Help! What to do when the baby has not latched onto the breast yet or is not sucking effectively

- I. Goals, objectives, and outline
 - A. Goal: To provide multiple options for working with families whose babies are not sucking effectively.
 - B. Objectives:
 - 1. Describe the appearance of the baby sucking at the breast indicating effective feeding.
 - 2. Describe visible signs of potential sucking problems.
 - 3. Write a discharge plan for the baby who is not yet sucking effectively.
 - C. Outline
 - 1. Assessing the baby's sucking skills
 - 2. Designing a discharge plan for a family whose baby is breastfeeding ineffectively

Babies are abdominal feeders

- II. Assessing the baby's sucking skills
 - A. Effective sucking
 - 1. Eyes wide-open at the start of the feeding when the baby is a week old
 - 2. Wide-open mouth (130-150 degree angle at the corner of the baby's mouth)
 - 3. Lips flanged
 - 4. Asymmetric latch with nose free (If nose is touching, be sure baby can breathe.)
 - 5. Count 10+ sucks in a row at the start of the feeding (Do not tell mom.)
 - 6. Pauses should be shorter than 10 seconds, at the start of the feeding.
 - 7. Baby should start sucking again on her own and continue this pattern for many minutes
 - 8. Cheeks should remain rounded, no dimpling
 - 9. There should be no clicking sounds
 - 10. After the milk ejection reflex (let-down), sucks should be one per second, and there should be audible swallows before discharge
 - 11. Sucking should feel like tugging or pulling, not pinching or biting (feel like a pump)
 - 12. Mother should not feel pain after the first 30 seconds
 - 13. Baby is able to drink an appropriate amount of milk (pre and post feeding weights)
 - 14. Baby is calm or asleep at the end of the feeding (not always a good indication)
 - B. Ineffective sucking
 - 1. Narrow angle at the corner of the baby's mouth
 - 2. Sucks less than 10 times in a row before pausing at the start of the feeding
 - 3. Pauses greater than 10 seconds at the start of the feeding
 - 4. Dimpling of cheeks, pulling in of the cheeks (Remove baby from breast and start again, or wait for baby to figure out it does not work.)
 - 5. Overuse of the lips to keep the seal, pulling of the breast
 - 6. Motion is at the front, no movement of the ear or temporalis (Allow to suck on parent's finger with tip of finger at juncture of hard and soft palates.)
 - 7. Tongue not over lower gum
 - a. Charm hold
 - b. Breastfeed in a prone position for the baby
 - c. Imitate sticking tongue out and opening mouth wide
 - d. Lip tapping

- e. Cup feed or place milk on baby's chin to bring tongue forward
- f. Sucking on mom's finger, so can feel when tongue comes forward
- 8. Sucking tongue on roof of mouth (Suck on parent's thumb or provide chin support.)
- Makes clicking sounds, breaks suction frequently. (Try latching on again. Check palate and tongue. Try DANCER hand position to decrease intra-oral space and support the lower jaw, named by Sarah <u>Dan</u>ner, CNM and Edward <u>Cer</u>utti, MD)
- 10. Milk leaks out of the corner of baby's mouth
- 11. Weak suck, falls off breast, no suction. (Feed with cup/spoon/syringe until baby is stronger. At discharge switch to bottle, if the baby can suck some. Try the DANCER hand position.)
- 12. Wide jaw excursions (Try chin support.)
- 13. Pain throughout the feeding/nipple misshapen
- 14. Cannot hear swallowing
- 15. After one week, eyes closed at the start of the feeding
- 16. Baby does not drink enough milk during the feeding (pre and post feeding weights)
- 17. Incorrect tongue motion—suck training
 - a. Reverse suck
 - b. In and out saw motion
 - c. Up-down motion with the center of tongue (Check the frenulum)
 - d. Rubbing along the breast with the tip of the tongue
- 18. Baby fussy and unsettled at the end of the feeding while being held (not always a good indicator that the baby is not getting enough)
 - a. Some babies are fussy after a feeding because they need to burp
 - b. Or they drank too much and may spit up
 - c. Parents cannot distinguish satiation from exhaustion
- III. Designing a discharge plan for a family whose baby is breastfeeding ineffectively
 - A. Teach mom to hand express drops of milk for her baby
 - B. Show her how to use the electric breast pump
 - C. Find a comfortable way for her to feed milk to her baby
 - D. If the baby cannot breastfeed with a supplementer at the breast or cannot latch with a nipple shield, use another alternative feeding method, such as spoon, cup, feeding syringe, finger feeding, or bottle
 - E. Reassure the family that we will make sure the baby receives appropriate nourishment
 - F. Inform the nurse and the pediatric care provider about the problem
 - G. The goal is to get the baby to the breast eventually
 - 1. Time may resolve the problem
 - 2. Baby may need intervention
 - 3. The baby who is not sucking effectively, cannot at this moment in time, but may be able to in the near future
 - I. In the mean time
 - 1. Pump
 - 2. Feed the baby mother's milk
 - 3. Hold baby skin-to-skin
 - J. Before the mother is discharged from the hospitals
 - 1. Supply her with a list of places where she can rent an electric breast pump
 - 2. Refer to out-patient lactation services
 - 3. Be sure baby has an appointment to see the doctor the first day home

Discharge instruction for the family of a baby who is not sucking effectively

Hold the baby skin-to-skin as many hours per day as you possibly can.

