

Express Yourself!



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Objectives

The Learner Shall:

- # Verbalize benefits of early milk expression as related to lactogenesis and total EBM volume.
- # List techniques available to non-nursing moms for early milk expression.
- # Define concept of power hour and advice on instituting the concept at the bedside.
- # List benefits of providing colostrum for early trophic feedings
- # Review national goal and initiatives for breastfeeding compliance.



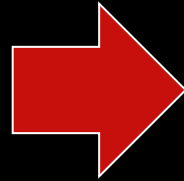
“Prolonged milk stasis,
therefore decreases milk
synthesis”

Blackburn, 2007

Lactogenesis

- # 3 stages of lactogenesis:
 - # L1: Mid pregnancy to 3rd post partum day
 - # L2 initiated by delivery of the placenta, drop in progesterone, high level of prolactin.
 - # L3 (by week 2-3) mature milk is established and maintained

Endocrine



Autocrine

Timing of initiation- The New Golden Hour or Power Hour

Pilot study regarding volumes



Time	Volume of milk		
	Early initiation (n = 10) M	Late initiation (n = 10) M	P
Initial expression session	4.19	0.1	0.14
Day 1	19.2	0.7	0.06
Day 2	76.7	2.2	0.01
Day 3	142.3	45.4	0.14
Day 4	185.7	69.9	0.09
Day 5	282.0	85.8	0.06
Day 6	322.0	191.9	0.06
Day 7	355.0	188.8	0.1
Total at 1 week ^a	1374.7	608.1	0.05
	N = 8	N = 7	
3 weeks ^b	613.0	267.2	0.01
	N = 6	N = 4	
6 weeks ^c	451.0	209.95	0.07

^aSum of all milk volume for days 1 - 7.
^b24 h milk volume at 3 weeks.
^c24 h milk volume at 6 weeks.

Day of Pumping	0-60 min.	1 hr-6 hr
Initial Expression	4.19	0.1
Day 1	19.2	0.7
Day 2	76.7	2.2
Day 3	142.3	45.4
Day 4	185.7	69.9
Day 5	282.0	85.8
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Hand Expression-Why

- # Flaherman Study (term newborns feeding poorly): 2months PP – more mothers were still breastfeeding - 96% vs. 73%
- # Morton: Low milk supply is the #1 reason mothers stop breastfeeding.
- # Morton: mothers that HE <5 times in the 1st 3 days PP expressed an average of 955mls/day by week 8 (feed a term 4 month old)
- # Ohyama Study: more milk able to removed with HE than a double hospital grade renal pump



2/24/2016



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Hand Expression



- # Steps for hand expression:
- # 1. Have mother lean forward.
- # 2. Teach mother to start with gentle massage (hands, baby brush or warm towel)
- # 3. Place thumb and fingers in a C shape (at 9 and 3) – 1 inch from areola.
- # 4. Push back towards the chest (without stretching areola) and then proceed to squeeze.
- # 5. Advise mother that initially no milk but the colostrum will start.
- # 6. Collect the milk in a spoon or 1ml vial to boost confidence and allow mother to see infant being fed the milk if possible.

Resources for Staff & Families

Hands on pumping:

