Breastfeeding documents in OLCHC	
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CONTENTS

Breastfeeding Policy Statement

The three children's hospitals, Our Lady's Children's Hospital, Crumlin, (OLCHC) Children's University Hospital, Temple St, (CUH) & National Children's Hospital, (AMNCH) believe that breastfeeding is the healthiest way for a mother to feed her baby. It recognizes the important benefits that exist for both the mother and her child. Nursing staff of the three children's hospitals are committed to supporting mothers who choose to breastfeed by:

1 Creating an environment that welcomes, supports and facilitates breastfeeding.

2 Giving verbal and written information of the importance and management of breastfeeding to parents of newborn babies.

3 Welcoming mothers who wish to breastfeed in any public area of the hospital and endeavouring to provide a private area for those who ask for one.

4 Arranging all interventions by hospital staff to minimise disturbance to the breastfeeding relationship.

5 Ensuring that mothers who are breastfeeding their children will have access to trained staff who have the knowledge and skills to assist mothers in establishing and maintaining breastfeeding and breast milk feeding.

6 Avoiding the use of bottles, teats and soothers whilst establishing breastfeeding, unless needed for medical reasons, or through parental choice.

7 Discussing with parents the need for fortified breast milk or alternative feeds for sick children with specific medical conditions.

8 Giving expressed breast milk or alternative feed by a feeding method conducive to the establishment of breastfeeding.

9 Supplying equipment and information for the safe expression and storage of breast milk, while in hospital.

10 Endeavouring to facilitate siblings who are being breastfed by mothers who wish to be resident with their sick child in the hospital. Where possible siblings will be facilitated to stay in the hospital.

11 Abiding by the International Code for the Marketing of Breast Milk substitutes, and WHO resolutions.

12 Informing mothers on discharge of the hospital and community breastfeeding support services and groups available to her.

13 Supporting staff working in the hospital that choose to breastfeed or express breast milk for their child.

Director of Nursing TSCUH	Director of Nursing OLCHC	Acting Director of Children's Nursing Services NCH

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Guidelines for OLCHC staff caring for mothers breastfeeding their sick infants in OLCHC	
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1.0 Introduction

Our Lady's Children's Hospital Crumlin (OLCHC) believes 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) 2013a). 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). Nurses should enable and encourage mothers to maintain breastfeeding with the provision of timely and appropriate support (McGorrian et al 2010). Before breastfeeding mothers are discharged from maternity settings they should be able to demonstrate how to position and attach the infant to the breast and identify signs that the infant is feeding well (National Institute for Health and Care Excellence (NICE) 2008). However due to the unexpected nature of some newborn illnesses, this may become the role of the nurse in OLCHC. Therefore, these guideline aims to assist nurses to provide consistent and accurate advice and education, and to provide appropriate support and encouragement for mothers breastfeeding their sick infants in OLCHC.

2.0 Definition of breastfeeding

Many definitions exist for breastfeeding with WHO's (1996) definition leading the way by defining it as children receiving breast milk directly from the breast or indirectly via expression of breast milk (Appendix 1). World Health Organisation (WHO)(1989; 2002), FSAI (2011) and HSE (2011) also recommends that infants breastfeed exclusively until 6 months of age and complementary diet with continued breastfeeding until 2 years or older.

3.0 Benefits of breastfeeding: (this is not an exhaustive list)

Breast milk is associated with long and short term health benefits and has been shown to:

- Reduce the risk of developing:
  - GI infections
  - Respiratory Infections
  - Otitis Media
  - Juvenile onset diabetes
  - Obesity
  - Celiac Disease (when gluten is introduced while breastfeeding)
  - Clinical Asthma, Atopic Dermatitis, and Eczema
  - Dental Caries
  - Leukemia
  - Childhood Inflammatory Disease
  - SIDS
- Promote brain growth and cognition
- Enhance intellectual and visual development
- Protect preterm infants against infection
- Improve GI function and maturity
- Prime the GI tract to protect against microbial invasion
- Improve glucose tolerance
- Stimulate the maturity of the immune system
- Reduced mortality rate among preterm and low birth weight infants from necrotising enterocolitis (NEC)

4.0 Informed decision to breastfeed or not

Mothers feeding decisions are guided not only by their own attitudes, beliefs and skills, but also by the perceptions of other people (Ajzen 1991). Mothers partners and family support networks influence mother's decision to breastfeed (Kaewsarn et al 2003, Nelson and Sethi 2005) as well as health professionals. In children's hospitals, mothers may have made their feeding decisions prior to admission, however due to the unexpected nature of their infants illness especially in the newborn period and the nature of hospitalisation mothers feeding intentions may change. Therefore nurses should make the most of this valuable opportunity to influence mothers decision to breastfeed, without applying undue force (Harris 2008). The benefits of breastfeeding should be discussed (Stuebe 2009) with parents (Hoddinott et al 2012) and the additional benefits to the sick child. This information should be reinforced with written information (WHO 2008) as parents are entitled to receive information regarding

breastfeeding in order to make informed feeding decisions for their infants (WHO 1981, WHO 1989, Spicer 2001).Therefore; nurses in OLCHC should direct parents to the following information leaflets available at: www.breastfeeding.ie/hse_publications

- Breastfeeding your baby
- Breastfed is Best fed: An Introduction to Breastfeeding your Baby,
- Breastfeeding your ill or premature baby

The parent's choice of feeding method should be clearly recorded in the Health care Records on admission. Once mothers decides to breastfeed, it is the nurses role to support mothers to continue breastfeeding for as long as they choose (NICE 2008)

5.0 Breastfeeding and Maternal Medication

Mothers should be asked if they are taking any medications (either recreational, 'over the counter' or prescribed). Medication compatibility with breast milk should be checked with the Pharmacy Department, with reference to Briggs et al (2004) or for out of hours advice use: www.ukmicentral.nhs.uk in consultation with the infants medical team to determine the compatibility of medication with breastfeeding or if a safer alternative can be found. Rarely does breastfeeding have to be disrupted.

Infant's exposure to such medications is dependent on the:

- extent of medication transfer into breast milk,
- effects of medication on milk production and composition, and
- extent and consequent effects of exposure to medication in breast milk on breast-fed infants
- infants age
- action of medications may vary among mothers over periods of time (absorption, distribution, metabolism, excretion)

(Briggs et al 2004, Howland 2009, AAP 2012)

6.0 Principles of teaching breastfeeding

Mothers who receive breastfeeding education and support were more likely to be breastfeeding at discharge (Ahmed 2008). The best way to support breastfeeding is difficult to define, as many methods can be useful (Hannula et al 2008). **Hands-off Technique (HOT)** is one principle that can be used to teach mothers how to breastfeed with the minimal intervention of 'showing' rather than 'doing' the attachment for mother (Ingram et al. 2002). Nurses are also encouraged to educate and facilitate the mother and infant to attach independently with the assistance of teaching aids like information leaflets, dolls, and demonstrate attachments (Ingram et al. 2002, Hannula et al 2008, McGorrian et al 2010, LLL 2012). Mothers should be given verbal and written information on breastfeeding to assist in consolidating the verbal advice given by nursing staff in OLCHC.

Regardless of how well breastfeeding has been established for mothers, WHO (1989) stipulates that mothers should be assisted to learn the skill of hand expression before discharge from maternity services. This skill ensures that expressing is effective to establish and/or maintain an adequate breast milk supply (Becker et al 2011). However, due to the nature of emergency admissions from maternity to children's hospitals, this skill may not be taught. Therefore, it is important that nurses in OLCHC teach this skill to mothers who choose to breastfeed their infants (NPC 2013b).

7.0 Breastfeeding education for nursing staff

Numerous national and international studies highlight that health professionals provide breastfeeding mothers with inaccurate and misleading information (NWHB 2001, McGrath 2002, Kaewsarn et al 2003, OlaOlorun and Lawoyin 2006, Moore and Coty 2006, Hall and Hauck 2007, McGorrian et al 2010) and inappropriate professional breastfeeding support (Nelson 2007, Furber and Thomson 2008, Harris 2008). To overcome this, WHO (1998) recommended that all health professionals in contact with mothers who breastfeed must receive education and

clinical experience in breastfeeding management. All qualified nursing staff caring for mothers breastfeeding their sick infants in OLCHC are recommended to attend a 'Breastfeeding Education Session' in the management of breastfeeding, within six months of commencing employment in that area or as soon as possible. These sessions have the theoretical and practical content required to ensure that nurses acquire the skills necessary to promote, support and protect breastfeeding within children's hospitals. By increasing nurses knowledge and skills on breastfeeding management, mothers will receive consistent evidence-based information and effective support leading to effective breastfeeding (WHO 1998, NWHB 2001, McGorrian et al 2010). All health professionals supporting breastfeeding mothers should have the skills necessary to do so effectively (Finneran and Murphy 2004, McGorrian et al 2010), hence these sessions are available to all health professionals in OLCHC who support breastfeeding mothers. For nurses to maintain an up to date level of knowledge and skill to provide accurate information and support to parents (An Bord Altranais 2000) including breastfeeding mothers, continuing education and updating of skills should be carried out after this initial training at a minimum of every two years.

8.0 Breastfeeding in public versus breastfeeding in private

Mothers who choose to breastfeed are welcomed in OLCHC. By promoting a culture where breastfeeding is visible, it will be seen as the norm and more women may choose to breastfeed in the future (McCann and Curtis 2003). Mothers have a legal right to breastfeed in public, whenever and wherever the need arises. Irish legislation (such as the Equal Status Act (2000) (Government of Ireland 2000) and the Intoxicating Liquor Act (2003) (Government of Ireland 2003)) protects these mothers against discrimination and harassment to access and while using public services. All OLCHC staff aim to cater for the needs of breastfeeding mothers in OLCHC.

Some mothers may feel they need more privacy when breastfeeding in public, therefore public service areas (shopping centres, hotels etc.) should be encouraged to provide separate infant feeding facilities. Lack of facilities and embarrassment associated with breastfeeding in public has been cited as deterrents for mothers to initiate breastfeeding in Ireland (Begley et al 2008, Tarrant 2008, McGorrian et al 2010). Facilities are available for mothers who wish to breastfeed in private while their sick infants are hospitalised in OLCHC. Privacy can be maintained by providing a single cubicle space
where possible with screens/curtains, a bed for mothers and a 'do not disturb' sign. This may mean the reallocation of beds in a clinical area, with due consideration for the medical condition, and infection risk of infants involved. A single cubicle space for mothers also allows mothers to rest both day and night and facilitates Kangaroo care (Ludington-Hue 2011). Privacy is essential as embarrassment may also affect the milk ejection reflex. For mothers breastfeeding their infants on an out-patient basis can do so in private, this can be maintained by availing of breastfeeding/expressing rooms in OLCHC's infant wards if available or by using a vacant room in the Out Patients Department if available.

9.0 Accommodating resident mothers to breastfeed siblings of hospitalised child

The breastfeeding relationship should not be interrupted by the hospitalisation of a sibling. Therefore, OLCHC endeavour to facilitate siblings who are being breastfed by mothers who wish to be resident with their sick child in OLCHC, if required, under the supervision of the parents (NPC 2013a). OLCHC will also endeavour to facilitate the process of expressing breast milk if mother do not wish to have siblings residents but wishes to maintain a breast milk supply.
All breastfeeding mothers will sign the 'Conditions for mothers breastfeeding in OLCHC' Document (Appendix 2) on admission to OLCHC acknowledging and accepting that the health and safety of breastfed siblings is their sole responsibility during their time of residence in OLCHC. A copy is filed in the patient Healthcare record and a copy is also given to the parent.

10.0 International Code for the Marketing of Breast Milk Substitutes (WHO 1981)

This Code is an international health policy framework for breastfeeding promotion adopted by WHO (1981). It applies to the marketing, and practices related to all breast milk substitutes and other products (including bottles, teats and soothers) to ensure that mothers are not discouraged from breastfeeding and that substitutes if needed

are used safely. Some of the key articles of the Code include:

- No advertising of these products to the public
- No free samples to mothers or members of their families
- No formula to be sold through the hospital shop
- No free formula to be given to mothers on discharge.
- No promotion of products in healthcare facilities
- No company personnel to advise mothers or members of their families
- No gifts or personal samples to health workers
- No words or pictures idealising bottle-feeding, including pictures of infants on the labels of the products
- All infant formula should be kept out of sight on the hospital wards
- All information on infant feeding should explain the benefits of breastfeeding and the costs and hazards associated with bottle-feeding

The code seeks to encourage and maintain women's right to breastfeed and infants right to have access to it's mothers own milk. As all staff in OLCHC comply with this Code by informing mothers of the benefits of breastfeeding, endorsing breast feeding as the preferred feeding method of choice and supporting mothers who choose this method of feeding. The code does not prevent mothers from bottle-feeding if they choose as some infants will be bottle fed prior to admission to OLCHC.

11.0 Establishing breastfeeding

The breastfeeding experience for mothers of sick/premature infants often involves the following steps:

- Expression and storage of milk (See the Guidelines for mothers expressing breast milk in OLCHC (NPC 2013b) for more details)
- Kangaroo Care/Skin to Skin Contact (See the Guidelines for mothers expressing breast milk in OLCHC (NPC 2013b) for more details)
- Non-nutritive sucking (NNS) and oral stimulation (See the Guidelines for mothers expressing breast milk in OLCHC (NPC 2013b) for more details)
- Beginning breastfeeding (supplementary (fortified) EBM/formula feedings given as needed)
- Full breastfeeding (Refer to the Guidelines for nursing staff on expressing breast milk in OLCHC (NPC 2013b) for more details)

12.0 How to stimulate the Milk Ejection Reflex (MER)?

To obtain quantities of milk by any method requires an effective milk ejection or let down reflex (WHO 2006, Becker et al 2011). This reflex is dependent on the hormone oxytocin, produced in the posterior pituitary gland. Oxytocin causes the contraction of the myoepithelial cells surrounding the alveoli and makes the milk flow from the alveoli and down the ducts (Riordan and Wambach 2010).

