

The Best Start:

A Guideline for Healthy Term Newborns, Birth to 48 Hours

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Core Knowledge

Incorporate these basics into
ROUTINE Prenatal classes and/or visits

Inform Parents About:

- the effects of labor medications on breastfeeding.
- drug-free alternatives for labor and delivery, including use of a birth doula, if available.
- effects of breastfeeding on acute and chronic diseases of women and children, so that mother can make an informed feeding choice.

Teach Skills for Breastfeeding Success:*

- Expect to feed within the first hour of life, with skin-to-skin contact.
- Offer frequent feeds, not formula: The more the baby nurses, the more milk the mother will make.
- Say 'no' to pacifiers and bottles.
- Sleep near the baby & nurse lying down.
- Feed early and often, at the first signs of hunger.
- Wide open mouth, flared-out lips.
- Watch the baby, not the clock.
- Recognize swallowing and milk transfer.
- Avoid supplementation without medical indication.
- Breastfeed exclusively for 6 months.

Promote Time for Breastfeeding and Rest:

Suggest that parents don't let visitors interrupt or delay feedings, and be prepared to ask visitors to leave. Suggest they turn ringer off the phone and rest between feedings.

Encourage Pregnant Women

to visit meetings of community breastfeeding support groups (e.g. La Leche League).

Core Practices

For Baby:

At birth:

- ▲ Place baby skin-to-skin immediately after birth.
- ▲ Dry baby and assess Apgars with baby on mother.
- ▲ Breastfeed within the first hour of life.
- ▲ Show mother correct latch and position: wide open mouth, flared-out lips, "nose-to-breast, chest-to-chest."
- ▲ Delay vitamin K and eye prophylaxis until after first feed, up to 1 hour.
- ▲ Delay bath until after first feed.

First 48 hours:

- ▲ Check glucose only in high-risk babies.
- ▲ Perform baby's weights, vital signs, & examinations in mother's room.
- ▲ Perform all painful procedures with baby at breast *or* skin-to-skin (includes heelsticks and Vitamin K).
- ▲ Increase breastfeeding frequency & assure swallowing if hypoglycemic, hyperbilirubinemic, or weight loss >7%.
- ▲ Avoid supplements without a medical indication.
- ▲ Follow up 2 days after discharge & again at 2 weeks.

For Mother:

- ▲ Mother sleeps near baby 24 hours a day, and has maximal contact with baby, preferably skin-to-skin.
- ▲ Staff limits visitation time when it's time for feeding and teaching.
- ▲ Mother feels strong tugging which is not persistently painful.
- ▲ Parents are aware of feeding cues & swallowing.
- ▲ Parents are given written & verbal guidance* about Skills for Breastfeeding Success.
- ▲ Mother/baby demonstrate effective breastfeeding prior to discharge.
- ▲ Mother is given contact info for community support services.

Core Support

Provide extra support and/or consider referral to certified lactation consultant in the following circumstances, due to increased risk of breastfeeding problems:

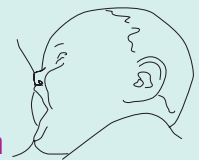
For Baby:

- birth by vacuum extraction
- continued rooting after feeding
- weight loss > 7% associated with poor feeding
- infant irritable, restless or sleepy & refusing to feed
- use of non-breastmilk fluids or pacifiers
- difficulty with latch
- no visible or audible swallowing
- no effective breastfeeding seen prior to discharge
- tongue-tie or other anatomic abnormality
- hyperbilirubinemia
- hypoglycemia (<45 by laboratory confirmation) in at-risk or symptomatic infants

For Mother:

- total labor >14 hours
- caesarean birth
- first-time mother
- flat or inverted nipples
- increased or persistently sore nipple
- prior breastfeeding problems
- use of chronic medications, to ensure safety in breastfeeding
- prior breast surgery
- type 1 diabetes
- obesity
- multiple birth
- smoking

Proper latch on



Massachusetts
Breastfeeding
Coalition

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Questions about this chart?
See our FAQs at www.massbfc.org

NOTES

* Avoid breastfeeding materials from formula companies

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ON LINE RESOURCES:

Academy of Breastfeeding Medicine: www.bfmed.org

International Lactation Consultant Association: www.ilca.org

US Dept. of Health and Human Services: www.4woman.gov

Centers for Disease Control and Prevention:

www.cdc.gov/breastfeeding

Massachusetts Breastfeeding Coalition: www.massbfc.org

La Leche League: www.lalecheleague.org

What effects do labor medications have on breastfeeding?

