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A Fresh Look, A Mother-centric Approach to Reduce Early Breastfeeding Cessation Part II, A Sensible Solution or a Hard Sell?



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In order to obtain nursing contact hours, you must attend the entire program and complete the evaluation form

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Part II, A Sensible Solution or a Hard Sell? *OUTLINE*

- Who's at risk for early cessation?
- The science on hand expression:
- A proposed solution

Who Is At-Risk?

Mothers at risk for insufficient production (B)

Maternal-infant separation (cesarean births) Maternal-infant separation

Breast surgery/anomalies

□ Attachment issues (latch and milk transfer)

Infants at risk for insufficient caloric intake (C) Infants with compromised reserves

- □preterm infants (LPT ★ VLBW) □postmature infants
- □Infants with increased demands □Infants of diabetic mothers, SGA infants
 - □High bilirubin producers

Cesarean Births

- 1st hr feeds, only 3.5% cesarean vs. 71.5% vaginal
 - Less intake when colostrum most available (1st hrs.)
 - Less stimulation of production \rightarrow delayed lactogenesis
 - Greater weight loss evident by 6 hrs.
 - 25% cesarean vs.10% vaginal develop ≥10% wt loss Flaherman 2015, Preer GL, 2012; Fonseca MJ, 2014, Zanardo V, 2010
- Formula by discharge 2X higher (25% vs. 11%)
- Lower bfeeding rates at 7 days, 3 mo, and 6 mo. Prior E, 2012 , Zanardo V, 2010
- Less milk transfer over first 6 days Evans KC, 2003

Why do healthy Cesarean babies lose more weight? Less breastmilk intake over the first 6 days K C Evans, Arch Dis Child Fetal Neonatal Ed 2003

Delayed first feed:
75 vs. 41 min.
Abbreviated 1st feed
15 vs 18 min
Same feeding frequency, but shorter feeds
20% of cesarean vs. 40% vaginal births regained birth wt. by day 6
Zhang F. Breastfeeding Medicine 2019





Breastfeeding in the O.R. supported

First hour breastfeeding for all, including cesarean births

- · N=565 cesarean births, military hospital in India
- Higher rates of exclusive breastfeeding than with usual hospital care at:
 - discharge (89.13% vs. 75.94%, p=0.004)
 - 2 weeks (85.51% vs. 53.38%, p<0.001)
 - 6 weeks (74.64% vs. 38.35%, p<0.001).
- This single intervention significantly improves rates of exclusive breastfeeding.

Jesmin E, 2015

Cesarean birth and Breast Crawl

Heidarzadeh M. Breastfeeding Med. 2016. Aug

- Term, unmedicated NSVD (n=292), and cesarean deliveries (n=107), given 60 min. to simply attach (not feed) with no assistance
- Roughly 75% complete
- **11%** cesarean vs. **88%** term infants complete breast crawl when placed skin-to-skin immediately after birth.
- **Conclusion:** Encouraging unassisted breast crawl in all dyads, especially in cesarean births, may unduly delay the infant's first breastfeed.

- Many healthy infants placed skin to skin immediately after birth fail to complete the "breast crawl" and consume colostrum. 3 risk factors:
 - Surgical delivery
 - 11.21% cesarean vs. 88.01% vaginal term, healthy infants Heidarzadeh M. 2016.
 - Drugs/Induction
 - 31% induced vs. 57% spontaneous vaginal births. Cadwell K. 2018
 - Intrapartum synthetic oxytocin and epidural fentanyl reduced 1st hr. suckling. Brimdyr K 2015

Gestational age: Early term and LPT

Why are LPT at Risk?

23.5%

• Drop off by 1 month in primiparous mothers: *

– Term:

- Early term (37-<39wk): 27.4%
- LPT (34-36+wk): 36.2%
- LPT infant breastfeeding rates not impacted by Babyfriendly practices (1st hr. skin-to-skin, rooming-in, no pacifiers) **
- LPT and Early term births less likely to feed in first hour
 *Hackman NM, Breastfeeding Medicine 2016
 **Goyal NK. Birth 2014, Eidelman A. 2016, Breastfeeding Medicine, editorial 10(3) 2016

LPT infant, the "at-risk" poster child

- LPT babies are immature in multiple ways. They cannot be expected to behave like term babies.
- Immature thermoregulation \rightarrow hypothermia
- Immature glucose generating pathways \rightarrow hypoglycemia
- Immature processing of bilirubin \rightarrow hyperbilirubinemia
- Immature breastfeeding skills
 "THE GREAT PRETENDERS"

Bilirubin encephalopathy



LPT babies, the "great pretenders"

- Passive, sleepy, "content to starve"
- Ineffective milk removal
- Short sucking bursts
- Long, frequent pauses
- Unending feeds
- Infrequent swallows
- Anorexia, easy to confuse with satiety

No amount of B-F skin-to-skin and unrestricted breastfeeding reduce insufficient production and suboptimal intake when infants fail to access sufficient colostrum or stimulate an adequate supply.