12.1 Milk ejection reflex responses

Milk ejection reflex responses differ between the early days of establishing milk supply to when milk supply is well established, and can also depend on:

- mothers parity
- previous breastfeeding experience
- gestation of infant at birth
- mothers level of distress

(Becker et al 2011)

12.2 Signs of the milk ejection reflex

After birth, mothers may experience:

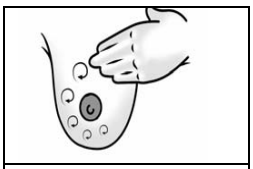
- Painful uterine contractions

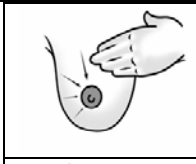
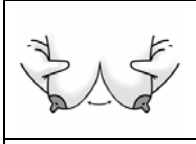
- Spraying of milk from the breast
- Leaking from the breast not being suckled
- An increase in thirst
- Feeling a squeezing sensation
- Breast's feel tingly, with a warm sensation during milk ejection
- Slow deep sucks and swallowing by the baby

(WHO 2006, WHO 2009, Noonan 2011)

Mothers are more likely to feel the MER at the beginning of full breast release (LLL 2012). However, not all mothers feel the MER happen and therefore, taken on its own, cannot be used as a reliable sign of milk sufficiency (West and Marasco 2009).

12.3 How to stimulate the Milk Ejection Relfex?

Action	Diagrams	Rationale & Reference
Mothers should decontaminate their hands		Prevention of cross infection (HSE 2009a, HMBANA 2011, **Infection Control Department 2010a, OLCHC 2011b, 2011a)
Allow plenty of time		To promote a relaxing atmosphere (LLL 2012)
Encourage mothers to use relaxation techniques such as deep breathing exercises, visualisation techniques such as picturing their infant, assisted with photo or recordings of their infant, and their clothing for tactile and olfactory reminders.		The use of relaxation/visualisation techniques and tactile/olfactory stimulation has been shown to help stimulate MER and improve milk yield (Rondo and Souza 2007, Jackson 2010, Conde-Agudelo et al 2011, LLL 2012).
Choose a comfortable chair with a high back and supportive arms.		To help stimulate MER and express effectively and comfortably
Facilitate expressing at the infant's bedside		To help stimulate MER and improve milk yield
Maintain privacy to express: Beside the infant using a screen or curtains in a single cubicle space	 Massage	To help stimulate MER and assist the milk to flow
Place warm moist compresses (face cloth) on your breasts.		To help stimulate MER and assist the milk to flow
Do not feel rushed while expressing.		To help stimulate MER and assist the milk to flow
Mothers should: • **Massage** around their breasts gently in small		To help stimulate MER and

circular motions with their fingers from the chest towards the nipple, • **Stroke** their breasts from the chest towards the nipple, and • Lean forward and **shake** their breasts gently.	 Stroke  Shake	assist the milk to flow (Morton et al 2009) and improve the quality of breast milk (Foda et al 2004) To help stimulate MER and assist the milk to flow To help stimulate MER and assist the milk to flow

13.0 Individualised nutritional assessment

Some infants medical condition may affect their nutritional requirements making it necessary to fortify (infant formula powder, carbohydrate/protein supplementation or breast milk fortifier) EBM and other rare conditions may necessitate the discontinuation of breastfeeding and the use of an alternative feed (Shaw and Lawson 2001). Therefore, sick infant's nutritional requirements should be assessed on an individual basis by the medical team, dietician, or the multidisciplinary team. The nutritional needs of infants and how they can be best met will be discussed with parents who can therefore make informed choices in consultation with health care professionals caring for their infant. The assessment and proposed feeding plan will be recorded in infant's healthcare records to ensure clarity and continuity of care.

14.0 Recognise feeding cues

Infants may get overly distressed if left too long for feeds and sleepy infants may not get enough feeds. These problems are less likely to happen if mothers are taught how to recognise infant feeding cues (LLL 2012)

Early Cues	Eyes moving behind eyelids before they even open	Hands coming towards face	Mouth movements	If fed at this time infants will probably feed gently and easily
Obvious Cues	Rooting to their side / chest if held	Whimpering	Squeaking	If fed at this time infants will probably feed gently and easily
Late Cues	Body and mouth tense	Breathes faster	Starts to cry	Need to calm the infant before trying to feed

(LLL 2012)

15.0 Positioning an infant for a breastfeed

Teaching mothers to correctly position and attach their infants to the breast facilitates effective and pain free breastfeeding, and avoids the problems of sore nipples, engorgement and poor milk supply. Infants can breastfeed in several different positions in relation to their mothers, some of the common positions include:

- across the chest and abdomen (Cradle hold Cross cradle hold/transition hold),
- under the mothers arm (Football/clutch hold),
- mother and infant lying down side by side- usually recommended for night feeds and after a caesarean section

Less common positions include:

- Dancer - (suitable for infants with muscular weakness) (Mothers supports the infants chin and head to keep the mouth close on to the breast)
- Modified football
- Straddle
- Hands and knees - mother raises herself on her hands and knees over the infant, who lies flat on their back elevated by pillow to breast height (suitable for infants on Gallows traction), alternatively mothers can lean over the cot

(LLL 2004, WHO 2009, Colson 2005a)

15.1 Laid back breastfeeding

Laid back breastfeeding is a mother-centred approach to breastfeeding, encouraging mother and infant to develop their natural breastfeeding instincts. This position stimulates latching and sucking even when mothers and infants are lightly dressed (Colson et al 2008).This involves:

- Mothers:
  - lie in a semi-reclined position with their head and shoulders well supported
  - Pillows can be used for support
- Infants are placed on their chest, with infants:
  - tummy facing the mothers body
  - face/cheek resting near the mothers breast
  - legs and feet touching the mothers legs
  - being helped as much as mothers desired.

Mothers can hold the breast if desired

(Colson 2005b)

There are several different positions for successful breastfeeding, but some key positioning points need to be followed:

Action	Rationale & Reference
Mothers position: Can be sitting, lying back, side-lying or standing, if they wishes	(WHO 2009)
Needs to be relaxed and comfortable, and without strain, particularly of their back.	(WHO 2009)
Drop their shoulders	If shoulders are pulled up - a stress response of learning a new task, mothers arm will also pull up, and infants will follow causing misalignment of the infant at the breast (Power 2008)
Do not lie flat on back	This can cause neck strain when mothers raise their heads to establish eye contact with their infant (Colson 2005b) and can hinder self-attachment as even a slight maternal body slope appears to aid infant feeding reflexes in laid back feeding (Colson 2005b)
If sitting, their back needs to be supported, and should be able to hold the infant at their breast without leaning forward. • The nipples usually point slightly downwards,	
Infants position Whatever the mothers or infants position, while breastfeeding the infants: • Should be directly facing mothers breasts	To ensure the infant doesn't have to turn their head to reach the breast (WHO 2009)
• Head (Ears) and body (shoulders and hips) are in a straight line, not bent or twisted	To ensure the infant doesn't have to turn their head, neck or body to strain and reach the breast (WHO

• Nose should be in line with the mothers nipple immediately prior to attaching • Chin is close to the breast • Head titled back slightly • body should be close to the mother • body should be supported with: - on the mother's lap or arm - on a pillow - on the bed	2009) and can swallow easily without twisting their head (WHO 2009) So when the infant mouth open the head can tilt back and allow the infants mouth line up with the nipple Infants need to be able to tip their head back freely To able the infants to reach the mothers breast easily To enable the infant to be close to the breast, and to take a large mouthful (WHO 2009) To ensure the infant feels secure and to maintain the position throughout the breastfeed with out undo stain to the mother or infant

15.2 Bed Sharing and Breastfeeding

Bed sharing has been associated with increased duration and prevalence of breastfeeding (Ball 2003, Blair and Ball 2004, McCoy et al 2004). Hauck et al (2011) acknowledges that breastfeeding is protective against SIDS, and this effect is stronger when breastfeeding is exclusive. However, McGarvey et al (2006) study is not supportive of the protective role for bed sharing, stating that the interact of bed sharing with other risk factors increases the associated risks of Sudden Infant Cot Death (SIDS) even further. Therefore, OLCHC recommend that infants who are medically stable should be allowed to share a bed with their mother **for breast feeding only, but must be returned to their cot to sleep.** Mothers should be informed verbally and in writing of the increased risk SIDS and bed sharing (UNICEF Baby Friendly Initiative 2011a, 2011b, HSE 2012).

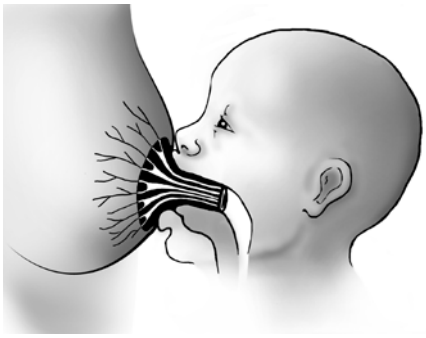
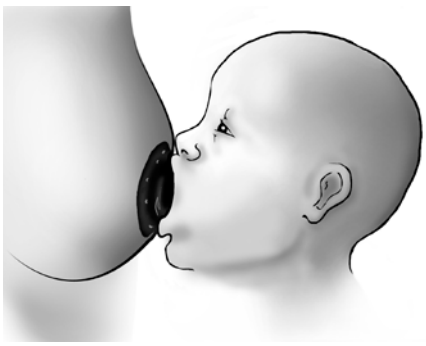
16.0 Attaching your Infant

To stimulate the nipple and remove milk from the breast, and to ensure an adequate supply and a good flow of milk, infants needs to be well attached to suckle effectively (WHO 2009). Difficulties often occur if infants don't take the breast into their mouth properly, and so cannot suckle effectively (WHO 2009).

Action	Rationale & Reference
Assist the infant to open their mouth wide by using: • the mothers nipple to tickle the infants lower lip or • the index finger of the hand supporting their breast to press firmly down on the infants chin as they pull the infant on. As the mouth opens to its widest point, mothers should: • direct the nipple into the center of the infants mouth • use their arm behind the infant to pull the infant in very close to them.	To ensure infants sucks on a good mouthful of breast tissue, not just on the top of your nipple If infants suck only on the nipple, mother will get very sore nipples and infants won't get enough milk (Power 2008) To encourage them to open their mouth wide--really wide.

• not lean forward to push their breast toward the infant If mothers support infants head and upper neck while feeding, mothers should place their: • thumb and index fingers should surround the infants neck, • palm (hand) should rest high on infants spine The mother should not: • hold or push on the back of the infant's head while breastfeeding • grasp the infants bottom while breastfeeding Mother can adjust the infants body	To prevent infants pulling away from the breast if the mother's hands push against the back of their head and stabilises the top of infants back and neck (Power 2008) This can pull infant too far out to the side, and make it difficult for the infant to get their chin and tongue under the areola.

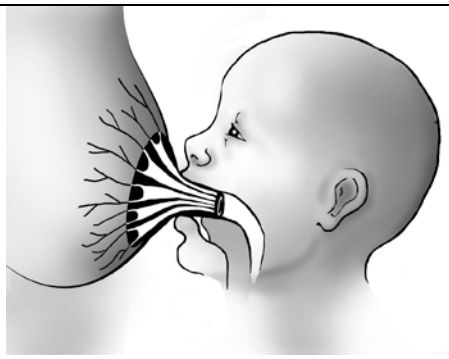
17.0 How to assess a good latch/attachment

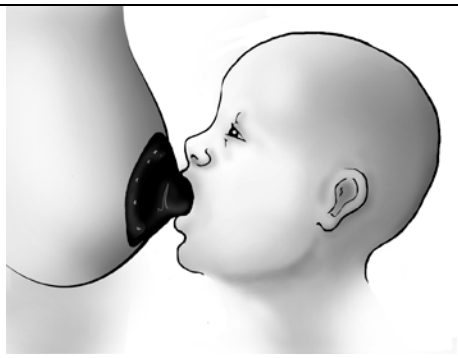
When infants have a **good attachment**, ensure that: • much of the areola are in the infants mouth; breast is stretched out to form a long 'teat', (the nipple only forms about one third of the 'teat') enabling the nipple to touch the infants palate (This suction is used to stretch out the breast tissue and hold it in their mouth) • the infants tongue is forward over the lower gums and beneath the milk ducts, cupping around the sides of the 'teat' to allow their tongue to reach well underneath the breast tissue and press the ducts • the infants is suckling from the breast, not from the nipple. • the infants mouth and tongue do not rub or traumatise the skin of the nipple and areola. (WHO 2009) As infants suckles, • a wave passes along the tongue from front to back, • pressing the teat against the hard palate and • pressing milk out of the sinuses into the infants mouth from where they swallows it. This action along with MER allows the breast milk flow along the ducts and into the infants mouth.	 Cross Section  External View

Action	Rationale & Reference
If the infant is attached correctly to the breast, mothers	

should: • See - Infants mouth is wide open - Infants upper and lower lips are turned outwards - Infants cheeks should look full and rounded when infants suck - more of the areola is visible above the infants top lip than below the lower lip (May be visible to mother) - Infants chin is (almost) touching the breast - Infants jaw is moving, up near his ear - infants are able to breathe freely through their nose • Hear - quiet swallowing, <u>not</u> smacking sounds • Feel - Comfortable/pain free	To allow the mouth to take in plenty of breast (WHO 2009) Infants lips should be flared upon the breast creating a vacuum (Power 2008) Infants mouth is full of areolar and breast This allows the power of infants lower jaws to evacuate the milk on the underside of the breast (Power 2008), and shows that infants are taking the breast and nipple from below, enabling the nipple to touch infants palate, and reach well underneath the breast tissue, and press on the ducts (WHO 2009) (WHO 2009)

17.1 How to assess a poor latch/attachment

Infants have a **poor attachment** when the following may be observed: • only the nipple is in the infants mouth, not the underlying breast tissue or ducts; • the infants tongue is back inside their mouth, and cannot reach the ducts to press on them.	 Cross Section



External View

Action	Rationale & Reference
If the infant is not attached correctly to the breast, mothers may:	
• See	
- infants lower lip is turned inwards	If the infant's lips are tucked-in the flow of the milk may be impeded as the vacuum seal is compromised, also causing very sore and bruised nipples (Power 2008) when infants are very close to the breast, it can be difficult to see what is happening to the lower lip
- Infants cheeks should are hollow when infants suck	The infants mouth is not full of nipple and breast (WHO 2009)
- infants mouth is not wide open	The infants mouth can not facilitate the nipple and breast
- infants chin is away from the breast	
- more of the areola is visible below the infants bottom lip than above the top lip - or the amounts above and below are equal (may be observed by mother)	(WHO 2009)
• Hear - smacking • Feel - Uncomfortable or painful	
Mothers with large areola: Sometimes much of the areola may be outside the infants mouth, but by itself this is not a reliable sign of poor attachment • If the amount of areola above and below the infants mouth is equal, or if there is more below the lower lip, these are more reliable signs of poor attachment than the total amount outside.	Some mothers may have very big areolas, which cannot all be taken into the infants mouth
If poor attachment is suspected, mothers should release the infants from the breast by:	To comfortably release the latch without causing further damage to the nipple and breast (LLL 2004)

• press down on the breast or • gently insert a clean finger in the corner of the infants mouth to break the suction and try to attach again.	

