

Getting Breastfeeding Right from the Start: Enhancing Maternal and Newborn Competence

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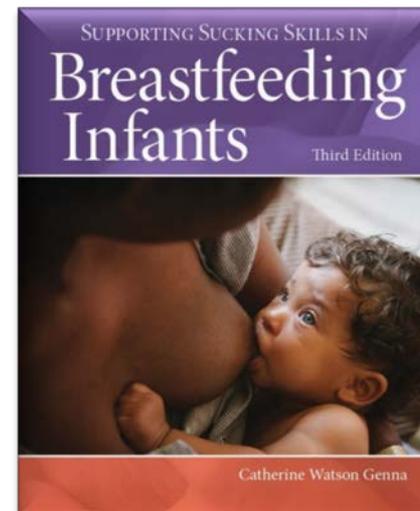
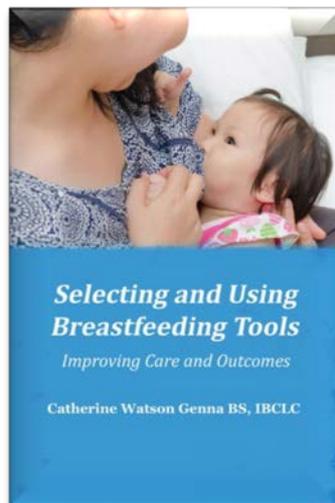
Disclosures

Jones and Bartlett; Praeclarus Press – Textbook Royalties

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I do not intend to discuss the use of unapproved or investigational products or devices in this presentation.

All patient photos are used with consent and permission.



Arizona BF Report Card 2016

Ever Bf	Bf 6 mo	Bf 12 mo	Excl 3 mo	Excl 6 mo
85.0	54.8	30.0	46.3	23.8

% live births occurring at Baby-Friendly Facilities 2.2

% breastfed infants receiving formula before 2 days of age 18

La Leche League Leaders per 1,000 live births 0.82

CLCs per 1,000 live births 2.19

IBCLCs per 1,000 live births 3.75

State's child care regulation supports onsite breastfeeding YES

Arizona BF Report Card 2016 (cont.)

ARIZONA CDC National Survey: Maternity Practices in Infant Nutrition & Care **mPINC** 2015 REPORT

Changes in maternity care improve breastfeeding outcomes.

CDC's mPINC Reports have what you need to understand and improve care across Arizona:

- 2015 survey scores and ranks
- Action ideas to improve outcomes
- Trends across all mPINC surveys

New! — **TOTAL SCORES** averaging all hospitals' scores

- **POLICIES** for staff training and infant feeding care
- **PRACTICES** in supplementing breastfed infants
- **PROTOCOLS** for support after discharge to home

What is mPINC?
mPINC is CDC's national survey of maternity practices in infant nutrition and care.

What does mPINC measure?
Survey questions measure infant feeding care practices, policies, and staffing expectations in place at hospitals that provide maternity services.

Who is included in mPINC surveys?
Every other year, CDC invites all maternity hospitals* nationwide to participate in mPINC. In 2015, 75% of eligible Arizona hospitals took part. (n=43)

*In states with free-standing birth centers, this includes hospitals and birth centers.

Compare **TOTAL SCORES** from 2007 through 2015:

Year	Score
2007 Survey	62
2008 Survey	64
2011 Survey	73
2013 Survey	75
2015 Survey	79

Examine **IDEAL RESPONSES TO SELECTED ITEMS** in Arizona hospitals for 2007–2015:

Percentage of Arizona hospitals with ideal responses **2007–2015 trend**

Category	2007	2008	2011	2013	2015
Complete Hospital Policies: Hospital breastfeeding policy includes all 10 model policy elements. (in Structure & Organizational Aspects of Care Delivery)	1%	0%	17%	4%	4%
Appropriate Feeding Practices: Supplemental feedings to breastfed infants are rare. (in Feeding of Breastfed Infants)	12%	10%	18%	11%	34%
Adequate Discharge Protocols: Hospital provides appropriate discharge planning (referrals & other multi-modal support). (in Hospital Discharge Care)	0%	27%	19%	4%	4%

National Center for Chronic Disease Prevention and Health Promotion
Division of Nutrition, Physical Activity, and Obesity

mPINC Arizona 2015 Survey Results

Make mPINC work for you. Use your mPINC data to bring together partners, identify gaps, celebrate achievements, and prioritize next steps.

Total SCORE* **79**
(out of 100)

Overall RANK** **27th**
(out of 50)

USE THESE RESULTS.

Action ideas: Use your mPINC summary data to:

- **Help** hospitals meet Joint Commission Perinatal Care Core Measure breastfeeding requirements.
- **Ensure** hospital staff across Arizona are trained in infant feeding care.
- **Celebrate** the 5 Baby-Friendly hospitals in Arizona and show how to use mPINC to work toward Baby-Friendly designation.

Learn how mPINC works. See questionnaires, past survey results, and read about mPINC.

- Go to www.cdc.gov/mPINC or
- Scan this code:

mPINC Care Dimensions
Ideal response to each care dimension item

Care Dimension	Percentage of hospitals with ideal response	Care Dimension SUBSCORE
Labor and Delivery Care Ideal response to each care dimension item		86
Infant skin-to-skin contact is at least 30 min within 1 hour (optimal target)	70%	
Infant skin-to-skin contact is at least 30 min within 2 hours (minimum target)	70%	
Infant breastfeeding opportunity is within 1 hour (optimal target)	71%	
Infant breastfeeding opportunity is within 2 hours (minimum target)	53%	
Routine procedures are performed close to birth	50%	
Feeding of Breastfed Infants		87
Infant feeding is breast milk (optimal target)	73%	
Infant feeding is breast milk (minimum target)	61%	
Supplies and findings to breastfeeding infants are rare*	34%	
Water and glucose tablets are not used	100%	
Breastfeeding Assistance		88
Infant feeding decision is discussed in the patient chart	93%	
Staff provide breastfeeding advice to instructions to patients	82%	
Staff teach breastfeeding cues to patients	90%	
Staff teach patients not to feed working time	60%	
Staff directly observe & assess breastfeeding	83%	
Staff use a structured feeding assessment tool	70%	
Staff notify provider to breastfeeding infants	47%	
Contact Between Mother and Infant		92
Mother-infant pairs are not separated for prophylactic antibiotics	90%	
Mother-infant pairs remain in sight	100%	
Mother-infant pairs are not separated during the hospital stay	80%	
Infant presence, assessment, & care are in the patient room	20%	
Newborns in infants are brought to mothers at night for feeding	97%	
Hospital Discharge Care		67
Staff provide appropriate discharge planning† (referrals & other multi-modal support)	24%	
Discharge packs containing infant formula samples and monitoring materials are not given to breastfeeding patients	82%	
Staff Training		56
New staff receive appropriate breastfeeding education	13%	
Current staff receive appropriate breastfeeding education	17%	
Staff received breastfeeding education in the past year	64%	
Competency assessment & support is at least annual	54%	
Structural & Organizational Aspects of Care Delivery		74
Breastfeeding policy revision of 10 model policy elements	20%	
Breastfeeding policy is effectively implemented	71%	
Facility documents infant feeding rates to patient population	68%	
Facility provides breastfeeding support to employees	73%	
Facility does not receive infant formula lines of charge	37%	
Breastfeeding is included in prenatal patient education	93%	
Facility has a designated staff member who coordinates lactation care	63%	

* Success range figure is a goal for each item, dimension of care, facility, and state. The highest, best possible score for each item, facility and state's "Total Score" is made up of maximum for practices across all dimensions of care.