Many medications may cross the placenta during labor and result in sleepiness in the infant after birth. A sleepier infant may have trouble imprinting breastfeeding behavior. Some medications may have more effects than others. For example, epidural fentanyl crosses the placenta and has a half-life of up to 13 hours in the neonate. Meperidine (Demerol, Pethidine) has an active metabolite with a half-life that lasts days, and this drug in particular has been demonstrated to hamper breastfeeding success. Because of their propensity to cause sleepiness in infants, use of narcotics during labor may delay the time to first successful breastfeeding, thus increasing the risk of excessive weight loss in the infant and delay in lactogenesis. Research has demonstrated that various labor pain medications increase newborn crying and temperature and reduce baby's spontaneous breast-seeking and breastfeeding behaviors.

Use of a professional birth doula has been shown to reduce the amount of pain medication used by women in labor. Women labor coaches, in general, have been found to help reduce the use of pain medications during labor.

Why is breastfeeding in the first hour of life so important

In the first hour of life, the baby is most alert and able to imprint the unique suckling movements necessary for successful breastfeeding. As time passes, the baby becomes sleepier as he recovers from the birthing process. During this entire first hour of alertness, it's important to keep the baby with the mother, ideally skin-to-skin. Uncomfortable distractions and separations should be avoided until after the first feed. The Academy of Breastfeeding Medicine recommends that the infant should be dried and Apgars assessed while the baby is on the mother, and that Vitamin K and eye prophylaxis should be delayed until the first feed, up to one hour.

DiGirolamo et al. found that failure to initiate breastfeeding within the first hour of life was one of the strongest predictors of early termination of breastfeeding at two months.

What is skin-to-skin contact and why is it so important?

Skin-to-skin contact means the baby's bare skin is in direct contact with the mother's bare skin. Skin-to-skin contact helps encourage breastfeeding and can be especially useful in a sleepy baby. Skin-to-skin contact immediately after birth can help the baby maintain adequate body temperature, and decrease the risk of hypoglycemia associated with cold stress.

In a cool environment, mother and baby can both be covered with a blanket, or the baby can be underneath mother's clothes.

Why should supplements be avoided?

Use of formula without a medical reason may interfere with the establishment and building of the mother's milk supply. The more frequently the baby nurses, the more milk the mother will make, provided that milk transfer is effective. Using formula without a medical reason may cause a baby to be too full to nurse frequently.

According research by DiGirolamo et al., two of the strongest predictors of early termination of breastfeeding are use of supplements in the hospital and delay of the first breastfeeding beyond the first hour of life. Other predictors include: not breastfeeding on demand, not sleeping near the baby, and use of pacifiers.

Why should pacifiers be discouraged?

There is growing evidence that pacifier use is associated with decreased breastfeeding duration. Pacifiers may mask the early signs of hunger, when feeding is important for establishing and building a milk supply. In addition, it is normal for a baby to rest or pause during a feeding; should feeding be terminated early in favor of a pacifier, this may have adverse effects on baby's intake and thus on mother's milk supply. The more the baby takes in, the more milk the mother will make in response.

Mothers who use pacifiers often find that they do not make enough milk. While some parents successfully use pacifiers after breastfeeding has been well established, pacifier use is inappropriate in healthy term newborns in the first weeks of life.

If a baby is awake and alert, making movements with his mouth, or sucking his fist, he is probably hungry and needs to nurse. Sucking on a pacifier requires different motor groups than sucking on a breast, so using a pacifier may make it hard for a baby to learn how to suck on the breast.

