The Shrewsbury and Telford Hospital NHS Trust

HANDLING, PREPARATION, STORAGE AND ADMINISTRATION OF EXPRESSED BREAST MILK

VERSION 2

Lead Person(s)	**:**	Specialist Midwife, Infant Feeding
Care Group	**:**	Women and Children's
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Version	Implementation Date	History	Ratified By	Review Date
1	29th March 2021	NEW	MGG, Maternity Governance	29th March 2024
2	20th March 2024	Full review	Maternity Governance	March 2027

In this guideline we use the terms ‘woman’ or ‘mother’ throughout. These should be taken to include people who do not identify as women but are pregnant or have given birth.

1.0 Introduction

The handling, preparation, storage and administration of mother’s expressed breast milk (MEBM), donor expressed breast milk (DEBM) and formula milk in the hospital environment present potential health risks to vulnerable infants. Errors in administration cause anxiety and distress to all involved. MEBM is an unscreened living body fluid and as such should be treated with the greatest care. Formula milk does not contain the protective factors of breast milk; it is a food source and a medium for bacterial proliferation. This document provides guidance to minimise such risks.

2.0 Scope

All mothers providing expressed breast milk and all infants receiving within the trust. This guideline does not apply to babies being cared for in domestic settings.

3.0 Objectives

- To ensure babies receive the right milk within the right time.
- To ensure milk that babies receive is of the highest quality possible.
- To avoid contamination and minimise the spread of infection.
- To value breast milk and avoid wastage from inappropriate handling.

4.0 Definitions and/or objectives

NNU:	Neonatal Unit
EBM:	Expressed Breast Milk
MEBM:	Mother’s Expressed Breast Milk
DEBM/ BEBM:	Donor Expressed Breast Milk/ Bank Expressed Breast Milk
RTF:	Ready to Feed

5.0 Process

5.1 Roles and Responsibilities

- **All Staff** have a responsibility to be aware of the guideline and to follow the guidance set out in it.
- **Ward Manager** of each area has the responsibility to ensure the guideline is followed.
- **Midwife** in charge of each area at each shift has a responsibility to ensure daily checks and weekly deep cleaning tasks related to this policy are carried out and documented appropriately.
- **Infant feeding Co-ordinator** is responsible for orienting new staff to the guideline as part of their induction and for ensuring that all staff receive training to handle, store and administer milk. To ensure procedures are implemented and updated where appropriate.

5.2 Maintaining Safety

- The importance of hand hygiene should be communicated to all those who are involved in handling and storage of breast milk; particularly to mothers prior to the assembly of expressing equipment and following breast milk expression.
- The milk kitchen should be kept clean and tidy at all times, this is everyone’s responsibility.

- Unlabelled, incorrectly stored milk feeds or expressing related equipment should be reported to the ward manager or nurse in charge and disposed of.
- Surfaces should be wiped over with Sani-cloth wipe or equivalent before and after handling and preparation of any milk.
- All milk should be prepared in the milk kitchen or equivalent area if there is no milk kitchen.
- Hands should be washed before and after handling any milk feeds.

5.3 COVID-19

- All bottles of expressed breast milk should be wiped over with a Sani-cloth wipe when they are received on the neonatal unit regardless of COVID-19 status.
- Where COVID-19 is confirmed or suspected in baby or a family member EBM should be stored in a designated fridge and bottles placed in a sealed bag and placed on a tray labelled with the patient label.
- COVID-19 has not been found to be passed on in breastmilk.

5.4 EBM Identification and Labelling

The utmost care must be taken when handling breast milk in order to avoid milk errors. Breast milk is an unscreened body fluid and errors have the potential to cause actual harm while also causing distress and mistrust in the service provided to parents.

5.4.1 It is the parent's responsibility to label milk and staff will offer assistance if required. It is the staffs' responsibility to check that the bottle is correctly labelled prior to using the milk or putting it into the fridge.

5.4.2 Before giving a mother the patient identification stickers' positive identification of the baby's or mother's Unit Number must be made at the cot side/bedside. Ask the mother to read out her hospital number from the ID bracelet before giving out stickers. Do not take milk away from the cot side to label it.