Underfeeding

"suboptimal intake jaundice" Flaherman VJ, Maisels MJ. ABM Protocol #22, 2017

• With the exception of infants with pathologic conditions...the single most important clinical risk factor for hyperbilirubinemia in newborns is decreasing gestational age. For each week of gestation below 40 weeks, the odds of developing a TSB ±428 lmol/L (25 mg/dL) increase by a factor of 1.7 (95% Cl 1.4-2.5)

High bilirubin producers

Bhutani VK. J Perinatology 2015

- Assessed ETCOc, (corrected end-tidal carbon monoxide, high with production) with hr-specific TB.
- Impaired elimination was predominant contributing factor in infants with TB <95th percentile, many of whom are low-bilirubin producers.
- Better bilirubin elimination may account for the lack of severe hyperbilirubinemia in some high bilirubin producers (i.e. high colostrum/breastmilk intake can reduce bilirubin even in high bilirubin producers)

"suboptimal intake jaundice" Flaherman VJ, Maisels MJ. ABM Protocol #22, 2017

- "First and best supplement to prevent hyperbilirubinema is hand expressed spoon/cup-fed colostrum ...In this way, breastfeeding is best supported."
- Would hand expression spoon/cup-fed colostrum prevent excessive weight loss?

WEIGHT LOSS Liberal hand expressed spoon feeding

Bertini G 2015

- 1760 "natural births" with 1st hr. feeds
- Low threshold for handexpressed spoon feeds
- Weight loss 5.95%
- Nadir at 44 hr.
- Zero % with 10% weight loss (3.9% lost~9%)

Flaherman VJ 2015

- 83,433 vaginal "routine care"
- · Rarely used hand expressed spoon feeds
- Weight loss 7.1%
- Nadir at 48-72 hr.
- 10% with 10% weight loss





Why Spoons \rightarrow Cup may be best?

Plastic spoons: no risk, no cost, reusable, readily available, convenient for both collection and delivery of small volumes of colostrum. Not viewed as a "medical intervention", requires minimal to no training of parents or staff, is safe, effective...and studied. N=607 LPT infants randomized to cup vs bottle feeding (299 vs 308)

No difference in weight gain, feeding times & length of hospital stay in spoon/cup-fed vs. bottle–fed infants. Cup feeding is associated with a protective effect on any & exclusive breastfeeding at discharge, 3 and 6 months.

Yilmaz G JHL 2014

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HAND EXPRESSION vs. PUMPING of colostrum is:

- 1. More comfortable Flaherman VJ, 2010
- 2. \uparrow bf rates by 25% at 2 mos. Flaherman VJ, 2010
- 3. Higher fat and caloric content Mangel L, 2015
- 4. Same or increased volume Ohyama M, 2010; Flaherman VJ, 2010
- 5. Hand expression days 1-3 (>5x/d) augments production up to 8 wks Morton J, 2009; Larkin T, 2013
- 6. More nipple inflammation and pain with pumping. Francis J 2019











WHO and AAP recommend for all mothers (pump-dependent or breastfeeding, preterm or term)

AAP's Model Hospital Breastfeeding Policy for Newborns, 2009

Many scenarios

Mother of a Preemie

"Our son was born very early (~29 weeks), and I didn't have time to take a lactation/breastfeeding class before he arrived - so hand expression was a foreign concept to me. It helped to have hands-on coaching from the nurses to learn how to do it. Hand expressing right after delivery and beyond was also critical to my ability to feel like I could start being a mom right away. I remember having such pride as I walked down the hallway carrying my little vial of colostrum from my room to my son's bed".

1st Hour Hand Expression for ALL Mothers S. Crowe, Stanford Medical Center, ACOG presentation, 2018

• Cesarean and vaginal mothers learn 1st hr. hand expression

- improved exclusive breastfeeding rates at discharge (62.2% vs 46.3%, P<.0001)
- improved discharge exclusive breastmilk feeding rates, even if there was no skin-to-skin care or breastfeeding within the first 60 minutes (53.3% vs 34.4%, P=.05).
- resulted in significant improvements in latching within the first 60 minutes for both cesarean (90.1% vs 50.0%, P<.001) and vaginal deliveries (93.0% vs 68.5%, P<.001).
- · Conclusion/Implications:
- Hand expression within the 1st hour after delivery was associated with improved breastfeeding and exclusive breastmilk feeding rates.

