

BREASTFEEDING/BOTTLE FEEDING MANAGEMENT

PURPOSE: To outline the management of breastfeeding/bottle feeding the newborn/infant.

SUPPORTIVE DATA: Breast milk is the preferred nourishment. It is easy to digest and provides many immunological advantages that are lacking in commercial formula. Contraindications to breastfeeding include:

- Maternal:
 - Human Immunodeficiency Virus (HIV) positive
 - Active untreated Tuberculosis
 - Maternal human t-lymphotrophic virus Type I or II
 - Substance abuse- not in a monitored treatment program
 - Radiation therapy (temporary cessation of breastfeeding required)
 - Intake of substances that can be transmitted through breast milk and listed as contraindicated by LactMed site for National Library of Medicine, National Institute of Health Toxnet site med.nlm.nih.gov/
- Newborns:
 - Galactosemia (as warranted per classification, to be assessed for clinical manifestations requiring cessation of breastfeeding)
 - Inborn errors of metabolism necessitating an evaluation regarding appropriateness of nutrition source/breastfeeding (will be assessed clinically on an individual basis)

Breastfeeding is recommended for a period of one year or longer.

Commercial formulas are cow's milk or soybean based containing appropriate protein, carbohydrate, and fat, but lack human immunoglobulins. LAC+USC Medical Center stocks commercial infant formulas if needed and ordered by the physician or advanced practice nurse.

INITIAL ASSESSMENT:

1. Assess the following upon admission:
 - Mother's breastfeeding experience/knowledge/ feeding method preference
 - Mother's current breastfeeding challenges:
 - Engorged breast(s)
 - Sore, cracked, or bleeding nipples
 - Mastitis
 - Mother's potential for breastfeeding challenges:
 - Flat or inverted nipple(s)
 - Breast surgery
 - Newborn's potential for feeding challenges:
 - Cleft lip/palate
 - Poor suckling reflex
 - Ankyloglossia
 - Less than 36 weeks gestation
2. Assess newborn for signs of distress and cyanosis prior to, during, and after feeding.
 - Hold feeding as ordered

INITIATION OF FEEDING ASSESSMENT:

3. Place all stable infants skin-to-skin at delivery. Infants are left skin-to-skin for:
 - As long as the mother wishes or
 - At least until the completion of first breastfeeding or
 - At least 1 hour for the infant who is formula fed
4. Assess the following with each feeding:
 - Positioning of mother and infant: Preferred position for breast feeding/comfort is mother in semi-fowlers with baby in prone position.
 - Newborn's ability to seek and attach to the breast, suckle, and draw the nipple into mouth.

5. Provide supplemental formula only when ordered by a physician or advanced practice nurse if medically indicated.
6. Assess for signs of newborn feeding intolerance:
 - Emesis/regurgitation
 - Distended abdomen
 - Dyspnea/cyanosis with feeding
 - Bloody stools
7. Assess for signs of dehydration
 - Sunken fontanelle while supine
 - Decreased skin turgor
 - Lab values (e.g. elevated hematocrit, sodium, blood urea nitrogen)

BREASTFEEDING:

8. Ensure breastfeeding on demand at least 8-12 times per 24-hour period.
9. Instruct mother to:
 - Nurse from first breast until newborn detaches from breast by self. Burp newborn after the first breast (demonstrate as a teaching experience) before changing to the other breast
 - Nurse from second breast until newborn is asleep and/or detaches from breast by self
 - Burp the baby again. It is normal if baby does not burp on the first day.
10. Investigate and document reasons that prompt a mother's request for formula if such a request is made. Nurse will:
 - Assist with breastfeeding challenges
 - Obtain physician/ advance practice nurse orders for formula
 - Give formula to infant while breastfeeding using Supplemental Nursing System (SNS)

BOTTLE FEEDING:

11. Use slow flow nipple or SNS if mother is planning to breastfeed.
12. Burp newborn when indicated by infant's feeding cues (i.e. slowing suckling, squirming, or consuming half of the volume of the formula ordered).
13. Ensure feeding at the recommended amount. Demand feeding preferred at a minimum of every 4 hours.