17.2 Causes of poor attachment

Suckling with poor attachment may be uncomfortable or painful for mothers, and may damage the skin of the nipple and areola, causing sore nipples and fissures (or "cracks"). Poor positioning and attachment is the commonest and most important cause of sore nipples, nipple trauma, breast engorgement, and may result in inefficient removal of milk and apparent low supply and early weaning (Renfrew et al 2000). Use of a feeding bottle before breastfeeding is well established can cause poor attachment, as the mechanism of suckling with a bottle is different. Functional difficulties such as flat and inverted nipples, or very small or weak infants, are also causes of poor attachment. However, the most important causes are inexperience of the mother and lack of skilled help from the health workers who attend her. Many mothers need skilled help in the early days to ensure that infants attach well and can suckle effectively. Health workers need to have the necessary skills to give this help. Frequent feeding is important in the establishment of a milk supply (WHO 2009).

18.0 How to assess an effective suck

If infants are well attached at the breast, then they can suckle effectively indicating that milk is flowing into infants' mouths.

Signs of effective suckling:

- Infants takes slow, deep suckles followed by a visible or audible swallow about once per second.
- Sometimes infants pause for a few seconds, allowing the ducts to fill up with milk again.
- When infants starts suckling again, they may suckle quickly a few times, stimulating the MER, and then the slow deep suckles begin.

Towards the end of a feed:

- suckling usually slows down, with fewer deep suckles and longer pauses between them. This is the time when the volume of milk is less, but as it is fat-rich hindmilk, it is important for the feed to continue.

At the end of the feed, when infants are satisfied,
Infants usually releases the breast spontaneously. The nipple may look stretched out for a second or two, but it quickly returns to its resting form.

18.1 Signs of ineffective suckling

Infants who are poorly attached are likely to suckle ineffectively:

- May suckle quickly all the time, without swallowing, and
- their cheeks may be drawn in as they suckle showing that milk is not flowing well into infants mouths.

When infants stops feeding the nipple may:

- stay stretched out, and
- look squashed from side to side,
- have a pressure line across the tip, showing that the nipple is being damaged by incorrect suction.

18.2 Consequences of ineffective suckling

When infants suckle ineffectively, transfer of milk from mother to infant is inefficient. As a result:

- the breast may become engorged, or may develop a blocked duct or mastitis as not enough milk is removed;
- infants intake of breast milk may be insufficient, resulting in poor weight gain.

19.0 Breastfeeding patterns, frequencies and duration

To ensure adequate milk production and flow for 6 months of exclusive breastfeeding, infants needs to feed as often and for as long as they wants, both day and night (Kent et al 2006). This is called demand feeding, unrestricted feeding, or baby-led feeding. OLCHC staff will support a flexible breastfeeding schedule. While infants are sick in OLCHC, this may be difficult to establish and/or maintain due to infants conditions and ability to tolerate feed. However as infants recover and reestablish breastfeeding after an illness, it is anticipated that they can feed as often and for as long as they wants, both day and night.

Action	Rationale & Reference
Frequency Breastfeeding frequency may vary depending on the infants clinical condition. Ideally breastfeeding is infant led	Mothers should be encouraged to feed their infants frequently and to leave them feeding at the breast until they are satisfied (Inch and Garforth 1999, LLL 2004)
Encourage mothers to design a breastfeeding regimen that works for both mother and infant once the infant is clinically stable and tolerating feeds	Breast storage capacity and infant nursing style varies widely. To ensure that mothers are still producing sufficient milk to facilitate their infants demands (Meier et al 1998, LLL 2012)
Mothers should be advised to tailor their breastfeeding frequency to their breast storage capacity	Breast storage capacity and infant nursing style varies widely
If the infants is a newborn mothers should aim to: • Breastfeed as soon as possible after delivery	To increase mother breast milk supply. Maximum total milk production is set early in lactation (LLL 2012)
• Breastfeed "on demand", as often as infants wants day and night	Restricting the frequency of feeds may reduce the hindmilk obtained (Becker et al 2011)
• Breastfeed 8-10 times in 24 hours	Restricting the frequency of feeds may reduce the hindmilk obtained (Becker et al 2011) To mimic their infants usual breastfeeding pattern (Spatz 2004)
• avoid leaving gaps of more than three hours (during the day)	Prolactin, the hormone necessary for milk production, is released in greater quantities during night-time suckling, thus milk production may get its greatest boost when infant feeds at night (LLL 2004). Night feeds may also provide infants with a substantial amount of their 24 hour intake.
• Breastfeed every 5-6hours (at night)	Prolactin, the hormone necessary for milk production, is released in greater quantities during night-time

	suckling, thus milk production may get its greatest boost when infant feeds at night (LLL 2004). Night feeds may also provide infants with a substantial amount of their 24 hour intake.
• If short of time mothers are advised to breastfeed for short periods (5-10minutes) more frequently than to leave long gaps between feeds.	Colostrum is produced in small quantities and therefore expression times, and quantities, in the first few days will be minimal (Riordan and Wambach 2010)
• Be aware that mothers will produce small amounts initially.	To mimic their infants usual breastfeeding pattern (Hill et al 2001)
If the infant is not a newborn, mothers should aim to: • breastfeed at regular intervals or at the same times their infant would usually breastfeed.	To maintain their breast milk supply and provide adequate nutrition for their infant
If the infant is starting to breastfeed after receiving expressed breast milk for a while, mothers may need to: • continue expressing EBM until the infant is totally established on breast feeds (allowing infants to breastfeed first and then express)	Frequent feeding is important in the establishment of a milk supply. The composition of breast milk changes throughout the course of a feed, the fat content of the feed increases throughout the feed, the highest fat content being towards the end of the feed (Hill et al 2001, Jones 2005, Bankhead et al 2009)
Provide the 'Log Book for Mothers Breastfeeding their infants in OLCHC' Document (available in OLCHC Intranet) and review daily	To detect alterations in mothers breastfeeding patterns so that remedial action to increase supply can be taken (Spatz 2004). To empower mothers, informing them of newborn feeding patterns. It also provides a guide to initiate purposeful discussion with health professionals (Colson 2008)
Document same in Nursing Care Plans	Good clinical records are essential to provide documentary evidence of the delivery of quality patient care (An Bord Altranais 2002, National Hospitals Office 2009)
Praise mothers throughout this process regardless of the duration, frequency of breastfeeding	To boost mother confidence in their expressing abilities
To minimise disturbances to breastfeeds with in OLCHC: • All medical and nursing care will be planned around breastfeeding where possible	That breastfeeding can continue and to minimise the disturbance to breastfeeding (NPC 2013a)
• Standard pre anesthetic fasting times for breast milk are at least 4 hours, however, certain procedures or surgery may require a longer fasting time (determined by the anesthetist or medical team)	To ensure minimal residual gastric volume and minimise the risk of vomiting and aspirating stomach contents into the lungs during induction of anaesthetic

• Post procedures, infants will be fed as soon as they are alert and willing to feed, unless medically contra-indicated • Mothers will be encouraged to use SSC and their breast to settle, soothe, comfort their infant, this may also assist in providing non-pharmacological pain relief for their infant.	(McQueen et al 2012, ABM 2012). Formula milk is digested more slowly than breast milk and takes longer to clear the stomach than breast milk (Splinter and Schreiner 1999, Adeel et al 2009, American Society of Anesthesiologists Committee 2011, ABM 2012) Breastfeeding can help to soothe infants, increase their comfort and reduce their fasting time (ABM 2012, McQueen et al 2012). Therefore should be fed when medically stable Infants will settle more quickly at the mothers' breast and may reduce the need for analgesia (Shah et al 2007)

20.0 Recognising that infants are feeds well

Nurses should discuss the normal feeding behaviour of breastfed infants with mothers and flexible infant-led feeding should be aimed for when infants are medically stable. When infants are breastfeeding well and in consultation with medical team and dietician as clinically indicated):

24hour period	**Wet Nappies**	**Stools**
Day 1-2	1-2 or more	1 or more, meconium
Day 3-4	3 or more, heavier	2 or more, changing stool
Day 5	5-6 or more, heavy	2 or more, yellow and seedy
Day 7+	6 or more, heavy	2 or more, yellow and seedy

Infants Colour	Centrally and peripherally pink
Infants Alertness	Alert when awake
Infants Tone	Good
Weight (post initial birth loss)	No more than 10% of birth weight loss, otherwise gaining weight
Number of feeds	At least 8-10 feeds in 24 hours (by Day 5)
Infants behaviour during feeds	Generally calm and relaxed
Breastfeeding directly	
Sucking pattern during feeds	Start with short sucks then longer sucks, pausing now and again (by Day 5)
Swallowing	Quiet
Length of feeds	5 - 30 minutes at most feeds
End of feeds	Infant lets go spontaneously, or when breast is gently lifted
Offer 2nd breast?	Offered 2nd breast but may or may not feed depending on appetite
Infants behaviour after feeds	Content after most feeds
Shape of either nipple at the end of a feed	Same shape when feed began, or slightly elongated
Mothers report on her breasts and nipples	Breasts and nipples comfortable
Use of dummy/nipple shield/formula?	Non used

(Adapted from UNICEF UK Baby Friendly Initiative 2010)

21.0 How to maintain and increase mothers breast milk supply?

Action	Rationale & Reference
Maintain: Mother should aim to breastfeed in a pattern similar to their infants typical breastfeeding rhythm. Encourage mothers to design a breastfeeding regimen that works for both mother and infant	To ensure that mothers are still producing sufficient milk to facilitate their infants demands (Meier et al 1998, LLL2012)
By ensuring that breasts are emptied after each breastfeed, milk production is more likely to be maintained.	To ensure that mothers are still producing sufficient milk to facilitate their infants demands (Meier et al 1998, LLL2012)
Useful techniques to increase mothers breast milk supply: Use the techniques advised in Section 12.3	See Section 12.3 for further details
Mothers should: • make time for meals, snack regularly • drink plenty of drinks available	See Section 12.3
Mothers should perform: • breast massage • Kangaroo care / Skin-to-Skin Contact (See below)	See Section 12.3
Mothers should breastfeed more often than presently doing	To increase the amount of stimulation at the breast, therefore increasing the breast milk production (LLL 2004, Jones and Hartmann 2005)
Breastfeed in short bursts more often for a period of time	Increased frequency of feeding by breastfeeding infants increases mothers breast milk supply (LLL 2004)

22.0 How mothers can wean and stop breastfeeding?

Action	Rationale & Reference
Ensure the decision to wean and/or stop breastfeeding is an informed decision	Parents are entitled to make informed decisions about their infants' feeding (WHO 1981, WHO 1989, Spicer 2001).
Weaning should be planned and gradual	Abrupt weaning can cause physical discomfort, as milk will continue to be produced and without sufficient removal mothers can become full and engorged which can lead to mastitis or breast abscesses (LLL 2004)
Mothers should consider the following: • Choose a milk formula if under 1 year (if not commenced or established on complementary foods) • Commence regular full fat milk if over 1 year • The type of feeding bottle/cup to introduce	To substitute alternative feeds and feeding devices to deliver same (LLL 2004)

Commence the introduction of complementary food from 6 months onwards while continuing to breastfeed Mothers can continue to breastfeed until infants are at least 2 years of age	Complementary foods can be commenced safely at 6 months of age (WHO 1989; 2002) Infants are recommended to be breastfeed exclusively until 6 months of age and supplemental diet with continued breastfeeding until 2 years or older (WHO 1989, 2002)
Mothers who are about to stop breastfeeding should wean gradually rather than suddenly stop (reduce by one breastfeed every 2-3 days) and breastfeed for comfort as needed	When mothers stop breastfeeding, breast milk may not be removed in sufficient quantities by her infant leading to engorgement and, if it occurs continually, it can lead to a diminished milk supply and mastitis (LLL 2004)
Weaning and the bereaved mother: Using their previous breastfeeding schedule: mothers should start expressing for shorten pumping sessions and lengthen the time between pumping sessions without causing discomfort	To gradually wean milk production without excessive discomfort and remove enough milk to reduce the pressure in the breasts. This process can take one to two week depending on the frequency and duration of mothers breastfeeding schedule prior to their infant death (HMBANA 2012). For further information refer to the End of Life Care Folder

23.0 Introducing Complementary Foods

Complementary food means giving other foods in addition to breast milk (WHO 2000) when breast milk is no longer sufficient to meet the nutritional needs of infants (WHO 2003). It is recommended that term infants should not commence complementary foods before 17 weeks (4 months) and not later than 26 weeks (6 months) and preterm infants only commence complementary foods under the specific advice and guidance of a healthcare professional (FSAI 2011). Introducing complementary foods before 4 months has been linked with the development of allergy and chronic diseases such as coeliac disease, as well as with an increased risk of choking. Delaying this process beyond 7 months of age may also lead to problems such as nutrient deficiency and delayed oro-motor development. Furthermore, delaying the introduction of foods containing gluten after 7 months may be associated with an increased risk of developing coeliac disease in later years (FSAI 2011). Therefore, it is recommended that small amounts of foods containing gluten be introduced from 6 months, while continuing to breastfeed (Ivarsson et al 2002, FSAI 2011).

Developmental signs of readiness for complementary foods, are that infants

- can stay sitting upright without support and hold their head steady,
- have the hand control to pick up a small item and move it to their mouth by themselves,
- can move food around their mouth with their tongue.

(Naylor and Morrow 2001).