- 1. Place your baby naked in only his diaper on your bare chest, upright between your breasts with shoulders touch your chest, the baby's head turned to the side, and his chin elevated.
- 2. Keep baby's back warm with the equivalent of 4 baby blankets (your bathrobe, your shirt, 2-3 yards of material tied around you, sheet, baby carrier, etc.)

Feed your baby at least 8 times in 24 hours. The estimated per feeding volumes are below.

- 1. Feed the baby with his cheek skin-to-skin on your bare chest.
- 2. Keep a record of the baby's intake and diapers.
- 3. Volume by age recommendations from the Academy of Breastfeeding Medicine

Feed 8+ times in 24 hours					
Age Intake in mL per feeding					
1 st 24 hours	2-10				
24-48 hours	5-15				
48-72 hours	15-30				
72-96 hours	30-60				

- Remove milk from your breasts with a pump and by hand expression.1. Check with your insurance company to find out what coverage you have for breastfeeding supplies.
 - 2. Rent a hospital-grade electric breast pump
 - 3. The phone number of the three closest pump rental locations are
 - a.
 - b.
 - c.
 - 4. Express your milk 8 to 10 times each 24 hours.
 - 5. Keep a record of the milk you express.

Resources in our community.

- 1. Lactation consultant
- 2. WIC breastfeeding helper
- 3. Home care nurse
- 4. Pediatrician's office
- 5. Breastfeeding mothers' groups
- 6. Phone numbers for breastfeeding helpers in our community
 - a.
 - b.
 - c.

Next appointment for your baby _____

Below are old guidelines from Memorial Hospital in Colorado Springs, Colorado. Has your hospital had guidelines about the non-latching baby or the baby who is ineffectively sucking since the 1990s? Does the hospital currently have guidelines about such babies? Do you think there is a need for guidelines such as below?

Guidelines for the baby who does not latch on or is not sucking effectively

0.04.11	24 40 11	40.11		
0-24 Hours	24-48 Hours	48 Hours until		
		breastfeeding		
For a baby with	In hospital attempt to breastfeed every 3 hrs.	Attempt to breastfeed		
good assessment,	If unsuccessful after 10 minutes, feed baby:	every 3 hours.		
no food is OK	Expressed breastmilk + sterile water = 5 to 15	If unsuccessful after 10		
	сс	minutes, feed baby:		
1. Periods of	Formula if no breastmilk is available			
awake and quiet		Expressed breastmilk =		
1	After discharge attempt to breastfeed every 3	15 to 30 cc or		
2. VS WNL	hours. If unsuccessful after 10 minutes, feed	Expressed breastmilk +		
	baby:	formula = 15 to 30 cc		
3. BS ≥ 40				
	Expressed breastmilk = 5 to 15 cc or	Use alternative feeding		
Attempt to	Expressed breastmilk + formula = 5 to 15 cc	method per pediatric		
breastfeed during		provider's preference:		
quiet, alert times or	Use alternative feeding method per pediatric	cup, spoon, finger feed,		
at least every 4	provider's preference: cup, spoon, finger feed,	slow flow nipple		
hours.	slow flow nipple	siow now mppie		
Have parent hold	Continue skin-to-skin contact	Continue skin-to-skin		
baby skin-to-skin	Continue skin-to-skin contact	contact		
Daby Skill-10-Skill	Continue quiet environment	contact		
Holp percents to	Continue quiet environment	Continuo quiot		
Help parents to	Continue numping 8 to 10 times in 24 hours	Continue quiet environment		
have a quiet	Continue pumping 8 to 10 times in 24 hours	environment		
environment				
10 041		Continue pumping 8 to		
18-24 hours—		10 times in 24 hours		
instruct mother in				
use of pump and				
teach hand				
expression				

References:

ILCA: *Evidence-Based Guidelines for Breastfeeding Management during the First Fourteen Days*, 1999 Riordan J, Auerbach KG: *Breastfeeding and Human Lactation*; Boston: Jones and Bartlett, 1999 Simpson KR, Creehan PA: AWHONN Perinatal Nursing. New York: Lippincott-Raven, 1996

Boston and Janoka 9/99

This policy is not researched based. They have been pleased with the policy and continue to use it today.

The Feeding Log below may be reproduced. The intended use is for the parents to record the baby's intake the first few days after discharge, and then bring the feeding log to the first doctor's appointment.

Today's Date:

Time	Amount pumped	Breastmilk Eaten	Formula Eaten	Wet	Soiled	Stool Color	Skin-to- Skin time
Midnight	pumped	Eaten	Eaten	Diapers	Diapers	Color	Skin unie
1 am							
2 am							
3 am							
4 am							
5 am							
6 am							
7am							
8 am							
9 am							
10 am							
11 am							
Noon							
1 pm							
2 pm							
3 pm							
4 pm							
5 pm							
6 pm							
7 pm							
8 pm							
9 pm							
10 pm							
11 pm							
TOTALS							

Today's successes:

