

GUIDELINE FOR THE PREPARATION AND ADMINISTRATION OF MILK FEEDS

Rationale

The unhygienic preparation, reconstitution, storage and administration of milk feeds and feed equipment may result in serious infection (Department of Health (DOH) 2012; Royal College of Nursing (RCN) 2013). In addition, the emotional toll of breast milk administration errors can result in the loss of trust between parents and staff (Warner & Sapsford 2004). The use of a clear milk preparation and administration protocol can help to minimise the risk of such errors and the potential transmission of infection (Drenckpohl, Bowers & Cooper 2007).

Practice

STORAGE

- Each nursery has its own designated fridge and freezer for milk storage, with a temperature monitoring system
- Each individual syringe or bottle of milk that is stored in the fridge must be labelled with a Bloodhound label
- All milk feeds must be stored in an individual lidded storage box, wherever possible, to separate each patient's milk. The container itself must be labelled with a Bloodhound label placed on top of a Tegaderm[®], to allow the easy removal of the adhesive label for cleaning purposes
- Providing all fridges and freezers are working, the storage boxes must always be arranged in a logical sequence of cot 1 to cot 10 from top left to right and from top to bottom in each fridge and freezer on the unit
- Milk fridges and freezers must not house any other items e.g. food, drink, blood samples
- Breast milk must not be stored in plastic bags, on the neonatal unit, and should be decanted into a sterile bottle. Mothers should be advised to store their breast milk in sterile bottles rather than plastic bags
- Fresh maternal breast milk that has not been frozen may be kept in the fridge for 48 hours from the time of expression
- Frozen maternal breast milk may be kept in the fridge for 12 hours once it is defrosted
- Frozen maternal breast milk may be kept in the freezer for three months from the time of expression
- Donor breast milk may be kept in the fridge for 24 hours once defrosted
- Frozen donor breast milk may not be kept beyond the expiry date on the bottle
- Formula milk may not be kept beyond the expiry date on the container
- Once opened, pre-packed formula milk may be kept in the fridge for 24 hours after but must be for single patient use
- Wherever possible, breast milk must be used in chronological order of expression to offer maximum protection to the gut. The local enteral feeding protocol provides further information about the use of

refrigerated versus frozen breast milk and the importance of using it in the order of expression. To minimise wastage of breast milk in the first few weeks of life, please store breast milk in small aliquots. Use a 2ml, 5ml or 10ml syringe initially or until the infant tolerates larger volumes of feed.

PREPARATION

- Hands must be washed and alcohol gel applied prior to milk preparation and feed administration
- Non-sterile gloves must be worn during milk preparation and feed administration and the principles of aseptic non-touch technique must be employed
- All milk feeds must be drawn up at the patient's bedside not more than fifteen minutes before a feed is due, to reduce the risk of administration errors
- The bedside area to be used for milk preparation must be cleaned in advance with Clinell® wipes
- The individual storage box containing the patient's milk must be removed from the fridge and taken to the bedside for preparation
- The individual storage box must be cleaned with Clinell® wipes at least once a shift or if there is any visible milk residue
- Any condensation or moisture that accumulates in the lidded storage boxes must be removed by drying thoroughly with a clean paper towel
- The type and expiry date of the milk must be checked prior to all milk feeds
- For all breast milk feeds, two healthcare professionals must also ensure that the patient identifiers on the milk from the fridge matches the patient's cot card or wrist band, prior to transferring it to a syringe or bottle for warming/administration
- The syringe or bottle for feed warming/administration must be labelled with a Bloodhound label, which includes the patient's name, hospital number and date of birth. Neonatal staff must also write the type and volume of milk and the date and time of the feed on this adhesive label
- All syringes containing milk must be protected with a bung/end cap to reduce the risk of microbial contamination
- All bottles must be covered with a teat or lid to reduce the risk of microbial contamination
- Infant formula powder is not sterile and may contain microorganisms, such as *Enterobacter sakazakii* and salmonella. Premature infants are likely to be more susceptible to these organisms so liquid ready-to-feed formula must be given to infants on the neonatal unit, wherever possible, as this is sterile (RCN 2013). If only powdered formula milk is available, it must be prepared at the time of a feed to reduce the risk of infection (DOH 2012). However, if small volumes (<10ml per feed) are required, then powdered formula milk feed may be kept in the fridge for a maximum of 6 hours following preparation

