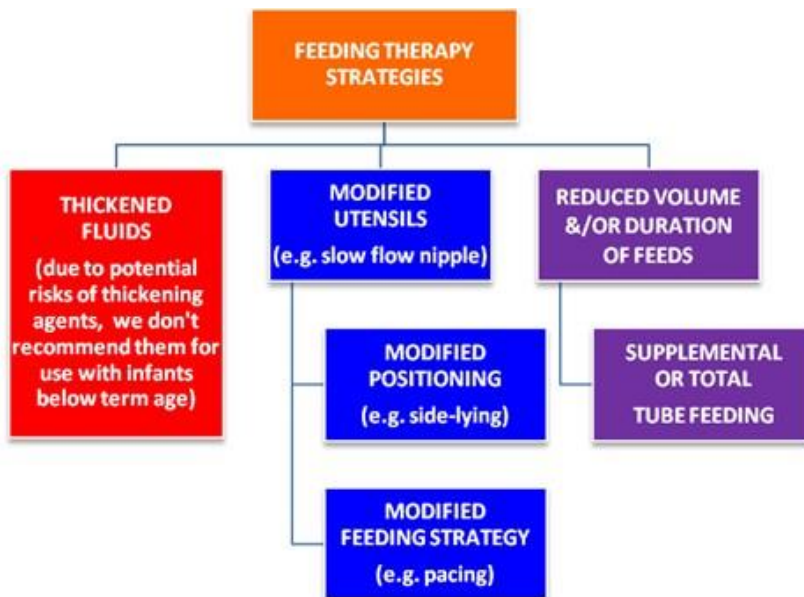
In general, staff should consider starting first bottle feed with standard newborn bottle (level 1, such as Enfamil GREEN ring disposable nipple or a Level 1 nipple brought from home) and hold the infant in a standard feeding position (i.e. traditional cradle hold). Similac brand clear rimmed nipples (which are approximately level 2 or 3) are not recommended for newborns because of their faster flow. The concerns with using a faster nipple are potential airway compromise (increased work of breathing, aspiration, apnea), reduced patient enjoyment of feeding (stress, reduced engagement with feeder, and potential development of aversion to feeds), and possible flow confusion if moving between breastfeeds and bottle feeds.

If needed (i.e. if the infant shows any stress cues or lack of engagement), implement the following compensations in the following order until a suitable option is found:

- Slower flowing bottle nipple
- Horizontal milk flow
- External pacing

Using this approach in the birthing hospital has been shown to result in improved infant feeding in the weeks following birth, as well as improved infant feeding and parent stress at 3 months of age[12, 13].

Recommended therapeutic feeding interventions as outlined below may include special feeding equipment, positioning, and/or feeding strategies (e.g. externally paced feeds); smaller more frequent feeds, or gavage tube feeding (supplemental or total).



Therapeutic feeding EQUIPMENT

Slower flowing bottle nipples may be used to assist the infant to regulate milk flow and assist with suck-swallow-breath coordination. In addition, given that milk flow from the breast is generally not as fast as many fast flow bottle nipples, the use of slower flowing bottle nipples when bottle feeding may assist with transition to breastfeeding. Currently, the Dr Brown’s brand ‘Premie’ and ‘Ultra Premie’ are the slowest nipples that are widely available in the US market. They are slower than the slowest disposable bottle nipple available in the hospital (Enfamil green ring disposable nipple). In addition, they are more reliable (i.e. there is more consistency between nipples) compared to disposable nipples (which often vary widely in flow – even if marked as being ‘slow’).

Flow rate	Description	Hospital product	Home product
Ultra slow flow	Therapeutic	Dr Brown’s Ultra	Dr Brown’s Ultra Premie
Very slow flow	Therapeutic	Dr Brown’s Premie	Dr Brown’s Premie
Level 1	Newborn, 0-3 months	Enfamil green ring	Any brand of level 1/ newborn nipple
Level 2	3-6 months		Any brand of level 2
Level 3	6+ months	Enfamil blue ring	Any brand of level 3

Therapeutic feeding POSITIONING

Given that fluids flow more slowly when a bottle is held horizontally vs vertically, the use of horizontal milk flow may be used to assist the infant to regulate milk flow and assist with suck-swallow-breath coordination. In addition, given that many infants are held in a horizontal position when breastfeeding, the use of this position when bottle feeding may assist with transition to breastfeeding. It is easiest to achieve horizontal milk flow if the infant is positioned in a supported



upright position or in a side-lying position for PO feeds. Avoid feeding infants in a reclined/ supine position. Parent training will be required when using therapeutic positioning. Developmental therapists and RNs may be involved in performing parent training. [15-17]

Therapeutic feeding STRATEGIES

External pacing may be performed on a schedule (e.g. every 3 sucks) or on demand (i.e. cue based). External pacing is a strategy that may be used if an infant is having difficulty self-coordinating sucking, swallowing, and breathing.