The goal is to feed the baby and pump in less than one hour

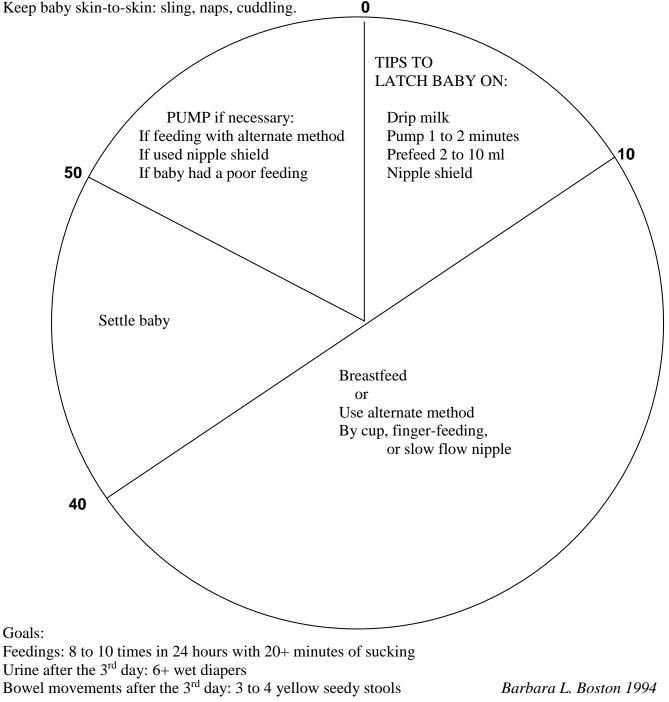
After the first 24 hours

Feed your baby every 2 to 3 hours:

Wake if necessary; spend less than 10 minutes with the baby at breast sucking ineffectively. Use an alternate feeding method to be sure the baby consumes enough milk.

Offer your breast whenever you see feeding cues.

Keep baby skin-to-skin: sling, naps, cuddling.



Bibliography

Ahluwalia IB, Morrow B, Hsia J: Why Do Women Stop Breastfeeding? Findings from the Pregnancy Risk Assessment and Monitoring System. Pediatrics 116(6):1408-1412, 2005

Ahmed AH. Role of the pediatric nurse practitioner in promoting breastfeeding for late preterm infants in primary care settings. J Pediatr Health Care. 24(2):116-22, 2010

Al-Sahab B, Lanes A, Feldman M, et al.: Prevalence and causes of early termination of breastfeeding in first-time mothers. BMC (BioMedCentral) Pediatrics 10:20, 2010

Bu'Lock F, Woolridge MW, Baum JD. Development of co-ordination of sucking, swallowing and breathing: ultrasound study of term and preterm infants. Dev Med Child Neurol 32:669-678, 1990

Cadwell K. Latching-on and suckling of the healthy term neonate: breastfeeding assessment. J Midwifery Womens Health. 52(6):638-642, 2007

Cakmak H¹, Kuguoglu S. Comparison of the breastfeeding patterns of mothers who delivered their babies per vagina and via cesarean section: an observational study using the LATCH breastfeeding charting system. Int J Nurs Stud. 44(7):1128-1137, 2007

Chiu S-H, Anderson GC, Burkhammer MD. Skin-to-skin contact for culturally diverse women having breastfeeding difficulties during early postpartum. Breastfeeding Medicine 3(4):231-237, 2008

Colson SD, Meek JH, Hawdon JM. Optimal positions for the release of primitive neonatal reflexes stimulating breastfeeding. Early Human Development, 84(7):441-449, 2008

Cottrell BH, Detman LA. Breastfeeding concerns and experiences of African American mothers. MCN Am J Matern Child Nurs. 38(5):297-304, 2013

Dann MH. The lactation consult: problem solving, teaching, and support for the breastfeeding family. J Pediatr Health Care. 19(1):12-16, 2005

Flood JL. Breastfeeding patterns in the rural community of Hilo, Hawai'i: an exploration of existing data sets. Hawaii J Med Public Health. 72(3):81-86, 2013

Garbarino F, Morniroli D, Ghirardi B, et al. [Prevalence and duration of breastfeeding during the first six months of life: factors affecting an early cessation]. Pediatr Med Chir. 35(5):217-222, 2013

Genna CW. Supporting Sucking Skills in Breastfeeding Infants (3rd edition). Sudbury, MA: Jones and Bartlett Learning, 2017

Hoover K: Latch-on difficulties: a clinical observation. Journal of Human Lactation 16(1):6, 2000

Hoover KL: Maternal obesity: problems of breastfeeding with large breasts. Women's Health Report: a dietetic practice group of the American Dietetic Association 6, 10, Winter 2008

Jensen D, Wallace S, Kelsay P. LATCH: A breastfeeding charting system and documentation tool. JOGNN 23, 27-32, 1994

Jevitt C¹, Hernandez I, Groër M. Lactation complicated by overweight and obesity: supporting the mother and newborn. J Midwifery Womens Health. 52(6):606-613, 2007

Kronborg H¹, Vaeth M. How are effective breastfeeding technique and pacifier use related to breastfeeding problems and breastfeeding duration? Birth. 36(1):34-42, 2009

Lawrence RA, Lawrence RM. Breastfeeding: A Guide for the Medical Profession (8th edition). Philadelphia: Elsevier, 2016

Lewallen LP¹, Dick MJ, Flowers J, et al. Breastfeeding support and early cessation. J Obstet Gynecol Neonatal Nurs. 35(2):166-172, 2006

