

**Maximizing Breastfeeding Outcomes in the Outpatient Setting**

Satellite Conference and Live Webcast  
 Wednesday, December 17, 2014  
 12:00 – 3:00 p.m. Central Time

Produced by the Alabama Department of Public Health  
 Video Communications and Distance Learning Division

**Faculty**

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**Part 2  
 Foundations of Breastfeeding Knowledge**

**Objective**

- Demonstrate knowledge in the following areas:
  - Providing informed choice for the breastfeeding decision, the physiology of lactation, medical contraindications to breastfeeding, and the risk of artificial feeding

**Promotion**

**HCP's Role in Breastfeeding Care**

- Promotion
  - Appropriate approach
- Protection
  - Care practices
- Support
  - Knowledgeable and skilled



**Promotion**

- Does it work?
  - Mothers are more likely to choose breastfeeding if their healthcare provider recommends breastfeeding
    - All mothers in sample: 4 fold increase
    - More than 3 fold increase among low - income, young, and less - educated women

**Promotion**

- Nearly 5 fold among black women
- Nearly 11 fold among single women

Lu MC, Lange L, Shesser W, Hamilton J, Helton N. Provider encouragement of breast-feeding: evidence from a national survey. *Obstet Gynecol.* 2001 Feb;97(2):290-5.

**Promotion**

- Why do some women still choose not to breastfeed after being given informed choice?

**Considering the Options**

- Breastfeeding vs. Formula feeding
  - Which is more important?
  - Are they equal in importance?



**Considering the Options**

- Breastfeeding vs. Their Barriers



**Belief of Importance**

- Cultural messages concerning the value of formula feeding
  - See babies being formula fed, do not see babies being breastfed
  - See cultural acceptance of formula feeding as the norm

**Belief of Importance**

- HCP's contribute
  - Wearing formula logos / giving out formula samples / giving out formula handouts
  - Actively encouraging the mother to use formula to solve breastfeeding problems

**Considering the Options: Breastfeeding vs. Barriers**

- Embarrassment / discomfort with this function of their body
- Lack of interest or a negative perception of breastfeeding
- Lack of support from partner and family members
- Other family responsibilities / need to return to work or school
- Perceived decrease in father - child bond

**Promotion**

- The HCP's role
  - Avoid conveying the message that formula feeding is equal to, or better than, breastfeeding
  - Appropriately convey the message to the mother that the value of breastfeeding outweighs the barriers she faces

**Promotion**

- Be ready to identify and address the barriers to breastfeeding

**Ask Open Ended Questions**

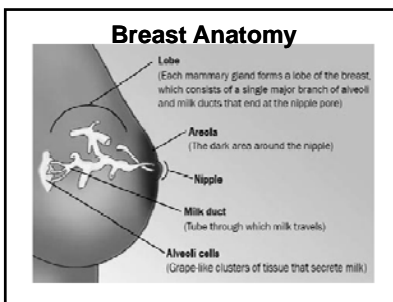
- I recommend breastfeeding as the best choice for babies and mothers
  - Tell me what you know about breastfeeding
  - What are your concerns about breastfeeding
  - Do you have any questions regarding breastfeeding

**Ask Open Ended Questions**

- This approach allows you to hear her concerns / barriers and respond to them



## Physiology of Lactation



- ### Glandular Tissue
- **Makes and transports milk**
    - Alveoli
    - Myoepithelial cells
    - Ductules
    - Lobes
    - Lobules

- ### Breast Size
- **Fatty Tissue** (connective tissue that contains stored fat)
    - Protects the breast from injury
    - Is what mostly affects the size of a woman's breast

- ### Breast Size
- **Breast size does not have an effect on the amount of milk or the quality of milk a woman makes**
  - **Breast usually enlarge during pregnancy**

- ### Hormonal of Lactation
- **Hormonal influences**
    - Estrogen
    - Progesterone
    - Prolactin
    - Oxytocin
    - Insulin

- ### Prolactin
- **Causes the production of milk**
  - **In order for prolactin to work there must be specific receptors present in the breast**
    - Thus prolactin levels can be misleading

- ### Prolactin
- **Receptors are laid down when there is a surge over baseline (breast stimulation with nursing or pumping) in the early days of nursing**
  - **Response is delayed in overweight or obese women**

- ### Prolactin
- **High at the first 2 hours after birth and at night**
    - **Breastfeeding at night allows for more prolactin secretion**

### Oxytocin

- “Let down”
  - Contracts the smooth muscle layer of band - like cells surrounding the alveoli
  - Squeezes milk into the duct system, making milk available to the baby

### Oxytocin

- Infant swallowing may be her only indication of let - down
  - *May occur with or without sucking*

### Milk Production

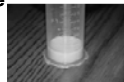
- Lactogenesis I
- Lactogenesis II
- Lactogenesis III

### Lactogenesis I

- Refers to the development, during pregnancy, of the mammary gland's capacity to synthesize milk
  - Colostrum is present by week 17
  - Colostrum is specific to the infant's gestational age

### Colostrum

- Watery to thick/clear to yellow
- Easily digested
- Gentle laxative effect
  - Helps get rid of meconium
  - May cause baby to be fussy / cluster feed