External pacing involves either/ both:

- tipping the bottle can reduce the amount of milk in the nipple and slow milk flow
- removing the nipple from the infant's mouth to impose a break in sucking to allow the infant to catch their breath.

Parent training will be required when using therapeutic strategies, such as external pacing. Developmental therapists and RNs may be involved in performing parent training.[15, 18]

DOCUMENTATION of therapeutic feeding strategies

If a staff member assesses that a certain bottle nipple, position, and/or strategy is useful for an infant, this should be documented in the infant's electronic medical record. Other staff members should continue use of the recommended bottle nipple, position, and/or strategy unless they assess that this is no longer useful. If so, the reason for this change should be documented in the infant's electronic medical record.[14]

REFERRAL for feeding therapy:

Late preterm infants should be observed closely when feeding whether by bottle or at breast. Evaluation for formal assessment of feeding skills by a developmental therapist should be undertaken for:

- Concerns regarding airway protection/ aspiration during feeding (e.g. Any cyanosis, increased work of breathing, increased congestion, or coughing/ choking with feeds)
- Concerns regarding sucking dysfunction (e.g. persistent drooling of milk, poorly coordinated or weak suck, or inability to take in minimum fluid goals lasting more than 2 days or beyond 3 days of age).
- Infants with cleft lip/ palate

VIII. THERMOREGULATION

Quiet warm environment

When a late preterm infant is provided with an environment that is quiet (except for the voices of loved ones and caregivers), dimly lit, and there is limited exposure to cooling, the infant may have decreased unnecessary energy expenditure during the transition to life outside the womb.

Room temperature

Encourage mother to maintain room temp between 72-75°F

Skin to Skin Care

Research has shown that skin to skin warming is at least, if not more, effective as warming with an incubator and more effective than adding blankets, as blankets quickly cool to room temperature. STS for at least 1 hour allows for the infant to complete a normal sleep cycle and benefits



thermoregulation. In recent years, some cases of severe unexpected postnatal collapse (SUPC) have been associated with newborns being positioned prone on their (most often primiparous) mothers for breastfeeding or skin to skin time. Proper instruction in breastfeeding and skin to skin positioning, vigilance around maternal somnolence, and close surveillance of the skin to skin or breastfeeding dyad is of critical importance.

Late preterm infants should remain STS for at least one hour after birth if baby is physiologically stable. STS should be used for warming if temp is less than 36.5° C (97.7°F). If temperature does not stabilize with skin to skin, place newborn on radiant warmer according to policy, if continues to need support consider isolette.

Review signs of hypothermia and hyperthermia

Signs of hypothermia should be reviewed with families/caregivers and include: pale, mottled, skin cool to touch, acrocyanosis, irritability, lethargy, poor feeding, respiratory distress, apnea, bradycardia, central cyanosis. Progressive or chronic cold stress can lead to hypoglycemia, hyperbilirubinemia, acidosis, respiratory distress.

Signs of hyperthermia should also be reviewed with families/caregivers and include: flushing/reddened skin, sweating, warm to touch, tachypnea, tachycardia, apnea, hypotonia, weak cry, irritability, lethargy, poor feeding. Progressive or chronic hyperthermia can lead to dehydration, hypotension, and apnea and is a risk for SIDS.

Discuss appropriate dressing.

Bathing and thermoregulation.

Immersion bathing is more effective in maintaining thermoregulation.[19] Bathing should be deferred for the first 24 hours and performed at that time only if baby is stable.

IX. NEURODEVELOPMENTAL SUPPORT

Immature development of the late preterm infant is known to contribute to increased risk of mortality, short term medical complications, and neurodevelopmental consequences.[20-22] At 34 weeks gestation brain weight is at about 60-65% of term age brain weight.[20, 21] There is a critical period of development over the last 6 weeks of gestation with a 50% increase in cortical volume between 34-40 weeks gestation,[21, 23] and 25% of cerebellar development occurring during this time period.[23] Late preterm infants are at further neurodevelopmental risk secondary to unstable hemodynamic/ cerebral perfusion regulation and reduced sensitivity of arterial baroreflex to regulate blood pressure,[20] and are at 2-5 times increased risk for developing hyperbilirubinemia and subsequent neurotoxicity.[20, 23] The immature development of integrated autonomic brainstem developmental also puts the late preterm infant at greater risk for developing SIDS.[20]

For the purpose of this CPG and care of the late preterm infant in the well newborn nursery, below are areas identified as the prevalent neurodevelopmental concerns during the neonatal period.

Low tone/ Hypotonicity:

- Positional apnea/ airway obstruction
 - Respiratory instability in upright car seat or other infant positioning devices.