- Fortifier must only be used as directed by the Neonatal Dietician or Consultant, in accordance with the enteral feeding guideline. Fortifier should be added to breast milk as close to the feed time as possible
- Once the feed is prepared, any remaining milk must be returned to the fridge as soon as possible, to reduce the risk of microbial contamination (DOH 2012; RCN 2013)
- Water must not be used to warm or defrost milk due to the risk of water-borne infections, such as *Pseudomonas Aeruginosa* (DOH 2013)
- Milk feeds on the neonatal unit must only be warmed using the designated feed warmers, following the manufacturer's instructions
- Milk that is administered over sixty minutes or less must be pre-warmed. Milk feeds that are administered over more than an hour must not be pre-warmed
- Each feed warmer insert must be labelled with the patient's name and hospital number, ideally using a Bloodhound label. The inserts must be changed if any visible milk residue cannot be removed with Clinell® wipes or if they are damaged or torn. They must be changed at least every 7 days, as agreed with the Trust Infection Prevention Team
- Parents themselves must not place milk in the fridge or freezer, to reduce the risk of inadvertently placing milk in the wrong storage box. Neonatal staff should take milk from parents and place it in the fridge or freezer on their behalf. If parents wish to draw a feed up for their baby, neonatal staff must remove the milk from the fridge and take it to the baby's bedside where parents can then decant it into a syringe or bottle. This milk must be labelled and two healthcare professionals must still check the source labels for any breast milk feeds against the wrist band or cot card prior to warming/administration
- Parents must use Bloodhound labels to identify breast milk. The date and time of expression must also be written on the label. If Bloodhound is not working, plain adhesive labels must be given to the mother and she must be advised to handwrite the baby's name and hospital number on each label. Any breast milk found without patient identifiers must be discarded unless the mother is present and can verify when it was expressed and that it belongs to her. Following verification, Bloodhound labels must be used to label the milk immediately

ADMINISTRATION

- A Bloodhound label must be applied to the end of each feeding tube and enteral extension set
- Enteral extension sets must be changed every 12 hours and labelled with the date and time of the last change. The end may be cleaned with an alcohol wipe if contaminated with milk or medication
- Bottles and syringes must be gently agitated prior to feed administration, to prevent any fat residue from adhering to the syringe or bottle

- The position of the feeding tube must be verified prior to feed administration, in accordance with the relevant unit protocol
- Once breast milk is warmed and before administration, two healthcare professionals must perform a second check to ensure that the patient identifiers on the syringe or bottle match the patient wristband or cot card. A third and final check should be made by the person administering the breast milk feed by checking the patient identifiers on the syringe against the Bloodhound label attached to the feeding tube or enteral extension set
- Discard any unused feed immediately after the baby has completed their feed (RCN 2013)

DOCUMENTATION

- If Bloodhound is not working and printed labels cannot be produced, a hand written label will be used but must include the patient's full name, hospital number, type and volume of milk, time and date of feed
- Donor breast milk batch numbers must be documented in the electronic patient record
- The milk type, milk volume, route of administration and the date and time of each feed must be documented in the electronic patient record

References

- Department of Health (DOH). 2012. *Guide to Bottle Feeding: How to Prepare Infant Formula and Sterilise Feeding Equipment to Minimise the Risks to Your Baby*. London: DOH.
- Department of Health (DOH). 2013. *Water Systems HTM 04-01: Addendum. Pseudomonas Aeruginosa – Advice for Augmented Care Areas*. London: DOH.
- Drenckpohl, D., L. Bowers and H. Cooper. 2007. User of the six-stigma methodology to reduce incidence of breast milk administration errors in the NICU. *Neonatal Network* 26(3): 161-166.
- Royal College of Nursing (RCN). 2013. *Formula Feeds. RCN Guidance for Nurses Caring for Infants and Mothers*. London: RCN.
- Warner, B.B. and A. Sapsford. 2004. Misappropriated human milk: fantasy, fear and fact regarding infectious risk. *Newborn and Infant Nursing Reviews* 4(1): 56-61.