



STANDARD OPERATING PROCEDURE ON THE MANAGEMENT OF EXPRESSED BREAST MILK IN THE FORMULA ROOM		
Version Number	1	
Date of Issue	March 2016	
Reference Number	MEBMFR-03-2016-EH-V1	
Review Interval	3 yearly	
Approved By Name: Fionnuala O'Neill Title: Nurse Practice Coordinator	Signature: <i>Fionnuala O'Neill</i> Date: March 2016	
Authorised By Name: Rachael Kenna Title: Director of Nursing	Signature: <i>Rachael Kenna</i> Date: March 2016	
Author/s	Name: Elaine Harris Title: Clinical Placement Coordinator	
Location of Copies	On Hospital Intranet and locally in department	
Document Review History		
Review Date	Reviewed By	Signature
2019		
Document Change History		
Change to Document	Reason for Change	

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 2 of 23	

CONTENTS

	Page Number
1.0	Introduction
2.0	Definition of Standard Operating Procedure
3.0	Applicable to
4.0	Objectives of the Standing Operating Procedure
5.0	Responsibilities
6.0	Definitions
7.0	Complications associated with handling EBM
8.0	Specific considerations when handling EBM
9.0	Indications for managing EBM in the Formula Room
10.0	Contraindications for managing EBM in the Formula Room
11.0	Standard Operating Procedure
12.0	Safe Transport of EBM
13.0	Checking of EBM between Formula Room and Ward/Unit or other Hospitals
14.0	Safe handling of EBM in the Formula Room
14.1	Labelling of EBM
14.2	Storage of EBM
14.2.1	Table of EBM storage
14.3	Defrosting of EBM
14.4	Adding Additions to EBM in the Formula Room
14.5	Decanting of EBM
14.6	Relabeling of EBM
14.7	Safe Disposal of EBM (if applicable)
15.0	Implementation Plan
16.0	Evaluation and Audit
17.0	Monitoring and/or Audit
18.0	References
19.0	Appendices (<i>as necessary</i>)
	<i>Appendix 1: OLCHC 'Expressed Breast Milk' Label</i>
	<i>Appendix 2: Table of EBM Storage (Shortened Version)</i>
	<i>Appendix 3: Permission Letter for OLCHC to discard Expressed Breast Milk</i>
	<i>Appendix 4: Management of EBM in the Formula Room Self-Audit Tool</i>

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 3 of 23	

1.0 Introduction

Our Lady's Children's Hospital Crumlin (OLCHC) believe that breastfeeding is the healthiest way for a woman to feed her infant. Staff in OLCHC support mothers who choose to breastfeed according to the Breastfeeding Policy Statement (Nurse Practice Committee (NPC) 2013). World Health Organisation (WHO) (2002) recommends exclusive breastfeeding for six months and continued breastfeeding for a minimum of two years; this is inclusive of the consumption of expressed breast milk (EBM). Not all infants are able to feed at the breast for a variety of reasons; hence mothers may need to express and store their own breast milk for administration enterally at a later date (Becker et al 2012). This standard operating procedure aims to ensure the safe storage, labelling, handling, defrosting, decanting and adding additions to EBM in the Formula Room in OLCHC.

2.0 Definition of Standard Operating Procedure

The term '**Standard Operating Procedure**' is a way of carrying out a particular course of action and includes operations, investigations, pharmaceutical treatment, examinations and any other treatment carried out.

3.0 Applicable to

All staff handling EBM in the Formula Room in OLCHC

4.0 Objectives of Standard Operating Procedure

- To ensure that all staff in the Formula Room adhere to the SOP
- To standardise the safe handling of EBM
- To maintain patient safety at all times
- To ensure research based knowledge underpins the safe handling of EBM in the Formula Room

5.0 Responsibilities


It is the responsibility of:

All staff in the Formula Room:

1. To adhere to the SOP

DNM of the Formula Room to ensure that:

1. All staff in the Formula Room are aware of the contents of this SOP and that work practices are in line with those described in the SOP.
2. All staff in the Formula Room are responsible to safely carry out the SOP and have the necessary knowledge and practical skills to perform the SOP safely.
3. Regular audits are carried out to ensure compliance with the SOP
4. Appropriate equipment is available to carry out the procedure of safely managing EBM in the Formula Room.

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 4 of 23	

5. The equipment is serviced on a regular basis.
6. The SOP is reviewed on a two-yearly basis or at any time there is a change in practice

6.0 Definitions

EBM: (Expressed Breast Milk) Expressing breast milk means squeezing milk from the breasts, either with a pump or by hand, after which it can be stored and fed to an infant at a later date. It is the only way, apart from breastfeeding directly, which releases breast milk (Riordan and Wambach 2010, La Leche League (LLL) 2012).