24.0 Discharge Support and Information

Action	Rationale
Inform the **Public health nurse** prior to discharge of all infants receiving EBM/being breastfed.	Mothers who are breastfeeding/expressing EBM may require extra support following their discharge from hospital to enable the continuation of lactation.

Inform all mothers who are breastfeeding prior to discharge of the breastfeeding support network (PHN or Voluntary) in their local area. Leaflets are available and the following web sites may be accessed and information printed. Voluntary Breastfeeding supports in their local area: **www.breastfeeding.ie/** Private Lactation Consultant Supports may be recommended: **www.alcireland.ie/**	Mothers will have easy access to practical accurate support from appropriately trained breastfeeding personnel to provide comprehensive breastfeeding support (Begley et al 2008, McGorrian et al 2010, CDC 2012, LLL 2012) Provide contact details for local voluntary organisations offering ongoing support to complement local community public health services (HSE 2009b, NICE 2006) International Board Certified Lactation Consultants (IBCLC) are health professionals who specialise in the clinical management of breastfeeding to assist the mother-infant breastfeeding dyad (CDC 2012)

25.0 Trouble Shooting Guide

Mothers who develop breastfeeding related problems should be given accurate advice and support. Some of the common problems include: (This is not an exhaustive list)

- Mastitis
- Engorgement
- Perceived Poor Supply
- Breast and Nipple Thrush
- Blocked Ducts
- Cracked Nipples
- Refusal to latch/ Difficulty to latch infant on

Information leaflets are available in each ward area (though not on public display), and additional copies are available from the Neonatal Nurse Specialist

- Establishing and increasing your milk (LLL and the Health Promotion Unit)
- Sore Nipples (LLL and the Health Promotion Unit 2000)
- Sore Breasts (LLL and the Health Promotion Unit)

Displaying leaflets on breastfeeding problems can display a negative impression of breastfeeding to the public. Therefore, can be disseminated if particular problem arise to support the verbal information imparted from health care professionals.

25.1 Mastitis

Mastitis is usually caused in the first place by milk staying in the breast, or *milk stasis*, which results in *non-infective inflammation*. Infection may occur if the stasis persists. The condition may then become *infective mastitis*. Mastitis is commonest in the first 2–3 weeks after delivery but can occur at any time.

Symptoms:

- Hard swelling in the breast, with redness of the overlying skin
- Severe pain
- Usually only a part of one breast is affected
- Fever
- Feeling ill / flu like symptoms (feeling hot and cold with aching joints)

Common causes

- Poor attachment to the breast
- Nipple damage
- Too long between feeds

- Breasts which are too full
- Incomplete removal of milk
- Unrelieved engorgement
- Blocked milk ducts
- Stopping breastfeeding too quickly
- Overly tight bra/clothing around the chest area
- Infants with tongue-tie who's having problems attaching to the breast

Management:

Improve the removal of milk and try to correct any specific cause that is identified. Advise mothers to:

- Continue to breastfeed frequently
- Avoid leaving long gaps between feeds
- Start breastfeeding on the unaffected breast first to stimulate the oxytocin reflex and milk flow
- Vary the position of the infant
- Apply warm compresses to the affected breast
- Use Analgesics/Antipyretics (non-steroidal anti inflammatory to reduce breast inflammation; or paracetamol)
- Rest to aid recovery

If symptoms are severe, or if no improvement is seen after 24 hours of improved milk removal, the treatment should then include an antibiotic. However, antibiotics will not be effective without improved removal of milk (WHO 2009)

25.2 Blocked Ducts

Blocked ducts will almost always resolve spontaneously within 24 - 48 hours after onset, even without any treatment at all.

Symptoms:

A tender, hot, localised lump in one breast, with redness in the skin over the lump

Common Cause:

- Failure to remove milk from part of the breast, which may be due to infrequent breastfeeds
- Poor attachment
- Tight / constricting clothing
- Duct to one part of the breast is blocked by thickened milk
- Trauma to the breast

Management:

Improve removal of milk and correct the underlying cause:-

- Continue to breastfeed especially on the affected breast (emptying the affected breast)
- Position the infant so their chin "points" to the area of blocked duct while breastfeeding
- Vary the position of the infant
- Use breast compression while breastfeeding by positioning their hand between the rib cage and the blocked duct and apply pressure.
- Apply warm compresses
- Gentle breast massage over the lump and towards the nipple while breastfeeding (a string of the thickened milk comes out through the nipple, followed by a stream of milk and rapid relief of the blocked duct)

Lecithin, one capsule (1200 mg) 3 or 4 times a day can also prevent recurrent blocked ducts

25.3 Engorgement

Symptoms:

- Swollen and oedematous breasts
- Skin looks shiny and diffusely red
- Usually the whole of both breasts are affected

- Painful breasts
- Fever that usually subsides in 24 hours
- Nipples may become stretched tight and flat resulting in attachment and milk removal issues
- Breast milk does not flow well

Common cause:

Failure to remove breast milk, especially in the first few days after delivery when the milk comes in and fills the breast, and at the same time blood flow to the breasts increases, causing congestion.

Management:

- Mother must remove the breast milk from the breast ensuring that infants
  - attach well and suckle,
  - breastfeed at least 8-10 times daily on demand (if newborn) or breastfeed more frequently.
- If infants are not able to attach and suckle effectively, mothers should express their milk until the breasts are softer, so that infants can attach better, and then get him or her to breastfeed frequently.
- Apply warm compresses to the breast or take a warm shower before feeding or expressing to help the milk to flow
- Use cold compresses after feeding or expressing to help reduce oedema

25.4 Cracked Nipples

Symptoms:

- Open wound on nipple
- Sore
- Bleeding

Common causes:

- Poor attachment
- Poor latching
- Ill fitting breast shield for breast pump
- Breast pump suction too high

Management:

- Assess the infants latch
- Alter the infants breastfeeding position (if required)
- Use a breast shield on the effected breast until the nipple has healed
- Briefly apply a cold pack to numb the injured area before nursing
- *After breastfeeding*
  - Nipples should be cleaned gently to reduce the risk of developing an infection
  - Apply lanolin to relieve pain and allow the wounds to heal much faster without forming a scab
  - Analgesia (if applicable) about 30 minutes before nursing can help lessen pain and swelling

25.5 Poor supply

Signs: If infants are gaining weight according to the expected growth velocity, and passing dilute urine 6 or more times in 24 hours, then their milk intake is adequate. If the mother thinks that she does not have enough milk, then it is *perceived insufficiency*.

Common causes: Poor attachment is likely to be the cause if infants:

- wants to feed very often (more often than 2 hourly all the time, with no long intervals between feeds);
- suckles for a long time at each feed (more than one half hour, unless newborn or low birth weight);
- is generally unsettled.

Management (General):

- Perform a feeding history to understand the difficulty, particularly if there may be psychological factors affecting

breastfeeding

- Observe a breastfeed, ensuring the signs of good attachment and sucking are present
- Assess mother's physical condition
- Assess infants condition and weight
- Determine where possible if the difficulty is due to *low milk intake*, or *perceived insufficiency*

Management of <u>perceived insufficiency</u> and low breast milk production:

Nurses should:

- Decide the reason
- Explain the difficulty, and what might help
- Discuss and demonstrate how breastfeeding technique and pattern can be improves
- Build confidence about mothers milk supply

Management of <u>insufficiency</u> and low breast milk production:

Nurses should:

- Identify the reason for the low milk intake
- Treat or refer the infant, if there is any illness or abnormality
- Help mothers with any of the less common causes, e.g. more frequent feeding, medication effecting milk supply
- Referral may be necessary
- Discuss how mothers can improve their breastfeeding technique and pattern and improve infants attachment
- Build confidence about mothers milk supply
- See **Section 21.0** above

25.6 Refusal to latch/ Difficulty to latch infant on

Symptoms:

Infants may refuse to breastfeed, and may cry, arch their back, and turn away when put to the breast.
Mother may feel rejected and frustrated, and be in great distress.

Causes:

There may be a physical problem such as:

- illness, an infection, or a sore mouth, e.g. thrush (see **Session 25.7**)
- pain, e.g. gastro-oesophageal reflux or thrush (see **Session 25.7**)

Infants may have difficulty or frustration breastfeeding due to:

- sucking on a bottle or soother
- difficulty attaching to the breast
- pressure applied to the back of their head while attaching to breastfeed
- mother shaking their breast when trying to attach the infant

Infants may be upset by a change in the environment including:

- a changed routine
- a change in the mother's smell e.g. using a different soap or perfume

Management:

If a cause is identified, it should be treated or removed, if possible.

- Avoid the use of bottles and soothers
- Correct positioning and attachment
- 'On demand' feeding when infants shows signs of interest in suckling;
- Express milk into the infants mouth;
- Avoid shaking the breast or holding infants head to force them onto the breast;
- Use alternative feeding methods until they are willing to take the breast again.

25.7 Breast and Nipple Thrush

Symptoms:
In the mother:
- Nipple/Breast pain:
  - Can be described as burning, itching, stinging, stabbing, shooting pain, a deep ache or a burning sensation radiating through the breast
  - may be mild to severe
  - Usually ongoing
  - continuing between feeds,
  - not resolved with improved infants positioning and attachment
- Nipples/breast may be tender to touch
- Red or flaky rash on the areola, with itching and pigmentation changes
- It may be present in one or both breasts

In the infant:
- White spots inside the cheeks or over the tongue, like 'milk curds', and cannot be removed easily
- Altered feeding patterns, breastfeeding refusal, distressed when attaching and feeding, indicating a sore mouth
- Red rash over the nappy area ('napkin dermatitis' or 'nappy rash')

Cause:
A fungal infection caused by *Candida albicans*.
Management:
- If the mother has symptoms, both mother and infant should be treated.
- Keep nipples dry
- Change breast pads regularly
- If only the infant has symptoms, it is not necessary to treat the mother with anti-fungal medication
- To prevent the spread of thrush, hand washing after nappy changes, and before and after applying any creams/lotions
- Treat all other sites of fungal infections

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27.1 Appendix 1: Definitions

WHO (1996) definitions are:

Breastfeeding	The child has received breast milk direct from the breast or expressed.
Exclusive breastfeeding	The infant has received only breast milk from the mother or a wet nurse, or expressed breast milk, and no other liquids or solids with the exception of drops or syrups consisting of vitamins, mineral supplements, or medicines.
Predominant breastfeeding	The infant's predominant source of nourishment has been breast milk. However, the infant may also have received water and water-based drinks (sweetened and flavored water, teas, infusions, etc.), fruit juice; oral rehydration salts solution (ORS), drop and syrup forms of vitamins, minerals and medicines, and ritual fluids (in limited quantities). With the exception of fruit juice and sugar water, no food-based fluid is allowed under this definition.
Full breastfeeding	Exclusive breastfeeding and predominant breastfeeding together constitute full breastfeeding.
Complementary feeding	The child has received both breast milk and solid or semi-solid food.
Bottle-feeding	The child has received liquid or semi-solid food from a bottle with a nipple/teat

27.1 Appendix 2: Conditions for Mothers Breastfeeding in *Our Lady's Children's Hospital, Crumlin*

Addressograph Label:

Conditions for Mothers Breastfeeding in *Our Lady's Children's Hospital, Crumlin (OLCHC)*

OLCHC believe that breastfeeding is the healthiest way for a woman to feed her baby. OLCHC supports mothers who choose to do so subject to the following conditions and asks that you accept these conditions by signing your name to this form. Should you have any queries whatsoever in relation to the form please contact a staff member.

1. The hospital accepts no responsibility for the condition *and subsequent use of* any expressed milk taken by *me* on *my* departure from the hospital;
2. Any expressed milk left by *me* on departure from the hospital shall be disposed of by the hospital at its sole discretion;
3. The health and safety of breastfed siblings shall be *my* sole responsibility *during my time of residence in the hospital*.
4. There are risks associated with breastfeeding by resident mothers of the siblings of patients in the hospital. These are mainly of infection. The hospital takes every precaution to minimise such risks. However, resident mothers choosing to breastfeed siblings of patients do so of their own choice and awareness of the risks. *I understand the risks of (insert child's name) being resident in the hospital, which have been fully explained to me*.

I acknowledge and agree to the above conditions for breastfeeding in OLCHC.

Note:
This completed form will be *filed* in your child's healthcare records

Mother's Name (Block Capitals):_____Mother's Signature:_____

Nursing Staff Name/
Title: (Block Capitals):_____Nursing Staff Signature:_____

Date: _____

Copy given to parents

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CONTENTS

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) 2013a). 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 guideline aims to assist nurses to provide consistent and accurate advice and education, and to provide appropriate support and encouragement for mothers of infants receiving EBM and when transitioning from expressing to direct breastfeeding.

2.0 Definition of 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 2010, La Leche League (LLL) 2012).

3.0 Indications for expressing breast milk (this is not an exhaustive list)

Most infants are able to breastfeed directly at the breast, however, in children's hospitals, breastfeeding may be difficult to establish, leading mothers to express if:

- Initially after birth, mothers are unable to be with their sick infant due to post partum conditions or environmental/ geographic reasons
- Uncorrected anatomical anomalies e.g. Gastrointestinal (GI) obstructions (atresia/stenosis), or a diagnosis where an infant is nil orally, fluid restricted or breast milk alone cannot provide adequate nutrition (UNICEF 2011, Beech 2011, Becker et al 2012)
- Infants are ill or premature

Expressed may also be performed for a variety of other reasons, these may include

- to stimulate or increase a breast milk supply;
- to tempt infants to attach and feed
- to help infants attach to a very full breast
- to demonstrate how their breasts work
- to add breast milk to infant's solid feed
- if separated from infants is required i.e.: going out or returning to work
- if infants are not sucking well but mothers still want to give breast milk
- if breasts feel uncomfortably full or engorged
- to allow other people to feed the infant
- if own preference to express and feed by bottle
- to donate EBM to other infants via the milk bank
  (Valdes 2000, Chapman 2001, Fein et al 2008, Clemons and Amir 2010, McGorrian et al 2010, Beech 2011, Becker et al 2011, Kent et al 2012a, LLL 2012)

4.0 Benefits of breast milk (this is not an exhaustive list)

Breast milk is associated with long and short term health benefits and has been shown to:

- Reduced mortality rate among preterm and low birth weight infants from necrotising enterocolitis (NEC)
- Reduce the risk of developing:

- GI infections
- Respiratory infections
- Otitis media
- Juvenile onset diabetes
- Obesity
- Celiac disease (when small amounts of gluten is introduced while still exclusively breastfeeding)
- clinical asthma, atopic dermatitis, and eczema
- dental caries
- leukemia
- childhood inflammatory disease
- SIDS

- Promote brain growth and cognition
- Enhance intellectual and visual development
- Protect preterm infants against infection
- Improve GI function and maturity
- Prime the GI tract to protect against microbial invasion (through trophic feeds)
- Improve glucose tolerance
- Stimulate the maturity of the immune system

(Landers 2003, King & Jones 2005, Henderson et al 2007, Dyson et al 2008, Lee et al 2009, American Academy Pediatrics (AAP) 2012)

4.1 Trophic Feeds

Trophic feeds consist of small volumes of enteral nutrition (ideally breast milk) (less than 10mls/kg/day) administered to 'prime the gut' without increasing the risk of NEC (Tyson and Kennedy 2009, Bombell and McGuire 2009). Most often used with preterm infants and surgical neonates and, where appropriate, for those on TPN. It is not designed to serve as a significant source of caloric or volume intake. Trophic feeds are kept at a constant volume daily until infants are deemed clinically stable to advance to enteral nutrition - but not usually advanced before Day 7-10 of trophic feeds. This is a clinical decision is made in conjunction with the dietitian and medical teams

5.0 Types of expressing methods

A variety of methods have been used to obtain breast milk:

- **Hand expressing** (Hand action stimulates milk ejection reflex and compresses milk ducts) is the cheapest way to express. It is an important skill to learn as it allows mothers to express EBM in any situation (Beech 2011).

