GUIDELINE: Expressing and storage of expressed breast milk (EBM) and Breast milk incident management

SCOPE: All staff working in Maternity, Neonatal Unit and Planet Sunshine

AUTHOR: NNU Quality Co-ordinator

PURPOSE: Safe and clinically appropriate collection and storage of breast milk

DEFINITIONS:
Expressed Breast Milk –EBM refers to the colostrum and breast milk expressed buy a mother for her baby

GUIDELINE:
Breast milk is the ideal food for term and preterm infants.

Preparation
Women should wash their hands with soap and water or a waterless hand cleanser prior to milk expression
Milk expression can be achieved by hand or pump
A sterile pumping set is provided for women who are using an electric or hand pump. Equipment is cleaned with detergent and hot water using baby's own bottle brush and bowl and rinsed thoroughly before being placed in the woman's labeled plastic container with cold water sterilizing solution as per manufacturer's instructions When the pumping set is no longer required it is sent to CSSD for sterilizing.

Expressing
Initiating Lactation if infant is unable to breast feed

Follow the steps below to assist the woman to learn the skill of expressing her own milk if her baby is unable to breastfeed.

1. Start as soon as possible after delivery, (preferably within an hour or two of delivery) or at least within 6 hours
2. Ensure privacy as directed by the mother
3. Wash hands (mother & staff) and provide a sterile container for collecting milk
4. Show the woman how to stimulate her breasts and assist the let-down reflex by:
    - gentle circular massage and tactile stroking
    - applying warmth
    - positive thoughts of her baby
    - sitting by her baby or looking at a photograph
5. Provide information leaflet on hand expressing and provide guidance on technique.

It is generally recommended that the mother hand express until her milk 'comes in', then manual or electric pump may be used. Some women prefer to use an electric pump before their milk comes in. It is important to discuss options for expressing individually with the woman.

Some women may prefer to hand express all the time. This is acceptable if the mother is proficient at hand expressing.

General Guidelines

Follow the steps below as a general guide to expressing.

1. Frequency of expressing - aim for 8 – 12 times in 24 hours during the initiation of milk supply. One or two night-time expressions, especially in first 2 weeks, are strongly recommended. Intervals don't have to be regular; flexibility makes it easier. Frequency may depend on parity, multiple births, caesarean section and previous lactation history therefore individual advice is advisable.
2. Length of expressing episodes - express each breast for approximately 20 minutes. Once the milk has "come in" express for approximately 15-20 minutes or until the milk flow stops or slows down. You can swap breasts, if single pumping, approx. 2-3 times each expressing episode to provide more stimulation.
3. You can pump breasts one at a time or both together if this is comfortable
4. Volume – initially a small amount, increasing dramatically within 72 hours post delivery with regular expressing. An estimated guide of volume for one infant is:

   300mls/24 hours by day 5

   500mls/24 hours from 7 – 14 days

   >800mls/24 hours from week 3-4

Note: The total volume obtained in 24hours is important, not volume obtained at each session. It is more efficacious to express 8 times in 24 hours for 20 minutes than to express 5 times per day for 45 minutes.

Maintaining Lactation

Follow the steps below as a guide to maintaining lactation:

1. Once lactation is established increased flexibility with expressing can occur (this can take 3-4 weeks).
2. Any change in expressing schedule should be gradual as sudden changes increases risk of mastitis or a sudden drop in lactation.
3. Once a milk supply is established it is easier to manipulate supply up or down depending on the infants needs. It may be difficult to establish lactation if it does not occur early.
4. Night time expressions can be gradually made further apart although most mothers with an established milk supply find it uncomfortable to go longer than 6 hours.
5. Dropping to less than 5 expressions per day can lead to dramatic decrease in milk supply for some mothers and is not recommended.
6. Consider increasing expressing to 12 times per 24-48 hours every 10-14 days to boost milk production. This is commonly referred to as a "marathon expressing day".

(adapted from Australian breastfeeding association 2015)

Storage

All EBM is saved however small the quantity.

EBM is saved in sterile pots or oral syringes clearly marked with name date and time of collection. Each baby has own labeled box in the fridge. Mothers will be shown how to label and store their EBM

Guidelines for storing expressed breast milk

Storage conditions	Storage time	Comments
Room temperature (< 26ºC)	4 hours	Cover containers and keep them as cool as possible (e.g., surround the closed container with a cool towel to help to keep the milk cooler)
Refrigerated (at 4 degrees C or lower)	48 hours	Store milk in the back of the main body of the refrigerator
Frozen • Freezer box in refrigerator	• 2 weeks	Store milk toward the back of the freezer, where the temperature is most constant
• Separate door fridge/freezer	• 3–6 months	
• Separate deep freeze	• 6–12 months	

Source: www.moh.govt.nz

Usage

EBM is used for the baby whose mother expressed it. Each baby should have a labeled storage container for EBM in the fridge. Great care must be taken to check EBM identification matched the correct infant. Identification can be checked against the baby's identity band. Do not use unlabelled milk.