DNM: Divisional Nurse Manager

7.0 Complication associated with handling EBM:

- 1) Risk of misappropriation of the EBM to the wrong infant
- 2) Risk of misappropriation of EBM with the wrong type or amount of additions
- 3) Risk of microbial contamination of EBM

8.0 Specific Considerations when handling EBM:

HIQA

- Adhere to local Infection, prevention and control Standards
- Maintain a sterile environment to prevent EBM contamination
- Constant attention to details of and user ensuring the highest standards of care at all times

9.0 Indications for managing EBM in the Formula Room *(This not an exhaustive list)*

The Formula Room in OLCHC manages EBM when:


- The quantity available for storage in a ward/unit EBM freezer exceed that of the storage in the EBM Freezer at ward/unit level
- EBM requires additions added as per Dietitian Prescription Sheet

10.0 Contraindications for managing EBM in the Formula Room *(This is not an exhaustive list)*

The Formula Room will not manage EBM when:

- If the EBM is expired as per Section 14.2.1 – Table for EBM Storage
- If the EBM label is not complete correctly on the EBM bottle


11.0 Standard Operating Procedure

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 5 of 23	

12.0 Safe transporting of EBM

EBM containers are transferred between the Formula Room and wards/units (within OLCHC), the mothers home and other hospitals

Action	Rationale & Reference
<p>EBM bottles transported between Formula Room and ward/unit should be:</p> <ul style="list-style-type: none"> • on a washable dedicated feed trolley • in individually labeled storage containers for each infants EBM • in an upright position • With coolant blocks to maintain a cool temperature. 	<p>To prevent cross contamination of EBM with other food products and/or medication (PGBDA 2014)</p> <p>To prevent EBM misappropriation with other EBM</p> <p>To reduce the risk of EBM spillages (PGBDA 2014), to be able to check and verify the amount of EBM in each EBM bottle efficiently</p> <p>To maintain the EBM temperature as water freezes at a temperature higher than breast milk and the ice is warmer than the frozen EBM and may thaw the frozen containers. Freezer gel packs are preferred over ice as they have a lower freezing temperature (Bankhead et al 2009)</p>
<p>EBM bottles transported between OLCHC Formula Room and other hospitals with parents should be:</p> <ul style="list-style-type: none"> • in clean polythene bags • in a rigid (easily cleaned) container / cooler bag • with tightly packet in bubble wrap, paper towel, or foam chips without ice, (and freezer gel packs may be used if available) • in an upright position <p>Transport the same types of EBM together (frozen together and EBM in a liquid state together)</p>	<p>To protect the containers from becoming contaminated, and avoid EBM residue on the outside of the containers from contaminating the inside of the rigid container or cooler bag (PGBDA 2014)</p> <p>To maintain the EBM temperature and keep the EBM in a frozen state (Bankhead et al 2009)</p> <p>To reduce the risk of EBM spillage (PGBDA 2014)</p> <p>To maintain the EBM temperature (PGBDA 2014)</p>

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 6 of 23	

13.0 Checking of EBM between Formula Room and Ward/Unit or Other Hospitals

EBM should be double checked on arrival to and departure from the Formula Room, by a trained Formula Room staff and the transferring Healthcare assistant/nurse. This is to promote and enhance safer handling of EBM and prevent the misappropriation of EBM (MHRA 2003, NPC 2007, FSAI 2007, Bankhead et al 2009). The following is double checked:

- The bottles are not leaking
- The bottles are intact
- Frozen EBM is frozen and in date
- Fresh EBM is in date
- EBM is labeled correctly and legible
- Right milk
- Right Infants name and
- Right Infants HCRN
- Categorise the nature of the EBM (fresh, frozen)

Document the arrival of and departure of all EBM (with and without additions) into the EBM Diary:


- Infant's Name
- Infants HCRN
- Ward name
- Number of EBM bottle (categorising fresh/frozen and the fridge/freezer they will be stored in or removed from)

Write the Infants initials on the lid of each bottle with permanent marker (on arrival to the Formula Room)

14.0 Safe handling of EBM in the Formula Room in OLCHC


The safe handling of EBM involves the following steps:

- Labelling
- Storage
- Table of EBM Storage
- Defrosting
- Adding Additions to EBM
- Decanting
- Relabeling
- Safe disposal of EBM (if Applicable)

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 7 of 23	


14.1 Labelling of EBM

Action	Rationale & Reference																						
<p>Each labeled EBM bottle should contain the following information:</p> <ul style="list-style-type: none"> • Mother's name • Infant's name • Date and time expressed • HCRN • Ward name • if mother taking any medication on a completed label (using for example a preprinted OLCHC 'Expressed Breast Milk' labels (Appendix 1) <p>EBM expressed outside OLCHC:</p> <ul style="list-style-type: none"> • Should be labelled with the same information as above <p>'Tamper proof seal' should be applied between the bottle and bottle cap and be intact before leaving the formula Room after additions are added.</p> <ul style="list-style-type: none"> • If intact the EBM can be stored appropriately • If not intact the EBM bottle should be discarded 	<p>To promote and enhance safer administration of EBM and prevent the misappropriation of EBM, legible pre-printed EBM labels should be used (MHRA 2003, NPC 2007, FSAI 2007, Bankhead et al 2009)</p> <p>A tamper proof seal is a pressure sensitive tape that is applied to EBM storage containers (bottle, syringe or bag) to provide adequate seal integrity (AORN 2007) and to reduce the risk of EBM tampering prior to its administration.</p>																						
<div data-bbox="84 1626 673 1908"> <p style="text-align: center;">Expressed Breast Milk Label</p> <table border="1"> <tr> <td>Baby's Name:</td> <td>Expressed:</td> </tr> <tr> <td></td> <td>Date: _____ Time: _____</td> </tr> <tr> <td>Date of Birth:</td> <td>Mother's Medication:</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>HCR Number:</td> <td>Additions: Y/N:</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Ward Name:</td> <td>Out of Freezer:</td> </tr> <tr> <td></td> <td>Date: _____ Time: _____</td> </tr> <tr> <td>Mother's Name:</td> <td>Fully Defrosted:</td> </tr> <tr> <td></td> <td>Date: _____ Time: _____</td> </tr> <tr> <td></td> <td>Nurse Initial: _____ / _____</td> </tr> </table> </div> <p>Appendix 1: EBM Label</p>	Baby's Name:	Expressed:		Date: _____ Time: _____	Date of Birth:	Mother's Medication:			HCR Number:	Additions: Y/N:			Ward Name:	Out of Freezer:		Date: _____ Time: _____	Mother's Name:	Fully Defrosted:		Date: _____ Time: _____		Nurse Initial: _____ / _____	
Baby's Name:	Expressed:																						
	Date: _____ Time: _____																						
Date of Birth:	Mother's Medication:																						
HCR Number:	Additions: Y/N:																						
Ward Name:	Out of Freezer:																						
	Date: _____ Time: _____																						
Mother's Name:	Fully Defrosted:																						
	Date: _____ Time: _____																						
	Nurse Initial: _____ / _____																						