McMillan JA (editor). Oski's Pediatrics: Principles and Practice 4th ed. Philadelphia: Lippincott, Williams, & Wilkins, 2006, p 382

Miller CK, Willging JP. The implications of upper-airway obstruction on successful infant feeding. Semin Speech Lang 28(3):190-203, 2007

Mulford C. The mother-baby assessment (MBA): an "apgar score" for breastfeeding. Journal of Human Lactation 8(2):79-82, 1992

Neifert MR. Breastmilk transfer: positioning, latch-on, and screening for problems in milk transfer. Clin Obstet Gynecol. 47(3):656-675, 2004

Puapornpong P, Raungrongmorakot K, Paritakul P, et al. Nipple length and its relation to success in breastfeeding. J Med Assoc Thai 96 Suppl 1:S1-4, 2013

Riordan J, Gill-Hopple K, Angeron J. Indicators of effective breastfeeding and estimates of breast milk intake. J Hum Lact 21(4):406-412, 2005

Sakalidis VS¹, Williams TM, Garbin CP, Hepworth AR, Hartmann PE, Paech MJ, Geddes DT. Ultrasound imaging of infant sucking dynamics during the establishment of lactation. J Hum Lact. 29(2):205-213, 2013

Stuebe AM, Horton BJ, Chetwynd E, et al. Prevalence and risk factors for early, undesired weaning attributed to lactation dysfunction. J Womens Health (Larchmt). 23(5):404-12, 2014

Taki M, Mizuno K, Murase M, et al. Maturational changes in the feeding behavior of infants-a comparison between breastfeeding and bottle-feeding. Acta Paediatr 99:61-67, 2010

Teich AS, Barnett J, Bonuck K. Women's perceptions of breastfeeding barriers in early postpartum period: a qualitative analysis nested in two randomized controlled trials. Breastfeed Med. 9(1):9-15, 2014

Vazirinejad R, Darakhshan S, Esmaeili A, et al.: The effect of maternal breast variations on neonatal weight gain in the first seven days of life. International Breastfeeding Journal Nov 2009

Wall V, Glass R. Mandibular asymmetry and breastfeeding problems: experience from 11 cases. J Hum Lact. 22(3):328-334, 2006

Wambach K, Riordan J. Breastfeeding and Human Lactation (5th edition). Boston, MA: Jones and Bartlett Learning, 2016Wilson-Clay B, Hoover K. The Breastfeeding Atlas (6th edition). Austin, TX: LactNews Press, 2017

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Band C: Breastfeeding an infant with an ulcerated hemangioma on the lip. Current Issues in Clinical Lactation 2000:68-71, 2000

Cotterman KJ: Reverse pressure softening: a simple tool to prepare areola for easier latching during engorgement. J Hum Lact 20(2):227-237, 2004 Glover J, Sandilands M: Supplementation of breastfeeding infants and weight loss in hospital. Journal of Human Lactation 6(1):11-14, 1990

Harm LS: In your words; not quite perfect. American Baby 63(2):58, 2001

Harris H: Remedial co-bathing for breastfeeding difficulties. Breastfeeding Review 2(10):465-468, 1994

Healow LK, Hugh RS: Oral aversion in the breastfed neonate. Breastfeeding Abstracts 20(1):3-4, 2000

Henrikson M: A policy for supplementary/complementary feedings for breastfed newborn infants. Journal of Human Lactation 6(1):11-14, 1990 Hoover K: Latch-on difficulties: a clinical observation. Journal of Human Lactation 16(1):6, 2000

Matthews MK: Assessments and suggested interventions to assist newborn breastfeeding behavior. Journal of Human Lactation 9(4):243-248, 1993 Meier P: Bottle and breastfeeding: Effects on transcutaneous oxygen pressure and temperature in preterm infants. Nursing Research 37(1):36-41, 1988 Meyer K, Anderson GC: Using Kangaroo Care in a clinical setting with fullterm infants having breastfeeding difficulties. MCN 24(4):190-192, 1999 Neifert M: Screening forms: aid to breastfeeding. Pediatric Management 24-27, July 1992

Newman J: Breastfeeding problems associated with the early introduction of bottle and pacifiers. Journal of Human Lactation 6(2):59-63, 1990 Ramsay M, Gisel EG: Neonatal sucking and maternal feeding practices. Developmental Medicine and Child Neurology 38:34-47, 1996 Righard L, Alade MO: Effect of delivery room routines on success of first breast-feed. Lancet 336(8723):1105-1107, 1990

Ross MW: Back to the breast: retraining infant suckling patterns. Lactation Consultant Series, Unit 15. La Leche League International, Garden City Park, NY: Avery Publishing Group, Inc., 1987

Sandberg DJ, Magee WP, Denk MJ: Neonatal cleft lip and cleft palate repair. AORN J 75(3):490-498, 2002

Stine MJ: Breastfeeding the premature newborn: a protocol without bottles. Journal of Human Lactation 6(4):167-170, 1990