If a baby is inadvertently given the wrong breast milk it is a serious event as there is a low but possible risk of transmission of infectious agents.

If a baby is given the wrong breast milk, please notify the paediatrician on call (during day time hours). Incident reporting documentation should be completed.

For management and documentation of this event see appendix 1.

In addition to the actions on the Waikato protocol the paediatrician may order CMV testing of breast milk and baby's urine as preterm infants, especially less than 28 weeks gestation and babies less than one month or with an underlying immune deficiency disorder can become very unwell with this infection.

The paediatrician or his/her nominated clinician will ensure follow up is completed.

There is no "milk bank" at present.
If a mother is using Donor milk they should be advised of the possible risks of using donor milk and safe storage including appropriate labelling.
Freshly expressed EBM is better than stored or frozen EBM, so if there is freshly expressed milk available for 1-2 feeds each day it will maximize nutritional benefits.
Frozen EBM can be defrosted in the refrigerator overnight or at room temperature or by standing container in warm water. Do not microwave.
Frozen EBM should be used within 24 hours of thawing. Please label any defrosted milk with date and time of defrosting.
Warm EBM to room temperature by removing from the fridge 30 minutes prior to a feed or warming gently in a container of warm water (app. 35 degrees) for 10 minutes. This will result in EBM being heated to 27-32 degrees (see EBM and formula preparation procedure). Please use the CALESCA MACHINE to warm EBM if in the NNU.
To mix in the fat layer gently swirl the EBM in the container. Do not shake. Less decanting of EBM helps reduce fat loss from adherence to containers.
Uncontaminated human milk contains nonpathogenic bacteria which are important for establishing neonatal intestinal flora. If mother has a breast infection or nipple pain from what is considered a bacterial or yeast infection there is no evidence that stored breast milk should be discarded. Human milk which is stringy, foul or purulent should not be fed to the baby.

ASSOCIATED DOCUMENTS:
TDH Breast feeding Policy Appendix 4
Maternity guideline – sterilizing breast feeding equipment
EBM and formula feed preparation in NNU (Procedure)

REFERENCES:
Safe management of expressed breast milk (2014) http://apo.org.au/files/Resource/safe-management-of-expressed-breastmilk.pdf
Riordan Jan, Wambach Karen (2010) Breast feeding and human lactation
Bryant P et al. Cytomegalovirus transmission from breast milk in premature babies: does it matter**?** *Arch Dis Child Fetal Neonatal Ed* 2002;87
Insights into safe management of expressed breast milk. (2015) Joanna Briggs Institute 2015
Expressing and storing breast milk. (2015) Australian breastfeeding association

Authorised by:

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***Next Review Date:* 14/11/2018**

Appendix 1 ***Please note additional processes to this protocol in TDH guideline***

Waikato District Health Board

BREAST MILK INCIDENT PROTOCOL

Policy Facilitator:	**Authorised by:**	***Classification:***
Gem Harris Clinical Nurse Leader NICU	**Jan Adams** Director of Nursing	*NICU Protocol Manual*

Management of an event when breast milk is fed to an infant from a woman other than the biological mother.