And/or

- **Breast pumps** are available in manual, electric and battery forms (Wall 1998). Negative pressure created by hand/arm or pump action of the pump causes milk to flow from breast to pump. Suction pressures may be difficult to control in some pumps while others have adjustable suction pressures available (Becker et al 2011). **Electric hospital grade pumps** are a good choice if mothers have to express for a long time or if expressing more than a couple of times a day. There are several types, and most can be adapted to allow single or double pumping.

In combination with:

- **Hands on Pumping (HOP)** involves using **breast compression** and **breast massage** while hand expressing or using a breast pump. This technique has been shown to increase breast milk production (Morton 2009).

There is no specific type of pump that is suitable for all mothers and/or circumstances (Becker et al 2011). However, Slusher et al (2007) revealed greater maternal milk volumes with electric breast pumps than hand expression. For mothers expressing breast milk for infants in OLCHC, it is advisable to use the electric hospital

grade pump (Medela Symphony) available in OLCHC in combination with HOP (This and similar pumps can also be rented for home use).

6.0 Potential risks associated with expressing breast milk

For mothers:

- Injury to the mother (Clemons and Amir 2010), (e.g. Mastitis, discomfort and irritation if incorrect funnel size or pump pressure is used)
- Reduced milk supply (Rasmussen 2011)
- Reduced maternal self-confidence (Buckley 2009)
- Stress: particularly in neonatal units (BLISS 2008, Lee et al 2009, Becker et al 2011)

For infants:

- Risk of microbial contamination (Carneiro et al 2004, King and Jones 2005, Widger et al 2010)
- Risk of misappropriated EBM (given to the wrong infant) (Warner and Sapsford 2004)
- Risk of medication transfer from mother to infant (rarely does breastfeeding or expressing need to be disrupted)

7.0 EBM and Maternal Medication

Mothers should be asked if they are taking any medications (either recreational, 'over the counter' or prescribed). Medication compatibility with breast milk should be checked with the Pharmacy Department, with reference to Briggs et al (2004) or for out of hours advice use: www.ukmicentral.nhs.uk in consultation with the infants medical team to determine the compatibility of medication with breastfeeding or if a safer alternative can be found. Rarely does breastfeeding have to be disrupted.

Infant's exposure to such medications is dependent on the:

- extent of medication transfer into breast milk,
- effects of medication on milk production and composition, and
- extent and consequent effects of exposure to medication in breast milk on breast-fed infants
- infants age
- action of medications may vary among mothers over periods of time (absorption, distribution, metabolism, excretion)

(AAP 2001, Briggs et al 2004, Howland 2009, Buhimschi and Weiner 2009, Hale and Berens 2011, Henderson and Mackillop 2011, AAP 2012)

8.0 Principles of teaching both hand/pump expressing

Mothers should be assisted to learn the skill of hand expression before discharge from maternity services (WHO/ UNICEF 1989). This skill ensures that expressing is effective to establish and/or maintain an adequate breast milk supply (Becker et al 2011). However, due to the nature of emergency admissions from maternity to children's hospitals, this skill may not be taught. Therefore, it is important that nurses in OLCHC teach this skill to mothers who choose to breastfeed and/or express breast milk for their infants.

Mothers who receive breastfeeding education and support were more likely to be breastfeeding at discharge (Ahmed 2008). The best way to support breastfeeding is difficult to define, as many methods can be useful (Hannula et al 2008). **Hands-off Technique (HOT)** is one principle that can be used to teach mothers how to breastfeed with minimal intervention of 'showing' rather than 'doing' the attachment for mother, nurses are encouraged to educate and facilitate the mother and infant to attach independently with the assistance of teaching aids like information leaflets, dolls, and demonstrate attachments (Ingram et al. 2002, Hannula et al 2008, McGorrian et al 2010, LLL 2012). Mothers should be given verbal and written information on handwashing, expressing, supply, labelling, storage, handling of EBM and care of pump and expressing equipment (HMBANA

2011) (written information is available in the 'Information leaflet for mothers expressing breast milk in OLCHC' (NPC 2011a). This can assist in consolidating the verbal advice given by nursing staff in OLCHC.

9.0 Privacy, rest and expressing

Privacy should be maintained while expressing by providing a single cubicle space where possible with screens/curtains, a bed for mothers and a 'do not disturb' sign. Privacy is essential as embarrassment may affect the milk ejection reflex. This may mean the reallocation of beds in a ward area, with due consideration for the medical condition, and infection risk of infants involved. A single cubicle space for mothers allows mothers to rest both day and night and facilitates kangaroo care (Ludington-Hue 2011). There are also dedicated Breastfeeding/Expressing Rooms in the Infant Wards and PICU's within OLCHC for mothers to express while their sick infants is hospitalised. There is no dedicated room for mothers who wish to express while visiting or if their infant is an out patient in OLCHC. However, a room will be made available to accommodate this or they can avail of the Breastfeeding/Expressing Rooms in the Infant Wards if appropriate

10.0 Establishing and maintaining the process of expressing breast milk for infants in OLCHC

The process often involves the following steps:

- Skin to Skin Contact
- Stimulating the Milk Ejection Reflex
- Hand or pump expressing
- Safe Handing of EBM
- (Re)Establishing breastfeeding after expressing breast milk

10.1 Skin to Skin Contact (SCC)/Kangaroo Care

Action	Diagrams	Rationale & Reference
Mothers should be encouraged to perform **Kangaroo Care or Skin to Skin Contact (SSC)**: • Place the infant (with nappy and hat) prone onto the mothers chest, skin to skin, inside their clothes with the infants head exposed • Mothers should be encouraged to wear a front opening top • Cover the infant with the mothers clothes and a pre-warmed blanket • Monitor the infants regularly or as clinically indicated	 Kangaroo or SSC	SSC has been shown to stimulate prolactin, promote a better milk ejection reflex, improve breastfeeding rates and trigger mammary antibody production (Jones and Hartmann 2005, Roa et al 2008, Conde-Agudelo 2011, Gregson and Blacker 2011, Ludington-Hue 2011, Moore et al 2012, AAP 2012) To facilitate SSC and easy access to the infant during SCC (Ludington-Hue 2011, Moore et al 2012) To maintain the infants body temperature and stay dry (Moore et al 2012) Healthy newborn infants temperature will remain in a safe range provided SSC is uninterrupted and infants are dry and covered with a pre-warmed

• This can be performed at regular intervals throughout the day/night or as tolerated by the infant (at least one hour daily) Documented in nursing care plan • Daily frequency and duration of SCC • Performed by whom • evidence the SCC was tolerated or not		blanket (or other material) and their head covered with a hat. (Moore et al 2012). As per thermoregulation Guidelines (NPC 2011b) To improve the transition to breastfeeding (Edwards and Spatz 2010) To provide evidence that SCC was either tolerated or not (Spatz 2004). Good clinical records are essential to provide documentary evidence of the delivery of quality patient care (An Bord Altranais 2002, National Hospitals Office 2009).

10.2 Milk Ejection Reflex (MER)

To obtain quantities of milk by any method requires an effective milk ejection or let down reflex (WHO 2006, Becker et al 2011). This reflex is dependent on the hormone oxytocin, produced in the posterior pituitary gland. Oxytocin causes the contraction of the myoepithelial cells surrounding the alveoli and makes the milk flow from the alveoli and down the ducts (Riordan 2010). Improved MER can result in more fat-rich hind milk being available, though restricting the length of the pumping session may reduce the hind milk obtained (Becker et al 2011).

10.2.1 Milk Ejection Reflex Responses

Milk ejection reflex responses differ between the early days of establishing milk supply to when milk supply is well established, and can also depend on:

- mothers parity
- previous breastfeeding experience
- gestation of infant at birth
- mothers level of distress
- the length of time since commencing pumping
- the length of pumping sessions
- breastfeeding directly in addition to expressing (Becker et al 2011)

10.2.2 Signs of the milk ejection reflex

After birth, mothers may experience:

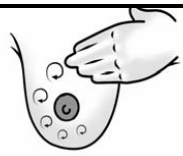
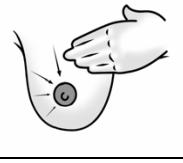
- Painful uterine contractions
- Spraying of milk from the breast
- Leaking from the breast not being suckled
- An increase in thirst
- Feeling a squeezing sensation
- Breast's feel tingly, with a warm sensation during milk ejection
- Slow deep sucks and swallowing by the baby

(WHO 2006, Noonan 2011)

Mothers are more likely to feel the MER at the beginning of full breast release (LLL 2012) but it can also occur later in the expressing process (Prime et al 2011). However, not all mothers feel the MER happen and therefore, taken on its own, it cannot be used as a reliable sign of milk sufficiency (West and Marasco 2009). Milk expression may be an unusual stimulus for mothers to trigger the MER (Kent et al 2012a) however, over time mothers often may even become conditioned to having a MER to the pump (LLL 2012).

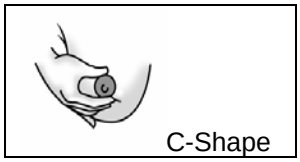
10.2.3 How to stimulate the Milk Ejection Reflex (MER)?

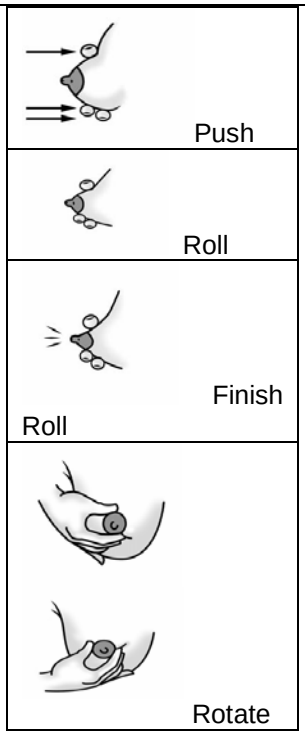
Action	Diagrams	Rationale & Reference
Mothers should decontaminate their hands		Prevention of cross infection (HSE 2009a, CDC 2010, Infection Control Department 2010a, HMBANA 2011, NPC 2011c)
Allow plenty of time		To promote a relaxing atmosphere (LLL 2012)
Ensure mothers have easy access to fluids		Mother should drink according to their thirst (about 8 to 10 glasses of fluids per day) while breastfeeding to maintain hydration status (LLL 2004)
To stimulate MER encourage mothers to use: • relaxation techniques such as deep breathing exercises • visualisation techniques such as picturing their infant, looking at a photo or recordings of their infant • using tactile and olfactory reminders such as their clothing		The use of relaxation/visualisation techniques and tactile/olfactory stimulation has been shown to help stimulate MER and improve milk yield (Rondo and Souza 2007, Jackson 2010, Conde-Agudelo et al 2011, LLL 2012). Stress may inhibit the MER leading to insufficient milk production (Geddes 2007)
Encourage mothers to get a back massage (up and down the back on either side of the spine between the shoulder blades		To help stimulate MER and express effectively and comfortably (WHO 2009)
Choose a comfortable chair with a high back and supportive arms.		To help stimulate MER and express effectively and comfortably (WHO 2009)
Facilitate expressing at the infant's bedside		To help stimulate MER and improve milk yield
Maintain privacy to express: • Use a screen or curtains in a single cubicle space beside the infant		To help stimulate MER and assist the milk to flow
Advice mothers to place warm moist compresses (face cloth) on their breasts.		To help stimulate MER and assist the milk to flow (Kent et al 2012b)

Do not feel rushed while expressing. Mothers should: • **Massage** around their breasts gently in small circular motions with their fingers from the chest towards the nipple, • **Stroke** their breasts from the chest towards the nipple, and • Lean forward and **shake** their breasts gently.	 Massage  Stroke  Shake	To help stimulate MER and assist the milk to flow To help stimulate MER and assist the milk to flow (Morton 2009) and improve the quality of breast milk (Foda et al 2004, Carlson-Bowles 2011) To help stimulate MER and assist the milk to flow To help stimulate MER and assist the milk to flow