- Decreased ability for infant to achieve skills in midline and flexion
 - Used for coping, self-regulation, and transitioning between states
 - Development of postural control (including pull to sit, midline head control in supine, airway protection in prone)
 - Long term impact on hand-eye coordination
- Contribution to development of musculoskeletal deformities
 - Specifically, deformational plagiocephaly
 - Exacerbated by intrauterine crowding
 - Potentially contractures in other areas from decreased active movements
- Decreased oral motor tone
 - Weak suck, inability to maintain pacifier in mouth independently
 - Airway compromise if retrognathia

Poor state regulation:

All infants move through a variety of states during the day from sleep, through awake, to irritable. The term 'state control' refers to the ability to make smooth transitions between states, and to the ability to maintain the appropriate state for activities of daily living (e.g. sleep, feeding, play).

- Unpredictable and/or fast transitions between states
- Decreased endurance
 - General difficulties with energy conservation, secondary to inconsolable fussing or poor reserves
 - Decreased periods of alert
 - This may impact on energy available for feeding
- Irritability
 - May require variable/ different strategies for soothing (compared to term infant)
 - May display different infant cues (compared to term infant)
 - May display decreased ability to develop social, visual skills

Decreased Brain Volume/ Immaturity/ Abnormal responses to stimuli (immature ANS):

- Increase/decrease heart rate
- Abnormal respiratory rate
- Color changes: mottling, flushing, pallor, cyanosis
- Other: startling, regurgitation, hiccups, sneezes, yawns
- Decreased ability to modulate multiple sensory inputs (auditory/ noise, visual/light, tactile/touch, movement/ rocking)

DEVELOPMENTAL CARE

- Avoid separation of mother and infant as much as possible.
- Cluster the infant's care.
- Use skin to skin care as much as possible.
- Limit environment stimulation: bright light, sound, etc.
- Protect against overstimulation with visitors.
- Support normal wake/sleep cycles.
- Support thermoregulation.



- Develop a feeding plan.
 - A late preterm infant is not anatomically, neurologically or physiologically mature and therefore needs additional support to continue normal growth and development. Due to his/her immaturity, he/she is at risk for:
 - Hypoglycemia.
 - Hypothermia.
 - Jaundice.
 - Feeding difficulties.
 - Sepsis evaluation.
 - Readmission.
 - Exclusive skin to skin/incubator care for infants with low BGG and/or repetitive poor feedings allows the infant to conserve resources for maintaining adequate blood glucose levels, staying warm and the energy required to feed.

When to consider referral to Developmental Therapy Services (OT, PT, SLP):

Referral to developmental therapists requires a Licensed Independent Provider (LIP) referral via EPIC. Developmental therapists are based in the NICU, but may be available to consult to the maternity floors as needed.

Consider Referral to Developmental Therapy (OT, PT, SLP) for the following:
<ul style="list-style-type: none"> • Family difficulty/unsafe with handling infant, or expressing concern • Infant difficulty with lifting head/ not demonstrating airway protection during skin to skin. • Inability to maintain head in midline when awake while supine with potential airway obstruction • Unable to bring hands to mouth/ face/ midline- affecting ability to perform self-coping activities. • Limited active movements, i.e. kicking during diaper changes • Congenital plagiocephaly/ torticollis or obvious development of neck preference • Quick, disorganized transitions between sleeping and waking <ul style="list-style-type: none"> ○ Inability to regulate sleep cycles • Excessive irritability with difficulty calming <ul style="list-style-type: none"> ○ Caregivers expressing concern with ability to soothe • Inability to transition to alert state for long enough to feed with eyes open (30-45 minutes) • Difficulty socializing with parents: i.e. fix on face, track to voice, explore environment • Consistent immaturity (ANS responses) during routine caregiving • Concerns about parent’s ability to read infant cues • Queries regarding feeding skills/ state/ behavior • Queries regarding feeding equipment • Concerns about family-infant bonding

Focus of Healthcare Professional While Baby in Hospital



- Assess parent competence/ comfort with handling and moving infant safely
- Education re: positioning in devices
 - Limited use of devices once discharged home
- Motor/ developmental/ play activities
 - Monitor and encourage family to promote the following:
 - upper and lower extremities moves against gravity fully and symmetrically during diaper changes/ when unswaddled
 - turns head to right and left when on back
 - fixes on caregiver face and tracks face to right and left
 - alerts and orients to voice
 - tummy time (see Appendix)
- Supine safe sleep/ positioning
 - Parent Education (DPNM Safe Sleep CPG)
- Varied head position during supine sleep to prevent development of plagiocephaly/ torticollis
 - Potential for plagiocephaly or torticollis to impact future developmental skills
 - Provide caregiver education for varied positions when held/ awake for development of postural muscles
 - See Appendix with specific Torticollis/Plagiocephaly information
- Assessing infant cues and providing caregiver education:
 - Engagement and disengagement cues
- State Regulation/soothing strategies
 - Caregiver education for handling and facilitated supports
- Importance of sleep in facilitating brain growth
 - Caregiver education regarding different sleep states and environment for sleeping
- Monitor feeding abilities
- Importance of nutrition in facilitating brain growth
- Promoting positive experiences with the following:
 - Touch, Massage/ Kangaroo Care
 - Vestibular input (gentle rocking)
 - Singing/ Reading
 - Visual skills/ tracking



Refer to developmental appendix at the end of CPG for engagement and disengagement cues, basic strategies to promote state regulation, as well as parent handouts for basic motor/play activities and information regarding prevention of plagiocephaly/ torticollis.