5.4.3 All expressed breast milk should be stored in a labelled container at the time of expression. It must be labelled with the baby's:

- Unit Number
- Name
- Date and time of expression

5.4.4 There should be no unlabelled expressed breast milk anywhere in the trust.

5.5 Preparation, Handling and Storage of EBM

Preparation and Handling

- Do not mix formula milk with breast milk.
- Parents and visitors must not be able to access the fridge/freezer.
- MEBM should be handled gently and never shaken vigorously to avoid damaging the cells within it.
- Infants should receive fresh expressed breast milk in preference over frozen EBM; Fresh MEBM is a living fluid containing multiple beneficial properties. Some of these properties do not survive the freezing process.
- MEBM should always be given in date order, this is particularly important with colostrum in the first 2 weeks of life as the immunological constituents are most abundant. When human infants are born prematurely, they lack exposure to the growth promoting components of amniotic fluid. Colostrum, with its array of growth factors and cytokines similar to amniotic fluid and acts as a transition from intrauterine to extra uterine life.
- Once labelled correctly the milk should be stored on individual trays/baskets which have an addressograph label of the baby attached to it and placed towards the back of the fridge.
    - **At the start of each shift:**
    - Clean the tray with a Sani-cloth wipe. If using cardboard trays, change daily.

- Dispose of any unlabelled milk or milk that does not comply with milk storage guidelines for hospitals Fig 1 and Fig 2.

5.5.1 Milk Storage Guidelines for Hospital **Figure1**

Fresh EBM Fridge temperature 2°C - 4°C	Frozen Milk MEBM OR BEBM Freezer temp >-20°C
4 hours at room temperature but see caveats below*,** 48 hours in the fridge (no additives)	24 hours from the time it is taken out of the freezer Store in the freezer up to three months Never refreeze defrosted milk. Never freeze milk containing additive.

*On maternity wards fresh EMB should be placed in the fridge immediately if it is not to be used or taken to NNU within one hour of the time it was expressed.
**Rooms on the neonatal unit may be warmer than 18-21°C and the milk may already have been out of the fridge for periods of time while on the postnatal ward or on the journey into hospital. Therefore four hours is the absolute maximum to leave EBM unrefrigerated.

5.6 Safe Administration of EBM

- Staff will ensure they use milk in date and time order.
- The staff member will take the milk out of the fridge for the feed when it is required and complete a visual check to ensure it is the correct milk.
- Milk must be checked by member of staff and mother with the baby's identification label immediately before administration.
- The following are confirmed before administration
- Hospital number
- Name
- Parents may act as second checker on the paediatric/maternity wards. Ask the parent to read out the Baby's Hospital number from the wrist band to confirm to you and confirm the name and date of birth on the milk to be used.

5.7 Checking the Appearance of EBM

The appearance of breast milk can vary considerably and will change especially in the first few days after birth. Initially colostrum may be clear, yellow or tinged brown, green or a rusty colour. As long as collection and storage recommendations have been met this can safely be fed to the baby. It is worth remembering that when mothers' breastfeed we would not see the colour of milk clearly and therefore would not be concerned.

If breast milk is tinged pink with blood and this continues for more than 2 expressions or if larger quantities of blood are seen on a single expression seek specialist help from the infant feeding co-ordinator, obstetrician or signpost to mothers own GP.

Fat globules in breast milk will separate and float to the top of the milk when fresh expressed milk cools. This is normal and should not cause concern, milk will homogenise when it is warmed. Defrosted breast milk can smell soapy due to lipases in the milk breaking down fats; as long as it is still within the safe time to administer it is safe to give.

Unless it smells offensive the appearance of breast milk is of no clinical concern and can be safely fed to the baby.

5.8 Medications and Mother's Milk

NICE Guidance (maternal and child nutrition 2014) states that the prescriber should not rely solely on the BNF for information on breastfeeding and medication but should use supplementary sources. Some medications are contraindicated for use by breastfeeding mothers, maternal medications can be checked with the by the infant feeding co-ordinator, hospitals pharmacy or medical team. Avoid saying stop breastfeeding before looking it up from a reliable source. Where mothers must stop breastfeeding they may be able to express and discard milk to maintain their supply until such time that they can breastfeed again.

5.9 Formula Milk Preparation: Administration and Storage

5.9.1 Preparation

Formula feeds are a food source and a medium for bacterial proliferation. Serious out breaks of disease caused by contaminated milk related to formula milk handling and storage have highlighted this problem. This is especially serious for vulnerable infants like those on the neonatal unit.

- When breastmilk is unavailable for the infant in health care facilities,
- Nutritionally appropriate ready to feed (RTF) formulas should be used as these are commercially sterile. Powdered feeds should not be used on postnatal wards.
- Ready to feed formulas can be given at room temperature and should not be warmed.

Formula milk that has been decanted into a plain bottle should be labelled with:

- Hospital Number
- Name
- Type of milk
- Date and time it was opened/made
- Date and time it will expire

5.9.2 Administration

Informed consent for the use of formula milk should be sought before use. In maternity the reason for supplementation should be documented on electronic records if mother is breastfeeding.

Expiry dates should be checked prior to using any formula milk product or additive. Seals should be checked on ready to feed products, they should be shaken prior to use. If decanting is required wash hands first and decant using a non-touch technique to avoid contamination.
Decanted or opened bottles of formula feeds should be given immediately and not be stored at the cot side.