10.3 How to teach a mother to hand express?

Equipment:
Sterile wide necked bowl/container
Hand cleansing facilities

Action	Diagrams	Rationale & Reference
Gather equipment		To prepare environment (Trigg & Mohammed 2010)
All bowl / container must be rinsed, washed, sterilised as per Section 16:		As per OLCHC Guidelines (Infection Control Department 2012a)
Decontaminate hands		Prevention of cross infection (HSE 2009a, CDC 2010, Infection Control Department 2010a, HMBANA 2011, NPC 2011c, OLCHC 2012a)
Explain the procedure to the mother in simple language using a hands off technique	 C-Shape	Explanations can gain co-operation and trust and allay fears (Trigg & Mohammed 2010) and facilitate the mother and infant to attach independently (LLL 2012)
Stimulate the 'milk ejection' reflex as shown in Section 10.2.3 above, then, the mother should: • With one hand, **position** the thumb and 1st		To ensure the fingers and thumb are positioned behind the alveolar ducts

two fingers in a **'C' shape** about 3-5 cm behind the nipple, • **Push** the thumb and two fingers into the chest wall / rib cage, • **Roll** the thumb towards the nipple (like taking a thumb print), changing pressure from the middle finger to the index finger and then release the pressure (from both fingers) (without causing discomfort) • When the milk stops dropping, position fingers and thumb to a different area 3-5cm behind the nipple, **repeat** the process. • When the flow of breast milk has stopped move to the other breast. • If the milk doesn't flow, try moving fingers slightly towards the nipple or further away. • Aim the nipple into a sterile bowl/container to collect the breast milk • Transfer this milk from the bowl into a sterile screw top container/bottle when finished expressing Do not collect milk in breast shield during or between pumping sessions Label the EBM Store EBM Provide the 'Log Book for Mothers Expressing EBM' Document (available in OLCHC Intranet) (not for filing in HCR, for mothers own use) and review daily (Appendix 1)		To create pressure behind the alveolar duct and expel milk Otherwise known as 'drip milk', collected in breast shells between or during pumping sessions has been found to have 50% less fat that actively expressed milk and is at risk of being heavily contaminated with skin flora (Gessler et al 2004, HMBANA 2011) As per Section 11.1 As per Section 11.2 To permit quick assessment and detect decreases in mothers milk supply so that remedial action to increase supply can be taken (Spatz 2004, Dougherty and Luther

Document same in Nursing Care Plans		2008, Spatz et al 2012) Good clinical records are essential to provide documentary evidence of the delivery of quality patient care (An Bord Altranais 2002, National Hospitals Office 2009)

10.4 How to teach a mother to express using a breast pump with/without Hands on Pumping (HOP)?

Equipment:
Breast pump
Breast pump equipment with appropriate fitting breast shield(s)
Hand cleansing facilities
(See Appendix 2 for diagrams of same)

Action	Diagrams	Rationale & Reference
Gather equipment		To prepare environment (Trigg & Mohammed 2010)
Decontaminate hands		Prevention of cross infection (HSE 2009a, CDC 2010, Infection Control Department 2010a, HMBANA 2011, NPC 2011c, OLCHC 2012a)
Clean equipment before use: As per Section 16		As per hospital guidelines (Infection Control Department 2011 and HMBANA 2011)
Assemble expressing set equipment (connection tubing and breast shield) once cleaned and sterilised (as per manufacturers instructions)		
Attach the sterile EBM Bottle to the bottom of the funnel		
Advise the mother to sit in a comfortable chair with their back supported (sitting upright and slightly forward).		To express effectively and comfortably. To allow gravity to work to the mothers advantage
Stimulate the 'Milk Ejection' reflex as per Section 10 above		
Breast shield assessment: Perform when using the breast shield equipment and pump for the first time (See Appendix 3)		To ensure the shield is fitting correctly as ill fitting breast shields may impede breast milk

Determine if the breast shield is flexible or available in various sizes (Medela pumps in OLCHC have various sizes S(21mm), M(24mm standard), L(27mm), XL(30mm), XXL(35mm))

Apply the breast shield to the breast ensuring that when the breast pump is turned on and positioned correctly:

- The nipple:
  - **o** is centred and pointing in the direction of the funnel
  - **o** moves freely in the tunnel
  - **o** is gently pulled into the tunnel
  - **o** does not rub against the sides of the breast shield
- Areolar tissue:
  - **o** Little or none is pulled into the tunnel
  - **o** No white rings evident after pumping
- The breast:
  - **o** moves gently and rhythmic
  - **o** is completely empty after pumping
- No pain or discomfort should be experienced

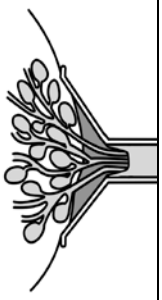
- If the **breast shield is too small or too big or not centred correctly** the nipple and alveolar tissue will not move freely into the breast shield causing redness, soreness and a white ring around the nipple

Single or double pumping

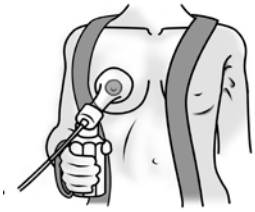
- When breast shield is positioned correctly:

- Turn the pump on

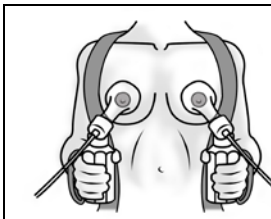
- Teach mothers to gradually increase the pressure setting from minimum to a comfortable level tolerated by mother



Correctly fitting Breast Shield



Single pumping



Double pumping

drainage by occluding ducts resulting in milk stasis and the eventual reduction in breast milk supply (Zoppi 2012)

Some pumps have a flexible breast shield that compresses the breast and some have a choice of sizes of breast shields (Becker et al 2012)

To ensure the breast shield is the correct size for the nipple (LLL 2012, Prime et al 2010)

To allow EBM be collected in the funnel and allow for comfortable pumping (Jones and Hilton 2009, LLL 2012, Prime et al 2012)

Double pumping as opposed to single pumping is associated with more milk ejections, more efficient and effective milk removal resulting in higher fat content and improved drainage of the breast and is time saving (Prime et al 2010)

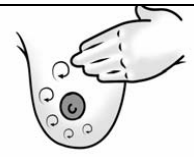
- Continue to express until the flow of EBM slows down, then mothers should **massage their breasts** for 1-2 minutes and express any remaining milk either by hand expressing or pumping
- Continue to pump for a further 1-2 minutes after the flow stops.
- Turn off the breast pump before removing the breast shield.
- Always leave a 2cm gap at the top of each bottle.
- Continue to the other breast if single pumping.
- The Medela Symphony breast pump uses two phase expression:
  - Phase 1: rhythm, rapid stimulation followed by
  - Phase 2: slower expression (It is normal for the breast pump sound to change and sound slower during Phase 2)

Use Hands On Pumping (HOP)
Usually performed while single pumping, but can be performed with double pumping if the breast shields are held firmly in place

- While this continues, with a mothers free hand, use HOP, moving between **breast compression** and **breast massage** to further stimulate milk flow (some extra milk should be seen spurting out of the nipple).
- **Breast compression** consists of mothers firmly supporting their breast with their cupped hand, and squeezing to increase the internal pressure of the whole breast (without causing discomfort).
- Release the pressure when the milk stops dropping and repeat this by moving their hand around the breast.
- Mothers should **massage their breasts** gently with their fingers in small circular motions from the chest towards the nipple.
- When the flow of breast milk has stopped mothers should move to the other breast.
- If the milk doesn't flow, mothers should try

Single pumping and breastfeeding

Breast compression



Massage

(LLL 2012)

To avoid hurting or damaging alveolar tissue.

Liquid expands when frozen (ABM 2010)

To mimic infants natural breastfeeding (Medela 2010)

Breast pump suction causes milk to be removed from the breast but does not completely empty the breast. Combining pumping and HOP (breast massage and compression) has been shown to increase milk supply and help provide more of the fatty hind milk (Morton 2009, Carlson-Bowles 2011).

(LLL 2012)

moving their fingers slightly towards the nipple or further away. • Continue to pump for 1-2 minutes after the last flow is seen When finished expressing, remove the EBM bottle from the expressing equipment and place the lid on the EBM container Label the EBM container Store the container in the EBM refrigerator/freezer immediately as per Section 11.2.1 below or consume immediately as per Section 12.		To prevent contamination of EBM (HMBANA 2011) As per Section 11.1 To prevent contamination of EBM (Jones and Hartmann 2005, HMBANA 2011)

10.5 Frequencies, duration of expressing

Action	Rationale & Reference
Mother should aim to express in a pattern similar to their infants typical breastfeeding rhythm. Encourage mothers to design a breastfeeding and expressing regimen that works for both mother and infant	Breast storage capacity and infant nursing style varies widely. To ensure that mothers are still producing sufficient milk to facilitate their infants demands (Meier et al 1998, LLL 2012)
Mothers should be advised to tailor their expressing frequency to their breast storage capacity	Breast storage capacity and infant nursing style varies widely. Mothers whose breasts have a small storage capacity will need to empty their breasts more frequently and avoid expended intervals between emptying (Kent et al 2012)
If the infants is a newborn mothers should aim to: • Express as soon as possible after delivery	To mimic the normal initiation of breastfeeding (Kent et al 2012a)
• express milk 8-10 times in 24 hours for 10-14 days	This mimics the increased frequency of feeding by breastfeeding infants in order to increase mother breast milk supply (Dougherty and Luther 2008). Maximum total milk production is set early in lactation (LLL 2012, Schanler et al 1999). Mothers who express less than 6 times daily have lower daily yields (Hill et al 2001)
• avoid leaving gaps of more than three hours (during the day)	Restricting the length of the pumping session may reduce the hindmilk obtained (Becker et al 2011)

• express every 5-6hours (at night)	Prolactin, the hormone necessary for milk production, is released in greater quantities during night-time suckling, thus milk production may get its greatest boost when infant feeds at night (LLL 2004). Night feeds may also provide infants with a substantial amount of their 24 hour intake (Dougherty and Luther 2008).
• produce between 750-1000ml EBM per day (24hours) by day 10 of birth.	To establish an EBM supply and that mothers will still produce sufficient EBM to facilitate infant led feeding at discharge (Jones and Hartmann 2005, Riordan 2009)
• If short of time mothers are advised to pump for short periods (5-10minutes) more frequently than to leave long gaps between pumping sessions.	To establish an EBM supply and that mothers will still produce sufficient EBM to facilitate infant led feeding at discharge (Jones and Hartmann 2005, Riordan 2009)
• Be aware that mothers will only express small amounts initially. The amount expressed can vary at each expression and from day to day.	Colostrum is produced in small quantities and therefore expression times, and quantities, in the first few days will be minimal (Riordan 2010)
If the infant is not a newborn, mothers should aim to: • express at regular intervals or at the same times their infant would usually breastfeed.	To mimic their infants usual breastfeeding pattern (Hill et al 2001)
If the infant is starting to breastfeed after receiving expressed breast milk for a while, mothers may need to: • continue expressing EBM until the infant is totally established on breast feeds(allowing infants to breastfeed first and then express)	To maintain an EBM supply while infants are being (re)established on breastfeeds
If EBM is not required immediately, it should be disconnected from the expressing set, capped, labelled and placed in the appropriate storage facility as per Section 11	Frequent feeding is important in the establishment of a milk supply. The composition of breast milk changes throughout the course of a feed, the fat content of the feed increases throughout the feed, the highest fat content being towards the end of the feed. (Jones 2005, ASPEN 2009)
Praise mothers throughout this process regardless of the EBM volume produced	To boost mother confidence in their expressing abilities

11.0 Safe handling of EBM

The process often involves the following steps:

- Labelling
- Defrosting
- Storage
- Decanting

11.1 Labelling of EBM

Action	Diagrams	Rationale & Reference
Label each expressed breast milk bottle using the preprinted OLCHC 'Expressed Breast Milk' labels (Appendix 4), where available with the following information: • Mother's name • Infant's name • Date and time expressed • HCRN • Ward name • if mother taking any medication	**Baby's Name:** **Express Breast Milk Label** **Date of Birth:** **HCR Number:** **Ward Name:** **Expressed:** Date:_____ Time: _____ **Frozen** Date: _____ **Fortified:** Y / N **Thawed:** Date: _____ Time: _____ **Do not use after:** Date: _____ Time: _____ **Nurse Initial:** _____/_____ **Mother's Name:** **Mother's Medication:** Appendix 4	Label EBM with the date of collection, including year if freezing (LLL 2012) Labelling EBM should be performed by mothers in order to minimise the number of people handling and potentially contaminating EBM (Lang 2002). 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, ASPEN 2009)
'Tamper proof seal' must be applied between the bottle and bottle cap.		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.
Place the EBM in the appropriate storage area for use at a later date **or** Use the EBM straight away		See Section 11.2: Storage of EBM See Section 12: Feeding infants EBM (fresh and defrosted)
EBM is then stored in dedicated containers labelled (Appendix 4) (with infants name, date of birth, HCRN) for individual infants (i.e. individual trays, containing only EBM bottles from one mother). **Labelling of EBM after decanting** Each EBM bottle or syringe is correctly and clearly labelled using the EBM labels with the: • infants name, • date of birth, • HCRN,	Expressed Breast Milk (Infusion Use Only)(Enteral Administration Only) **Baby's Name:** **Date of Birth:** **Hospital Number:** **Ward Name:** **Mother's Name:** **Amount Added:** **Time Added:** **Fortified: Yes / No** **Fortified with:** **Do Not Use After:** **Date:** **Time:** **Checked by:** Appendix 4	EBM storage space may be minimal in ward areas To identify potential risks, ensure appropriate measures are taken and reduce the risk of misappropriation of EBM (Warner and Sapsford 2004)

• date and time of expression, • date and time of defrosting (if applicable) and • any medications the mother is taking.		