Our Lady's Children's Hospital, Crumlin		 <p>Ospidéal Mhúirín na Leanaí, Crumhlinn</p> <p>Our Lady's Children's Hospital, Crumlin</p>
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 9 of 23	


14.2.1 Table of EBM Storage (See Appendix 2 for shortened version)

EBM Status	Where and Temperature	Duration	Rationale & Reference
Fresh EBM	Refrigerator (2-4°C) (not in fridge door)	Up to 48 hours	<p>Bactericidal capacity of stored refrigerated EBM declines significantly by 48-72hours, and bacterial growth has not been shown to increase at room temperature for up to 6 hours in EBM (ABM 2010). However, due to the risk of contamination in the hospital setting, EBM should be either consumed within one hour after expression, or placed in the refrigerator or freezer immediately after expression.</p> <p>EBM stored in a refrigerator can be kept for 2-8 days without an increase in bacterial counts (HMBANA 2011). However, in hospital settings it is difficult to guarantee a constant temperature of 2-4°C in a frequently opened fridge, therefore should be consumed within 48hours or freezing should be considered and to prevent bacterial contamination of EBM (FSAI 2007, Bankhead et al 2009, HMBANA 2011).</p>
Defrosted EBM (not warmed)	Refrigerator (2-4°C) (not in fridge door)	Up to 24 hours	When thawing frozen EBM, label as thawed when completely thawed (no ice crystals present) and use this time when completely thawed to base acceptable time limits for use rather than when it is taken from the freezer (HMBANA 2011). Freezing reduces the quantity of some valuable nutrients (e.g. folacin, vitamin C and triglycerides) and destroys some live cells. Once frozen EBM is brought to room temperature, its ability to inhibit bacterial growth is lessened, especially by 24 hours after thawing (ABM 2010).
Supplemented / additions to EBM in Formula Room	Refrigerator (2-4°C) (not in fridge door)	Up to 24 hours	Contamination and osmolarity increase faster in EBM when additions are added (HMBANA 2011)
Fresh EBM for freezing (if not for use within 48hours of expressing)	Freezer (-20°C) immediately	Freeze within 24 hours of expressing for up to 3 months	Stored EBM may have an altered smell and taste due to lipodosis (the activity of lipase, an enzyme that breaks down fat into fatty acids). This breakdown of fat aids infant digestion of EBM, particularly for preterm infants, and is not harmful (ABM 2010) and doesn't need to be discarded (Bankhead et al 2009)

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 10 of 23	

14.3 Defrosting Expressed Breast Milk

Action	Rationale & Reference
Decontaminate hands and put on a disposable apron and gloves	Prevention of cross infection (HSE 2009, CDC 2010, Infection Control Department 2010, HMBANA 2011, NPC 2011, OLCCHC 2012)
Remove a sufficient volume of the frozen EBM from the EBM Freezer to meet the dietary requirements of the infant for the next 24 hours only.	To ensure there is a sufficient volume of EBM available for the infant for this period of time and to avoid wastage
Place the frozen EBM in the EBM fridge to defrost	If EBM was previously frozen it is best to thaw it in the refrigerator (LLL 2012)
EBM is defrosted when there are no crystals evident	When thawing frozen EBM, label as thawed when completely thawed (no ice crystals present) and use this time when completely thawed to base acceptable time limits for use rather than when it is taken from the freezer (HMBANA 2011) using only the unfrozen part of the EBM may result in unequal distribution of EBM components (ASPEN 2009)
Defrost in the following order:	Colostrum should be fed as soon as possible in early feeding, as it contain high concentration of anti-infective, anti-inflammatory and growth factors (O'Malley 2012)
<ul style="list-style-type: none"> 1st 7-14days of colostrum / transition milk 	To ensure the nutritional and immunological contents of the EBM is most suited to the infant (Spatz et al 2012)
<ul style="list-style-type: none"> Then the most recently expressed EBM 	Label EBM as thawed when completely thawed (no ice crystals present) and use this time when completely thawed to base acceptable time limits for use rather than when it is taken from the freezer (HMBANA 2011) To ensure the EBM is identified as 'defrosted EBM' and used within 24hours of defrosting
<ul style="list-style-type: none"> Document on the EBM milk label the time and date of defrosting 	To ensure the EBM is defrosted safely, as rapid heating can alter the heat labile vitamins (HMBANA 2011, Infection Control Department 2012a)
Place it in the EBM fridge	Clean as per the SOP on Maintaining and Cleaning

