Use and Storage of Pasteurized Donor Human Milk in the NICU

Goal:

The provision of pasteurized donor human milk (PDHM) for premature or sick infants is an evidence-based practice intended to improve infant outcomes in the Neonatal intensive care unit (NICU)

Definitions:

- PDHM: Banked donor human milk that is screened, pooled, and pasteurized. PDHM from a HMBANA (Human Milk Banking Association of North America) milk bank will be used.
- Preterm Donor Milk: Milk collected from mothers who delivered infants < 37 weeks’ gestation, within the first month after delivery.
- Early Term Donor milk: Milk collected from mothers who delivered term infants (> 37 weeks’ gestation), within the first month after delivery.
- Term Donor Milk: Milk collected from mothers who delivered term infants (> 37 weeks’ gestation), within the first year after delivery.

Considerations:

- PDHM will be given to infants who meet specific criteria, or on a case-by-case basis, as deemed appropriate by the neonatologist.
- The parent or legal guardian will need to sign consent prior to PDHM feedings.
- Infants who are eligible for PDHM will need a physician’s order.
- Mother’s own milk (MOM) is always used first. If there is an insufficient quantity of MOM for a feeding, this milk can be mixed with PDHM to achieve the desired quantity. If MOM is unavailable, PDHM is used exclusively.
- PDHM can be fortified per current NICU protocol.
- Multiples: If one infant is eligible, all siblings will receive PDHM.
- Infants >35 weeks: PDHM will be given as a bridge to MOM establishment, unless meets additional criteria that justifies continued use of PDHM.

Criteria:

Criteria for receipt of PDHM include, but are not limited to:

- Birth gestational age (GA) < 35 weeks
  - “Term” PDHM for all qualifying infants >1000 grams.
  - “Preterm” PDHM for all qualifying infants < 1000 grams. If Preterm PDHM is unavailable, Early Term PDHM should be used. If neither Preterm nor Early Term PDHM is available, Term PDHM is used.
- Infants >35 weeks birth GA per parent request at sites where this option is available. These infants will receive PDHM for 14 days and or until mother establishes sufficient milk supply as part of the transition process.
- GI diagnosis (e.g. short-gut syndrome, gastroschisis, malabsorption, GI surgery)
- Post NEC or a history of NEC
- Renal failure
- Feeding intolerance
- Some inborn errors of metabolism
- Provider discretion
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Initiation process:
- A signed consent is needed prior to the administration of PDHM. This consent provides the parent/guardian with general information about the use of PDHM. The parent/guardian is encouraged to ask questions to bedside nurse, lactation consultant or physician before signing. If the parent/guardian is not present, telephone consent will be accepted. The signed consent will be kept in the infant’s chart.
- The neonatal provider will order PDHM for the eligible infant as a nutrition order
- A formula order will not be written for these infants.

Weaning process:
- Infants born < 35 weeks: Weaning will occur after 14 days on PDHM or 35 weeks CGA, whichever is longer, or until on ad lib feedings.
- Infants born > 35 weeks: Consider weaning at 14 days of life if appropriate
- Suggested weaning schedule:
  - Day 1: Two formula feedings intermittently throughout the day
  - Day 2: Four formula feedings intermittently throughout the day
  - Day 3: Six formula feedings
  - Day 4: All formula
- For infants requiring a faster wean (i.e., anticipated discharge) consider the following weaning schedule:
  - Day 1: Every other feeding will be formula
  - Day 2: All formula feedings
- The physician will enter a Nursing Communication Order stating, “Wean donor milk per protocol.”
- Infants will only be weaned if they are stable, and do not have a GI diagnosis, NEC, renal failure, or other medical needs that warrant the extended use of PDHM.
- Infants who develop feeding intolerance during the weaning process may need an extended weaning period or may need an additional week of exclusive human milk feedings, as deemed necessary by the provider.
- Ideally, weaning from PDHM should be completed at least 2 days prior to discharge

Ordering/Storing/Handling of PDHM:
- A designated team member will assess the stock of PDHM daily and will notify the NICU Lactation Consultants (LC) if stock is low.
- The LC will arrange for milk delivery with the milk bank. The LC or a designated healthcare provider will receive the milk into the Bridge System and will check the milk against the invoice, assess the condition of the milk, and transfer the milk to the freezer. If the shipment does not match the invoice, or if there is a problem with the shipment (broken bottles or thawed milk), the person receiving the milk will notify the LCs.
- PDHM will be stored in accordance with the current Safe Human Milk Handling Policy. PDHM can be stored in the NICU freezer until the expiration date designated by the milk bank
- A single “Unit Bottle” of PDHM can be used for several infants.
  - a. State change/ thaw the bottle under “Milk Management” in the Bridge System.
  - b. Print a new Bridge label with the thawed date and new expiration time.
  - c. Place bottle in the refrigerator for 1 hour prior to thawing in milk warmer if it has been in deep freezer.
  - d. Thaw the milk to cold using the bottle warmer.
  - e. Using the Bridge system, divide the bottle to assign portions for use by a single patient. If using the entire bottle for one patient, divide and dispose of the original donor bottle number in the system.
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- When preparing feedings, the RN/Milk Tech should:
  a. Label each syringe/bottle with the Bridge label.
  b. Chart the feeding as “Donor Human Milk” in electronic medical record.
- Additional considerations
  a. In the case of PDHM recall, lot numbers may be retrieved through the Bridge system.
- Human Milk, Bovine Fortifier and Prolacta Conservation steps:
  a. When placing milk ticket/preparing feeding do not order overfill for NG feedings and only 2 ml overfill for oral feedings.
  b. When mixing feeding, use Prolacta or Bovine fortifier mixing chart (chart is in 1 ml increments) for exact amount of milk: fortifier ratio.
  c. RN will prime NG extension tubing (which requires 2 ml to prime) and set feeding pump for exact amount of feeding.
  d. When pump alarms RN will flush extension tubing with 2 ml of air to clear tubing/give remainder of feeding.
  e. NG tube care per protocol.
- Refer to Fortifier Breast Milk Mixing Chart

For Further Information refer to Neonatal Nutrition Management Guidelines:
https://www.advocatechildrenshospital.com/healthcare-professionals/peds-pathways

References
1. Donor Human Milk for High-Risk Infant: Preparation, Safety and Usage Options in the United States Committee on Nutrition, Section on Breastfeeding, Committee on Fetus and Newborn. Pediatrics Volume 139, number 1, January 2017