11.2 Storage of expressed breast milk

Action	Rationale & Reference
Place the EBM in the appropriate storage area for use at a later date **or** Use the EBM straight away	See Section 11.2: Storage of EBM See Section 12: Feeding infants EBM (fresh and defrosted)
EBM is only collected in a: • sterile polypropylene (plastic)	Sterile bottles reduce risk of contamination, plastic containers freeze well and there is less loss of immunoglobulins when compared to other materials (ASPEN 2009)
• Bisphenol A (BPA) free,	BPA can cause adverse effects as an endocrine disruptor (ABM 2010, O'Malley 2012)
• single use,	To avoid contamination (HMBANA 2011)
• screw cap lid container and are supplied by OLCHC.	Caps produce an airtight seal in order to avoid leakage or contamination (ASPEN 2009)
EBM is stored in a dedicated EBM fridge and freezer on the ward. There is no mixing of EBM with food, pathology specimens or medicines.	To prevent EBM spillages, cross contamination, misappropriation of EBM (Spatz 2004) and maintain the EBM temperature
EBM is then stored in dedicated containers labelled for individual infants (i.e. individual trays, containing only EBM bottles from one mother).	EBM storage space may be minimal in ward areas
Inform mothers if there are restrictions on storage space at ward level, EBM should then be stored in mother's home fridge/freezer as appropriate	
Parents are advised to sign document entitled 'Conditions for mother breastfeeding in OLCHC' (Appendix 5) on admission accepting that • breastfed siblings shall be the sole responsibility of their parents during their time of residence in OLCHC, • OLCHC accepts no responsibility for the condition	See Appendix 5

and subsequent use of EBM once it leaves OLCHC, • Any EBM left in OLCHC by parents on departure from OLCHC will be disposed of at the sole discretion of OLCHC The original is filed in patients healthcare records and a copy given to parents **Transporting EBM from (to) home to (from) OLCHC:** • upright in an insulated (easily cleaned) container • with coolant blocks to maintain a cool temperature. **Transporting EBM from hospital to hospital in:** • rigid (easily cleaned) container and • tightly packet in bubble wrap, paper towel, or foam chips without ice, (and freezer gel packs may be used if available)	To prevent EBM spillages, cross contamination and maintain the EBM temperature as water freezes at a temperature higher than HBM and the ice is warmer than the frozen HBM and may thaw the frozen containers. Freezer gel packs are preferred over ice as they have a lower freezing temperature (ASPEN 2009)

11.2.1 Table of EBM Storage (See Appendix 6 for shortened version)

EBM Status	Where and temperature	Duration	Rationale & Reference
Fresh EBM	Refrigerator (2-4^{o}C) (not in fridge door)	Up to 48 hours	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. 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^{0}C in a frequently opened fridge, therefore should be consumed with 48hours or freezing should be considered (FSAI 2007, ASPEN 2009) and to prevent bacterial contamination of EBM (Bankhead et al 2009, HMBANA 2011).
Defrosted EBM (not warmed)	Refrigerator (2-4^{o}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).
Defrosted EBM (warmed to room temperature) (Bolus feeds)	Used immediately (Do not refreeze)	Discard immediately after use	EBM that has been previously frozen will have lost some of its antibacterial properties and should be discarded soon after feeding (LLL 2012, HMBANA 2011) EBM left at room temperature can be forgotten and the temperature rises above 4ºC increasing the risk of bacterial growth (Balmer et al 2001, Department of Clinical Nutrition and Dietetics 2011)
Supplemented / fortified EBM (warmed to room temperature) (Bolus feeds)	Used immediately (Do not refreeze)	Discard immediately after use	EBM that has been previously frozen will have lost some of its antibacterial properties and should be discarded soon after feeding (LLL 2012, HMBANA 2011) EBM left at room temperature can be forgotten and temperature rises above 4ºC increasing the risk of bacterial growth (Balmer et al 2001, Department of Clinical Nutrition and Dietetics 2011)
Defrosted EBM (warmed to room temperature) (Continuous feeds)	Used immediately (Do not refreeze)	Discard 4 hours once infusion commenced	To prevent colonisation of EBM with bacteria that could cause gastro-intestinal illness of the child (Balmer et al, 2001) a continuous infusion of defrosted EBM should hang no longer than 4 hours (American Dietetic Association 2004, ASPEN 2009, Department of Clinical Nutrition and Dietetics 2011)
Supplemented / fortified EBM (warmed to room temperature) (Continuous feeds)	Used immediately (Do not refreeze)	Discard 4 hours once infusion commenced	To prevent colonisation of EBM with bacteria that could cause gastro-intestinal illness of the child (Balmer et al, 2001) a continuous infusion of supplemented/fortified EBM should be discarded within 4 hours of the feed commencing in a closed feeding system (American Dietetic Association 2004, ASPEN 2009, Department of Clinical Nutrition and Dietetics 2011)
Supplemented / fortified EBM in Formula Room	Refrigerator (2-4^{o}C) (not in fridge door)	Up to 24 hours	Contamination and osmolarity increase faster in fortified EBM (HMBANA 2011)
Supplemented / fortified EBM at Ward/Unit level	Used immediately (Do not freeze)	Discard immediately after use	Fortified EBM osmolarity increases the longer it is added to EBM feed (HMBANA 2011)
Fresh EBM for freezing	Freezer (-20^{o}C)	Freeze within 24 hours of expressing for up to 3 months	Stored EBM may have an altered smell and taste due to lipidosis (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 (ASPEN 2009)

11.3 Defrosting expressed breast milk

Action	Rationale & Reference
Decontaminate hands	Prevention of cross infection (HSE 2009a, CDC 2010, Infection Control Department 2010a, HMBANA 2011, NPC 2011c, OLCHC 2012a)
Remove a sufficient volume of the frozen EBM from the EBM Freezer to meet the dietary requirements of the infant	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: • 1st 7-14days of colostrum/transition milk	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)
• Then the most recently expressed EBM	To ensure the nutritional and immunological contents of the EBM is most suited to the infant (Spatz et al 2012)
Document on the EBM milk label the time and date of defrosting	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
Place it in the EBM fridge	To ensure the EBM is defrosted safely, as rapid heating can alter the heat labile vitamins (HMBANA 2011, Infection Control Department 2012b)
Emergency Defrosting (ONLY), using either the following methods: • Water Method Defrosting o Clean the bottle warmer (inside and outside) with an alcohol wipe such as azowipe and allow to dry	Clean as per the SOP on Maintaining and Cleaning Bottle Warmers in OLCHC (Infection Control Department 2012c)
o Fill as directed with Sterile Water and use as per manufacturer's instructions. o Insert the frozen bottle on EBM into the	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)

bottle warmer (taking care that the water does not touch the lid) o Allow to defrost o Remove from the EBM Bottle from the bottle warmer when the EBM is thawed (no ice crystals present) but while still chilled o Dry the EBM bottle o Refrigerate until required for use	To reduce the incidence of microorganism growth (Bankhead et al 2009, HMBANA 2011)
• Dry Method Defrosting o Clean the device before use as per manufacturers instructions o Place the Frozen EBM in the device o 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 o Dry the EBM bottle o Refrigerate until required for use	Circulates warm air in a customised bottle warming device around the EBM container to defrost EBM (O'Malley 2012)
Do not defrost EBM:-	To reduce the incidence of microorganism growth (Bankhead et al 2009, HMBANA 2011)
• under running tap water	To reduce the incidence of microorganism growth (Infection Control Department 2012b, Regulation and Quality Improvement Authority 2012)
• in containers of water	To reduce the incidence of microorganism growth
• in the microwave	Microwaves can denature and destroy the nutrient quality of the EBM and can cause hot spots (CDC 2010, ABM 2010, HMBANA 2011)
When defrosted, • Do not re-freeze breast milk once it has been thawed.	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)
EBM bottle should only be opened once and all the EBM decanted at this time	To reduce the risk of cross infection and to comply with Bankhead et al (2009) regulations (See Section 11.4)
Frozen EBM expressed outside OLCHC: • Should be labelled appropriately	To ensure appropriate measures are taken and reduce the risk of misappropriation of EBM (Warner and Sapsford 2004)

• If it arrives in a frozen state to OLCHC it should be placed in the EBM freezer • If it arrives in a defrosted state to OLCHC it should be consumed with 24hours of defrosting or discarded	As per Storage Section 11.2 As per Storage Section 11.2
Document any disposal of EBM due to breakage or loss due to expiration of storage	EBM must not be reused or reheated as this increases the risk of contamination by pathogenic organisms during the feed (Johnston et al 2003, WHO 2005, FSAI 2007, Department of Clinical Nutrition and Dietetics 2011)

11.4 Decanting EBM

Action	Rationale & Reference
EBM should **not** be decanted from one EBM bottle to another	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, it:
• must be decanted either:
  • immediately after expression (if the EBM volume requirement is known),
  or
  • immediately after defrosting the EBM container
	Decanting straight after expressing reduces the number of people potentially handling EBM, thus reducing the possibility of contamination (Lang 2002, FSAI 2007)

• is performed preferably by the mother or the nurse if the mother is unavailable	Mothers should perform this procedure to reduce the risk of cross infection (Lang 2002)
• should only be opened/accessed once and all the EBM decanted at this time	To reduce the risk of cross infection and to comply with Bankhead et al (2009) regulations
• should be agitated gently prior to either decanting into the appropriate feeding container or equipment	EBM separates when expressed into a container and fat freezes and thaws at different rates than protein and water (HMBANA 2011)
• (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	To prevent cross contamination (Trigg and Mohammad 2010) and ensure the maximum efficacy of the cleansing wipe (Pratt et al 2007)
• is decanted into another correctly labelled sterile bottle (if the quantities are very small EBM should be decanted into sterile oral	To reduce the risk of misappropriation of EBM, prevent cross contamination and reduce the risk of bacterial

syringes, capped and labelled and • should be: • placed in the appropriate storage facility or • used immediately	growth (Warner and Sapsford 2004) As per Section 11.2.1 As per Section 12

12.0 Feeding infants expressed breast milk (fresh and defrosted)

Action	Rationale & Reference
Decontaminate hand and put on a disposable apron and gloves	Prevention of cross infection (HSE 2009a, CDC 2010, Infection Control Department 2010a, HMBANA 2011, NPC 2011c)
Decontaminate the work surface to be used to prepare the feed	Prevention of cross infection (HSE 2009a, CDC 2010, Infection Control Department 2010a, 2011, HMBANA 2011, OLCHC 2012a)
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)
Consume in the following order: • 1st 7-14days of colostrum/transition milk (within 24-48hours of commencing feeding)	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)
• Then the most recently expressed EBM	To ensure the nutritional and immunological contents of the EBM is most suited to the infant (Spatz et al 2012)
2 nurses (one must be registered) must check the EBM label against the infants ID band with to ensure the: • Right milk • Right Infants name • Right Infants Date of birth • Within date • Right Infants HCRN • Right Infants feeding sheet • That the tamper proof seal is intact And sign the relevant documentation (Appendix 7)	Appropriate labeling, handling and storage results in optimal feeding of the infant and decreases the risk of feeding the wrong feed to the wrong infant (Drenckpohl et al 2007, Zeilhofer et al 2009, Warner and Sapsford 2004)
Agitate the EBM bottle gently prior to either decanting into the appropriate feeding container or equipment	EBM separates when expressed into a container and fat freezes and thaws at different rates than protein and water (HMBANA 2011)

Clean the top of the bottle with appropriate cleansing wipes (s Sanicloth® contain 2% chlorhexidine gluconate in 70% isopropyl alcohol) and allow to dry for up to 40seconds or until visibly dry before decanting EBM	To clean the clean the top of bottles/cans before decanting, prevent cross contamination (Trigg and Mohammad 2010) and ensure the maximum efficacy of the cleansing wipe (Pratt et al 2007)
Open the EBM bottle	
Fortification of EBM if required • Add prescribed additive /fortification as per dietitian prescription:- - Breast Milk Fortifier - (Low Birth Weight or premature infants) (Cow and Gate Nutriprem Breast Milk Fortifier) (sachet) (used in OLCHC) (Added immediately before feeding at ward/unit level) Or	Additive/fortification may be required to ensure infants optimum nutritional needs are met with additional nutritional requirements (Sudha 2007) This reduces the length of time the fortifier is added; therefore decreasing the risk of osmolarity levels which rises the longer the fortifier is added to EBM and to decrease the risk of infection control.
• Ensure the prescribed additive/fortification is added:- - Infant Based Formula - (Term infants)/Carbohydrate/ Protein supplement (Added in Formula Room)	To ensure accurate amount of fortification is added and due to sterility concerns about powdered additives, this preparation should taking place in a controlled environment (ASPEN 2009)
- Add fortification at room temperature	Warming EBM can also increase its osmolarity especially if glucose polymer or lactase enzyme are added (Fenton and Belik 2002, Srinivasan et al 2004, HMBANA 2011)
Record all additives to EBM on the EBM label and intake and output sheet	Anything added to EBM may alter infants feeding outcome (HMBANA 2011)
Decant EBM into sterile individually capped and labelled oral syringes if required	To ensure the EBM container is only accessed once and minimise the risk of EBM contamination (HMBANA 2011). Appropriate labelling, handling, and storing results in optimum feeding for infants and decreases the risk of EBM misappropriation (Warner et al 2004, ASPEN 2009)
Store in individually labelled (Infant name and HCRN) boxes in the EBM fridge until required for use	To segregate individual mothers EBM from other mother EBM to reduce the risk of EBM misappropriation (Warner et al 2004, ASPEN 2009)
2 nurses (one must be registered) must check the EBM label against the infants ID band at the bed side to ensure the: • Right milk • Right Infants name and • Right Infants HCRN • Date and time feed commenced and time to finish is documented on the label	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) To ensure syringe is labelled and discarded on the feed finishing and prevent colonisation of EBM with bacteria that could cause gastro-intestinal illness of the child (Balmer et al, 2001, Department of Clinical Nutrition

	and Dietetics 2011, ASPEN 2009) and to reduce the risk of misappropriation of EBM (Warner and Sapsford 2004)
Administer EBM via: • Cup (see Cup feeding guidelines) • NG Tube (see Nasogastric guidelines) • Enteral feeding tubes (see enteral feeding guidelines) • Bottle (see Bottle feeding guidelines)	As per (OLCHC 2011d) As per (OLCHC 2011e) As per (OLCHC 2011f) As per (OLCHC 2009)
• Dropper, spoon or syringe	Dropper/spoon or syringe are not functional as a long term feeding methods and the use for larger volumes can be time consuming (Bagnall 2005b)
If administering EBM continuously via an enteral feeding tube EBM should be administered in a: • 20 or 60ml enteral syringe and giving set	Due to the small volumes to be administered syringes should be used as this avoids the adherence of fat from EBM to the larger surface area of enteral feeding bags (ASPEN 2009)
• then placed in a B Braun pump with the syringe positioned vertically (brackets available in Clinical Engineering Department)	To ensure the infant receives the fat content of the EBM and it does not stick to the sides of the equipment (HMBANA 2011)
• agitated 1-2 hourly	To ensure the fat is evenly dispersed throughout the feed and the infant receives the fat content of the EBM and it does not stick to the sides of the equipment (HMBANA 2011)
• Use the shortest length feeding tube possible	To increase the fat content delivered per feed resulting in greater weight gain, less feed intolerance and reduced nutrient loss (HMBANA 2011)
• Only prepare 4 hours worth of feed at a time	To prevent colonisation of EBM with bacteria that could cause gastro-intestinal illness of the child (Balmer et al, 2001, Department of Clinical Nutrition and Dietetics 2011, ASPEN 2009)
• Administer EBM feed in the shortest length of time tolerated by infants	To increase the fat content delivered per feed resulting in greater weight gain, less feed intolerance and reduced nutrient loss (HMBANA 2011)
• Minimise EBM feed exposure to sunlight and/or phototherapy	Exposure to sunlight and phototherapy light can degrade riboflavin and Vitamin C (HMBANA 2011)
• Commence EBM feeds at required rate as per Dietitian prescription sheet	
If administering EBM bolus via an enteral feeding tube, refer to Nasogastric guidelines or Enteral feeding tubes guidelines	As per (OLCHC 2011e) and (OLCHC 2011f)