5.9.3 Storage **Figure 2**

Formula Milk Storage
Ready-to-Feed Formula after opening
≤ 1 hour at room Temperature ≤ 24 hours in the fridge 2-4°C Never freeze formula milk

Any opened formula that is being kept and stored in the fridge should be labelled with the expiry date and time.

Any unlabelled, opened or incorrectly stored bottles of formula milk should be disposed of appropriately by any member of staff who discovers them.
Milk should be stored in a locked room where only staff has access to avoid unauthorised access to milk.

5.10 Breast Pumps

- Breast pumps should be wiped with a Sani-cloth wipe before and after use
- Expressing equipment is single patient use.
- Mothers should be given sterile bottles to express into.
- Mothers with infants on the neonatal unit should be encouraged to double pump so will need two kits.
- Ill-fitting kits can cause nipple trauma and impede lactation. Kits are available in 2 sizes.
- Before each use mothers should be encouraged to inspect the kit for sign of wear and tear.
- There should be no moisture or milk in the plastic tubing on the breast pump.
- Damaged or contaminated kit should be disposed of and replaced with a new set or appropriate part.
- Expressing equipment must never be washed directly in the handwashing sink always in a single patient use bowl.
- Neutral detergent should be available at washing up sinks to clean the kits prior to sterilisation.
- Expressing equipment that has been washed in neutral detergent, rinsed in cold running water and dried effectively then sterilised.
- Posters on how to clean, store and sterilise equipment should be placed in each Bay and Room.

5.11 Transferring EBM to Other Units and Home

- When a baby is discharged home or transferred to another unit, all EBM bottles must be checked with a second checker using positive hospital number identification. This will ensure the right milk is sent with the baby.
- The milk tray in the fridge should be removed; milk should be checked and discharged with baby.
- On day of discharge it is the discharging midwifes' responsibility to check the fridge and send any milk home with the baby.
- Any milk remaining once a baby has been discharged must be disposed of.

5.12 Milk Errors

Action to be taken in the event of a baby receiving another mother's breast milk
Milk errors can occur where procedures are not followed. The reporting of infection transmission from breast milk error is low however the impact on the families involved is serious. Breast milk errors cause anger and anxiety, loss of confidence in the hospital and carry the potential for infection transmission.

5.12.1 In the event of an error/suspected error:

- Refer to the Duty of Candour Policy
- Do not disclose the identity of the Donor mother but do carefully describe the low risk nature of the donor mother where that is appropriate.
- In the vast majority of cases the risk to baby is low and cases of transmission of infectious diseases from milk errors have not been reported.

5.12.2 Member of staff who discovers the error/ suspected breast milk error

1. Report the incident to the midwife in charge.
2. Aspirate stomach contents if error is reported within one hour of the feed and a naso/oro gastric tube is in situ. If ng/og tube is not in situ, with consent from parents, pass one for the purpose of aspiration. Record volume of aspirate and the details of the donor in the recipient's notes and discard aspirate.

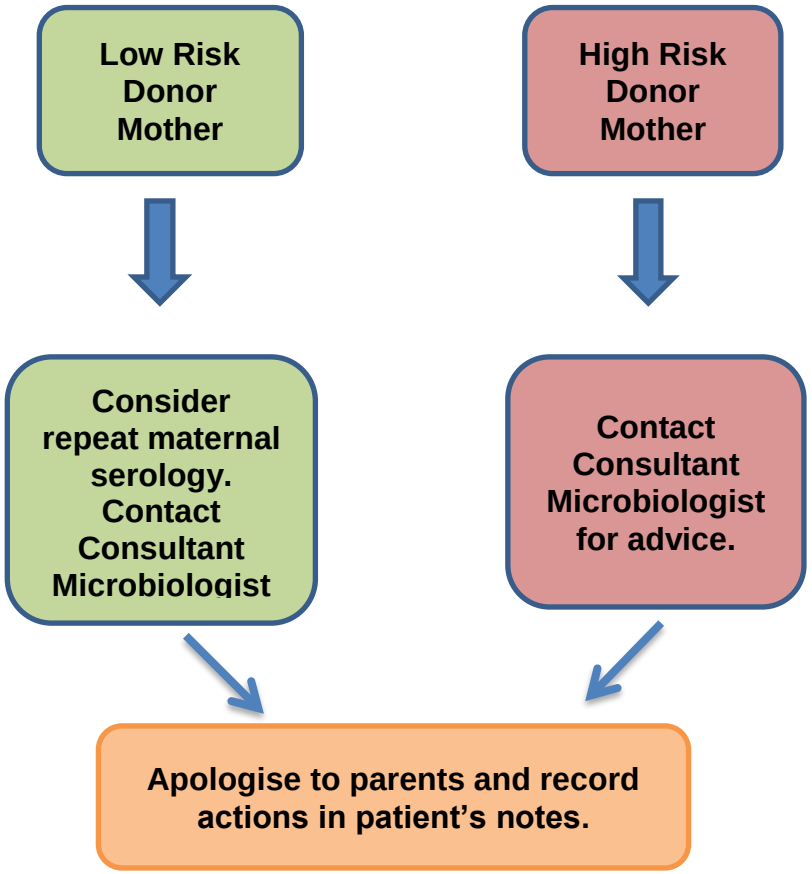
3. If parents are there at the time of the incident and become aware that the incident has taken place you must apologise for what has happened and explain the process that will be taken. Do not make excuses for the mistake.
4. Complete an incident form.