X. DISCHARGE CRITERIA

Late preterm infants are at twice the risk for rehospitalization in the first months of life compared to their full term counterparts. Timing of discharge should be chosen based on the individual clinical needs of the infant and family rather than the mother's discharge date. Many can be expected to require 4-5 days or longer to reach discharge readiness.

Feeding

Discharge home should not be considered until after at least 24hrs of successful feeding with minimum parameters as follows:

- Weight loss no more than 90th percentile on NEWT curve and not crossing percentile lines
- LATCH scores mostly 8 or higher if exclusively breastfeeding
- If primarily bottle feeding baby takes appropriate volumes for size and age and parents are able to independently accomplish bottle feeding within 30 minutes.

Lactation consult on discharge day should include a feeding plan in writing (for family and to send to PCP) including:

- Review of feeding cues[26]
- Feeding schedule : BF-10-12x/24hrs; bottle 8-10x/24hrs[26]
- Length of feedings (20 min)[24]
- Volume of any supplements and method of supplemental feeding (SNS, cup, finger, bottle)
- Nonnutritive suckling recommendations
- Recommendations regarding supplement fortification if needed
- Directions for use of feeding diaries (paper or app) to monitor ins/outs until seen by PCP
- Directions for hand expression and use of pump as indicated

For infants who are bottle fed, a feeding review using the feeding equipment that the family intends to use at home should be performed prior to discharge.

- While in the hospital parents should demonstrate competence with feeding their infant whether breast and/or bottle feeding. This should be evaluated and assisted by nursing, however. Developmental therapists are available if families are determined to require extra supports.
- Ideally parents should bring in their identified feeding equipment from home to trial while in the hospital to ensure ability to effectively feed with home feeding. equipment.
- Parents should receive education on cleaning feeding equipment, as well as preparation, storage, and heating of feeds



Thermoregulation

- Stable axillary temps for at least 12 hours in open crib

Jaundice screening – Using Bhutani nomogram

The increased rate of rise in bilirubin in LPIs needing phototherapy begins between 48 and 72 hours of age [27]. Discharge parameters using the Bhutani curves are as follows:

TCB/TSB <72 HOL:

- < 40th %ile (LOW RISK)
- 4 mg/dL or more below phototherapy threshold
- Rate of rise < 0.2 mg/dL/h

TCB/TSB >72 HOL:

- < 75th %ile (LOW INTERMEDIATE RISK)
- 2 mg/dL or more below the phototherapy threshold
- Rate of rise < 0.2 mg/dL/h

OR

Shared decision making between parents and clinician with follow up scheduled within 24 hours may be substituted for higher TCB/TSB than outlined above

Other routine screening and health care maintenance (HCM)

Late preterm infants should receive all the same HCM as their term counterparts.

- Immunization
 - Hepatitis B vaccine
All infants should receive hepatitis B vaccine at birth; babies under 2000gm should receive vaccine at discharge or at 1 month of age, whichever comes first
 - Tdap and Influenza vaccination
All household contact of newborns should receive Tdap and Influenza vaccines
- Hearing screening with referral if necessary for BAER's
- CCHD screening
- Newborn screening sample to State Lab between 24 and 48 hours of age and within 72 hrs of discharge

XI. POST-DISCHARGE CARE

Primary care visits

All late preterm infants should be seen by their primary care provider within 24-48 hours after discharge. It is recommended that babies are seen by their primary care provider at least weekly until birth weight is reached. More frequent follow up visits in the first several weeks of life may be necessary due to jaundice, poor growth, feeding difficulties, or family anxiety.

Lactation support



Ongoing lactation support is important to optimize breastfeeding outcomes and support good growth and nutrition. Mothers should be provided with community resources prior to hospital discharge and primary care providers should ensure this ongoing support is accessed.