SAFETY:

14. DO NOT prop bottle.
15. DO NOT heat breast milk or formula in a microwave in order to avoid "hot spots". Thaw breast milk in a container of warm water not to exceed 37°C/98°F. Do not submerge bottle cap in water. A clear plastic bag can be used to keep bottle of milk from touching the water.
16. Refer to "Hospital Guidelines for Milk Storage" (attached) for handling and storage of human milk.

REPORTABLE CONDITIONS:

17. Notify physician or advanced practice nurse and hold feeding for:
 - Respiratory/cardiovascular compromise before, during or after feeding
 - Abnormal assessment findings
 - Signs/symptoms (S/S) of feeding intolerance
 - Abnormal vital signs from baseline or age specific parameters
 - S/S of dehydration

PARENT/CAREGIVER EDUCATION:

18. Instruct on the following:
 - Benefits of breast feeding versus cow's milk or soy formula
 - Cow milk/soy infant formula offers no immunity benefits

- How to breast/bottle feed and position the infant
- Notify health care provider for S/S of infant feeding intolerance
- Adverse effects of supplemental feeding with formula, e.g., diarrhea, colic, nipple confusion, reduced milk production and decrease in newborn's interest at the breast
- Breastfeeding:
 - To observe for infant's feeding cues
 - Mom to drink when thirsty
 - How to maintain lactation and prevent breast engorgement /nipple cracking when breastfeeding
 - The use of manual/electric breast pump/hand expression within 6 hours for collection and storage of breastmilk in the event of mother/baby separation
 - How to thaw breastmilk
 - Not to heat breastmilk in a microwave
- Bottle feeding:
 - Paced bottle feeding
 - Hazards of overfeeding leading to emesis, discomfort, obesity
 - Not to prop bottle
 - Not to heat formula in a microwave
 - Not to use cow's milk during the first year
 - Give CDC booklet with guidelines and instructions pertaining to safety of mixing, and cooling powdered formula mixture
- Indications of successful feeding:
 - Breastfeeding:
 - Newborn feeds 8-12 times/24 hours
 - Infant feeds until satisfied
 - After day 4, the infant has 3-4 (or more) loose yellow stools per 24 hours
 - Bottle feeding:
 - Newborn feeds 6-8 times per 24 hours
 - Newborn may have loose stools with every formula feeding
 - Newborn has a minimum of 1-2 stools per 24 hours
 - Breast and formula feeding:
 - By age 5-7 days, newborn will have a minimum of 6 wet diapers per 24 hours
 - Feeding cues (i.e. hands to mouth indicated ready to feed)

COLLABORATION: 19. Collaborate with the following as needed:

- Lactation Specialist
- Food and Nutrition Services
- WIC Women – Infant – Children (WIC)
- Occupational Therapy

ADDITIONAL STANDARDS: 20. Implement the following as indicated:

- Physiologic Monitoring/Hygiene/Comfort - Infant/Newborn

DOCUMENTATION: 21. Document in accordance with documentation standards.

22. Document assistance/education regarding breastfeeding.

23. Document breastfeeding in Lactation Care Navigator Band

24. Document bottle feeding in iView, I&O section. Add dynamic group for specific formula.

Initial date approved: 01/00	Reviewed and approved by: Professional Practice Committee Nurse Executive Committee Attending Staff Association Executive Committee	Revision Date: 11/00, 03/05,02/10, 11/14, 03/15, 12/20
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LAC+USC GUIDELINES FOR MILK STORAGE