** Rank range figure is the top 5 in the highest rank. In case of a tie, both are given the same rank.

† Key items highlighted on page 1.

Reported Question: Current Staff Training and Preparation, Arizona Survey Report, CDC Survey of Maternity Practices in Infant Nutrition and Care, Atlanta, GA, September 2016.

What You Say Matters!



- Neutral is perceived as negative toward bf.
- Unsure mothers/ shorter bf goals most vulnerable to non-positive staff attitudes.

DiGirolamo, A. M., Grummer-Strawn, L. M., & Fein, S. B. (2003). Do perceived attitudes of physicians and hospital staff affect breastfeeding decisions?. *Birth*, 30(2), 94-100.

Best Start 3-Step Counseling Method

Open ended questions to identify concern, then:

- Affirmation (That's a common concern)
- Emotional Support/Empathy (I can see why that would be scary)
- Education (Give the facts now!)

Prenatal Education and Support



Intention to BF

- Educational interventions most effective prenatally
- Perinatal support helpful for learning to bf

Hannula, L., Kaunonen, M., & Tarkka, M. T. (2008). A systematic review of professional support interventions for breastfeeding. *Journal of clinical nursing*, 17(9), 1132-1143.

BF Self Efficacy



Photo courtesy of Stacy Kucharczk

44% of variance:

- Intention
- Partner support
- HCP support
- Prenatal education
- Early bf initiation
- Previous experience

Yang et al (2016). Predictors of breast feeding self-efficacy in the immediate postpartum period: A cross-sectional study. *Midwifery*, 41, 1-8.

Education



- 5 minute prenatal education on maternal health effects of bf increased knowledge, perception of importance of bf, intention & desire to bf
- Minority, HS education & low income population, including mothers who did not bf previous infant.

Ross-Cowdery et al. (2017) Counseling about the maternal health benefits of breastfeeding and mothers' intentions to breastfeed. *Matern Child Health J* 21(2):234–241.

Education (cont.)

- Education and support at multiple time points most effective
- No evidence for guilt, little anxiety
- Vulnerable populations – teen, low income – prenatal intervention effective
- There is adequate evidence that interventions to support breast-feeding change behavior and that the harms of these interventions are no greater than small. Therefore, the USPSTF concludes with moderate certainty that interventions to support breastfeeding have a moderate net benefit.

Bibbins-Domingo et al (2016). Primary Care Interventions to Support Breastfeeding: US Preventive Services Task Force Recommendation Statement. *Jama*, 316(16), 1688-1693.

Positive Messages

- Breastfeeding is important for your health too
- Your breasts are developing milk glands already to feed your baby
- Your breasts are preparing to make milk for ALL your twins/triplets/quads

Barriers

Women interpret formula advertising (especially when distributed by health system) as predicting breastfeeding failure.

Parry, K., Taylor, E., Hall-Dardess, P., Walker, M., & Lobbok, M. (2013). Understanding women's interpretations of infant formula advertising. *Birth*, 40(2), 115-124.

Systemic Barriers

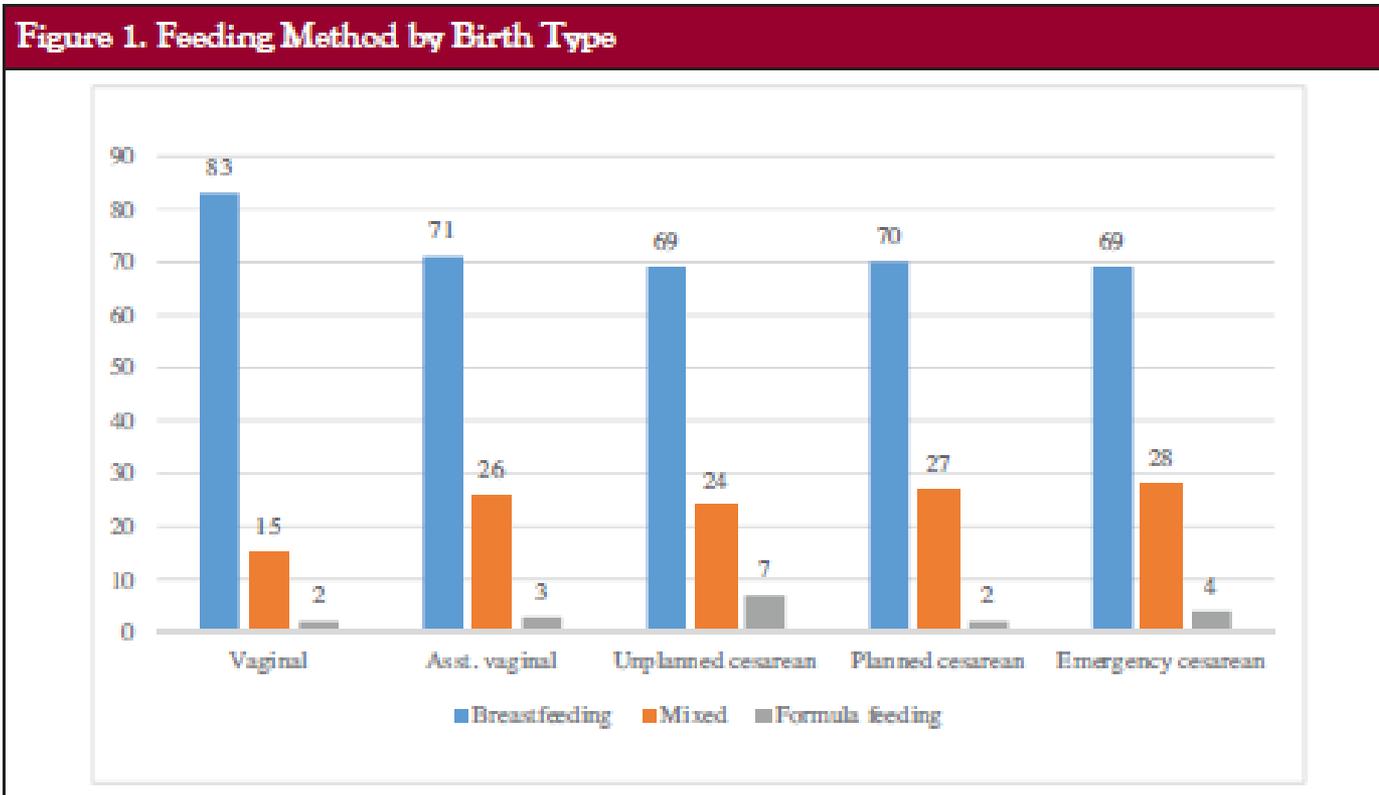


Courtesy of Missy @
Marketingmama.com

“CONCLUSION: Most U.S. hospitals have policies and practices that do not conform to international recommendations for best practices in maternity care and interfere with mothers' abilities to breastfeed.”