VNA Services

Care Coordination will request VNA services for all late preterm newborns within 1-2 days after discharge unless decided otherwise by the baby's attending physician

Referral for Early Intervention and other Developmental Services

Discharge considerations and guidance for parents and healthcare professions are of particular importance with regards to the late preterm population. Evidence supports that after adjusting for neonatal co morbidities, the late preterm infant had the same rates of need for Early Intervention (EI) Services as very preterm infants at 12 months of age.[20] It has also been reported that with high rates in the United States there are needs for EI services for the late preterm infant that persists through 36 months. Additionally, 10-13% increase risk for disability at 3 and 4 years old.[22] Recommendations in the literature support academic readiness intervention, developmental follow-up through the preschool years, and Early Intervention.[20, 22, 28]

Relevant Referral Criteria for Early Intervention in Healthy Late Preterm Infants [29]:

Automatic referral for EI if there is an established risk or established developmental delay due to medical condition with expectation for delay:

- Neurological or metabolic diagnosis, dysfunction
- Chromosomal anomaly or genetic disorder
- Vision loss not corrected by medical intervention or prosthesis
- Permanent hearing loss of any degree

OR

Any combination of at least 4 of the following:

- Child Characteristics:
 - Birth weight < 1200 g
 - Gestational Age < 32 weeks
 - NICU admission > 5 days
 - APGAR < 5 at 5 minutes
 - Total hospital stay > 25 days in 6 months
 - IUGR, SGA
 - Weight for age or weight for height < 5th percentile
 - Weight for age loss > 2 major centiles in 3 month (< 12 months), or > 2 major centiles in 6 months (12-36 months)
 - Chronic feeding difficulties
 - Insecure attachment/ interactional difficulties
 - Suspected central nervous system abnormality
- Family Characteristics:
 - Maternal age at infant's birth < 17; or maternal history of > 3 births before age 20
 - Maternal education less than or equal to 10 years



- Caregiver/parent chronic illness or disability affecting caregiving
 - Lack of family social supports
 - Homelessness, or lack of adequate food, clothing, shelter
 - Open or confirmed child protective services investigation, including if child in foster care
 - History of domestic violence and/or substance abuse in home
- If infant is referred for developmental therapy services while inpatient, and does not qualify based on established risk, or combination of 4 at risk factors, the developmental therapy team can perform a standardized assessment to determine if infant is currently displaying developmental delays:
 - Meets criteria if demonstrating > 30% delay in developmental areas (motor, social, cognitive...)
 - Infant is < 1.5 standard deviation below mean for age

Note: Infants referred to Early Intervention Services may not start to receive therapy services in the home for several weeks.

Infants who do not qualify for Early Intervention Services, and those who do qualify for Early Intervention Services who want additional therapy services, can access therapy input through some hospital and independent providers for a fee. Individual providers may vary in what they charge, and insurance providers may vary in what they will reimburse.

Infants with feeding difficulties can be referred to specialist feeding therapy providers for outpatient follow-up:

- MGH Feeding Team: 617-724-0770
- BCH Feeding Team: 617-355-7727, feedingandswallowingscheduling@childrens.harvard.edu
- BCH Growth & Nutrition Program (GI, Nutrition, Feeding) 617-355-7713, GNP@childrens.harvard.edu

XII. PARENT EDUCATION AND INFORMATION

Patient Folder: “Information about your Late Preterm Baby” (in both English and Spanish) contains: Late Preterm Baby
Late Preterm Baby in
NICU Well Baby Nursery
When Can My Baby Go
Home? Going Home!
Late Preterm Infant Discharge Plan

Education is incremental and repeated as needed throughout the birth hospitalization. Baby-parent focused education is easier to remember and more likely to be understood.

- This begins with admission and continues until discharge.
- Subjects include but are not limited to:
 - Back to sleep – model during admission; decrease SIDS risk



- Car seat safety
 - Attention to adequate warmth of dressing and wrapping
 - Feeding plan-Review/point out feeding cues: Opening eyes
 - Moving head back and forth
 - Opening mouth, tongue protrusion
 - Rooting, sucking on hands/fingers
 - Crying (a late hunger cue) – calm before attempting to feed
 - Teach parents to provide developmentally appropriate care. Recognize behavioral cues that indicate stress and how to manage stress in the newborn
 - Review/point out signs of stress/overstimulation (i.e. disengagement cues):
 - Review/point out signs of relaxation/readiness to engage (i.e. engagement cues) (See Appendix for above)
- Review issues of rest for mother and baby, avoidance of excess visitors/passing around of baby; overstimulation/stress during early weeks. Parents need food, help with laundry, errands, childcare entertaining guests is too much of a stress on family with a new baby; especially one born prematurely.
 - Review signs and symptoms of illness, importance of good hand-washing, avoidance of contact with anyone who is ill (children under 5yo may be ill without clear signs and symptoms)
 - Consider risks (eg. Social supports, substance abuse, financial, pets, etc.) and provide extra support to ensure a safe home

XIII. PARENT MENTAL HEALTH

Mothers of late preterm infants are at increased risk for anxiety and decreased confidence and competence. Social Service consultation should be requested for all LPI families unless decided otherwise by the care team.