A baby who wants to nurse for comfort will likely get the satisfaction he seeks more quickly from the warmth of his mother's breast than from a pacifier. Comfort suckling may help a mother make more milk through nipple stimulation. It may be helpful to explain to the mother that the breast is not a substitute for a pacifier. In fact, elsewhere in the world, pacifiers are called "dummies" *because they are substitutes for the breast.*

Why is sleeping near the baby recommended?

There is a growing body of evidence showing the benefits of sleeping near the baby, rather than in a separate room. In the hospital, it has been shown that newborns who room-in with their mothers sleep more and cry less, and that mothers get the same amount of sleep whether they leave the baby in the nursery or keep the baby with them.

Sleeping near the baby facilitates breastfeeding at the earliest signs of hunger, thus helping build milk supply. Parents should be advised to continue this practice, even after they leave the hospital.

Bedsharing, in particular, has been shown to promote breastfeeding. There have been some concerns about bed-sharing if not done safely. However, the Academy of Breastfeeding Medicine notes that there is insufficient evidence to routinely discourage co-sleeping. The ABM defines co-sleepers as those "who remain close enough for each to detect and potentially act on the sensory stimuli of the other, and this includes an infant sleeping alongside a parent on a different piece of furniture or object," as well as an infant who shares a bed with the parent.

Data about bedsharing show that such babies learn to respond to mother's movements and breathing, and that mothers learn to respond to baby's early feeding cues. Babies who bedshare have been found to spend more time nursing than babies who don't, and this helps build milk supply. In addition, nursing the baby in the sidelying position allows both parents to wake up more well-rested in the morning.

Having the baby sleep in a separate room from the mother, even with a baby monitor, does not result in these benefits. Crying is a late sign of hunger, and it is important to feed the baby well before one can hear him crying down the hall. It is also harder to feed a crying baby.

If a mother shares a bed with her infant, it is important that she know how to do this safely:

- The bed should be away from a wall on both sides to avoid entrapment.
- Heavy blankets, duvets, or pillows should be avoided.
- Soft surfaces such as waterbeds, couches, and daybeds should be avoided.
- Neither parent should be under the influence of alcohol, illegal drugs, or medications that would interfere with their ability to wake up.
- As with sleeping separately, the infant should be placed on his back.
- A baby should not sleep alone on an adult bed.
- No one except parents should share a bed with the baby.
- Because the risk of SIDS is higher in children of smokers, it is advised that parents who smoke do not bedshare, but can sleep with the baby nearby.

Why perform painful procedures while the baby is at breast?

Gray et al. found that babies tolerate heelsticks better if they are done while breastfeeding. Infants have less crying and grimacing, and substantially lower heart rates, compared to babies being swaddled in their bassinets during the procedure. Breastfeeding is thought to have a potent analgesic effect. Skin-to-skin contact itself can also have an analgesic effect.

How can breastfeeding be supported through hyperbilirubinemia?

Jaundice is common in newborns and is usually normal, but can sometimes be a sign of serious illness. When jaundice is present in infants under 24 hours of age, it is never normal and needs further medical assessment.

"Jaundice" is non-specific term referring to yellowing of the skin from bilirubin. Because some jaundice can be normal, the term "hyperbilirubinemia" more accurately indicates a need for medical attention. When measuring bilirubin levels, the upper limit of normal varies depending on the age of the infant.

Hyperbilirubinemia can be a sign of inadequate milk transfer. It does not usually mean that a baby needs to take formula, but should prompt an evaluation by a certified lactation consultant. Frequent nursing can help jaundice resolve more quickly, provided there is audible or visible swallowing, which indicates that the baby is actually getting milk. According to the Academy of Breastfeeding Medicine, supplements are not indicated in the infant with bilirubin levels less than 20 mg/dl after 72 hours of age when the baby is feeding well, stooling adequately and has weight loss of less than 7%. (They do not comment on younger infants). At birth to 48 hours, there is no indication to interrupt breastfeeding for diagnostic purposes in the evaluation of jaundice.

What are the risk factors for breastfeeding difficulties, and why?