Centers for Disease Control and Prevention (CDC). (2011). Vital signs: hospital practices to support breastfeeding--United States, 2007 and 2009. MMWR. Morbidity and mortality weekly report, 60(30), 1020.

Feeding Method by Birth Type



Kendall-Tackett, K., Cong, Z., & Hale, T. W. (2015). Birth Interventions Related to Lower Rates of Exclusive Breastfeeding and Increased Risk of Postpartum Depression in a Large Sample. *Clinical Lactation*, 6(3), 87-97.

Reason for Stopping BF

Before 1 week

- Sore nipples
- Milk production problems
- Infant latch and bf problems

2-6 months

- Life conflicts
- Milk production problems
- Prescription medications

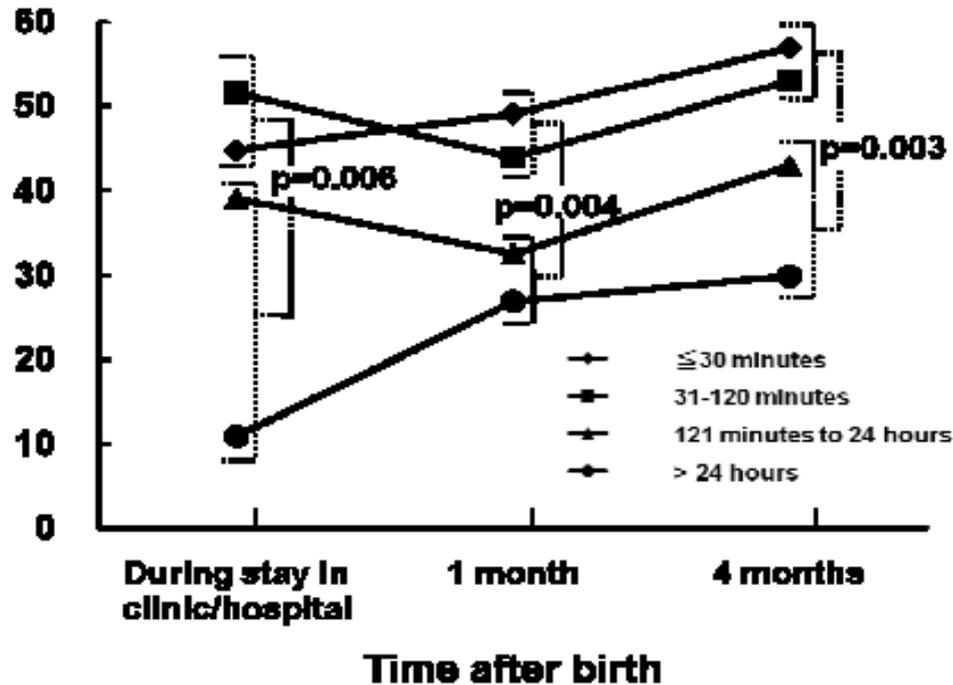
Ahluwalia et al (2005). Why do women stop breastfeeding? Findings from the Pregnancy Risk Assessment and Monitoring System. *Pediatrics*, 116(6), 1408-1412.

Help Moms Develop Good Supply

- Initiation at birth (2 good feeds on day 1)
- Prolactin receptors up-regulate with more breastfeeding (day 2 through 14)
- Remove colostrum often
- PREVENT Engorgement
 - Treat with massage to lymphatics, cool compresses, manual expression

Witt, A. M., et al, (2016). Therapeutic breast massage in lactation for the management of engorgement, plugged ducts, and mastitis. *Journal of Human Lactation*, 32 (1), 123-131.

Breastfeeding Initiation in 1st 2 Hours = Greater % Full BF at 4 Months



Nakao, Y., Moji, K., Honda, S., & Oishi, K. (2008). Initiation of breastfeeding within 120 minutes after birth is associated with breastfeeding at four months among Japanese women: a self-administered questionnaire survey. *International breastfeeding journal*, 3 (1), 1.

Calibration – First Feeding



- Babies consumed more milk on day 4 when they bf in the first 2 hours after birth. (284 vs 184 ml, $p = .0006$) 54%!
- Primips made more milk when bf more frequently on day 3

Bystrova K et al. Early Lactation Performance...in relation to different maternity home practices. Int BF J 2 (2007).

Frequent Early Breastfeeding Drives Subsequent Milk Production (multips)

Bf feq on day 2	Supply day 5	Supply day 14
9.9 +/- 2.2	679 +/- 147 g/day	901 +/- 125 g/day
13.4 +/- 3.0	892 +/- 306 g/day	1079 +/- 185 g/day

Chen, D. C., et al, (1998). Stress during labor and delivery and early lactation performance. *The American journal of clinical nutrition*, 68(2), 335-344.

Hand Expression Beats Pumping for Transient Problems

- Mothers of poorly feeding newborns: > comfort & more likely to be bf at 2 mo. if taught hand expression vs. breast pumping. (97.1% vs. 72.7%) (p=0.02).
- RR = 1.32 (1.01–1.73)

Flaherman, et al Randomised trial comparing hand expression with breast pumping for mothers of term newborns feeding poorly
Arch Disease in Childhood - FetNeo
2012;97:F18-F23.



courtesy of
Esther Grunis

Early Control of Milk Synthesis

- Progesterone blocks catalytic function of prolactin, but not trophic functions
- Progesterone receptors downregulate in breast 3 days before labor
- Birth of placenta removes progesterone from system
- Copious milk production (secretory activation) begins as progesterone leaves body (36-72 hours) and infant breastfeeds