Sullivan RM, Toubas P: Clinical usefulness of maternal odor in newborns: soothing and feeding preparatory responses. Biol Neonate 74:402-408, 1998 Svensson KE1, Velandia MI, Matthiesen AS, Welles-Nyström BL, Widström AM. Effects of mother-infant skin-to-skin contact on severe latch-on

problems in older infants: a randomized trial. Int Breastfeed J. 11;8(1):1, 2013

Titus K: When the fullterm newborn will not nurse. Journal of Human Lactation 4(1):12-14, 1988

Walker M: Breastfeeding the sleepy baby. Journal of Human Lactation 13(2):151-153, 1997

Walker M: Functional assessment of infant breastfeeding patterns. Birth 16(3):140-147, 1989

Walker M: Management of selected early breastfeeding problems seen in clinical practice. Birth 16(3):148-158, 1989

WiessingerD: A breastfeeding teaching tool using a sandwich analogy for latch-on. J Hum Latt 14(1):51-56, 1998

Laryngomalacia and Tracheomalacia

Behrman RE, Kliegman RM, Jenson HB: Nelson Textbook of Pediatrics (16th edition). Philadelphia: W.B.Saunders Company, 2000, pp. 1271-1272 Behrman RE, Kliegman RM: Nelson Essentials of Pediatrics (4th edition). Philadelphia: W.B.Saunders Company, 2002, pp. 351-533

Hoekelman RA (Editor-in-chief): Primary Pediatric Care. Philadelphia: Mosby, 2001, pp. 1268-1269, 1307

McMillan JA, DeAngelis CD, Feigin RD, Warshaw JB: Oski's Pediatrics (3rd edition). Philadelphia: Lippincott Williams & Wilkins, 1999, pp. 1232-1233 Zitelli BJ, Davis HW: Atlas of Pediatric Physical Diagnosis (4th edition). Philadelphia: Mosby, 2002, pp. 543-545, 862-863

Milk Volumes

Casey CE, Neifert MR, Seacat JM, Neville MC: Nutrient intake by breastfed infants during the first five days after birth. Am J Dis Child 140(9):933-936, 1986

Cregan MD, Mitoulas LR, Hartmann PE: Milk prolactin, feed volume, and duration between feeds in women breastfeeding their full-term infants over a 24-hour period. Exp Physiol 87(2):207-214, 2002

de Carvalho M, Robertson S, Merkatz R, Klaus M: Milk intake and frequency of feeding in breastfed infants. Early Hum Dev 7(2):155-163, 1982 Deem H, McGeorge M: Breastfeeding. New Zealand Medical Journal 57:539-556, 1958

Doganay M, Avsar F: Effects of labor time on secretion time and quantity of breast milk. Int J Gynecol Obstet 76(2):207-211, 2002

Evans KC, Evans RG, Royal R, Esterman AJ, James SL: Effect of caesarean section on breast milk transfer to the normal term newborn over the first week of life. Arch Dis Child Fetal Neonatal Ed 88(5):F380-F382, 2003

PD, Aldag JC, Chatterton RT, Zinaman M: Comparison of milk output between mothers of preterm and term infants: the first 6 weeks after birth. J Hill Hum Lact 21(1):22-30, 2005

Larkin T, Kiehn T, Murphy PK, Uhryniak J. Examining the use and outcomes of a new hospital-grade breast pump in exclusively pumping NICU mothers. Adv Neo Care 13(1): 75-82., 2013

Neville MC, Keller R, Seacat J, Lutes V, Neifert M, Casey C, Allen J, Archer P: Studies in human lactation: milk volumes in lactating women during the on set of lactation and full lactation. Am J Clin Nutr 48:1375-86, 1988

Neville M: Physiology of lactation in Wagner CL, Purohit DM (Guest Editors): Clinics in Perinatology: Clinical Aspects of Human Milk and Lactation 26(2) Philadelphia: WB Saunders Company, June 1999, pp. 251-279

Salazar G, Vio F, Garcia C, et al: Energy requirements in Chilean infants. Arch Dis Child 83(2):F120-F123, 2000

Santoro W Jr, Martinez FE, Ricco RG, et al.: Colostrum ingested during the first day of life by exclusively breastfed healthy newborn infants. J Pediatr 156(1):29-32, 2010

Scanlon KS, Alexander MP, Serdula MK, et al.: Assessment of infant feeding: the validity of measuring milk intake. Nutrition Reviews 60(8):235-251, 2002

Scammon RE, Doyle LO: Observations on the capacity of the stomach in the first ten days of postnatal life. American Journal of Diseases of Children 20:516-538, 1920

Smith L: How to supplement a supposedly breastfed baby. J Hum Lact 14(2):145-146, 1998

Stellwagen LM, Hubbard E, Wolf A: The late preterm infant: a little baby with big needs. Contemporary Pediatrics Nov, 2007

Stettler N, Stallings VA, Troxel AB, et al.: Weight gain in the first week of life and overweight in adulthood. Circulation 111:1897-1903, 2005

Villalpando S, Flores-Huerta S, López-Alarcón M, Cisneros-Silva I: Social and biological determinants of lactation. Food and Nutrition Bulletin 17(4):328-335, 1996

Ankyloglossia

- ABM Clinical Protocol #11: Guidelines for the evaluation and management of neonatal ankyloglossia and its complications in the breastfeeding dyad. ABM News and Views 11(1):6-8, 2005 www.bfmed.org
- Amir LH, James JP, Beatty J: Review of tongue-tie release at a tertiary maternity hospital. J Paediatr Child Health 41(5-6):243-245, 2005