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Parent Information Sheet: Late Preterm Baby

What is a Late Preterm Baby? You may be surprised that your baby delivered several weeks before your due date. Be reassured that the doctors, nurses, and staff at BWH will help your family get off to a great start. A late preterm baby is an infant born between 35-36 weeks gestation (4-5 weeks early). Being born a few weeks early means that your baby did not have the full pregnancy time to grow and mature.

Areas that will be closely watched and checked frequently:

- Breathing
- Temperature
- Feeding
- Blood sugar
- Jaundice (yellowing of the skin)
- Infection

Breathing: Because a late preterm baby’s brain is less mature, he/she may have shallow breaths or skip a breath (“apnea”).

Temperature: Late preterm babies have less fat stores than full term babies, so they can get cold or use too many calories trying to stay warm. Some babies will need an incubator until they can keep a steady body temperature on their own. Skin-to-skin also helps to keep your baby warm.

Feeding: Some late preterm babies have a weaker suck and swallow than a full-term baby. They do not always waken for feeds or give cues when hungry. Good feeding is important for growth, normal blood sugar levels, and to prevent jaundice. We will help you to feed your baby and lactation specialists can help if you choose to breastfeed.

Blood sugar: Some late preterm babies can have low blood sugar levels so we always check for this. We can usually treat low blood sugars with a combination of sugar gel and feeding. Spending lots of time skin-to-skin with your baby will also help prevent low blood sugars.

Jaundice: Jaundice is when the skin and whites of the eyes become yellow from a build-up of bilirubin. Bilirubin is processed in the liver and then removed from the body via poop. Late preterm babies have an immature liver, so they have a higher risk of jaundice. Poor feeding can also increase jaundice. A high bilirubin can lead to brain damage, so your baby’s jaundice level (bilirubin) will be checked regularly.

Infection: Your baby has an immature immune system which puts him/her at greater risk for infection. Early signs of infection include worsening problems with breathing, feeding, holding a steady body temperature or energy level.

Congratulations on the birth of your baby!



Isolette



Feeding methods



Baby with jaundice receiving phototherapy treatment (“blue light” therapy)





Parent Information Sheet: **Well Baby Nursery (WBN)**

What to expect in the WBN: Your baby may need extra time to grow strong enough to go home. Most late preterm babies need to stay in the hospital 4-5 days. If your own doctor or midwife says you are ready for discharge, the nursing staff will do their very best to find accommodation for you to stay at the hospital until your baby can go home. During this time, you will either care for your baby in the nursery or in the NICU with nurse's support. You will learn more about your baby's cues, how to feed, and give him/her the best care.

The following areas will be watched closely:

- Breathing
- Temperature
- Feeding
- Blood sugar
- Jaundice (yellowing of the skin)
- Infection

Breathing: The nurses will be checking on your baby regularly. If you are worried about his/her breathing, please call a nurse. Since late preterm babies are not as strong as full term babies, they may have problems breathing when placed in a sitting position, such as in a car seat or swing. Before going home, your baby will have a *car seat test*. A nurse will put your baby in your car seat on a monitor to watch the baby's heart rate, breathing rate, and oxygen level. The test lasts 90 minutes.

Temperature: Your nurse will be checking your baby's temperature regularly. Keep your baby skin-to-skin as much as possible. If your baby is not skin-to-skin, dress her/him in a t-shirt, hat and 2 cotton blankets. When your baby is sleeping or napping, be sure to remove the hat.

Feeding: Feeding your baby may take more effort than expected. Your baby is likely to need "triple feeds" – this is when you breastfeed, give extra milk (pumped breast milk, pasteurized human donor milk or formula) at the breast through a tube or by bottle, and then pump afterwards to stimulate your milk production. Colostrum (early milk) has good antibody protection for your baby so every drop counts. Your breast milk supply will take a few days to come in.

Blood sugar: Some late preterm babies can have low blood sugar levels so we always check for this. We can usually treat low blood sugars with a combination of sugar gel and feeding. Spending lots of time skin-to-skin with your baby will also help prevent low blood sugars.

Jaundice: Jaundice in late preterm babies can increase for the first 5-7 days of life. Your baby's bilirubin level will be checked daily. Your infant may need treatment if the level is high.

Infection: We will watch your baby for any signs of infection. Anyone who touches your baby should wash their hands first. Don't allow someone who is sick to visit your baby. Siblings under 6 years old may not realize when they are coming down with an illness. We recommend that young siblings not be encouraged to kiss the new baby for the first month of life. Remember that your baby's immune system is immature and you want to keep him/her healthy in the early weeks especially.

Congratulations on the birth of your baby!