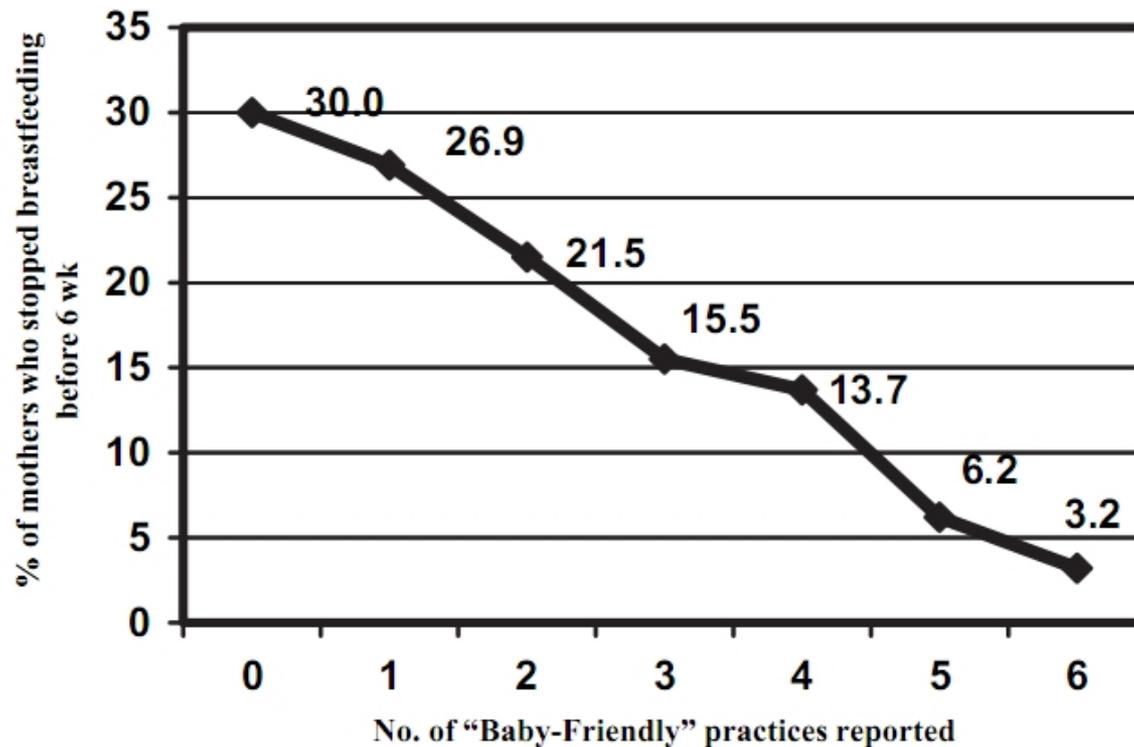
Later Control of Milk Synthesis

- Autocrine control – milk in breast slows production
 - Multiple proteins and growth factors
- Pressure
 - Reduces prolactin circulation
 - Interferes with 3 dimensional structure of organelles
 - Overfull lactocytes release integrins and apoptose

10 Steps to Successful BF

1. BF Policy – routinely communicated
2. Staff education to implement policy
3. *Inform ALL pregnant women – benefits & management of bf*
4. *Help initiate bf within ½ hour of birth*
5. *BF or milk expression assistance if separated*
6. *NO food or drink but human milk (medical except)*
7. 24/7 rooming in
8. *Encourage bf on demand*
9. *No pacifiers or artificial nipples*
10. *Refer to support groups*

More of 10 Steps = Fewer Mothers Quit BF



DiGirolamo, A. M., Grummer-Strawn, L. M., & Fein, S. B. (2008). Effect of maternity-care practices on breastfeeding. *Pediatrics*, 122(Supplement 2), S43-S49.

Lack of Steps = Shorter Duration

Lack of Step Exposure	Prevalence in Analytic Sample, %	Duration Ratios (95% confidence interval)	Predicted Duration of Breastfeeding at the Breast for Lacking a Step or Combination of Steps, Wk ^c
Lack of Step 4 (initiation delayed)	33.1	0.88 (0.75, 1.01)	36.05
Lack of Step 6 ^g (formula and/or formula bags provided)	89.5	0.79 (0.69, 0.90)	39.08
Lack of Step 7 (mother–infant separated)	43.6	0.99 (0.86, 1.14)	42.32

Difference in Duration Attributable to Lacking a Step or Combination of Steps Compared with Receiving the Step or Combination of Steps, Wk ^d	I ^o
-5.17	* ^f
-10.52	3.40–3.41
-0.39	* ^f

Nickel et al (2013). The extent that noncompliance with the ten steps to successful breastfeeding influences breastfeeding duration. *Journal of Human Lactation*, 29 (1), 59-70.

Nickel et al (2013). The extent that noncompliance with the ten steps to successful breastfeeding influences breastfeeding duration. *Journal of Human Lactation*, 29 (1), 59-70.



Lack of both Steps 4 and 9 ^a	20.2	0.73 (0.63, 0.84)	30.96	-11.84	5+
Lack of both Steps 4 and 10	10.1	1.13 (0.98, 1.29)	44.73	5.06	*†
Lack of both Steps 6 and 7	41.2	1.08 (0.94, 1.25)	43.47	3.26	*†
Lack of both Steps 6 and 8 ^a	51.5	0.87 (0.75, 1.00)	36.83	-5.71	1.06-1.07
Lack of both Steps 6 and 9	52.6	0.95 (0.83, 1.10)	40.53	-1.96	*†
Lack of both Steps 6 and 10	24.4	1.13 (0.98, 1.30)	45.52	5.20	*†
Lack of both Steps 7 and 8 ^a	34.7	0.86 (0.76, 0.99)	36.12	-5.66	1.15-1.16
Lack of both Steps 7 and 9	28.9	0.90 (0.78, 1.03)	37.34	-4.21	*
Lack of both Steps 7 and 10	10.8	0.96 (0.85, 1.08)	36.76	-1.68	*†
Lack of both Steps 8 and 9 ^a	34.7	0.85 (0.74, 0.98)	35.97	-6.33	1.31-1.32
Lack of both Steps 8 and 10	15.1	0.90 (0.79, 1.04)	36.38	-3.85	*†
Lack of both Steps 9 and 10	14.7	0.92 (0.80, 1.06)	37.97	-3.30	*†

Importance of Skin to Skin Contact from Birth

Dose-response relationship to exclusive bf.

Bramson L et al. Effect of Early Skin-to-Skin Mother Infant Contact During the First 3 Hours Following Birth on Exclusive Breastfeeding During the Maternity Hospital Stay *J Hum Lact* 2010; 26: 130-137

Immediate skin to skin did not add to staff workload.

Walters et al. Kangaroo Care at birth for full-term infants: a pilot study. *MCN Am J Matern Child Nurs.* 2007; 32:375-381.