5.12.3 Midwife in Charge

1. Determine and record the details of the incident ensuring that the correct process has been followed by the staff member who discovered the incident.
2. Report the incident to the Consultant/Senior Neonatologist.
3. Midwife in Charge to inform, apologise and reassure the parents of the recipient baby about the incident.
4. Midwife in Charge to apologise and reassure the mother whose milk was used in error (donor mother)

5.12.4 Consultant/ Senior Neonatologist

- Review the incident with the Midwife in Charge in light of the available evidence.
- Obtain antenatal or previous serology test results of the donor mother and review. If Mother is from a different trust her consent should be obtained to access those records.
- If donor mother is happy to consent, obtain blood for serology testing. These should be marked as urgent. The person sending the samples must contact the microbiology department and let them know there is an urgent BBV screen being sent.
- If results from serology are positive, serology tests on the recipient's mother are required to exclude/ rule out vertical transmission.
- Consider prophylaxis for recipient infant in the light of serology results/high risk mother



5.13 Maintenance of Electrical Equipment
All electrical equipment should be PAT tested annually.
Breast pumps should be inspected daily and between use for signs of wear and tear and damage. Any problems should be reported to the midwife in charge. Medical engineers are responsible for maintaining and PAT testing breast pumps.

5.14 Maintenance of Milk Fridge and Freezers
5.14.1 **Daily**
Temperature of milk fridge and freezer should be recorded twice a day in clinical all areas as part of daily checks.
The fridge should be cleaned daily when temperatures are taken. Spills should be cleaned up as soon as they are observed.
The fridge should be checked daily for unlabelled EBM/formula and milk that is older than the safe storage guidelines in Fig 1. and Fig 2. these should be discarded.
These actions should be recorded on a daily checks form.
5.14.2 **Weekly**
Fridges and freezers should be deep cleaned weekly and this should be recorded on the HCA check list.
5.14.3 **Every 6 months**
Filters on all fridges and freezers should be cleaned 6 monthly. This can be done via the estates department on request and should be recorded on the board on the outside of the fridge/freezer.
Fridge and freezer temperatures should be calibrated 6 monthly. This can be done by an external contractor requested via the estates department.
Any fluctuations in temperature should be reported to the estates department for urgent attention. Feeds should be disposed of if the fridge/freezer has developed a fault and temperatures are not within normal range.

6.0 Monitoring
Women and child health strive to achieve 100% compliance with this policy. Where this is not met an action plan will be formulated. Please see the table below for expected standards and monitoring arrangements.

Standards		**Monitoring by audit**		
	Method	**By**	**Committee**	**Frequency**
Prior to each use, breast pumps will be cleaned and checked visually for safety.	This will be audited using and internal monitoring process	Ward manager		Continuous
Breast pumps will be PAT tested by medical engineers annually	This will be audited using and internal monitoring process	Ward manager/Medical engineers		Yearly
All expressed breast milk will be labelled, stored and administered correctly	This will be audited using and internal monitoring process	Ward manager/infant feeding team/infection control		Continuous
All staff will be made aware of this	Staff training compliance matrix	IFC/Clinical education team		Continuous

policy on commencement of service with the trust				
All staff will attend training according to their role in relation to infant feeding	Staff training compliance matrix	IFC/Clinical education team		Yearly
All babies receiving expressed breast milk will receive the correct breast milk.	Review of all incidents where baby was given the incorrect breast milk	Ward Managers		Continuous
Parents will be taught to handle/store/label milk and equipment correctly	This will be audited using and internal monitoring process	Ward Managers/IFC		Continuous

7.0 References

BDA The Association of UK Dieticians - Guidelines for the Preparation and Handling of Expressed and Donor Breast Milk and Specialist Feeds for Infants and Children in Neonatal and Paediatric Health Care Settings July 2019
https://www.bda.uk.com/uploads/assets/913a1f78-c805-42c1-8d85e37ca75e0fc0/2019sfuguidelines.pdf