



Tools of the Trade

Devices to Support Breastfeeding

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St Luke's Nampa

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Objectives

- Use critical thinking skills to develop solutions to maintain breastfeeding when supplementation is required
- List indications/directions of tools
- List advantages/disadvantages of tools
- List comparative research when available



Disclosure



- I have no financial or any other interest in any of the products mentioned in this presentation.

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Introductions

- Personal breastfeeding experience
- Work breastfeeding experience

Hannah Case Study

- 2 hr old 9lb term LGA baby
- ac blood sugar 45
- Latched on one side within 1st hour of birth
- Temp low
- Sleepy at breast now



Solutions

- Skin to skin
- hand express colostrum
- **TOOL=clean plastic spoon**
- Advantage- useful when small amounts are needed, low tech, easy to teach to parent
- Disadvantage-too time consuming with larger amounts, may be difficult to have exact measurement of amount in different sized spoon



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Directions

- rest spoon lightly on Hannah's lower lip and tilt it so the milk touches lips
- slowly drip milk into Hannah's mouth or allow her to sip or lap it as she prefers
- allow her time to swallow, refill the spoon and repeat

Phoenix Case Study

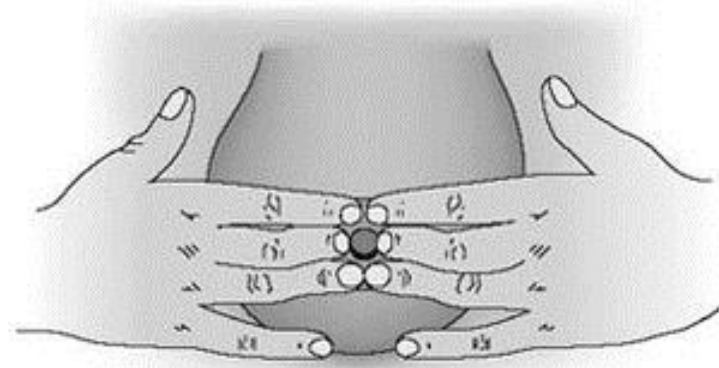


- 6 hr old AGA, latched off/on at birth
- Phoenix sleepy now
- not latching for last 5hr
- will suck strongly on gloved finger
- Mom's had 36hr labor, with 24hrs with IV and Pitocin
- nipples are flattened/ areolas puffy, baby not maintaining latch now

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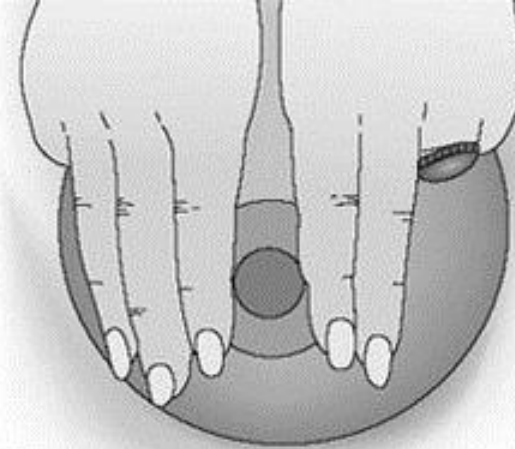
Solution

- Reverse pressure softening (RPS) to soften edematous nipples
- **TOOL= hands**
- Advantage- free, readily available
- Disadvantage-moms need to feel comfortable handling own breasts, takes time (1-3min and then repeat)



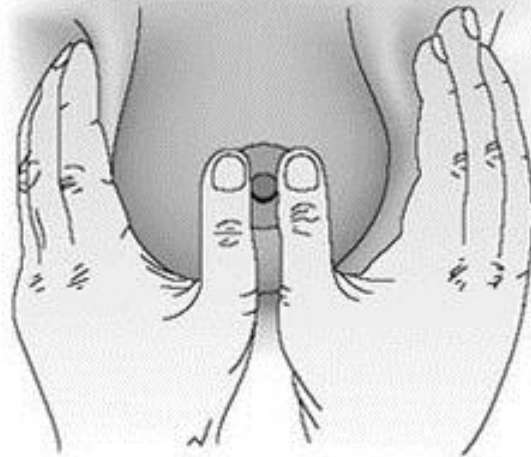
Two handed method

Using two or three fingers on each side, with short fingernails, keep your fingertips curved.