Immediate and Continuous

- Maternal self efficacy (bf is easy, confident I can bf, I know how to bf, I can make enough milk for baby) significantly higher in s2s
- Time to first bf shorter
- Success of first bf: 56.6% s2s vs 34.6% standard care

Aghdas et al 2014 Women



courtesy of Shannon Lilienthal

Early S2S for 2+ hours vs Clothed

Parameter	Intervention group (mean ± SD)	Control group (mean ± SD)	P value
IBFAT score	9.55±1.143	6.71±1.895	<0.0001
Infants exclusively breastfed at 6 weeks*	85.2%	63.6%	<0.0001
Axillary temperature after 2 h (in degree celsius)	36.95±0.174	36.72±0.248	<0.0001
Weight loss at discharge (as percentage of birth weight)	4.009±1.988	6.122±2.593	<0.0001
Significant morbidity*	0.0%	5.9%	0.006

*Figures in percentage, SD - Standard deviation, IBFAT - Infant breastfeeding assessment tool

Srivastava et al. Effect of very early skin to skin contact on success at breastfeeding and preventing early hypothermia in neonates. Indian J Public Health 2014;58:22-26 (n=240 dyads)

Don't Rush the Baby

- Birth cry
- Relaxation
- Awakening
- Activity
- Crawling
- Resting
- Familiarization
- Suckling
- Sleeping

Widstrom et al 2011

Newborn behaviour to locate the breast when skin-to-skin: a possible method for enabling early self-regulation

Acta Paed 100 (1) pp. 79-85

Schafer & Genna (2015). Physiologic Breastfeeding: A Contemporary Approach to Breastfeeding Initiation. *J of Midwifery & Women's Health*, 60 (5), 546-553.



Photo courtesy of Stacy Kucharczk

Exogenous Oxytocin & Epidural

Fernandez 2012 – Dose response relationship between oxytocin in labor and poorer feeding related reflexes in newborns on day 2

- High dose – least likely to suck or swallow
- Only low dose oxytocin moms ebf at 3 mos



Labor Medications - Epidural

Cessation of bf < 1 month:

1.67 for Non-baby friendly hospital

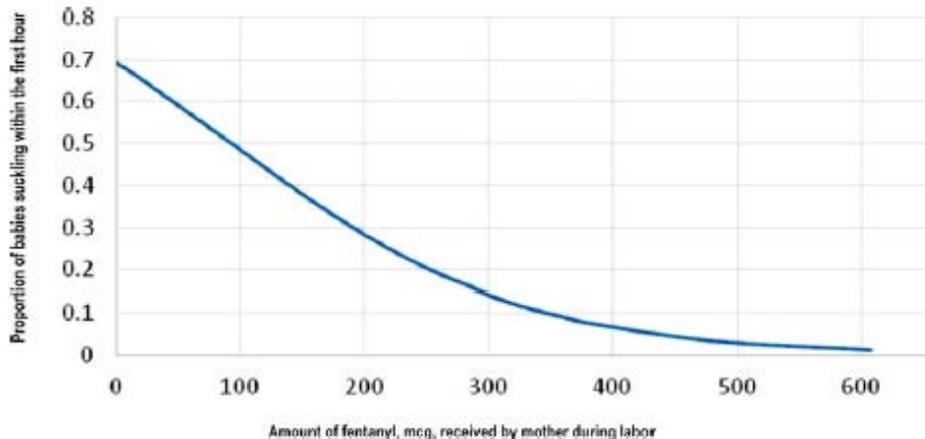
1.26 in Baby-friendly hospital

Dozier et al (2013). Labor epidural anesthesia, obstetric factors and breastfeeding cessation. *Maternal and child health journal*, 17(4), 689-698.



Labor Medications

- Odds of suckling in 1st hour vs fentanyl or OT



Brimdyr et al (2015). The Association Between Common Labor Drugs and Suckling When Skin-to-Skin During the First Hour After Birth. *Birth*, 42(4), 319-328.

- Vaginal births only
- Labor medication (including spinal/epidural or opioids) doubled risk of delayed lactogenesis II (> day 3)

Lind, et al (2014). Relationship between use of labor pain medications and delayed onset of lactation. *Journal of Human Lactation*, 30(2), 167-173.

Cesarean Birth Associated with Low Intraoral Vacuum

Table 3. Strength of Newborns' Intraoral Vacuum Within 24 Hr of Birth.

Measure	Vaginal Group, <i>n</i> = 34, mean (SD)	Cesarean Group, <i>n</i> = 37 mean (SD)	<i>t</i>	<i>p</i>
Peak intraoral vacuum, kPa	-19.89 (7.69)	-13.42 (6.26)	3.910	.000
Mean intraoral vacuum, kPa	-10.60 (4.79)	-7.68 (2.80)	3.175	.002
Baseline intraoral vacuum, kPa	-2.30 (2.61)	-1.22 (0.66)	2.420	.018

Table 4. Adjusted Strength of Newborns' Intraoral Vacuum After Controlling for Confounders.^a

Measure	Vaginal Group, <i>n</i> = 34, mean (SE)	Cesarean Group, <i>n</i> = 37, mean (SE)	<i>F</i>	<i>p</i>
Peak intraoral vacuum, kPa	-19.50 (1.31)	-13.78 (1.25)	8.593	.005
Mean intraoral vacuum, kPa	-10.20 (0.72)	-8.05 (0.69)	3.954	.051
Baseline intraoral vacuum, kPa	-2.35 (0.33)	-1.18 (0.32)	5.536	.022

...a trend toward less suckling in first 24 hours, and later secretory activation.

Zhang, F. et al (2016). Intraoral Vacuum of Breast-Feeding Newborns Within the First 24 Hr: Cesarean Section Versus Vaginal Delivery. *Biological research for nursing*, 18(4), 445-453.

Give Medicated Babies More Time Skin to Skin (2+ hours)



Jonas, W., et al (2009). Effects of intrapartum oxytocin administration and epidural analgesia on the concentration of plasma oxytocin and prolactin, in response to suckling during the second day postpartum. *Breastfeeding Medicine*, 4(2), 71-82.

Spoon Seeding Colostrum Raised Blood Sugar in LGA Infant

Blood glucose raised from 28 to 52 after spoon feeding 35ml of hand expressed colostrum.

Rollins, K. (2013). There's Nothing Sweeter Than Mom's Own Milk. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 42(s1), S104-S104.