Over the shoulder hold for cesarean birth of LPT twins in the OR

Good visibility, no abdominal pressure, easier for mother/partner to express, stimulate infant and assist

What is the impact of a delayed or ineffective first hour feed?

- On infant protection (microbiome and infant's immunity?)
- On subsequent production?
- On subsequent volume of infant intake?
- On health risks associated with insufficient production and suboptimal intake?

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SHORT BREAK before A Proposed Solution

What More Is Needed?

 Given that morbidity stems from *insufficient* production and suboptimal intake potentially preventable problems

Given that no amount of skin-to-skin and unrestricted breastfeeding reduces these two problems when infants fail to access sufficient colostrum or stimulate an adequate supply

- Given that first hour latching does not guarantee effective milk removal.
- So, given the numerous predictable and unpredictable risk factors for insufficient production and suboptimal intake, should first hour hand expression be considered a proactive way to "protect" breastfeeding, the newborn and the mother?

Think PREVENTION

Prioritize the Goals
 Anticipate the challenges: ABC or CBA?

Prenatal education

- 3 Learning Objectives
- An example demonstration

Prioritize the goals, ABC or CBA? For at-risk dyads, can we safeguard C and B and avoid over-focus on A?

C, Calories

- Early, liberal hand expressed, spoon fed colostrum
- B, Breastmilk production
- 1st hr, then frequent removal

A, Attachment

- Skin to skin, gentle cue-based attachment assistance
- Improves with time, contact and robust production
- Less pressure on milk transfer

Prenatal education: an opportunity to offer...

 Focused education in the timeframe right before and after delivery. (before transfer from L&D)

- Mother-centric, volume-centric,
- empowering messaging
- Normalizing hand techniques to
- care for both <u>baby</u> and <u>breasts</u> in
- the first hours

Antenatal Hand Expression ≥ 36 wks

DAME study Foster DA Lancet 2017 Jun 3;389:2204-2213

- Multisite study focused on safety in low-risk mothers with gestational diabetes using bid hand expression from 36 wks. n=317 with 315 controls
- No ↑ in NICU admits
- No difference gestational age at birth
- ↑ exclusive breastmilk during first 24 h, but not 3 mos
- Fewer infants with hypoglycemia received formula
- Potential risk of precipitating delivery or infant
 harm in low-risk women with diabetes not detected

Antenatal expression to familiarize with technique, not necessarily to collect.

PROS and CONS?

Cons



- "Unnatural"
- Maternal and staff discomfort handling breasts
- Too demanding for antenatal care providers
- Interferes with 1st hr focus on baby

Pros

- Protects production if latch and milk transfer are or become suboptimal
- Easy time to learn, due to hormones of labor
- Builds skills to handle potential future problems:
 - -Engorgement, sore nipples, etc.
- With mother's consent, a potential way partners can help
- A natural lead-in to prn spoon-feeding



On a personal note: question potentially UNSUPPORTIVE practices • Encouraging unnecessary hand washing

- Implying that every drop of "liquid gold" must be collected.
- Schedules
- Schedules



"<u>the more the better</u>", wherever you are, whatever you're doing. Practice in the shower, when you're on the phone, when you're breastfeeding."

How can we make this easy and offer our staff a time-saver?

A video to teach 3 objectives:

- 1. What is a good latch? Why is it important?
- 2. How can I help my baby, if needed?
- 3. How can I make more milk sooner?

What if every expectant mother knew...



...how to use her hands in the first hours, when first milk matters most. "Breastfeeding in the First Hour, It's in Your Hands!" a preview version





Website: www.firstdroplets.com



QR CODES on wristbands in L&D



Morton J. Hands-on or hands-off when first milk matters most? Breastfeeding Medicine June 2019

Can we change the perception...

from: "I'm going to TRY!"

- Breastfeeding is complicated
- Wait for problems to be fixed
- Gadgets, machines necessary
- Depend on hospital routine and professionals

to: "I can do this!" ABC's before D (DELIVERY)

My thanks for all you do!

Questions?

Objectives

- The learner will be able to:
- Objective 1 explain why reprioritizing A,B,C to C, B, A makes more sense for the at-risk infant.
- Objective 2 suggest 2 reasons late preterm infants breastfeeding rates are not impacted by Baby-friendly practices (1st hr. skin-to-skin, rooming-in, no pacifiers), with a 1 month cessation rate of over 36% in primiparous mothers.
- Objective 3 suggest to the mother of the at-risk infant how to reframe the first hour as an opportunity and plan to enable exclusive breastfeeding.