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 11 of 23	

Emergency Defrosting (ONLY), using either the following methods:

- Water Method Defrosting

- Clean the bottle warmer (inside and outside) with appropriate cleansing wipes (Sanicloth® contain 2% chlorhexidine gluconate in 70% isopropyl alcohol) and allow to dry
- Fill as directed with Sterile Water and use as per manufacturer's instructions.
- Insert the frozen bottle on EBM into the bottle warmer (taking care that the water does not touch the lid)
- Allow to defrost
- Remove from the EBM Bottle from the bottle warmer when the EBM is thawed (no ice crystals present) but while still chilled
- Dry the EBM bottle
- Refrigerate until required for use

- Dry Method Defrosting

- Clean the device before use as per manufacturer's instructions
- Place the Frozen EBM in the device
- Set the device with the volume of EBM to be defrosted (if required) Remove from the EBM Bottle from the bottle warmer when the EBM is thawed (no ice crystals present) but while still chilled
- Dry the EBM bottle
- Refrigerate until required for use or additions required

Do not defrost EBM:-

- under running tap water

- in containers of water

Bottle Warmers in OLCHC (Infection Control Department 2012b)


EBM can be contaminated with non-sterile water seeping under the lid of the bottle (Brown et al 2000, Gras-Le Guen et al 2003)

To reduce the incidence of microorganism growth (Bankhead et al 2009, HMBANA 2011)

Circulates warm air in a customised bottle warming device around the EBM container to defrost EBM (O'Malley 2012)

To reduce the incidence of microorganism growth (Bankhead et al 2009, HMBANA 2011)

To reduce the incidence of microorganism growth (Infection Control Department 2012a, Regulation and Quality Improvement Authority 2012)


Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 12 of 23	

<ul style="list-style-type: none"> • in the microwave <p>When defrosted,</p> <ul style="list-style-type: none"> • Do not re-freeze breast milk once it has been thawed. <p>Decontaminate hands and remove your personal protective clothing</p> <p>Document any disposal of EBM due to breakage or loss due to expiration of storage and inform the mother who produced the EBM and complete an incident form</p>	<p>To reduce the incidence of microorganism growth</p> <p>Microwaves can denature and destroy the nutrient quality of the EBM and can cause hot spots (CDC 2010, ABM 2010, HMBANA 2011)</p> <p>To reduce the risk of contamination with multiple openings of the bottle (MacQueen et al 2012) Bacterial growth and loss of antibacterial activity in thawed milk will vary depending on the technique of milk thawing, duration of the thaw, and the amount of bacteria in the milk at the time of expression (ABM 2010)</p> <p>Prevention of cross infection (HSE 2009, CDC 2010, Infection Control Department 2010, HMBANA 2011, NPC 2011, OLCHC 2012)</p> <p>EBM must not be reused or reheated as this increases the risk of contamination by pathogenic organisms during the feed (An Bord Altranais 2002, Johnston et al 2003, WHO 2005, FSAI 2007, Department of Clinical Nutrition and Dietetics 2011)</p>
---	--


14.4 Adding additions to EBM in the Formula Room Adding additions to EBM in the Formula Room

Additive/additions may be required to ensure infants optimum nutritional needs are met with additional nutritional requirements (Sudha 2007). To ensure accurate amount of additions are added and due to sterility concerns about powdered additives, this preparation should taking place in a controlled environment (Bankhead et al 2009)


Action	Rationale & Reference
All EBM feeds should be prepared at the end of the formula preparation	To ensure that the work surfaces are cleaned and free from formula (PGBDA 2014)
Only prepare one infants EBM at a time	To prevent misappropriation of the wrong infant
Prepare the weighing Scales	
Sterile equipment should only be used to prepare EBM (bowl, whisk and syringe)	To prevent contamination (PGBDA 2014)
Decontaminate hand	Prevention of cross infection (HSE 2009, CDC 2010, Infection Control Department 2010, HMBANA 2011, NPC 2011)
Put on a disposable apron, hat	

