Donor Milk for the Term Newborn

2nd Annual Minnesota Perinatal Hospital Leadership Summit
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Why Pasteurized Human Milk for the Term Newborn?

- When a baby is born, the mucous lining of the gut is just beginning to develop.
- One feeding of formula negatively changes the integrity of the baby’s gut and it can take 4-6 weeks to recover.
  - [http://driaygordon.com/pediatricks/startingout/supplement.html](http://driaygordon.com/pediatricks/startingout/supplement.html)
Donor Milk for the Term Newborn: Understanding Why

- Protecting the newborn digestive system
- The term “open gut” aptly describes why colostrum/breastmilk is so important to the baby to start life with a healthy digestion.

Why Pasteurized Human Milk for the Term Newborn?

- **Breast Milk Gut Flora: Critical Differences**
  - Tested growth of 2 E. coli strains in human milk, human milk IgA, cows’ milk formula, and whole cows’ milk
    - Monitored bacterial growth and habit at body temperature.
  - “Only breast milk appears to promote a healthy colonization of beneficial biofilms... Earlier studies have shown that breast milk lowers the incidence of diarrhea, influenza and respiratory infections during infancy, while protecting against the later development of allergies, type 1 diabetes, multiple sclerosis and other illnesses. As scientists have learned more about the role intestinal flora plays in health, they have gained appreciation for how an infant’s early diet can affect this beneficial microbial universe.”
  - Dr. William Parker, PhD, Duke University (08-27-2012)
Why Pasteurized Human Milk for the Term Newborn?

- Neonatologists saw the benefits for the NICU babies when they began consistently using donor milk in 2011.
  - Initial Practice: NICU babies ≤34 weeks gestation were given pasteurized human milk.
  - Became apparent that ALL babies deserve benefits of this practice.
- Ongoing human milk research supports this practice for all babies to receive breastmilk.

What did they observe?

Babies tolerated their feedings better
- ↓ pre-aspirations and spits
- ↓ necrotizing colitis
- ↑ Stool frequency
- ± Earlier discharge
- ↑ Parent satisfaction-moms felt and knew they were helping their babies
Donor Milk for the Term Newborn: How We Got There

- KEY: Sought Administrator Support
- Perinatal Director
  - Saw need, willing to take to administrative team
  - Emphasized improved outcomes, decreased costs overall
  - Public health / cost/benefit aspects
- CNO
  - Created presentation specifically addressing benefits from professional nursing’s perspective

Donor Milk for the Term Newborn: Education of Staff

- Modules put on HealthStream to educate the staff and doctors
- Staff Meetings
- Information Sheet for Staff
- Scripting – pasteurized human milk is a BRIDGE for the baby and mother.
  - Mother’s own expressed milk is given first whenever available.
Donor Milk for the Term Newborn: Education of Staff: the Challenges

- Ongoing Challenges – evidence-based practice vs. personal opinions
- Fact vs. Fiction
  - Practice is evidence-based
  - Donor human milk is carefully screened
    - Required blood testing of donors plus written/verbal screening
    - Strict rules re: what donating moms can and cannot ingest while donating
    - Blended with milk from 3-10 mothers, then gently pasteurized and bottled
- Giving newborns Human Milk Substitute, aka “formula”, is NOT without risks

Next step for Donor Milk for the Term Newborn: Ensuring Proper Refrigeration

- Convenient Locations
  - One in NICU
  - One on the Mother/Baby unit
- Temperature alarms on each freezer or refrigerator
Ordering Human Milk from a HMBANA, non-profit Milk Bank

- 16 non-profit human milk banks in US/Canada
- Initially got milk from the Colorado Milk Bank
- When they were unable to supply sufficient amounts, began using the University of Iowa HMBANA Milk Bank
- Importance of educating “Shipping and Receiving” on how to receive / deliver this product to the NICU for prompt freezer storage.

North Memorial began giving pasteurized human milk to the term newborn in 2012
Supporting the Establishment of Mother’s Own Milk Supply

- Breastfeeding – early and often
  - Early initiation of skin to skin and breastfeeding – within first hour of birth
  - Encourage / assist mom to put baby to breast every 2-3 hours

- Teaching manual or “hand” expression in addition to use of electric breast pump

- If baby demonstrates that the mother’s early supply is not enough, only then is pasteurized human milk discussed

When is Pasteurized Human Milk Needed for the Term Newborn?

- Typical Criteria for Supplementation
  - Hypoglycemia
  - Elevated Bilirubin
  - > 10% weight loss

- Low or delayed maternal milk supply associated with:
  - Cesarean birth
  - Breast reduction
  - Late initiation of breastfeeding (Mother in ICU, etc.)
  - Postpartum hemorrhage
  - IDDM, other endocrine dysfunctions
  - Obesity
  - Ineffective suckling by infant

Key Steps in Donor Milk Use for the Baby

- Educate the family
- Give hand outs
- Obtain Consent

Thawing Donor Human Milk

- Room temperature
- Penguin warmer to thaw and warm as needed
- Can be thawed and refrigerated for 48 hours
- Milk is labeled with a sticker to communicate when it was thawed
**Using Donor Human Milk**

- Use Sterile syringe to draw up the milk or pour milk into a Volufeed container
  - Bottle of donor milk can be used for more than one baby
  - Avoids wasting any milk
- Warm milk – Penguin Warmer
- The baby is supplemented by:
  - Dropper/finger feeding
  - Cup
  - Bottle, if family prefers to other methods

![Image of Sterile Syringe]

**Documentation in Epic**

- Confirm that Consent has been signed
  - Required for both formula or donor milk supplementation for breast fed babies
- Verify patient / donor bottle ID (two RN’s)
- Record volume given in mLs and method used
Supplementing with Donor Milk: Methods

- Given by Foley
- Soft dropper/finger feeding
- SNS (supplemental nursing system)
- Spoon
- Bottle as last choice

Supplementing with Donor Milk: Volume Matters

- Feeding volumes based on research on newborn stomach volumes
- < 24 hours – 5-10 mL
- 24-48 hours – 10-20 mL
- 48-72 hours – 20-30 mL
- >72 hours – ad lib
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Questions or comments?

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