Two handed, two-step method

With your first knuckles touching the nipple, use a few fingers on each side. Move a quarter-turn and repeat.



Two thumbs, two-step method

Use two thumbs, keeping the base of the thumbnail even with the nipple. Move a quarter turn, and repeat above and below the nipple.

diagrams by Kyle Cotterman

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Resources

- handout
- also works well with engorged breasts
- Source K Jean Cotterman RNC E IBCLC

Nipple Shields



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Choosing the correct size of the nipple shield

First consider the size of babies mouth.
Then consider the size of nipples.

16mm preterm SGA

20mm term babies

24mm LGA or older infant

Nipple shields

Advantages

Encourages baby to feed at the breast

Allows a weak baby to maintain suction at the breast

Newer silicon shields allow full flow of milk

Disadvantages:

Barrier between mother and baby

Less stimulation to the breast

Baby may get used to the shield

Too easy to use incorrectly and can damage nipple

Older rubber shields resulted in minimal milk transfer

Directions

Wash and rinse nipple shield in hot soapy water before and after use.

Turn nipple shield inside out halfway.

Place the nipple shield over the breast with the nipple centered inside the nipple portion.

Flip the nipple shield right side out, enclosing as much of the nipple as possible.

Tickle infant's lips with nipple until opens wide, then quickly pull infant onto the nipple shield, so infant takes as much of the nipple as possible into his mouth.

For pre-term infants, use nipple shield until the infant is able to latch, breastfeed and gain weight without the shield.

Preterm infants are not developmentally able to exclusively breastfeed until they are closer to their due date.





New Research

Original research 2016

Maternal and Child Nutrition

Why do mothers use nipple shields and how does this influence duration of exclusive breastfeeding

Denmark study of 4815 mothers

- 22% used nipple shields in beginning
- 7% used for all of breastfeeding

Review article 2015

Frontiers of Public Health

The use of nipple shields: a review

- Physiologic response
- Premature infants response
- Maternal experience
- Health professional experience



Mason Case Study

- 36 weeks
- 10hr old, in NICU with R/O sepsis
- Blood glucose 47
- 1st time parents
- Mom has pumped 8ml

Syringe and NG-Lactation Aid



Directions

- Draw milk into the 10ml syringe and attach #5 feeding tube
- Can tape tube to mom's breast and latch baby OR
- Latch baby and then slip tube in corner of baby's mouth
- Watch for plunger to be depressed as baby's suck
- May have to start flow-
- WATCH baby carefully and stop for respiratory pauses
- STOP with signs of distress
 - Finger splaying
 - Distressed expression

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Advantages and Disadvantages

- Inexpensive
- Can provide reward for sucking
- Non-standard materials
- “blind” insertion
- Frequent readjustment
- Short term

Lact-aid Nursing Trainer



Advantages

- Very discreet under clothing
- Long term use

Disadvantages

- \$60
- Works only with competent baby to create negative pressure
- Extra cost of disposable bags
- Complex set up

Medela Nursing Supplementer

Pros

Two tubes so can ready to go for both sides and/or used with twins

Long term use

Cons

\$60

Complex set up

Dependent on gravity

Baby needs to provide some negative pressure



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Joseph Case Study

- 2 weeks old, was born at 35 weeks
- Joseph was fed bottles in NICU due to hypoglycemia and sleepy at breast, mom available for latch x1 per day in hospital
- Mom has 3 other children that were term, they are 2,4 and 6yo and was not able to room in with baby
- Mom pumping 3 oz. and bottle feeding at home
- Mom wants to breastfeed baby –has grandmother helping with older children
- Joseph refusing to latch



Solution

May need to start to introduce breast after bottle-feeding- skin to skin, bathe together

Try nipple shield to transition from bottle to breast

Can try finger sucking and then latch

May need to drip milk over breast as baby “flow spoiled”

Maria Case Study



- Baby Maria is 4 weeks old exclusively breastfeeding
- Mom is returning to work outside home at 6 weeks
- Maria is refusing to take bottle

Solution



SIMPLE method to pick bottle/nipple

Amy Peterson BS, IBCLC

- S=select nipple
- I=Interest the baby
- M=maintain wide latch
- P=position of tongue
- L=lips
- E=effortless swallow