### Colostrum

- Rich in antibodies / immune properties
  - Coats the lining of the intestines
  - Protects against swallowed bacteria and viruses



### Lactogenesis II

- Refers to the onset of copious milk secretion, or the time the mother feels her milk “coming in”
- Endocrine controlled
  - Programmed by hormonal changes
- Fullness and warmth in breast
  - May be accompanied by low grade temp

### Lactogenesis II

- Milk volume
  - First 36 hours
    - 50 cc's per 24 hours
  - Day 4 through day 10
    - Volume climbs to 500 cc's per 24 hours
  - Day 10 through day 14
    - Volume climbs to 750 cc's per 24 hours

### The Newborn Tummy

- At birth, the baby's stomach can comfortably digest what would fit in a hazelnut (about 1 - 2 teaspoons)
- In the first week, the baby's stomach grows to hold about 2 ounces or what would fit in a walnut.



**Lactogenesis III**

- Maintenance of established secretion
  - 10 to 14 days postpartum
  - Autocrine controlled
  - Volume increases to 750 cc's per 24 hours

**Lactogenesis III**

- Mature milk
  - Color is whiter
  - Consistency is thinner
  - Fat separates on standing
  - Water is the largest constituent (87.5%)

**Risk of Artificial Feeding**

**Exclusive Breastmilk Feeding**

- The AAP recommends exclusive breastfeeding for about six months, with continuation of breastfeeding for one year or longer as mutually desired by mother and infant

**Does the Literature Support Exclusive Breastmilk Feeding?**

- Breastfeeding and Maternal and Infant Health Outcomes in Developed Countries
  - Report prepared by the Evidence - based Practice Centers of the Agency for Healthcare Research and Quality (AHRQ) of the U.S. Department of Health Human Services

**Does the Literature Support Exclusive Breastmilk Feeding?**

- Comprehensive publication that reviews and analyzes the published scientific literature that compares breastfeeding and commercial infant formula feeding as to health outcomes

**Benefits of Breastfeeding / Risk of Not Being Breastfed**

Condition	(length of brfdg)	% Lower Risk
• Otitis Media	( ≥ 3 mo )	50%
• Upper Respiratory Inf	( ≥ 6 mo )	63%
• Lower Respiratory Inf	( ≥ 6 mo )	77%
• NEC (NICU stay)		77%
• Gastroenteritis (any)		64%

2012 AAP Statement on Breastfeeding and the Use of Human Milk

**Benefits of Breastfeeding / Risk of Not Being Breastfed**

Condition	% Risk
• Obesity (any)	24%
• Type 1 Diabetes (> 3 mo)	30%
• Type 2 Diabetes (any)	40%
• Leukemia ALL (> 6 mo)	20%
• Leukemia AML (> 6 mo)	15%
• SIDS (any > 1 mo)	36%

2012 AAP Statement on Breastfeeding and the Use of Human Milk

**Risk of Supplementation**

- Exposes baby to possible allergens and intolerances that can lead to eczema and asthma
  - Negative family history
    - 27% lower risk if breastfed exclusively for > 3 months

**Risk of Supplementation**

- Positive family history
- 42% lower risk if breastfed exclusively for > 3 months

**Avoiding Artificial Nipples**

- Use of supplements or pacifiers in the hospital is associated with a risk for early weaning
- Encourage parents to avoid the use of pacifiers, artificial nipples, and supplements, unless medically indicated, until breastfeeding is established

**Avoiding Artificial Nipples**

- 3 - 4 weeks (and only then if desired)
- Some babies never use artificial nipples

**Medical Contraindications to Breastfeeding**

**Contraindications for Breastfeeding**

- Given the benefits of breastfeeding, are there any contraindications?
  - Ruth Lawrence
- There are contraindications, but they are very rare
  - AAP 2012 statement used as reference

**Contraindications for Breastfeeding**

- Maternal
  - HIV + \*
  - Human T - cell leukemia virus type I
  - TB (active)
    - Expressed milk can be provided
    - Before treatment - should be treated for at least two weeks and documented that she is no longer infected before direct breastfeeding is advised

**Contraindications for Breastfeeding**

- Herpes (lesion on / around nipple)
- Untreated brucellosis

**Contraindications**

- Moms who develop varicella five days before, through two days after delivery should be separated from infant but can provide milk
- Moms acutely infected with H1N1 should be isolated from infants, but can provide milk

**Contraindications Cont.**

- Maternal
  - Breast Cancer
    - Treatment purposes
  - Maternal Medications
    - Rare

**Contraindications Cont.**

- **Infant**
  - Galactosemia
  - Only absolute medical infant contraindication to breastfeeding

**Contraindications Cont.**

- PKU (or other metabolic diseases)
- Can alternate breastfeeding with special protein - free or modified formula, provided that appropriate blood monitoring is available

**What About...**

- **Alcohol: Occasional and limited use of alcohol is not a contraindication to breastfeeding**
  - In general, avoid breastfeeding for two hours after one or two alcoholic drinks; no need to pump and discard during waiting time

**What About...**

- **Smoking: Should be encouraged to cut down / quit**
  - Is not a contraindication to breastfeeding
  - If cannot quit, mother should be counseled to smoke after feedings (not around the baby) to decrease exposure