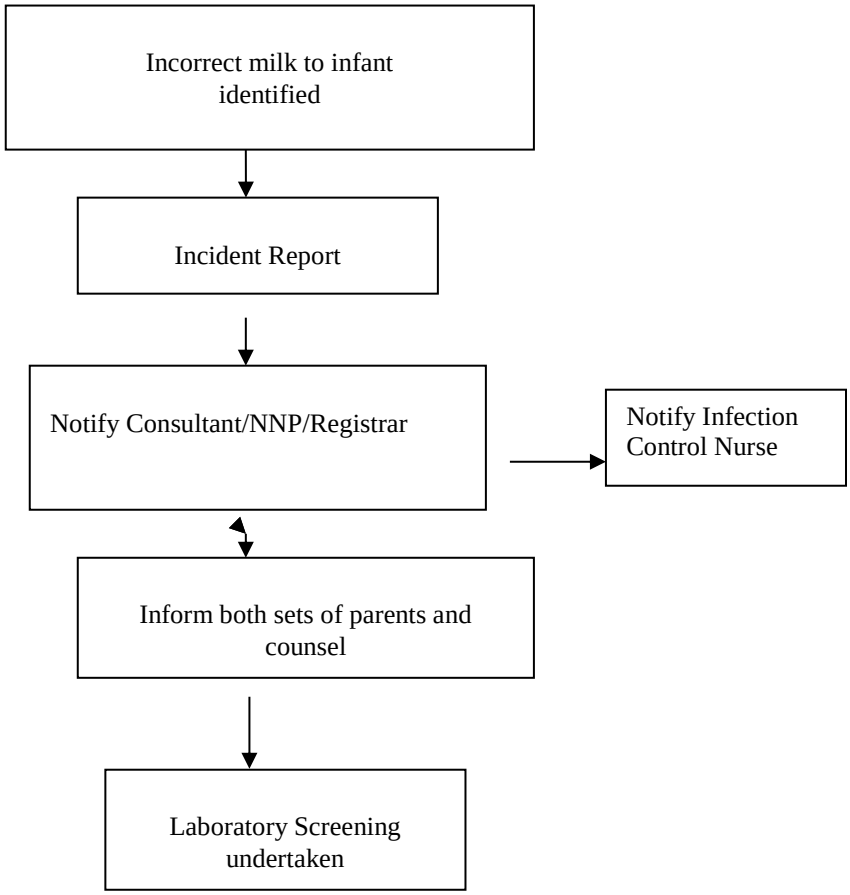
Purpose

The purpose of this protocol is to provide guidelines for assessing the possibility of a blood borne pathogen being transmitted to an infant through the ingestion/administration of breast milk from another infant's mother.

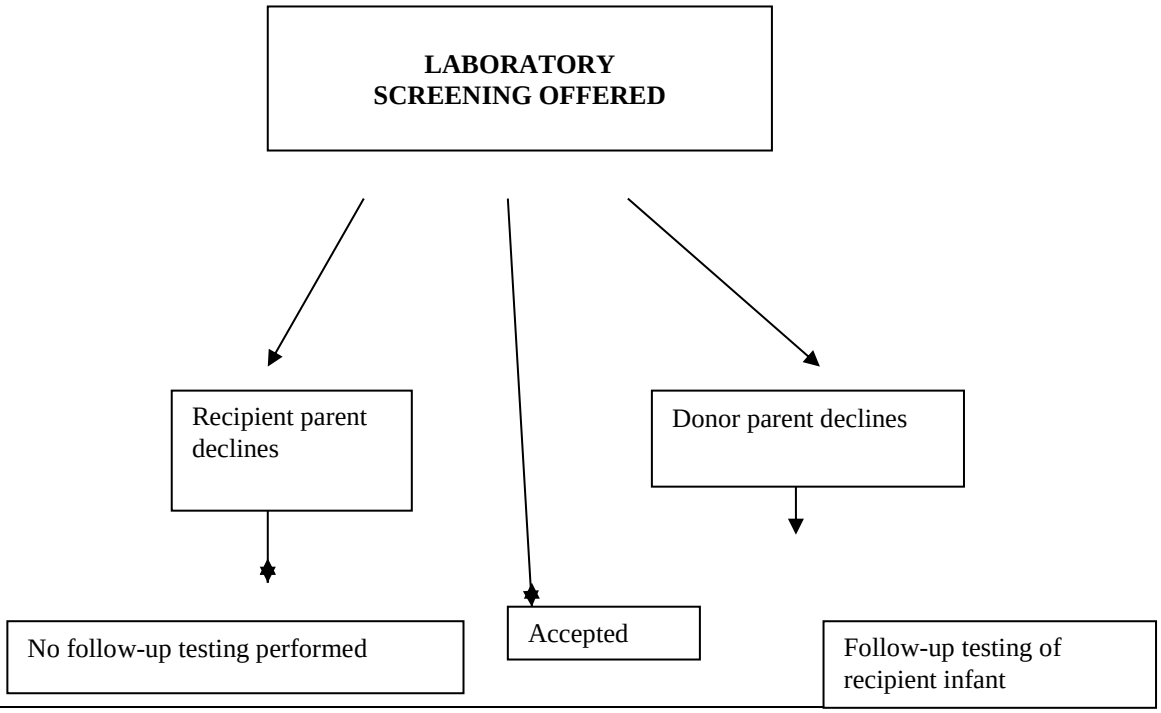
Goal is for zero tolerance for breast milk errors. Breast milk is a body fluid and its management requires the same care as the management of blood products.

Procedure

If an error is discovered the following steps will be followed:



AT TIME OF EXPOSURE



Collect blood from source mother and mother of exposed infant
HIV antigen (p24)
HIV serology (anti-HIV)
Hepatitis C serology (anti-HCV)
Hepatitis B surface antigen
Anti-HTLV-1 (if immigrant mother, non-European)

3 months post exposure to the newborn,
Repeat the following blood tests on both mothers
(laboratory form to be issued to mother, requesting the following)

HIV serology
Hepatitis C serology

- **Results of investigation** - forwarded and discussed with Neonatal Consultant (who will liaise with Infectious Disease Consultant, if indicated).
- Document in clinical notes.
- Completion and follow-up of incident report to take place.

REFERENCES

1. The Canadian Journal of Infection Control, 1998
2. Journal of Pediatrics and Child Health, 2001, 37; 576-82.
3. MMWR, 2001, 50 RR11 1-42.
4. AAP Red Book, 2000, p 98-104

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