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 13 of 23	

Decontaminate the work surface to be used to prepare the feed	Prevention of cross infection (HSE 2009, CDC 2010, Infection Control Department 2010, 2011, HMBANA 2011, OLCCHC 2012)
Decontaminate hands again and put on gloves	Prevention of cross infection (HSE 2009, CDC 2010, Infection Control Department 2010, HMBANA 2011, NPC 2011)
Remove the fresh/ defrosted EBM from the breast milk fridge	Once stored expressed milk has been warmed to room temperature or above, it must not be returned to either refrigerator or freezer temperatures (ABM 2010, LLL 2012)
Prepare EBM for consumption in the following order: <ul style="list-style-type: none"> • 1st 7-14days of colostrum/transition milk (within 24-48hours of commencing feeding) • Then the most recently expressed EBM 	Colostrum should be fed as soon as possible in early feeding, as it contain high concentration of anti-infective, anti-inflammatory and growth factors (O'Malley 2012) and to prime the gut (Spatz 2004)
2 Trained Formula Room Staff must check the EBM label against the infants prescription to ensure the: <ul style="list-style-type: none"> • Right milk • Right Infants name and • Right Infants HCRN • Date and time feed commenced and time to finish is documented on the label 	To ensure the nutritional and immunological contents of the EBM is most suited to the infant (Spatz et al 2012)
Once defrosted, pour the EBM into the bowl	To segregate individual mothers EBM from other mother EBM to reduce the risk of EBM misappropriation (Warner et al 2004, Bankhead et al 2009)
Prepare the additions to be added to the EBM (2 trained Formula Room staff) <ul style="list-style-type: none"> • Check the prescription sheet • Prepare by weighing out the additive for addition • Double check the additive with 2 trained Formula Room Staff member 	To reduce the risk of feeding the wrong feed to the wrong infant (Drenckpohl et al 2007, Zeilhofer et al 2009, Warner and Sapsford 2004)
• Add prescribed additives as per dietitian prescription:-	Additive/additions may be required to ensure infants optimum nutritional needs are met with additional nutritional requirements (Sudha 2007)
	To ensure accurate amount of additions are added and due to sterility concerns about powdered additives, this preparation should taking place in a controlled environment (Bankhead et al 2009)
	To disperse the additive evenly throughout the EBM solution

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 14 of 23	


<ul style="list-style-type: none"> - Infant Based Formula - (Term infants)/ Carbohydrate/ Protein/ Vitamin/ Mineral supplement • Whisk additions and the EBM together • Do not add additions to EBM when warm • Syringe out the amount of EBM into individual bottles • Additional EBM may have been prepared, if so decant into an individually labeled bottle – labeled as 'EXTRA' <p>Record all additives to EBM on the EBM label</p> <p>Seal the bottle with a safety seal</p> <p>Screw on the GREEN lid (GREEN lids indicate EBM)</p> <p>Dry the outside of the bottle and apply the label ensure that it seals between the bottle and the lid</p> <p>Store in individually labelled (Infant name and HCRN) boxes in the EBM fridge until required for use</p> <p>Remove the disposable apron and gloves and decontaminate hand</p> <p>Decontaminate the work surface to be used to prepare the feed</p>	<p>Warming EBM can also increase its osmolality especially if glucose polymer or lactase enzyme are added (Fenton and Belik 2002, Srinivasan et al 2004, HMBANA 2011)</p> <p>To avoid wastage of EBM</p> <p>Anything added to EBM may alter infants feeding outcome (HMBANA 2011)</p> <p>To seal the bottle closed and ensure the authenticity of the EBM bottle (PGBDA 2014)</p> <p>To close the bottle</p> <p>To ensure the label sticks properly to the bottle and ensure the authenticity of the EBM bottle (PGBDA 2014)</p> <p>Appropriate labelling, handling, and storing results in optimum feeding for infants and decreases the risk of EBM misappropriation (Warner and Sapsford 2004, Bankhead et al 2009)</p> <p>Prevention of cross infection (HSE 2009, CDC 2010, Infection Control Department 2010, HMBANA 2011, NPC 2011)</p> <p>Prevention of cross infection (HSE 2009, CDC 2010, Infection Control Department 2010, 2011, HMBANA 2011, OLCCHC 2012)</p>
--	---

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 15 of 23	

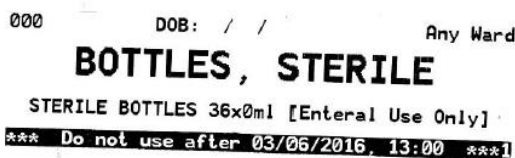
14.5 Decanting EBM

EBM should **not** be decanted from one EBM bottle to another as decanting into other containers increases the risk of contamination (HMBANA 2011). However if there is more EBM than required by the infant in the EBM container for an individual feed, decanting may be required.

Action	Rationale & Reference
<p>However, if there is more EBM than required by the infant in the EBM container for an individual feed, it:</p> <p>must be decanted either:</p> <ul style="list-style-type: none"> immediately after expression (if the EBM volume requirement is known), or Immediately after defrosting the EBM container. Should only be opened/accessed once and all the EBM decanted at this time. Should be agitated gently prior to either decanting into the appropriate feeding container or equipment. (the top of the bottle) should be cleaned with appropriate cleansing wipes (Sanicloth® contain 2% chlorhexidine gluconate in 70% isopropyl alcohol) and allow to dry for up to 40seconds or until visibly dry before opening the container and decanting EBM is decanted into another correctly labelled sterile bottle (if the quantities are very small EBM should be decanted into sterile oral syringes, capped and labelled and should be: <ul style="list-style-type: none"> placed in the appropriate storage facility or used immediately 	<p>Decanting straight after expressing reduces the number of people potentially handling EBM, thus reducing the possibility of contamination (Lang 2002, FSAI 2007)</p> <p>To reduce the risk of cross infection and to comply with Bankhead et al (2009) regulations</p> <p>EBM separates when expressed into a container and fat freezes and thaws at different rates than protein and water (HMBANA 2011)</p> <p>To prevent cross contamination (Trigg and Mohammad 2010) and ensure the maximum efficacy of the cleansing wipe (Pratt et al 2007)</p> <p>To reduce the risk of misappropriation of EBM, prevent cross contamination and reduce the risk of bacterial growth (Warner and Sapsford 2004)</p> <p>As per Section 11.2.1</p> <p>As per Section 12</p>