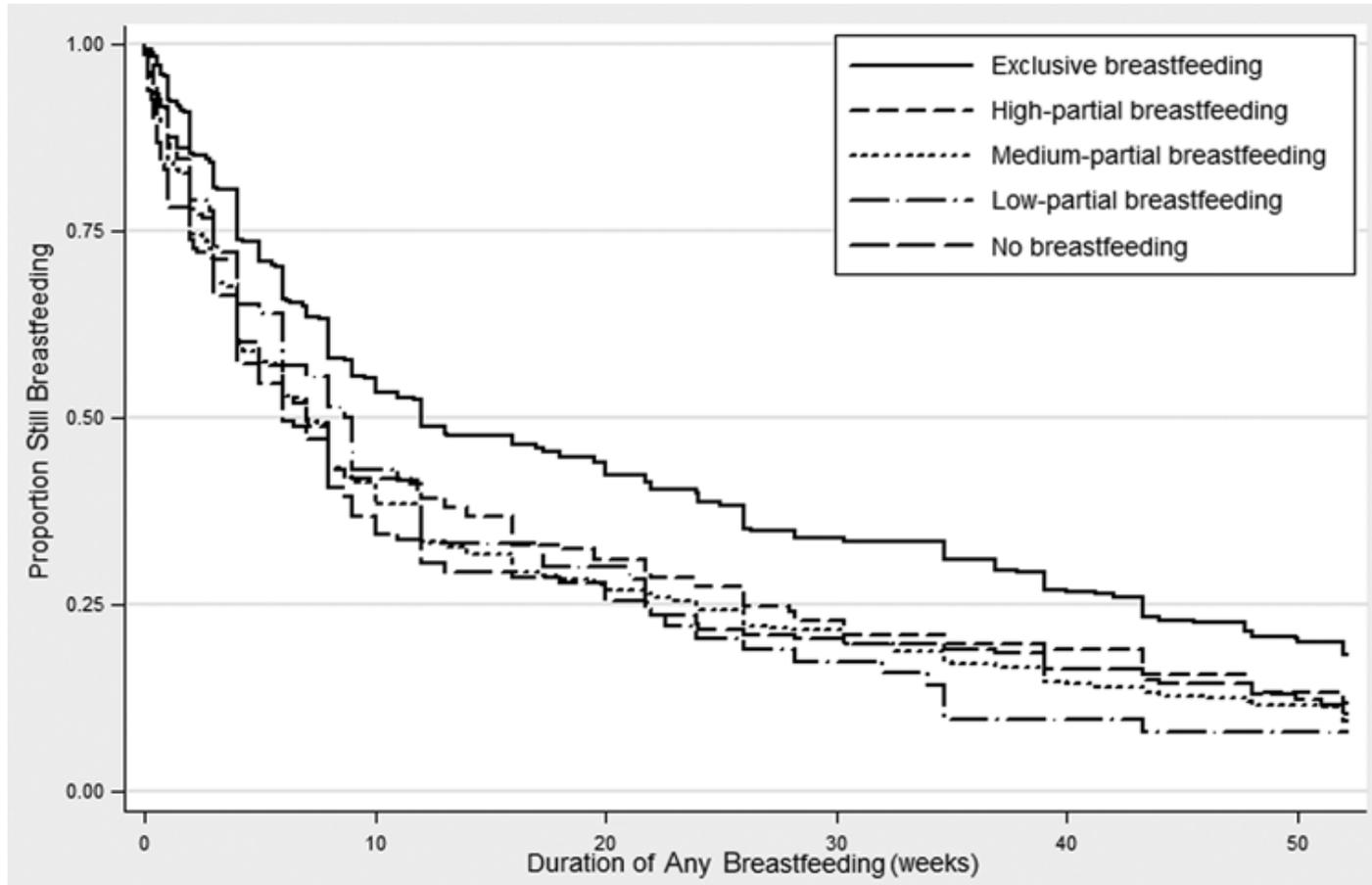


Photo courtesy of Esther Grunis

Milk Expression - Best practices:

- Begin within an hour of birth (Parker 2012, Larkin 2013)
- Use manual expression instead of or in addition to electric pump (Flaherman 2011, Morton 2009)
- Massage breast briefly (Jones 2001)
- Simultaneous expression (Hill 1986, Jones 2001, Prime 2012)
- Add manual expression (5x/d first 3 days) Morton 2009

Parry et al JHL 29(4) 2013



Parry JHL 29(4) 2013 p.534

Data analysis showed that supplemented infants are substantially less likely at any time point to be breastfed compared to their exclusively breastfed counterparts. The lack of a dose-response effect between the amounts of infant formula received early in the post-partum period and the duration of breastfeeding suggests that there isn't any threshold below which formula supplementation can be considered safe. Thus, protecting infants from exposure to formula in the hospital could go a long way toward improving early breastfeeding success and subsequent breastfeeding duration...

Early Supplementation Associated with BF Failure

- Formula supplementation for poor bf (day 0-3):
 - aOR 1.8 for NOT fully bf at 30-60 d
 - aOR 2.7 for bf cessation < 60 d
- Earlier bf cessation with:
 - Passive feeding (# bottle/syringe feedings)
 - number of formula feeds

Chantry, C. J. et al, (2014). In-hospital formula use increases early breastfeeding cessation among first-time mothers intending to exclusively breastfeed. *The Journal of pediatrics*, 164(6), 1339-1345.

Exclusive BF in Hospital

Table 4 Feeding from the breast directly in hospital compared with any other type of feeding (reference group): association with giving any and only breast milk at 6 months

Feeding at 6 months	Direct breastfeeding only in hospital		Any other feeding in hospital*		OR (95% CI)	Adjusted OR (95% CI)†
	n	Per cent	n	Per cent		
Any breast milk	339/444	76.4	279/468	59.6	2.19 (1.64 to 2.91)	1.80 (1.27 to 2.55)
Only breast milk	259/442	58.6	176/465	42.2	1.94 (1.49 to 2.53)	1.61 (1.18 to 2.2)

*Reference group for ORs.

†Adjusted for parity, type of birth, breastfeeding intention, perceived breastfeeding problems at recruitment, public/private healthcare choice, epidural for labour or birth, being born in Australia, maternal body mass index, maternal age and education.

Forster, D. A., et al, (2015). Feeding infants directly at the breast during the postpartum hospital stay is associated with increased breastfeeding at 6 months postpartum: a prospective cohort study. *BMJ open*, 5(5), e007512.

Bottles Interfere with Breastfeeding Success

Howard, C. R. et al (2003). Randomized clinical trial of pacifier use and bottle-feeding or cup feeding and their effect on breastfeeding. *Pediatrics*, 111(3), 511-518.

Yilmaz, G et al (2014). Effect of cup feeding and bottle feeding on breastfeeding in late preterm infants a randomized controlled study. *Journal of Human Lactation* 30(2):174-179.



“Lactastrophe”

Emotional distress due to disrupted lactation:

- pain
- difficulty latching
- low milk production

Stuebe et al (2014). Prevalence and risk factors for early, undesired weaning attributed to lactation dysfunction. *J Womens Health* 23 (5), 404–12.