In general, a more stressful labor and delivery are associated with delayed onset of lactation and/or infant suckling difficulties. Delayed onset of lactation is defined as greater than 72 hours. Dewey et al. (2003) found that Caesarean section and primiparity are the two of the most important risk factors. First time mothers have several reasons for breastfeeding difficulties: they tend to have longer labors, they are more likely to have received labor analgesia, and they also lack breastfeeding experience.

Other risk factors for both delayed onset of lactation and infant suckling difficulties include: flat or inverted nipples, maternal obesity (BMI>27), and total labor that lasted more than 14 hours. In addition, infants whose 1-minute Apgar was 7 or less also tended to have suckling difficulties. Hall et al. demonstrated that vacuum extraction is linked with feeding difficulties, as well. All these mother-infant pairs may need additional breastfeeding guidance.

Even when infants started out with excellent suckling behaviors on the first day of life, Dewey et al. found that subsequent use of pacifiers or non-breastmilk fluids in the first 48 hours was linked with subsequent development of suckling difficulties at day 3 and day 7. Numerous other studies have also linked the use of pacifiers and non-indicated supplements to early weaning.

Excess weight loss can result from either delayed onset of lactation or infant suckling difficulties or both.

Breast surgery can disrupt the anatomy of the breast and may potentially cause problems with breastfeeding. Periareolar incisions are of particular risk, as is any incision that may damage the nerve supply to the nipple, and thus affect the let-down reflex. Many women who have had breast surgery can still breastfeed, but they should be monitored closely because of the risk that they may not be able to meet their infant's full nutritional needs, and may need to supplement.

Many factors may also lower milk volume, such as cigarette smoking, trauma or surgery to the breast or chest, and inadequate feeding frequency. Smoking causes a decrease in milk volume in a dose-dependant manner. There is also some evidence that hormonal contraceptives may reduce milk volume, particularly those containing estrogen, as estrogens may suppress milk production. However, much is still not known about the effects of hormonal contraceptives on milk volume. Concern has been raised about the administration of Depo-Provera prior to the establishment of a full milk supply. [The manufacturer recommends waiting until six weeks post-partum, while noted pharmacologist Thomas Hale recommends delaying administration of all progestin agents "until three days post-partum, if not longer."] Of note, exclusive breastfeeding in the early months has been shown to reduce fertility significantly.

What does tongue-tie look like?

Tongue-tie, or ankyloglossia, occurs when the lingual frenulum under the tongue is too short or displaced anteriorly. This may limit mobility of the tongue. When the baby attempts to stick out the tongue, the tongue appears heart-shaped or has a V-shaped notch at the tip. Tongue-tie occurs in about 5% of infants. Significant tongue-tie may result in breastfeeding difficulties, including inadequate milk transfer and sore nipples. If tongue-tie results in breastfeeding difficulties, it may be corrected with a simple procedure, frenotomy, or with a more elaborate procedure, frenuloplasty.

What is the approach for difficulty with latch?

Problems with latching onto the breast may be related to birth events, gestational age, use of artificial nipples (e.g., pacifiers or bottles), distractions during feeding time, crying, separation from mother, depressed appetite, depressed sucking ability, or attempts to feed when the infant is not demonstrating feeding cues.

Consider the following interventions to achieve a successful latch:

- Keep mother and baby together skin-to-skin, as much as possible.
- Avoid distractions during feeding time, such as visitors.
- Place the baby to breast as soon as he demonstrates feeding cues.
- Position baby for asymmetric latch so that the lower jaw has more contact with the breast than the upper jaw. Slight head flexion can maintain a patent airway. When the baby's mouth is opened like a yawn, move the mouth to the breast with the chin and lower lip making the initial contact, followed by the upper lip and tip of the nose. Some mothers and babies find that latch is easier when the mother offers the areola under the nipple as the first contact point with the baby's mouth, which helps facilitate latch on to that part of the breast. The lower lip and chin can then be planted well below the nipple, while the nose is typically at the level of the nipple. Then, the baby's

mouth rolls up and on to the breast, as the mother draws the baby in. The upper lip should make contact just above the nipple.