Recommended bottles

Gerber Comfort Latch

Evenflo Ultra and Elite

Playtex NaturaLatch

Nipples that do NOT recommended

Avent

Dr. Brown's

Playtex Natural Action Nipple

Any orthodontic nipple, including the one included in Medela products

The standard nipples provided at hospital nurseries

Source lowmilksupply.org

Diana West BA, IBCLC and Lisa Marasco MA, IBCLC

Solutions

Change feeding positions

- baby leans back in adult lap
- baby facing adult, away
- side lying

Change environment

- baby swing
- car seat
- outside if temp compatible

Change time

- 30min after breastfeeding
- right after nap when still groggy
- middle of night

Directions- paced bottle feeding

- Unswaddle baby- baby hands free so can participate
- Eye contact, mom's voice
- Start to touch bottle to baby's lips, try no fluid in bottle nipple at first as baby is waiting for mom's milk
- Can have baby laying down in lap similar to latch
- Don't force baby to finish by twisting or pushing down to empty



Paced bottle feeding

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Paced bottle feeding

Advantages

Cue based or infant led feeding

Discourage baby “guzzling” bottle too fast and getting “flow spoiled”

Minimize colic-like symptoms from baby sucking in air with too fast flow

Potentially decreases risk of obesity


Less breastfeeding refusal

Disadvantages

May take longer time

May need to be bottle-fed more frequently, similar to frequent latching

Needs to be taught to all who are planning on bottle feeding baby



If you are using powdered formula, water 70C/158F boiling then cool for no more than 30min before mixing with powder, if not risk E. sakazakii (greatest risk is less than 28 days old or preterm).

WHO recommendation

Liquid formula is sterile and recommended



QUESTIONS



References

Books

Balancing Breast and Bottle Peterson, A and Hammer, MA (2010)

Breastfeeding Made Simple Mohrbacher N. (2010)

Breastfeeding Mother's Guide to Making More Milk West, D and Marasco (2008)

Selecting and Using Breastfeeding Tools Genna, Catherine (2009)

Articles

Spoon Feeding

Kumar, A et al (2010) Spoon feeding results in early hospital discharge of low birth weight babies. *Journal of Perinatology*, 30(3), 209-217.

Reverse Pressure Softening

Cotterman, J A (2016) Simple tool to Prepare Areola for Easier Latching During Engorgement. *Journal of Human Lactation* Vol 20, Issue 2, 227-237



References

Nipple Shields

Chow, et al (2015) The use of nipple shields: A Review. *Frontiers in Public Health* 3, 236

Kronborg, H et al (2017) Why do mothers use nipple shields and how does this influence duration of exclusive breastfeeding? *Maternal Child Nutrition*, 13 e1225.

Meier, et al (2000) Nipples shields for preterm infants: effects of milk transfer and duration of breastfeeding. *Journal of Human Lactation*, 16, 106-114.

Paced bottle feeding

Magadia et al (2012) Risk of Bottle-feeding for Rapid weight gain during the 1st Year of life. *Arch Pediatr Adolesc Med*. 166(5) 431-436.



References

Lactation Aids

Borucki et al, (2005) Breastfeeding mothers' experiences using a supplemental feeding tube device: finding an alternative. *Journal of Human Lactation*, 2(14) 429-438.

Kellons et al (2017) Academy of Breastfeeding Medicine Clinical protocol #3 Supplementation feedings in the Full Term healthy neonate *Breastfeeding Medicine* 12(3).

Stellwagen et al (2007) The Late preterm infant: A little baby with big needs. *Contemporary Pediatrics* 24(1), 51-59.

Hand expression

Flaherman et al (2013) "Breastfeeding" by feeding expressed mother's milk. *Pediatric Clinics of North America*. 60(1), 227-246.

Morton et al (2009) Combining hand expression with electric pumping increases milk production in mothers of preterm infants. *Journal of Perinatology*, 29(11) 757-764.

Videos

hand expression

<https://med.stanford.edu/newborns/professional-education/breastfeeding/breastfeeding-in-the-first-hour.html>

<http://bfmedneo.com/our-services/breast-massage/>

Paced bottle feeding

<https://www.youtube.com/watch?v=ZmlmRyuJBcc> Amy Peterson Evenflow TruVent

<https://www.youtube.com/watch?v=UH4T70OSzGs&feature=youtu.be>

<https://www.youtube.com/watch?v=TuZXD1hIW8Q> Dr Brown bottle

<https://www.youtube.com/watch?v=dxplzcitLc8> Breastfeeding Resource Center
Medela bottle