Amir LH, James JP, Donath SM: Reliability of the Hazelbaker assessment tool for lingual frenulum function. International Breastfeeding Journal, March 2006

Amir LH, James JP, Kelso G, Moorhead AM. Accreditation of midwife lactation consultants to perform infant tongue-tie release. Int J Nurs Pract 17(6):541-7, 2011

Ballard JL, Auer CE, Khoury JC: Ankyloglossia: Assessment, incidence, and effect of frenuloplasty on the breastfeeding dyad. Pediatrics 110(5):e63, 2002

Berg KL: Tongue-Tie (ankyloglossia) and breastfeeding: a review. Journal of Human Lactation 6(3):109-112, 1990

Berg KL: Two cases of tongue-tie and breastfeeding. Journal of Human Lactation 6(3):124-126, 1990

Breward S. Tongue tie and breastfeeding: assessing and overcoming the difficulties. Community Pract 79(9):298-299, 2006

Buryk M, Bloom D, Shope T. Efficacy of neonatal release of ankyloglossia: a randomized trial. Pediatrics 128(2):280-8, 2011

Carmen Fernando: Tongue-Tie: From Confusion to Clarity. Tandem Publications, 28 Macnamara Ave, Concord NSW 2137, Sydney, Australia, 1999 Cho A, Kelsberg G, Safranek S. Clinical inquiries. When should you treat tongue-tie in a newborn? J Fam Pract 59(12):712a-b, 2010

Chu MW, Bloom DC: Posterior ankyloglossia: a case report. International Journal of Pediatric Otorhinolaryngology, 2009

Connolly PK: Ankyloglossia and Breastfeeding. Presented as a poster session at the American Society of Pediatric Otolaryngology meeting, Scottsdale, AZ, May 14-16, 1997

Coryllos E, Genna CW, Salloum AC: Congential tongue-tie and its impact on breastfeeding. AAP Breastfeeding: Best for Baby and Mother 1-6, Summer 2004

Crippa R, Paglia M, Ferrante F, et al. Tongue-tie assessment: clinical aspects and a new diode laser technique for its management. Eur J Paediatr Dent. 17(3):220-222, 2016

Dollberg S, Botzer E, Grunis E, Mimouni FB: Immediate nipple pain relief after frenotomy in breastfed infants with ankyloglossia: a randomized, prospective study. J Pediatr Surg 41(9):1598-1600, 2006

Edmunds J, Hazelbaker A, Murphy J, Philipp BL: Tongue-tie. J Hum Lact 28(1):14-17, 2012

Fleiss PM, et al.: Ankyloglossia: a cause of breastfeeding problems? J Human Lact 6(3):128-129, 1990

Forlenza GP, Paradise Black NM, McNamara EG, et al.: Ankyloglossia, exclusive breastfeeding, and failure to thrive. Pediatrics 125(6):e1500-1504, 2010 Geddes DT, Langton DB, Gollow I, et al.: Frenulotomy for breastfeeding infants with ankyloglossia: effect on milk removal and sucking mechanism as imaged by ultrasound. Pediatrics 122(1):e188-194, 2008

Genna CW: Supporting Sucking Skills in Breastfeeding Infants (2nd Edition). Boston: Jones and Bartlett Publishers, 2012

Good ME: Breastfeeding and the short frenulum. Journal of Human Lactation 3(4):154-156, 1987

Griffiths DM: Do tongue ties affect breastfeeding? J Hum Lact 20(4):409-414, 2004

Hall DMB, Renfrew MJ: Common problem or old wives' tale? Arch Dis Child 90:1211-1215, 2005

Hazelbaker AK: The Assessment Tool for Lingual Frenulum Function: Use in a Lactation Consultant Private Practice. Columbus, OH: Alison Kay Hazelbaker, 1993

Hazelbaker AK: Newborn tongue-tie and breastfeeding. J Am Board Fam Pract 18(4):326-327, 2005

Hogan M, Westcott C, Griffiths M: Randomized, controlled trial of division of tongue-tie in infants with feeding problems. Journal of Paediatrics and Child Health 41(5-6):246-250, 2005

Hong P, Lago D, Seargeant J, et al.: Defining ankyloglossia: A case series of anterior and posterior tongue ties. Int J Pediatr Otorhinolaryngol 74(9):1003-1006, 2010

Huggins K: Ankyloglossia-one lactation consultant's personal experience. Journal of Human Lactation 6(3):123-124, 1990

Jackson R. Improving breastfeeding outcomes: the impact of tongue-tie. Community Pract 85(6):42-4, 2012

Khoo AK, Dabbas N, Sudhakaran N, et al.: Nipple pain at presentation predicts success of tongue-tie division for breastfeeding problems. Eur J Pediatr Surg 19(6):370-373, 2009

Knox I: Tongue tie and frenotomy in the breastfeeding newborn. Neo Reviews 11(9):e513-e519, 2010

Kotlow LA. Diagnosing and understanding the maxillary lip-tie (superior labial, the maxillary labial frenum) as it relates to breastfeeding. J Hum Lact 29(4):458-64, 2013