- Assist the infant to open his mouth as wide as possible—ideally at a 150 degree angle at the corner of the mouth. If the baby will not open his mouth wide enough for painless latch-on, or if he clenches his jaw, hold the baby's jaw between your thumb and index finger and move the jaw a small amount from side to side. Check to see if lower lip is rolled under, which prevents the mouth from opening fully. If the mouth is not open to at least 130 degrees, gently pull down on the chin and evert the lower lip and encourage a more wide open mouth.
- A baby who is crying or who has an elevated tongue tip will need to be calmed first. The tongue can be stroked down and forward prior to latching.
- Place a small amount of expressed colostrum at the breast using a dropper, syringe, or tubing. This helps encourage latch. Use any of the following techniques to deliver this “colostrum incentive:”
 - Place a syringe or soft dropper in the side of the baby's mouth, which will elicit sucking and deliver a small amount of colostrum with each suck. Continue until baby demonstrates rhythmic suck and swallow at the breast.
 - Use butterfly tubing (with the needle cut off) attached to a 10cc syringe and taped to the breast in order to deliver expressed colostrum. This technique can also provide a supplement, if needed.
- Have the mother use a U-hold to provide proper jaw support if the infant is unable to retain a proper latch. The U-hold (also known as the Dancer hand position) is a C-hold which is rotated 90 degrees so that the hand is placed under the breast instead of on the side: the thumb is placed on the lateral margin of the breast and the four fingers rest on the medial aspect of the breast, or vice versa. This hand position is often useful for preterm infants, babies with a weak suck, or those with muscular or neurological problems that inhibit normal jaw movements. With the U-hold, the entire jaw and breast are supported together, using the same hand. The thumb and index finger of this hand are then in a position to be placed on the both cheeks of the infant and can be pressed gently inward to cause contact between the buccal

surfaces of the mouth and the nipple. This allows all parts of the baby's mouth to be in contact with the breast.

- Assess for tongue-tie (ankyloglossia): baby's tongue has a v-shaped notch when it protrudes.
- Hand express colostrum and feed it to the baby to help ensure adequate intake. Use a spoon, cup, syringe, or dropper. This may also help calm a crying baby.
- A lactation consultant may recommend judicious use of a nipple shield in special situations.
- Encourage mother to gently massage and compress her breast when the baby pauses between sucking. This may release a burst of colostrum/milk.

Note that a successful latch does not ensure milk transfer unless the baby also demonstrates audible or visible swallowing.

Which babies should be screened for hypoglycemia?

According to the Academy of Breastfeeding Medicine, the following babies are at risk for hypoglycemia and should be screened:

- Small for gestational age (SGA) < 10th percentile for weight
- Discordant twin (smaller)
- Large for gestational age (LGA) > 90th percentile for weight
- Infants of diabetic mothers
- Low birth weight infants (< 2500 grams)
- Post-asphyxia
- Erythroblastosis fetalis
- Polycythemia (venous Hct > 70%)
- Presence of microphallus or midline defect
- Beckwith-Weidmann Syndrome
- Cold stress/hypothermia
- Other stresses, such as respiratory distress, sepsis, etc.

Screening is not recommended in other infants. Infants of diabetic mothers should be screened at approximately 30 minutes; other high risk infants can be screened at 2 hours. Screening can be done using a bedside dextrose-stick. However, a low reading must be confirmed with a laboratory test on plasma or serum.

continued next page

Massachusetts Breastfeeding Coalition uses this operational definition of hypoglycemia:

Infant parameters values	Age in hours postbirth	Threshold glucose for intervention
Asymptomatic near term (34-37 weeks)		
• <i>No risk factors</i>	1st 24 hours	<30-35 mg/dL
	after 24 hours	<40-50 mg/dL
Symptomatic infant		
• <i>Signs of hypoglycemia</i>	any age	<45 mg/dL
• <i>Any gestational age</i>		
At-risk infant		
• <i>(see above for criteria)</i>	any age	<36 mg/dL

NOTE:

- Infants with glucose levels <20-25 mg/dL require IV glucose and close monitoring.
- Asymptomatic healthy term infants with no risk factors should NOT be screened.