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 16 of 23	

14.6 Relabeling of EBM

Action	Rationale & Reference
<p>Relabeling:</p> <ul style="list-style-type: none"> All EBM once additions are added or EBM is decanted in the Formula Room is relabeled (Appendix 3) with: Infants name, Date of birth, HCRN, Ward/Unit name Feed name including additives Expiry date and time Additive Information - volume and % of ingredients 'For enteral use ONLY' 'Refrigerate until used' 	<p>To ensure the appropriate EBM is labeled with the appropriate additions if applicable and to ensure the appropriate EBM is received by the appropriate infant and reduce the risk of misappropriation of EBM (Warner and Sapsford 2004)</p>
<p>Appendix 3: Formula Room Label</p> 	

14.7 Safe disposal of EBM (if applicable)


EBM should only be discarded if:

- It is not used by its expiry date.
- the tamper proof seal is broken or not intact
- EBM fridge/Freezer temperatures are not within the recommended range

The mother's needs to be contacted via phone or in person if possible to discuss why the EBM needs to be discarded and a Permission letter to discard the mothers EBM must be signed by them.

(See Appendix 4)

During this discussion mothers should be given the option to discard their own. It is the responsibility of the Formula Room Staff to advise mothers how to safely discard their own EBM if located in the Formula Room EBM fridge/freezer.

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 17 of 23	

EBM should be discarded in the following way:

- Allowed to defrost completely
- Emptied into a designated sink (such as a 'Dirty Utility Room or Sluice Room)
- Flushed with a greater quantity of water
- Erase the patient details off the EBM label so they are illegible or peel off the EBM label from the EBM bottle and discard the removed label in the confidential waste bin
- Empty bottles discarded into the Yellow bin
- Hand decontaminated
- Complete an Incident Form

15.0 Implementation Plan

Communication and Dissemination

- SOP will be posted on hospital Intranet
- Hard copies of this SOP available in the SOP Folder in the Formula Room

Training

- Education and training will be delivered at Formula Room
- Education is included in induction packages for Formula Room Staff


16.0 Evaluation and Audit

Evaluation and Audit includes:

- Information in relation to the safe management of EBM in the Formula Room
- Feedback from Formula Room staff on this SOP to contribute to ongoing SOP development.
- Periodic audits of deletion of Formula Room practices, EBM fridges and freezers????


17.0 Monitoring and/or Auditing

- Monitoring of compliance is an important aspect of procedural documents. However, it is not possible to monitor all procedures.
- The operation of the SOP is to be reviewed on a two yearly basis or when indicated by a change in best practice using the following methods:
- Document Audit Tool
- Monitoring Near Misses/ Adverse Incidents in accordance with OLCHC.
- A record of these monitoring/auditing processes will be collected by the Formula Room Staff and DNM as evidence of the review process on a monthly/ biannually/annual basis by the Formula Room staff/DNM (Appendix 5).