Car seat positioning



Safe Skin-to-Skin



Triple feeds

1. Breastfeed
2. Give extra milk (pumped breast milk, pasteurized human donor milk, or formula) at the breast through a tube or by bottle
3. Pump afterwards to stimulate milk production



Parent Information Sheet: When Can My Baby Go Home?

You have done a wonderful job caring for your baby and are probably looking forward to going home. Because your baby is a late preterm infant, she/he needs to be doing a few things before being ready for discharge.

Breathing: Your baby needs to be breathing well on his/her own. Having a car seat that fits properly as well as passing the car seat test is necessary. Please bring your baby's car seat to your room for the nurse to check.

Temperature: Your baby needs to have normal temperatures in an open crib for at least 12 hours before going home. Normal underarm temperatures are 97.6F to 99.5F.

Feeding: Your baby needs to be feeding well and, for smaller babies, gaining weight for 1-2 days before going home. Your baby will be weighed every day. All babies lose weight in the first few days of life, so it may take a few extra days for your baby to start gaining it back. Eventually you can exclusively breastfeed if you choose. Most late preterm babies need extra milk (pumped milk, pasteurized human donor milk, or formula) early on. If your baby is taking extra milk, you need to be comfortable feeding by bottle on your own.

Blood Sugar: Your baby needs to have normal blood sugar levels and no more need for checking to be sure the levels are stable.

Jaundice: Your baby needs to have a normal bilirubin level before going home.

Infection: Your baby needs to be off antibiotics and not showing any signs of infection before going home.

Waiting is NOT easy!

We know you are excited to take your baby home and the hardest part, at times, is waiting. When your baby shows us that she/he is able to thrive and be well, then your baby is ready to go home. Until then, you may need more rest – your baby is feeding often and has no schedule yet. Feel free to unplug your phone, let text messages and calls go unanswered for a while, or ask your nurse to hang a "Quiet" sign on your door. Be sure to tell your visitors that there is a quiet time from 2-4pm daily when mothers and babies are encouraged to rest. You need your energy to take care of your little one!

Congratulations on getting ready to go home!

Important firsts

My full name: _____

My birthday: _____

I was _____ weeks early

My birth time: _____

My first nurse: _____

My first doctor: _____

1st feeding (date/time): _____

When I was first placed skin to skin:

- I loved it!
- I tried to latch on
- I fell asleep

1st poop (date/time): _____

I moved to the WBN on _____

My doctor when I go home is: _____

My doctor's phone #: _____

Safe Sleep Positioning

1. Alone in crib
2. On his/her back
3. Empty crib



Remember Triple Feeds

1. Breastfeed
2. Give extra milk (pumped breast milk, pasteurized human donor milk, or formula) at the breast through a tube or by bottle
3. Pump afterwards to stimulate milk production



Parent Information Sheet: **Going Home!**

Congratulations! You are taking your new baby home. You have worked very hard to get to this point.

Breathing: If you think your baby is having any problems breathing, call your baby's doctor. If he/she stops breathing or turns blue, call 911.

Temperature: Before you go home, you will learn how to take your baby's temperature under the arm. If you think your baby is too hot or cold, or if you are concerned that your baby is sick, check the temperature. Call your baby's doctor if his/her temperature is under 97.6F or over 99.5F under the arm. Continue as much skin to skin time as possible in the early weeks at home.

Feeding: The nurse and lactation specialist will design a feeding plan for you to follow when you go home. Be sure to feed your baby at least every 3 hours. Be sure your baby has at least 6 wet diapers and 4 stools every 24 hours.

Blood Sugar: Your baby has been cleared of blood sugar problems. However, if your baby seems pale, sweaty, or shaky, call your baby's doctor.

Jaundice: If your baby looks more yellow at home, call your baby's doctor.

Infection: Your baby needs all his/her energy to feed and grow. Encourage your visitors to peek at the baby rather than picking up and passing him/her around. This can disturb your late preterm baby's sleeping and growing in the early weeks. If your baby is held, be sure to ask everyone to wash their hands before touching your baby. Ask sick friends and family to wait to visit until they are better. If your baby gets a cold, fever, or has trouble breathing, call his/her doctor.

Congratulations on going home!

Pediatrician: _____

1st appointment (date/time): _____

It is important that your baby is seen within 1-2 days after leaving the hospital to make sure everything is continuing to go well.

Important Numbers

Pediatrician:

Emergency:
911

Poison Control:
1-800-222-1222

National Domestic Violence Hotline:
1-800-799-SAFE (7233)

Safe Sleep Positioning

1. Alone in crib
2. On his/her back
3. Empty crib





BRIGHAM AND WOMEN'S HOSPITAL

Late Preterm Infant Discharge Plan

Help me stay warm by:

- Holding me skin-to-skin OR
- Swaddling me in two dry blankets

Check my temperature if I feel too cold or too hot.