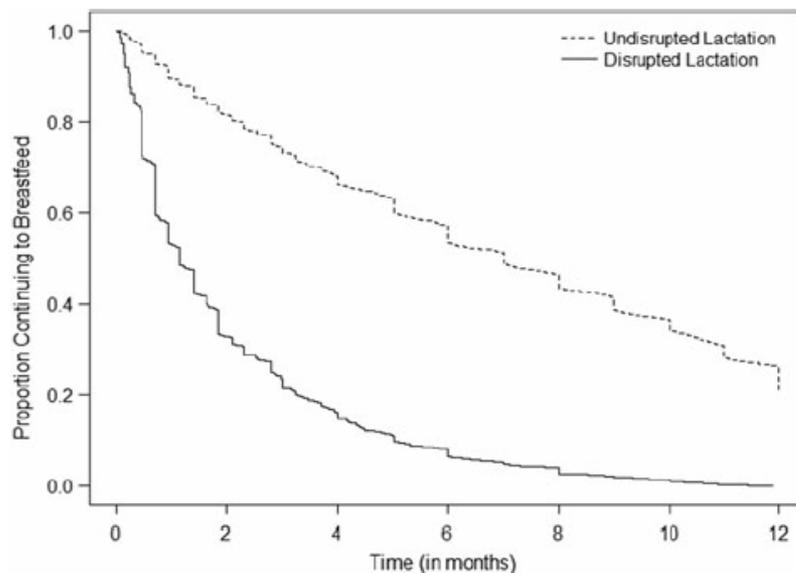
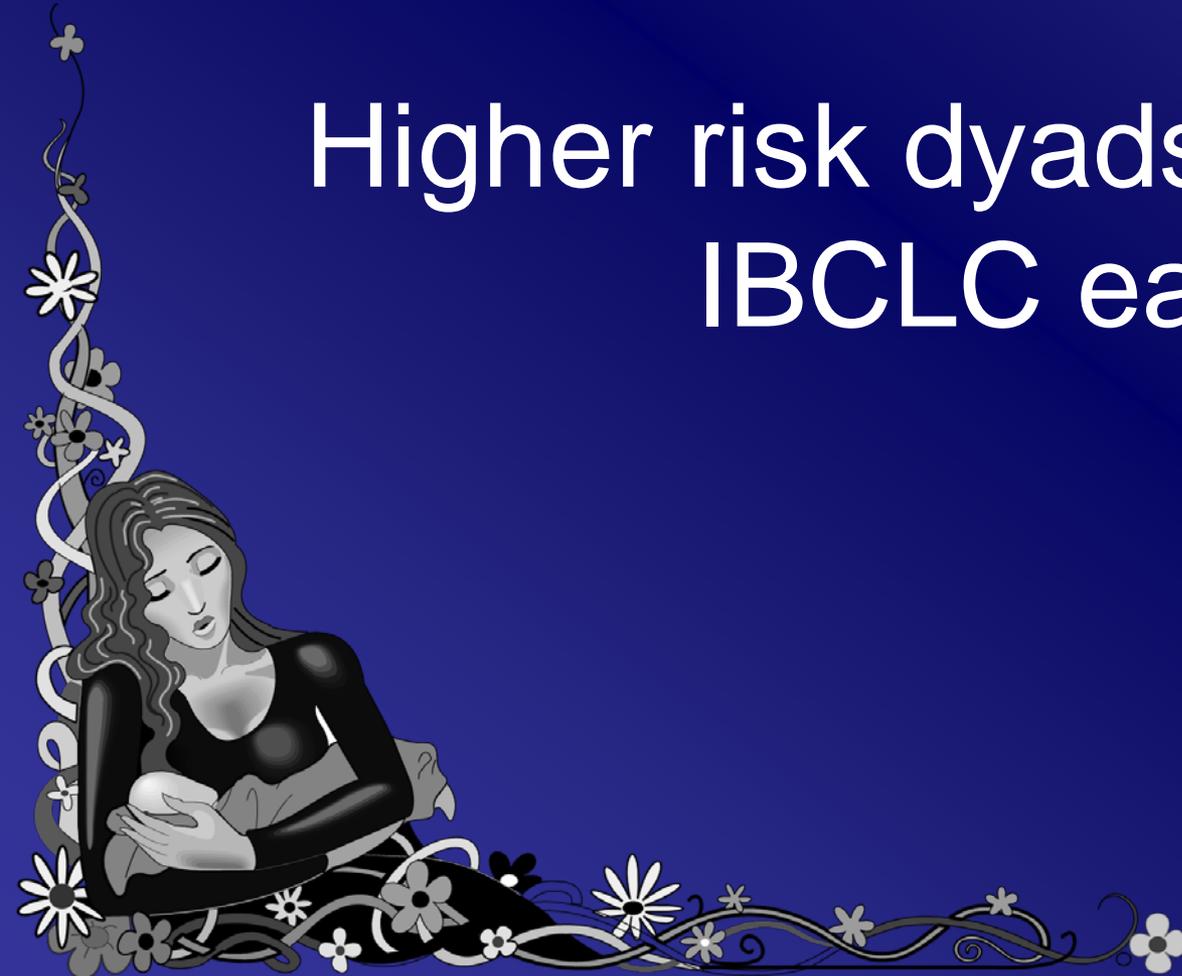


FIG. 1. Proportion of women continuing to breastfeed over the child’s first year, by disrupted lactation status.

Higher risk dyads – refer to
IBCLC early



Sleepy Baby/Drugged Baby



Photos courtesy of Esther Grunis

Overweight - DM, PCOS or CAH



Delayed lactogenesis II
risks:

(Nommsen-Rivers 2010)

Primips > 30 yrs

Overweight or obese

Infant > 3800 g

BMI Affects Staff Behavior

- Prepregnant BMI >30 = less likely to: bf baby first hour, bf exclusively, get bf support number. Pacifier use more likely.
- Underweight mothers more likely to get formula marketing pack (“gift” pack)
- PRAMS data VT, IL, ME

Kair, L. R., & Colaizy, T. T. (2016). Obese Mothers have Lower Odds of Experiencing Pro-breastfeeding Hospital Practices than Mothers of Normal Weight: CDC Pregnancy Risk Assessment Monitoring System (PRAMS), 2004–2008. *Maternal and child health journal*, 20 (3), 593-601.