Kotlow L. Diagnosis and treatment of ankyloglossia and tied maxillary fraenum in infants using Er:YAG and 1064 diode lasers. Eur Arch Paediatr Dent 12(2):106-12, 2011

Kumar M, Kalke E. Tongue-tie, breastfeeding difficulties and the role of Frenotomy. Acta Paediatr 101(7):687-9, 2012

LaLakea M, Messner A: Ankyloglossia: does it matter? Pediatric Clinics of North America 50(2):381-387, 2003

LaLakea M, Messner A: Ankyloglossia: the adolescent and adult perspective. Otolaryngol Head Neck Surg 128(5):746-752, 2003

Madlon-Kay DJ, Ricke LA, Baker NJ, Defor TA: Case series of 148 tongue-tied newborn babies evaluated with the assessment tool for lingual frenulum function. Midwifery Feb 2, 2007

Marmet C, Shell E, Marmet R: Neonatal frenotomy may be necessary to correct breastfeeding problems. Journal of Human Lactation 6(3):117-121, 1990 Martin MS, Schwartz RH: Tackling ankyloglossia in the office. Contemporary Pediatrics 25(1):59-64, 2008

Masaitis NS, Kaempf JW: Developing a frenotomy policy at one medical center: a case study approach. Journal of Human Lactation 12(3):229-232, 1996 Merdad H, Mascarenhas AK. Ankyloglossia may cause breastfeeding, tongue mobility, and speech difficulties, with inconclusive results on treatment choices. J Evid Based Dent Pract 10(3):152-3, 2010

Messner AH, Lalakea ML, Aby J, Macmahon J, Bair E: Ankyloglossia: Incidence and associated feeding difficulties. Arch Otolaryngol Head Neck Surg 126:36-39, 2000

Messner AH, Lalakea ML: The effect of ankyloglossia on speech in children. Otolaryngol Head Neck Sug 127(6):539-545, 2002

Messner AH, Lalakea ML: Ankyloglossia: controversies in management. Int J Pediatr Otorhinolaryngol 54(2-3):123-131, 2000

Naimer SA, Biton A, Vardy D, Zvulunov A: Office treatment of congenital ankyloglossia. Med Sci Monit 10:CR432-5, 2003

Neifert MR: Clinical aspects of lactation: promoting breastfeeding success. in Wagner CL, Purohit DM (Guest Editors): Clinics in Perinatology: Clinical Aspects of Human Milk and Lactation 26(2): 297-298, Philadelphia: WB Saunders Company, June 1999

Notestine GE: The importance of the identification of ankyloglossia (short lingual frenulum) as a cause of breastfeeding problems. Journal of Human Lactation 6(3):113-115, 1990

Opara PI, Gabriel-Job N, Opara KO. Neonates presenting with severe complications of frenotomy: a case series. J Med Case Rep 6;6(1):77, 2012

Olivi G, Signore A, Olivi M, Genovese MD. Lingual frenectomy: functional evaluation and new therapeutical approach. European Journal of Paediatric Dentistry 13(2):101-106, 2012

Powers NG: Slow weight gain and low milk supply in the breastfeeding dyad. in Wagner CL, Purohit DM (Guest Editors): Clinics in Perinatology: Clinical Aspects of Human Milk and Lactation 26(2): 416, Philadelphia: WB Saunders Company, June 1999

Ricke LA, Madlon-Kay DJ, Baker NJ, et al.: Newborn tongue-tie: incidence and effect on breastfeeding. ABM News and Views 10(S):27, 2004

Ricke LA, Baker NJ, Madlon-Kay DJ, DeFor TA: Newborn tongue-tie: prevalence and effect on breastfeeding. J Am Board Fam Pract 18(1):1-7, 2005 Srinivasan A, Feldman P: Ankyloglossia in breastfeeding infants: new and existing evidence about frenotomy and maternal nipple pain. Chicago, IL:

Breaking the barriers to breastfeeding: research, policy and practice. ILCA 20th International Conference, July 10, 2005

Srinivasan A, Dobrich C, Mitnick H, Feldman P: Ankyloglossia in breastfeeding infants: the effects of frenotomy on maternal nipple pain and latch. Journal of Breastfeeding Medicine 1(4):216-224, 2006

Steehler MW, Steehler MK, Harley EH. A retrospective review of frenotomy in neonates and infants with feeding difficulties. Int J Pediatr Otorhinolaryngol 76(9):1236-40, 2012

Suter V. Frenotomy improves breastfeeding immediately in neonates with ankyloglossia. J Pediatrb160(1):176-7, 2012

Wakhanrittee J, Khorana J, Kiatipunsodsai S. The outcomes of a frenulotomy on breastfeeding infants followed up for 3 months at Thammasat University Hospital. Pediatr Surg Int 32(10):945-952, 2016

Wallace H, Clarke S: Tongue tie division in infants with breastfeeding difficulties. International Journal of Pediatric Otorhinolaryngolgy. 70(7):1257-1261, 2006

Ward N: Ankyloglossia: a case study in which clipping was not necessary. Journal of Human Lactation 6(3):126-127, 1990 Wilton JM: Sore nipples and slow weight gain related to a short frenulum. Journal of Human Lactation 6(3):122-123, 1990

Wiessinger D, Miller M: Breastfeeding difficulties as a result of tight lingual and labial frena: a case report. Journal of Human Lactation 11(4):313-316, 1995