HUMAN MILK (HM)	STORAGE METHOD / ENVIRONMENT	RECOMMENDED STORAGE TIME
Any Variant	Room Temperature 20°C-25°C (68°F-77°F)	≤ 4 hours (discard after 4 hours, do not re-refrigerate/re-refreeze)
Thawed Expressed, Fortified	Refrigerator ≤4°C (≤39°F)	24 hours
Freshly Expressed (with centralized HM handling), Thawed Donor Products (including fortifiers)	Refrigerator ≤4°C (≤39°F)	48 hours
Freshly Expressed, Donor Products (including fortifiers)	Freezer ≤-20°C (≤-4°F)	12 months

Note: Refer to Addendum A: Human Milk Banking Association of North America (HMBANA) for different criteria for the term and older infant

References:

American Academy of Pediatrics, & The American College of Obstetricians (2012). *Guidelines for perinatal care*. Elk Grove Village, IL: American Academy of Pediatrics

Jones, Frances (2019). *Best practice for expressing, storing, and handling human milk in hospitals, homes, and child settings* (4th ed.). Fort Worth, TX: Human Milk Banking Association of Northern America.

Pediatric Nutrition Practice Group (2019). *Infant and Pediatric Feedings: Guidelines for Preparation of Human Milk and Formula in Health Care Facilities* (Steel C. & Collins E., 3rd ed.). Chicago, IL: Academy of Nutrition and Dietetics.

Storage of Human Milk for Term Infants

Information for mothers on how to express & store "clean milk" is important.

The lower the contamination, the better the quality of the stored milk.

NOTE: when thawing frozen milk, label as thawed when completely thawed [i.e. no ice crystals present). Use the time when completely thawed to base acceptable time limits for use rather than when it is taken from the freezer.

Human Milk	Room Temperature	Time in Refrigerator	Time in Freezer
Freshly expressed	≤ 6 hours	≤ 5 days	Ideal: 3 months Optimal: ≤ 6 months Acceptable: ≤ 12 months in a deep freezer [-20° C) Baby may need vitamin supplements if drinking milk that has been frozen for long periods and not receiving fresh mother's milk.
Previously frozen, thawed in refrigerator but not warmed	≤ 4 hours	≤ 24 hours	Do not refreeze
Previously frozen & brought to room temperature	For completion of feeding - up to an hour at room temp & then discard.	≤ 4 hours	Do not refreeze
Infant has started feeding	For completion of the feed & then refrigerate ≤ 4 hours	≤ 4 hours	Do not refreeze
Thawed previously frozen pasteurized human donor milk	≤ 4 hours	≤ 48 hours	Do not refreeze

Storage of Human Milk for Older Children

Information for mothers on how to express & store "clean milk" is important.

The lower the contamination, the better the quality of the stored milk.

NOTE: When thawing frozen milk, label as thawed when completely thawed (i.e. no ice crystals present). Use the time when completely thawed to base acceptable time limits for use rather than when it is taken from the freezer.

Human Milk	Room Temperature	Time in Refrigerator	Time in Freezer
Freshly expressed	≤6 hours	≤ 8 day If the child is not doing any direct breastfeeding, shorten storage in the refrigerator to maximize benefits.	Up to 1 year at ≤ -18°C If the child is not doing any direct breastfeeding and milk is stored for longer periods, vitamin supplementation may be needed.
Previously frozen, thawed in refrigerator but not warmed	≤ 4 hours	≤ 24 hours	Do not refreeze
Previously frozen & brought to room temperature	For completion of the feed & then refrigerate ≤ 4 hours.	≤ 4 hours	Do not refreeze
Infant has started feeding	For completion of the feed & then refrigerate ≤4 hours. No research, No expert opinion	≤4 hours	Do not refreeze
Frozen donor milk	For completion of the current feed & then refrigerate ≤ 4 hours.	≤ 48 hours	Do not refreeze.

Reference

Jones, Frances (2019). *Best practice for expressing, storing, and handling human milk in hospitals, homes, and child settings* (4th ed.). Fort Worth, TX: Human Milk Banking Association of Northern America.