Weight Stigma

Table 4 Maternal receipt of pro-breastfeeding practices by pre-pregnancy BMI category, adjusted for covariates, including ever breastfeeding

Hospital practices	Underweight			Overweight			Obese		
	OR	95 % CI	<i>p</i> value	OR	95 % CI	<i>p</i> value	OR	95 % CI	<i>p</i> value
Breastfeeding information	1.21	0.77–1.92	0.412	0.84	0.67–1.04	0.112	0.83	0.65–1.05	0.123
Rooming in	1.03	0.77–1.39	0.837	1.05	0.90–1.23	0.511	0.98	0.82–1.16	0.511
Breastfed in hospital	0.72	0.47–1.10	0.126	1.00	0.79–1.28	0.978	0.81	0.63–1.04	0.099
Breastfed in 1st hour	0.87	0.67–1.14	0.305	1.04	0.90–1.19	0.609	0.73	0.62–0.85	<0.0001
Staff helped breastfeed	1.08	0.79–1.47	0.643	1.23	1.05–1.43	0.009	0.93	0.79–1.10	0.398
Baby fed only breast milk	0.87	0.67–1.13	0.305	0.85	0.74–0.96	0.011	0.62	0.53–0.72	<0.0001
Staff advised breastfeed on demand	1.34	0.95–1.90	0.101	1.06	0.90–1.25	0.492	0.88	0.74–1.05	0.150
Formula gift pack	1.43	1.04–1.96	0.027	0.91	0.78–1.06	0.223	1.03	0.87–1.23	0.702
Given phone # for lactation	1.04	0.76–1.41	0.816	0.99	0.84–1.16	0.866	0.82	0.69–0.97	0.019
Used a pacifier	0.86	0.68–1.08	0.199	1.10	0.98–1.23	0.111	1.19	1.05–1.36	0.008

Adjusted for gestational age, parity, maternal education, maternal age, Medicaid status, vaginal delivery, maternal marital status, state, ever breastfed

Kair, L. R., & Colaizy, T. T. (2016). Obese Mothers have Lower Odds of Experiencing Pro-breastfeeding Hospital Practices than Mothers of Normal Weight: CDC Pregnancy Risk Assessment Monitoring System (PRAMS), 2004–2008. *Maternal and child health journal*, 20 (3), 593-601.

C-section: Preventing Delayed Secretory Activation

- Skin to skin during repair
- Initiate bf while regional anesthesia still effective
- Manual expression of colostrum if separated.
- Oral care, spoon, cup, syringe feed



Preventing Mastitis

Avoid Milk Stasis

- Frequent breast emptying, massage for plugged ducts
- Avoid constricting bra/bag/carrier

WASH injured nipples with soap 2-3x/day

Wash uninjured nipples daily

Livingston V. *J Hum Lact* (1999)
15(3):241-246



Staph most common organism in unilateral mastitis

Multiple Birth Interventions

Induction, Cesarean, Opioid, Epidural (any combination) decreased median bf duration to 5 weeks vs 9 weeks.

Bai, D. L., Wu, K. M., & Tarrant, M. (2013). Association between intrapartum interventions and breastfeeding duration. *Journal of Midwifery & Women's Health*, 58(1), 25-32.

Give additional support in postpartum unit.



Periareolar Scars [RR] = 4.55 for Insufficient Milk (Neifert 1990)



- Radial incisions are less destructive

PCOS – acanthosis nigricans,
hirsutism, acne, mild hypoplasia



Mammary Hypoplasia (IGT)



- Intramammary space > 1.5-2"
- High inframammary fold
- Constricted base
- Lack of veining
- Stretch marks (insulin resistance – rapid growth)

Huggins, K., Petok, E. S., & Mireles, O. (2000). Markers of lactation insufficiency. *Curr Issues Clin Lact*, 25-35.

Potential Markers for IGT

Asymmetry



Persistent Tanner Stage 4



Courtesy of Amy Kotler

Supplement at Breast



Excess Blood Loss

- Intrapartum hemorrhage can injure pituitary, affecting prolactin secretion
 - Pituitary shock may be reversible
 - Sheehan's syndrome – pituitary necrosis with loss of all pituitary hormones. NO MILK



Retained Placenta

- Risk factors:
 - Fundal pressure
 - cord traction
- Progesterone from placenta blocks catalytic function of prolactin
- One report of hyperlactation



Injured Infants Need Additional Support

Ventouse Injury



Photo courtesy of Esther Grunis

Amnihook Injury



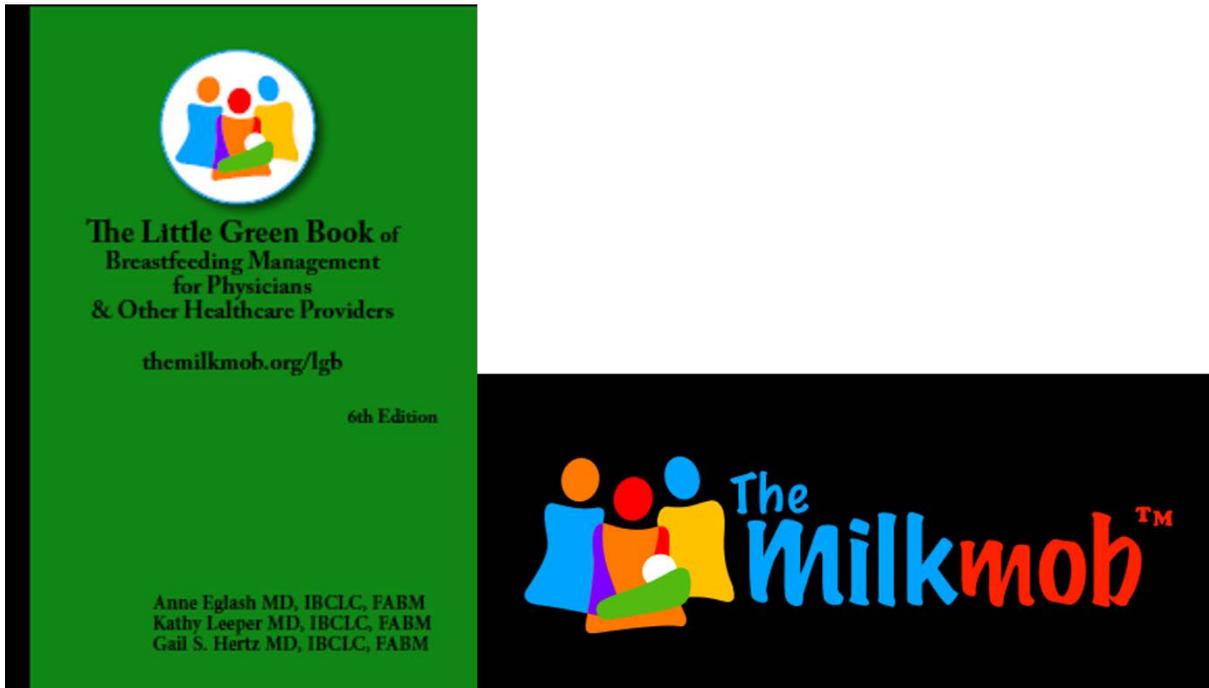
Changes in Practice

- Positive bf messages prenatally
- No industry-sponsored materials/formula
- Low intervention births = better infant competence
- Immediate and continuous skin to skin contact after birth (2+ hours)
- Manual expression of colostrum if infant separated from mother before bf well
- Support rooming in and bf on cue

Resources

<https://themilkmob.org/lgb>

Also available: Online BF Medicine Course for physicians (7-8 hours)



Questions?