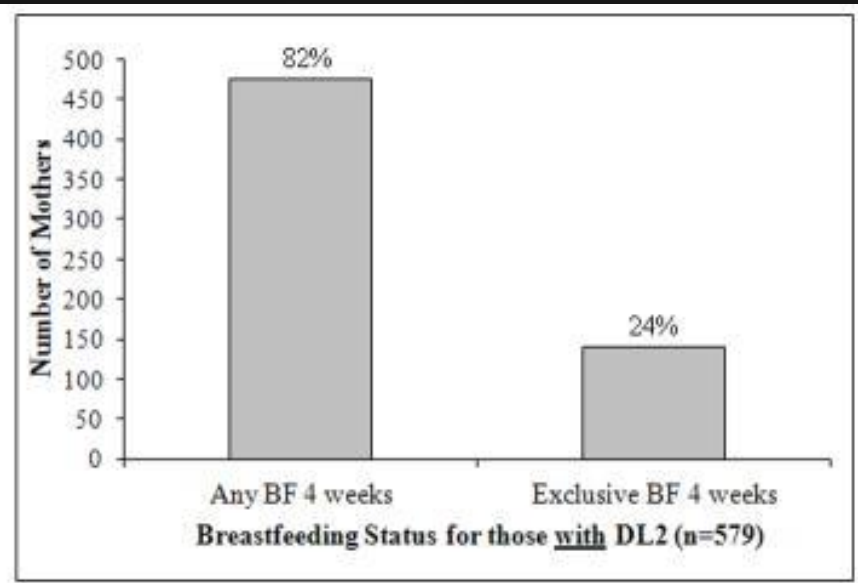
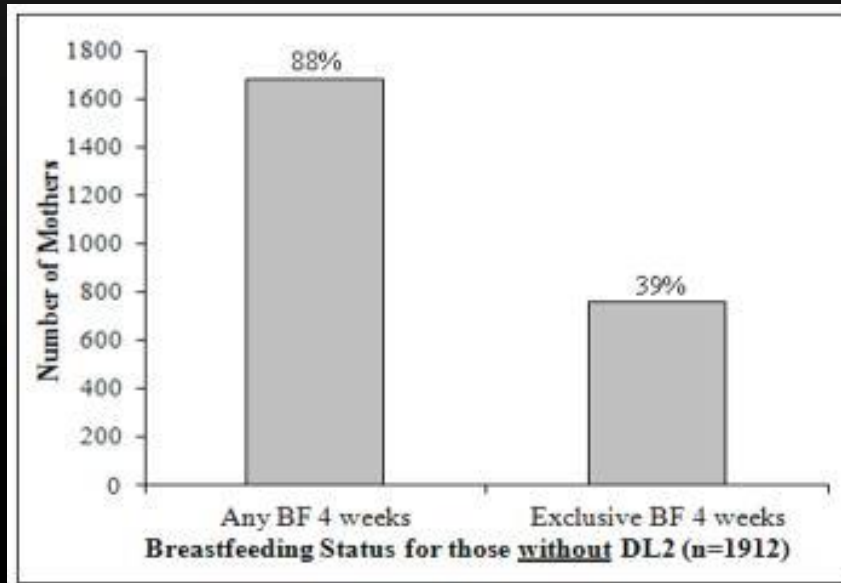
<http://newborns.stanford.edu/Breastfeeding/MaxProduction.html>

Hand Expression:

<http://newborns.stanford.edu/Breastfeeding/HandExpression.html>



Delayed Lactogenesis 2 Outcomes at 4wks



Brownell, et. al

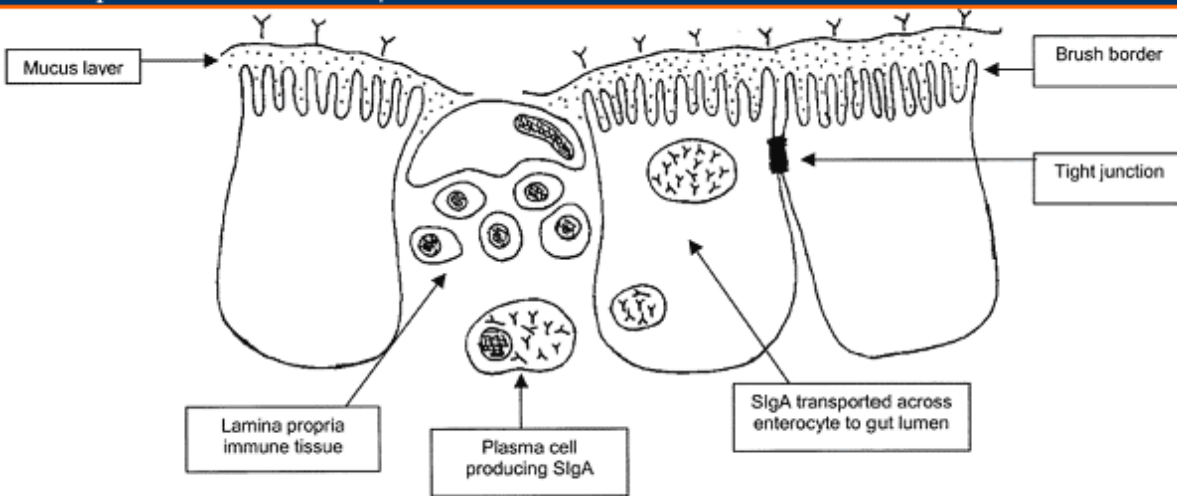
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Benefits of Early Trophic Feeds: Why the NICU wants the Colostrum