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 18 of 23	

18.0 References

- Academy of Breastfeeding Medicine (ABM) (2010) *Clinical Protocol #8. Human Milk Storage Information for Home Use for full-Term Infants*. *Breastfeeding Medicine* 5(3), 127-130.
- American Dietetic Association (ADA) (2011) *Infant Feeding: Guidelines for preparation of human milk and formula in health care facilities, 2nd edn.* (Robbins ST and Meyers R. Eds). Paediatric Nutrition Practice Group of the American Dietetic Association. Available from <http://www.eatrightstore.org/product/55C31E5A-8EAB-43A2-BF7E-02626766AECE> (Accessed 16th February 2016) Internet.
- An Bord Altranais (2002) *Recording Clinical Practice: Guidance to Nurses and Midwives*. An Bord Altranais, Dublin.
- AORN (2007) Proposed Recommended Practices for Selection and Use of Packaging Systems. *AORN*, 85(4), 801 - 812.
- Bankhead R, Boullata J, Brantley S, Corkins M, Guenter P, Krenitsky J, Lyman B, Metheny NA, Mueller C, Robbins S and Wessel J (2009) ASPEN Enteral Nutrition Practice Recommendations. *Journal of Parenteral and Enteral Nutrition* 33, 122-149.
- Becker et al (2012) Becker G, Cooney F and Smith HA (2011) Methods of milk expression for lactating women (Review), *Cochrane Database of Systematic Reviews* 2011, Issue 12. Art. No.: CD006170. DOI: 0.1002/14651858.CD006170.pub3.
- Centers for Disease Control and Prevention (CDC) (2012) Breastfeeding Report Card—United States, 2012. Available from <http://www.cdc.gov/breastfeeding/data/reportcard.htm> Accessed 19 May, 2015) Internet.
- Department of Clinical Nutrition and Dietetics (2011) *Guidelines on the hang time of enteral feeds and infusion equipment (plastics) for inpatients in OLCHC*. OLCHC, Dublin.
- Drenckpohl D, Bowers L and Cooper H (2007) Use of the six sigma methodology to reduce incidence of breast milk administration errors in the NICU. *Neonatal Network* 26(3), 161-166.
- Fenton JK and Belik J (2002) Routine handling of milk fed to preterm infants can significantly increase osmolality. *Journal of Pediatric Gastroenterology Nutrition* 35(3), 298-302.
- Food Safety Authority of Ireland (FSAI) (2007) *Guidance Note No. 22: Information Relevant to the Development of Guidance Material for the Safe Feeding of Reconstituted Powdered Infant Formula*, FSAI, Dublin.
- Health Service Executive (HSE) (2009) *Health Protection Surveillance Centre (HPSC) Strategy for the Control of Antimicrobial Resistance in Ireland; Guidelines for the antimicrobial stewardship in hospitals in Ireland*, HSE, Dublin.
- Human Milk Banking Association of North America (HMBANA) (2011) *Best Practice for expressing, storing and handling human milk in hospital, homes and child care settings*, 3rd edn. (Jones F. and Tully M.R. Eds), Human Milk Banking Association of North America, North Carolina.
- Infection Control Department OLCHC (2010) *Hand Washing Guidelines*. OLCHC, Dublin.
- Infection Control Department OLCHC (2012a) *Thawing of breast milk*: Memo. OLCHC, Dublin.
- Infection Control Department OLCHC (2012b) *Maintaining and cleaning bottle warmers in OLCHC*. OLCHC, Dublin.
- Johnston P, Flood K and Spinks K (2003) *The Newborn Child*. 9th edn. Churchill Livingstone, Edinburgh.
- La Leche League (LLL) (2012) *The Breastfeeding Answer Book: Update*. LLL, Illinois.
- Lang S (2002) *Breastfeeding Special Care Babies*. 2nd edn. Bailliere Tindall, Edinburgh.
- Medicines and Healthcare products Regulatory Agency (MHRA) (2003) Best practice guidance on labeling and packaging of medicines, Medicines and Healthcare products Regulatory Agency, London.
- Nurse Practice Committee (2007) *Evaluation for 'expressed breast milk' labelling trial*. OLCHC, Dublin.
- Nurse Practice Committee (2011) *Aseptic Non-Touch Technique (Draft)*. OLCHC, Dublin.
- Nurse Practice Committee (2013) *Breastfeeding Policy Statement*. OLCHC, Dublin.

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 19 of 23	

O'Malley A (2012) Human milk storage in the NICU - Summarizing the research - What you should do. *The Journal of Perinatology-Neonatology* 25(S3), 20-22.

OLCHC (2012) *OLCHC Safety Statement*. OLCHC, Dublin.

Paediatric Group of the British Dietetic Association (2014) Guidelines for the Preparation and Handling of Expressed and Donor Breast Milk and Special Feeds for Infants and Children in Neonatal and Paediatric Health Care Settings,

Pratt RJ, Pellowe CM, Wilson JA, Loveday HP, Harper PJ, Jones SRLJ, McDougall C, and Wilcox MH (2007) National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England. *Journal of Hospital Infection* 65(1), S1-S49.

Riordan J and Wambach K (2010) *Breastfeeding and Human Lactation*. 4th edn. Jones and Bartlett Publishers, Massachusetts.

Slutzah M, Codipilly CN, Potak D, Clark R, Schanler RJ. Refrigerator Storage of Expressed Human Milk in the Neonatal Intensive Care Unit *The Journal of Pediatrics* 156(1), 26-28

Spatz DL (2004) Ten steps for promoting and protecting breastfeeding for vulnerable infants, *Journal of Perinatal and Neonatal Nursing*, 18(4), 385-396.

Srinivasan L, Bokinieć R, King C, Weaver G and Edwards AD (2004) Increased osmolality of breast milk with therapeutic additives. *Archives of Disease in Child Fetal Neonatal Edition* 89(6), F514-517.

Sudha K (2007) Enteral intake for very low birth weight infants: What should the composition be? *Seminars in Perinatology* 31(2), 74-82.

Trigg and Mohammed (2010) Trigg E and Mohammed T (2010) *Practices in Children's Nursing; Guidelines for Hospital & Community*, 3rd edn. Churchill Livingstone, London.

Trigg E and Mohammed T (2010) *Practices in Children's Nursing; Guidelines for Hospital & Community*, 3rd edn. Churchill Livingstone, London.


United Kingdom Association for Milk Banking (UKAMB) (2001) United Kingdom Association for Milk Banking. Guidelines for the collection, storage and handling of breastmilk for a mother's own baby in hospital. 2nd edition 2001. London: UKAMB. 437-440

Warner B and Sapsford A (2004) Misappropriated human milk: Fantasy, fear and fact regarding infectious risks. *Newborn and Infant Nursing Reviews* 4(1), 56-61.

World Health Organisation (2005) *Infant Feeding Counselling Flyer*. World Health Organisation: Geneva.

World Health Organisation (WHO) (2002) *Nutrient Adequacy of Exclusive Breastfeeding for the Term Infant during the First Six Months of Life*, World Health Organisation, Geneva.

Zeilhofer UB, Frey B, Zandee J and Bernet V (2009) The role of critical incidence monitoring in detection and prevention of human milk confusion. *European Journal of Pediatrics* 168(10), 1277-1279.