My feeding plan:

I need at least 8-10 feedings every 24 hours

- Breastfeed me every 2-3 hours for ____ min
- For now, I need extra calories from ____ pumped breast milk; ____ formula.

Please give me pumped breast milk and/or _____ formula.

The total amount I need is ____ml every ____ hrs by ____ bottle; ____ tube at the breast; ____ tube with finger; ____ syringe.

After I eat, my mom pumps both breasts at the same time for ____ minutes.

My sleeping patterns:

I have 6 different states of alertness:

Deep Sleep: My breathing is slow and regular. I'm hard to wake up!

Light Sleep: My eyes move rapidly under my eyelids. This REM (Rapid Eye Movement) sleep is when most of my growth occurs.

(Deep Sleep and Light Sleep are very important to my development.)

Drowsy: This is when you can wake me easily if a feeding is overdue.

Quiet Alert: I am awake and calm. This is a great time to feed and interact with me.

Active Alert: I'm moving, kicking, sucking. This is a good time to put me on my tummy while you are watching me.

Crying: This is a time when you can help me move into a calmer state.

I'm new to this world and can get overwhelmed.

Sometimes I get a little overwhelmed or stressed when I am held by others, hear a loud noise, wake up too quickly, or need some "down-time".

I'm just learning how to handle all of these changes in my world. So for now, I will show you when I'm overwhelmed by:

- Getting the hiccups
- Starting to sneeze
- Getting a little more jittery
- Getting a little pale around my mouth

When this happens, your calming presence and tender-loving care help me calm down.

Additional tips to help me:

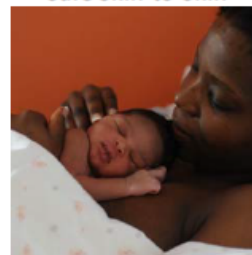
Please remove my hat when I am napping or sleeping.

Keep me safe when we are skin-to-skin:

- Turn my head to the side so you can see my nose and mouth to make sure I'm breathing comfortably
- If you are feeling sleepy, wrap me up or put me in my own sleep space near you (bassinet or crib) so we can both rest safely.

Always Remember!

Safe Skin-to-Skin



Safe Sleep

1. Alone in crib
2. On his/her back
3. Empty crib



Babies are safest alone, on their backs, in an empty crib.

Safe Tummy Time



Enjoy tummy time together to help your baby's muscles develop.

Safe Car Seat Position





LATE PRETERM CARE QUICK REFERENCE

Location of Care for Well-appearing Late Preterm Newborns

	35 0/7 – 35 6/7 weeks	36 0/7 – 36 6/7 weeks	BW <2000 grams
	Entire hospitalization in NICU*	Mother- baby unit**	Entire hospitalization in NICU*
Cesarean section	48 hour observation in NICU, then transfer to mother-baby unit**	Mother-baby unit**	Entire hospitalization in NICU*

*If maternal illness extends beyond baby’s need for hospitalization, baby may be transferred to mother baby unit to room in with mother.

**If baby requires hospitalization beyond mother’s length of stay, ongoing care may be provided on CWN 6,9 or 10.

Discharge Criteria for Healthy Late Preterm Newborns

Feeding	<ul style="list-style-type: none"> • Weight loss no more than 90th percentile on NEWT curve and not crossing percentile lines • LATCH scores mostly 8 or higher if exclusively breastfeeding • If primarily bottle feeding baby takes approximately 30 ml q 3 hours • Parents are able to independently accomplish bottle feeding within 30 minutes
Thermoregulation	<ul style="list-style-type: none"> • Stable axillary temps for at least 12 hours in open crib
Jaundice screening	<ul style="list-style-type: none"> • TCB/TSB <72 HOL: <ul style="list-style-type: none"> ○ < 40th %ile (LOW RISK) ○ 4 mg/dL or more below phototherapy threshold ○ Rate of rise < 0.2 mg/dL/h • TCB/TSB >72 HOL: <ul style="list-style-type: none"> ○ < 75th%ile (LOW INTERMEDIATE RISK) ○ 2 mg/dL or more below the phototherapy threshold ○ Rate of rise<0.2 mg/dL/h <p>OR Shared decision making between parents and clinician with follow up scheduled within 24 hours may be substituted for higher TCB/TSB than outlined above</p>
Other HCM	<ul style="list-style-type: none"> • Hepatitis B vaccine (HBsAg Neg mother) <ul style="list-style-type: none"> ○ BW 2 kg or more: within 24 HOL ○ BW < 2 kg: at discharge or at 1 month of age, whichever comes fir • Hearing screening with referral if necessary for BAER’s • CCHD screening • Newborn screening sample to State Lab between 24 and 48 hours of age • Car seat challenge • Recommend Tdap and Influenza vaccination for all household contacts

PEDIATRIC NEWBORN MEDICINE CLINICAL PRACTICE GUIDELINES