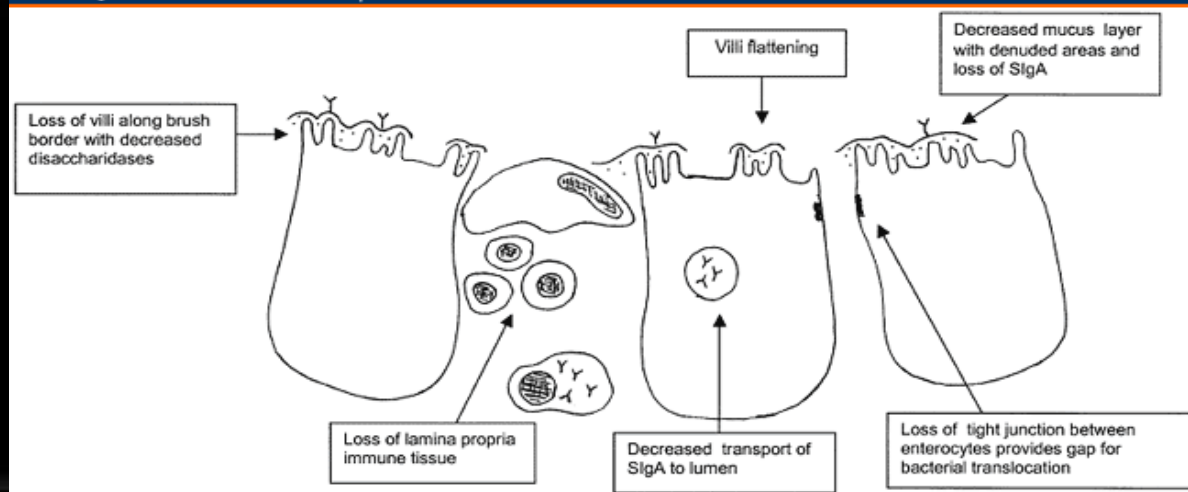
- # NEC: Affects 3-10% of VLBW with up to 50% mortality
- # Composition vs. volume of feeds
- # Six fold decrease in NEC risk
- # Promotes beneficial intestinal ecosystem & homeostasis
 - # bifidobacteria & lactobacilli
 - # Antigen-specific immune protection: passive Secretory IgA
 - # decreased inflammatory responses
 - # symbiotic bacterial colonization
 - # intestinal barrier function



Early Feed vs Delayed Feed



Source: Newborn Infant Nurs Rev © 2003 W.B. Saunders



Source: Newborn Infant Nurs Rev © 2003 W.B. Saunders

National and International Breastfeeding Initiatives

- # United States: Healthy People 2020
 - # Goal: 82% BF initiation rate
 - # Continued BF in 61% at 6months
- # WHO & UNICEF: 10 Steps to Successful Breastfeeding
 - # Baby Friendly Hospital
 - # Written policies, staff training, education to mothers, BF within ONE HOUR of birth, information regarding expression, only BM, rooming-in, BF on demand, no pacifier, support groups
 - # Supported by AAP and ACOG
- # Higher rates in facilities that promote BF

Table 1. Healthy People 2020 Goals for Breastfeeding ↩

	Healthy People 2020 Goals (%)	Current Data (%)
Increase the proportion of infants who are breastfed at the following stages:		
Ever breastfed	81.9	79.2 ± 1.2*
Breastfed at 6 months	60.6	49.4 ± 1.5*
Breastfed at 1 year	34.1	26.7 ± 1.3*
Breastfed exclusively through 3 months	46.2	40.7 ± 1.5*
Breastfed exclusively through 6 months	25.5	18.8 ± 1.2*
Increase the proportion of employers that have worksite lactation support programs	38	28 ¹²
Reduce the proportion of breastfed newborns who receive formula supplementation within the first 2 days of life	14.2	19.4 ± 1.3*
Increase the proportion of live births that occur in facilities that provide recommended care for lactating mothers and their babies	8.1	7.79 ⁵

Future Area of Research

- # Oropharyngeal Colostrum
- # Impact on NEC? Sepsis? Mortality?
- # Adverse effects: pneumonia?
- # Timing: early vs late
- # Route: oral vs NG
- # Affects on Lactoferrin and Secretory IgA (immune protective factors) and Interleukins (pro-inflammatory cytokines)
- # "Oral Immune Therapy"



Barriers to initiation of milk expression

- # Staffing
- # Lactation services
- # Supply location and ease of access: L&D, PP, NICU
- # Personal views
- # Unit policies
- # Supplementation
- # OB/Gyn support
- # Type of delivery
- # Mother's views, stresses, age
- # Use of donor EBM
- # Early maternal discharge
- # NICU admission
- # GA/pain meds/MgSO₄

**Some people don't like seeing
breastfeeding in public**



**The Tula Woven Wrap
MAKES A GREAT COVER!**



2/24/2016

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