What is symptomatic hypoglycemia and how should it be treated?

According to the Clinical Protocol on Hypoglycemia from the Academy of Breastfeeding Medicine:

It cannot be emphasized enough that all the clinical signs of hypoglycemia are non-specific, and the physician must assess the general status of the infant by observation and physical examination to rule out disease entities and processes that may need additional laboratory evaluation and treatment. Some common signs include:

- Tremors, irritability, jitteriness, exaggerated Moro reflex
- High pitched cry
- Seizures
- Lethargy, listlessness, limpness, hypotonia
- Cyanosis, apnea, irregular rapid breathing
- Hypothermia, temperature instability, vasomotor instability
- Poor suck and refusal to feed

MANAGEMENT RECOMMENDATIONS

Healthy term neonates do not develop symptomatic hypoglycemia as a consequence of underfeeding. Underlying illness must be excluded in such infants.

Bedside screening tests must be confirmed by true laboratory glucose measurements.

Monitoring should begin within 30 minutes for infants of diabetic mothers and no later than 2 hours of age for infants in other risk categories. At-risk infants should be monitored every 2 to 4 hours prior to a feeding, until a normal blood glucose concentration is observed after serial measurements while receiving feedings.

Hypoglycemia can be minimized by early initiation of breastfeeding, within the first 30-60 minutes after delivery. Early breastfeeding is not precluded just because the infant meets the criteria for glucose monitoring.

Initiation and establishment of breastfeeding is facilitated by skin-to-skin contact of mother and infants. Such practices will maintain normal infant body temperature and reduce energy expenditure while stimulating suckling and milk production. Feedings should be frequent, at least 10 to 12 breastfeedings per 24 hours, and the infant should be put to the breast at the earliest signs of hunger (note that crying is a late sign of hunger).

In a symptomatic infant, intravenous glucose should be given. Initiate intravenous glucose using 2 cc/kg 10% glucose bolus followed by a continuous infusion of 6 to 8 mg/kg/min glucose (approximately 100 cc/kg/day). Do not rely on oral or intragastric feeding to correct hypoglycemia. Such an infant is not normal and requires a careful examination and evaluation.

Encourage frequent breastfeeding after relief of symptoms. Adjust intravenous rate by blood glucose concentration.

Once blood glucose stabilized, resume breastfeeding and slowly reduce intravenous infusion. Check glucose concentrations before feedings until values are stabilized off intravenous fluid.

Carefully document signs, physical examination, screening values, laboratory confirmation, treatment and changes in clinical condition.

How should asymptomatic hypoglycemia be managed?

According to Clinical Protocol on Hypoglycemia from the Academy of Breastfeeding Medicine:

- Continue breastfeeding (approximately every one to two hours) or feed expressed breast milk or breast milk substitute (approximately 10-15 ml/kg). According to ABM's Protocol on Supplementation, breast milk substitutes are recommended only if the hypoglycemia is unresponsive to frequent breastfeeding.
- Recheck blood glucose concentration before subsequent feedings until value is stable.
- If neonate is unable to suck, avoid intragastric feeding and begin intravenous therapy. Such an infant is not normal and requires a careful examination and evaluation in addition to more intensive therapy.
- If enteral feeding otherwise is not tolerated, begin intravenous glucose infusion. Such an infant also is not normal and requires a careful examination and evaluation as well as more intensive treatment.
- Intravenous therapy: 2 cc/kg of 10% glucose by bolus followed by a continuous infusion of 6-8 mg/kg/min of glucose (approximately 100 cc/kg/day). Repeat serum glucose within 30 minutes, and serially thereafter until stable.
- If glucose is low despite feedings, begin intravenous 10% glucose infusion of 6-8 mg/kg/min (approximately 100 cc/kg/day).
- Adjust intravenous rate by blood glucose concentration.
- Once blood glucose is stabilized in the normal range, continue breastfeeding and slowly reduce intravenous infusion. Check glucose concentrations before feedings until values are stabilized off intravenous fluid.
- Carefully document signs, physical examination, screening values, laboratory confirmation, treatment and changes in clinical condition.