Wilson-Clay B, Hoover K: The Breastfeeding Atlas (6th edition). Manchaca, TX: LactNews Press, 2017

Yeh ML: Outpatient division of tongue-tie without anesthesia in infants and children. World J Pediatr 4(2):106-108, 2008

Cup Feeding

Davis HV, et al: Effects of cup, bottle and breastfeeding on oral activities of newborn infants. Pediatrics 2:549-558, 1948

Dowling DA, Meier PP, DiFiore JM, et al: Cup-feeding for preterm infants: Mechanics and safety. J Hum Lact 18(1):13-20, 2002

Dowling DA, Thanattherakul W: Nipple confusion, altern tive feeding methods, and breastfeeding supplementation: State of the science. Newborn and Infant Nursing Reviews 1(4)217-223, 2001

Fredeen RC: Cup feeding of newborn infants. Pediatrics 2:544-548, 1948

Howard C, de Blieck EA, ten Hoopen CB, Howard FM, Lanphear BP, Lawrence RA: Physiologic stability of newborns during cup and bottle-feeding. Pediatrics (Supplement) 104(5):1204-1207, 1999

Howard CR, Howard FM, Lanphear B, et al.: Randomized clinical trial of pacifier use and bottle-feeding or cupfeeding and their effect on breastfeeding. Pediatrics 111(3):511-518, 2003

Kuehl J: Cup feeding the newborn: what you should know. J of Perinatal and Neonatal Nursing 11(2):56-60, 1997

Lang S, Lawrence CJ, L'E Orme R: Cup feeding: An alternative method of infant feeding. Arch of Dis Child 71:365-369, 1994

Malhotra N, Vishwimbaran L, Sundaram KR, Narayanan I: A controlled trial of alternative methods of oral feeding in neonates. Early Human Development 54:29-38, 1999

Marinelli KA, Burke GS, Dodd VL: A comparison of the safety of cupfeedings and bottlefeedings in premature infants whose mothers intend to breastfeed. J Perinatol 21(6):350-355, 2001

Spoon-Feeding

ACOG: Breastfeeding: Maternal and Infant Aspects. ACOG Clinical Review 12(1) (Supplement)1S-16S, 2007

Hoover K: Supplementation of the newborn by spoon in the first 24 hours. Journal of Human Lactation 14(3):245, 1998

Kumar A, Dabas P, Singh B: Spoon feeding results in early hospital discharge of low birth weight babies. J Perinatol Aug 27 2009

Ramji S: Enteral feeding of low birth weight infants. Indian J Pediatr 69(5):401-404, 2002

Nipple Shields

Auerbach K: The effect of nipple shields on maternal milk volume. JOGNN 19(5):419-427, 1990

Bodley V, Powers D: Long-term nipple shield use - a positive perspective. J Hum Lact 12(4):301-304, 1996

Brigham M: Mothers' reports of the outcome of nipple shield use. J Hum Lact 12(4):291-297, 1996

Chertok IR. Reexamination of ultra-thin nipple shield use, infant growth and maternal satisfaction. J Clin Nurs. 18(21):2949-55, 2009

Chertok IR, Schneider J, Blackburn S. A pilot study of maternal and term infant outcomes associated with ultrathin nipple shield use. J Obstet Gynecol Neonatal Nurs. 35(2):265-72, 2006

Clum D, Primomo: Use of a silicone nipple shield with premature infants. J Hum Lact 12(4):287-290, 1996

Eglash A, Ziemer AL, Chevalier A. Health professionals' attitudes and use of nipple shields for breastfeeding women. Breastfeed Med. 5(4):147-51, 2010 Elliot C: Using a silicone nipple shield to assist a baby unable to latch. J Hum Lact 12(4):309-313, 1996

Frantz K: Breastfeeding Product Guide. Sunland, CA: Geddes Productions, 1994, pp. 50-60

Hanna S, Wilson M, Norwood S. A description of breast-feeding outcomes among U.S. mothers using nipple shields. Midwifery. 29(6):616-621, 2013 McKechnie AC, Eglash A. Nipple shields: a review of the literature. Breastfeed Med. 5(6):309-314, 2010

Meier PP, Brown LP, Hurst NM, Spatz D, Engstrom JL, Borucki LC, Krouse AM: Nipple shields for preterm infants: effect on milk transfer and duration of breastfeeding. J Hum Lact 16(2):106-114, 2000

Nicholson WL: The use of nipple shields by breastfeeding women. Aust Coll Midwives Inc J 6(2):18-24, 1993

Sealy C: Rethinking the use of nipple shields. J Hum Lact 12(4):299-300, 1996

Wilson-Clay B: Clinical use of silicone nipple shields. J Hum Lact 12(4):279-285, 1996

Wilson-Clay B: Nipple shields in clinical practice: a review. Breastfeeding Abstracts 22(2):11-12, 2003

Woolridge MW, Baum JD, Drewett RF: Effect of a traditional and of a new nipple shield on sucking patterns and milk flow. Early Human Development 357-364, 1980

Supplementation Policy

Academy of Breastfeeding Medicine Clinical Protocol #3: Hospital Guidelines for the Use of Supplementary Feedings in the Healthy Term Breastfed Neonate, Revised 2009