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 20 of 23	


1.0 Appendices

Appendix 1: Expressed Breast Milk Labels

Expressed Breast Milk Label	
Baby's Name:	Expressed:
	Date: _____ Time: _____
Date of Birth:	Mother's Medication:
HCR Number:	
Ward Name:	Additions: Y/N: _____ Out of Freezer: Date: _____ Time: _____ Fully Defrosted: Date: _____ Time: _____ Nurse Initial: _____ / _____
Mother's Name:	

Appendix 2: Table for EBM Storage (Shortened Version)

EBM Status	Where and Temperature	Duration
Fresh EBM	Refrigerator (2-4oC) (not in fridge door)	Up to 48hrs
Defrosted EBM (not warmed)	Refrigerator (2-4oC) (not in fridge door)	Up to 24hrs
Defrosted EBM (warmed to room temperature)	Used immediately (Do not freeze)	Discard immediately after use
Defrosted EBM (warmed to room temperature) (<u>Bolus feeds</u>)	Used immediately (Do not refreeze)	Discard immediately after use
Supplemented / Additions to EBM (warmed to room temperature) (<u>Bolus feeds</u>)	Used immediately (Do not refreeze)	Discard immediately after use
Defrosted EBM (warmed to room temperature) (<u>Continuous feeds</u>)	Used immediately (Do not refreeze)	Discard 4 hours once infusion commenced
Supplemented / Additions to EBM (warmed to room temperature) (<u>Continuous feeds</u>)	Used immediately (Do not refreeze)	Discard 4 hours once infusion commenced
Supplemented / Additions to EBM	Used immediately (Do not freeze)	Discard immediately after use
Fresh EBM for freezing	Freezer (-20oC)	Freeze within 24hrs of expressing for up to 3 months
(UKAMB 2001, ADA 2004, Bankhead et al 2009, ABM 2010, Department of Clinical Nutrition and Dietetics 2011, HMBANA 2011)		

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 21 of 23	

Appendix 3: Permission Letter for OLCHC to discard Expressed Breast Milk

OUR LADY'S CHILDREN'S HOSPITAL CRUMLIN Dublin 12

Tel: 01 409 6100

Fax: 01 409 8873

Website: www.olchc.ie



Addressograph Label:

Permission Letter for OLCHC to discard Expressed Breast Milk

I _____ (mother of _____, HCR No: _____) give permission to OLCHC to discard my expressed breast milk in a fresh, frozen or defrosted state.

I have received a copy of this completed permission letter.

Note:

This completed form will be stored in your child's healthcare records

Mothers Name (*Block Capitals*): _____


Mothers (*Signature*): _____

Nursing Staff Name (*Block Capitals*): _____

Nursing Staff (*Signature/Grade*): _____

Nursing Staff (*Title*): _____

Date: _____

Our Lady's Children's Hospital, Crumlin		
Document Name: SOP on the Management of Expressed Breast Milk in the Formula Room		
Reference Number: MEBMFR-03-2016-EH-V1	Version Number: V1	
Date of Issue: March 2016	Page 22 of 23	

Appendix 4

Management of EBM in the Formula Room Self-Audit Tool



Date of Audit: _____ Audit Completed by: _____

Tick the relevant Yes, No, – One answer for each question. To score the self-audit, the answer **YES = 1**, the answer **No = 0**, and the total number of criteria then equals 14. **No. =** the number of times the answer is Yes or No. Yes% or No% = the percentage of Yes or No answers per question. The score equals the number of yes answers divided by the number of criteria (14) x 100%

Audit #	Criteria	No.				Comment
1	How many patients required their EBM managed (to have additions added) in the Formula Room?	No.				
2	How many EBM bottles required defrosted?	No.				
3	How many EBM bottles required additives?	No.				
4	How many EBM bottles are stored in the EBM Freezer?	No.				
5	How many EBM Bottles are stored in the EBM Fridge?	No.				
6	How many patients EBM was discarded?	No.				
		Yes No.	Yes %	No No.	No %	Comment
7	Was EBM transported correctly to the Formula Room?					
8	Was EBM transported out of the Formula Room correctly?					
9	Was EBM double checked between Formula Room and Ward/Unit or Other Hospitals?					
10	Were all EBM Labels legible and completed correctly on arrival to the Formula Room?					
11	Was EBM signed in and out of the EBM Diary Correctly?					
12	Was EBM labelled correctly on arrival to the Formula Room?					
13	Was EBM (re)labelled correctly on departure from the Formula Room?					
14	Was all EBM stored correctly in the Formula Room?					
15	Was all EBM defrosted correctly in the Formula Room?					
16	Were all additives added as per Prescription Sheet?					
17	Was all EBM decanted correctly in the Formula Room?					
18	Were tamper proof seals applied correctly to the EBM Bottles?					
19	Were Incident/Near Miss Report Forms completed that related to EBM in the Formula Room?					
20	Was EBM discarded appropriately (if required)?					
Individual Score						Total Score %

Quality Improvement

Signature of Auditor _____

© 2016 Our Lady's Children's Hospital Crumlin, Dublin 12. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means without the prior written permission of the copyright holder. Every effort has been made to ensure that the information provided is accurate and in accord with standards accepted at the time of printing.