Discard the enteral syringe/feeding set every 4 hours	To prevent colonisation of the feed with bacteria that could cause GI illness of the child (Bankhead et al 2009, Department of Clinical Nutrition and Dietetics 2011) To prevent cross contamination (OLCHC 2012b)
Erase the patient details off the EBM label so they are illegible or peel off the EBM label from the EBM bottle and discard in the confidential waste bin	To maintain patient confidentiality (OLCHC 2012b)
Discard any unconsumed EBM within 4 hours of removing it from the fridge in sluice as directed by Infection Control Department	To prevent possible P*seudomonas aeruginosa* contamination of sinks (The Regulation and Quality Improvement Authority 2012)
If administering EBM via a cup, bottle, dropper spoon or syringe, discard any unused EBM within 1-2 hours of commencing feed	The duration of time EBM can be kept at room temperature once infants have partially fed from cups/bottles/droppers/syringes/spoons depend on the initial bacterial load of EBM, how long EBM has been thawed and ambient temperature (ABM 2010)
Administer 5 micrograms (5µg) Vitamin D_3 as prescribed from birth to 12months	Infant diets do not have enough vitamin D (HSE 2010) whether breastfed/formula fed/taking solid foods
Praise mothers throughout this process	To boost mother confidence (Spatz 2004)
Documented in feeding plan and intake and output sheet • cues displayed prior to cup feeding • the type and volume of feed taken • how the infant fed • evidence the feed was tolerated or not • any vomits or dribbling	To provide evidence that the feed was either tolerated or not (Lanese 2011). Good clinical records are essential to provide documentary evidence of the delivery of quality patient care (An Bord Altranais 2002, National Hospitals Office 2009)

13.0 How to maintain and increase mothers EBM supply?

Action	Rationale & Reference
Maintain: Mother should aim to express in a pattern similar to their infants typical breastfeeding rhythm. Encourage mothers to design a breastfeeding and expressing regimen that works for both mother and infant	To ensure that mothers are still producing sufficient milk to facilitate their infants demands (Meier et al 1998, LLL 2012) See Section 12 for further details
By ensuring that breasts are emptied after each expression, milk production is more likely to be maintained.	To ensure that mothers are still producing sufficient milk to facilitate their infants demands (Meier et al 1998, LLL 2012)
Useful techniques to increase mothers EBM	

supply: Use the techniques advised in Section 10.1 and 10.2 Express at infants bed space instead of another room or Lactation Room	See Section 10.1 and 10.2 for further details
Mothers should: • make time for meals, snack regularly • drink plenty of drinks	See Section 10.2.3
Mothers should perform: • breast massage • Kangaroo care / Skin-to-Skin Contact (See below)	See Section 10.2.3 See Section 10.1
Ensure mothers are double pumping using the hands on pumping technique with a hospital grade electric breast pumps	Double pumping as opposed to single pumping is associated with more milk ejections, more efficient and effective milk removal resulting in higher fat content and improved drainage of the breast and is time saving (Prime et al 2010). Breast pump suction causes milk to be removed from the breast but does not completely empty the breast. Combining pumping and HOP (breast massage and compression) has been shown to increase milk supply and help provide more of the fatty hind milk (Morton 2009).
Ensure the flange is fitting correctly	See Section 10.4
Mothers should express more often than presently doing	To increase the amount of stimulation at the breast, therefore increasing the breast milk production (LLL 2004, Jones and Hartmann 2005)
Infants should be allowed to latch and suck at the pumped breast (once clinically stable and remains nil orally)	To increase the amount of stimulation at the breast, therefore increasing the breast milk production (LLL 2004)
Express in short bursts for an 8hour period either: • every hour (15 minutes each session) or • every 2hours (30minutes each session)	Increased frequency of feeding by breastfeeding infants increases mothers breast milk supply, increased frequency of pumping has similar effects (LLL 2004)

14.0 How to (partially) wean mothers EBM Supply and/or stop expressing?

The reasons mothers give for weaning their child within the first year have been shown to vary depending on the child's age (Li et al 2008). Most mothers can overcome temporary breastfeeding problems without weaning or stopping expressing if they receive appropriate guidance and support and accurate breastfeeding information (Li et al 2008). However, some mothers who produce larger volumes of EBM than their infant requirements may want to wean their EBM production and balance their EBM volume with their infant's milk needs especially if transitioning to breastfeeding directly (Dougherty and Luther 2008).

Action	Rationale & Reference

Ensure the decision to (partially) wean and/or stop expressing is an informed decision	For mothers to make an informed choice they need to be able to access reliable, non-judgemental, problem-solving information (McGorrian et al 2010)
Weaning should be planned and gradual without excessive discomfort for mothers	Abrupt weaning can cause physical discomfort, as milk will continue to be produced and without sufficient removal mothers can become full and engorged which can lead to mastitis or breast abscesses (LLL 2004)
Mothers should consider the following if their breast milk production does not meet their total fluid/nutritional requirements: • Choose a milk formula if under 1 year (if not commenced or established on complementary foods) • Commence regular full fat milk if over 1 year • Decide on the type of feeding bottle/cup to introduce	To substitute alternative feeds and feeding devices to deliver same (LLL 2004)
Mothers should be given written information about how to prepare bottles if they then choose to bottle feed: 'How to prepare your baby's bottle' and is available at www.hse.ie	Written information supports verbal information
Mothers who are about to stop expressing EBM should wean gradually rather than suddenly stopping (reduce by one pumping session every 2-3 days) and express to comfort as needed	When mothers stop expressing, EBM may not be removed in sufficient quantities by her infant leading to engorgement and, if it occurs continually, it can lead to a diminished milk supply and mastitis (LLL 2004)
Bereaved mother who wish to wean: Using their previous pumping schedule: shorten pumping session times and lengthen the time between pumping sessions without causing discomfort	To gradually wean milk production without excessive discomfort and remove enough milk to reduce the pressure in the breasts. This process can take one to two week depending on the frequency and duration of mothers breastfeeding/expressing schedule prior to their infant death (HMBANA 2012). For further information refer to the Guidelines on Lactation Support for Mothers who's child has died in OLCHC (NPC 2013) and End of Life Care Folder

15.0 (Re)Establishing breastfeeding after expressing breast milk

The breastfeeding experience for mothers of sick/premature infants often involves the following steps:

- Initiating and maintaining breast milk supply
- Skin to Skin Contact (See Section10.1 above)
- Non-nutritive sucking (NNS) and oral stimulation
- Mouth Care with EBM
- Beginning breastfeeding (supplementary feedings given as needed)
    - **Individualised nutritional assessment**

- Recognising feeding cues and that infants are feeding well
- Full breastfeeding

- Discharge

15.1 Individualised nutritional assessment

Some infants medical condition may affect their nutritional requirements making it necessary to fortify (infant formula powder, carbohydrate/protein supplementation or breast milk fortifier) EBM and other rare conditions may necessitate the discontinuation of breastfeeding and the use of an alternative feed (Shaw and Lawson 2001). Therefore, sick infant's nutritional requirements should be assessed on an individual basis by the medical team, dietician, or the multidisciplinary team. The nutritional needs of infants and how they can be best met will be discussed with parents who can therefore make informed choices in consultation with health care professionals caring for their infant. The assessment and proposed feeding plan will be recorded in infant's healthcare record to ensure clarity and continuity of care.

15.2 Recognising feeding cues

Infants may get overly distressed if left too long for feeds and sleepy infants may not get enough feeds. These problems are less likely to happen if mothers are taught how to recognise infant feeding cues (LLL 2012)

Early Cues	Eyes moving behind eyelids before they even open	Hands coming towards face	Mouth movements	If fed at this time infants will probably feed gently and easily
Obvious Cues	Rooting to their side / chest if held	Whimpering	Squeaking	If fed at this time infants will probably feed gently and easily
Late Cues	Body and mouth tense	Breathes faster	Starts to cry	Need to calm the infant before trying to feed

15.3 Recognising that infants are feeding well

When infants are feeding well (with EBM and/or breastfeeding) (in consultation with medical team and dietician as clinically indicated) they should:

24hour period	**Wet Nappies**	**Dirty nappies**
Day 1-2	1-2 or more	1 or more, meconium
Day 3-4	3 or more, heavier	2 or more, changing stool
Day 5	5-6 or more, heavy	2 or more, yellow and seedy
Day 7+	6 or more, heavy	2 or more, yellow and seedy

Infants Colour	Centrally and peripherally pink
Infants Alertness	Alert when awake
Infants Tone	Good
Weight (post initial birth loss)	No more than 10% of birth weight loss, otherwise gaining weight
Number of feeds	At least 8-10 feeds in 24 hours (by Day 5)
Infants behaviour during feeds	Generally calm and relaxed
Sucking pattern during feeds	Start with short sucks then longer sucks, pausing now and again (by Day 5)
Swallowing	Quiet
Length of feeds	5 - 30 minutes at most feeds
End of feeds	Infant lets go spontaneously, or when breast is gently lifted
Offer 2nd breast?	Offered 2nd breast but may or may not feed depending on appetite
Infants behaviour after feeds	Content after most feeds

(Adapted from UNICEF UK Baby Friendly Initiative 2010)

When infants attach well,

mothers should **see** that infants:-

- have a large mouthful of breast in their mouth
- lips are turned outwards
- cheeks should look rounded when infants suck
- are able to breathe freely through their nose

mothers should **hear**:-

- audible swallowing, not smacking sounds

15.4 Non-Nutritive Suck (NNS) and oral stimulation

NNS is an organised series of short sucking bursts separated by brief pauses (2 sucks/second) and usually occurs when there is no nutrition flow (Bagnall 2005a). NNS can be introduced once infants are over 30 weeks gestation, medically stable and display a sucking reflex (Bagnall 2005a). The benefits of NNS include:

- may stimulate the gastric motor function and therefore facilitate the digestion of enteral feeds
- prior to a feed may alert infants to sucking and encourage tongue movement for feeding
- may facilitate the transition from tube to full suck feeds by accelerating the organisation and efficiency of sucking
- can build infants association between sucking and satisfaction
- has been shown to significantly decrease the length of hospital stays in preterm infants

(Bagnall 2005b, Pinelli and Symington 2010)

NNS can be offered in the form of a soother or gloved finger or the empty breast during tube feeds to stimulate rooting, latching and swallowing reflexes. If infants are stable, a soother can be substituted by encouraging infants to suck a gloved finger or alternatively it can be offered during SSC by mothers offering the empty breast during tube feeds (Bagnall 2005a). As infants begin to take more oral feeds at around 33 weeks gestation, the use of NNS is no longer appropriate, unless infant's clinical condition indicates otherwise (Bagnall 2005a). The use of NNS at the breast has shown to improve the transition to breastfeeding and is associated with longer breastfeeding durations (Spatz 2004, Edwards and Spatz 2010). Under special conditions the need for NNS may be necessary, for example during a period of prolonged fasting, for procedural pain relief, or through parental choice (Pinelli and Symington 2010). Therefore, NNS use should be a very specific part of a feeding regime and not ad hoc or for long periods of time. The need for NNS will be discussed with parents prior to its commencement and must be recorded in healthcare records as appropriate. These infants may also require referral to a speech and language therapist to help stimulate and practice oro-motor skills and reduce oral hypersensitivity (Pinelli and Symington 2010).

WHO (1998) recommends that bottles, teats and soothers should be avoided whilst establishing breastfeeding, unless needed for medical reasons, or through parental choice. Research has shown that prolonged soother sucking and early introduction of bottles and teats can lead to 'nipple teat confusion' and may interfere with infants ability to display feeding cues, thus leading to reduced milk supply and early weaning (Dowling et al 2002, Bagnall 2005b, Briggs 2005, Begley et al 2008, Karabulut 2009). Staff in OLCHC will not promote or encourage the use of soothers or artificial teats, while establishing breastfeeding. Parents will be informed by staff of the possible confusion that can occur for infants if introduced to soothers, teats and bottles during the first few weeks of breastfeeding. If parents decide to use either for their breastfeeding infants it is recorded in healthcare records. For breastfeeding mothers who do choose to give their infant a soother, it should be offered after the neonatal period (after breastfeeding is established) and only for sleep periods.

15.4.1 Mouth Care and EBM

The use of EBM for mouth care has by shown to decrease the risk of infection and protect the gastric mucosa while infants are nil orally (Rodriguez 2009).

15.5 Transitioning to breastfeeding

Action	Rationale & Reference
Explain to mothers how infants progress from being enterally fed to directly breastfed Support mothers who choose to bottle feed their EBM Establish realistic expectations	Explanations can gain co-operation and trust and allay fears (Trigg & Mohammed 2010)
Provide reassurance and an optimal environment	Infants get comfort as well as their nutritive needs being satisfied.
Perform mouth care with EBM: • Double check EBM	As per Section 12, to maintain the safe administration of EBM and prevent errors
• Decontaminate hands with water and appropriate soap suspension	Prevention of cross infection (HSE 2009a, CDC 2010, Infection Control Department 2010a, HMBANA 2011, NPC 2011c)
• Dip a sterile cotton swab into the EBM	
• Rub on the infants lips and inside their mouth	To oral and nasal stimulation
• Discard the cotton swab	To prevent cross contamination (OLCHC 2011)
• Decontaminate hands	Prevention of cross infection (HSE 2009a, CDC 2010, Infection Control Department 2010a, 2012a, HMBANA 2011, NPC 2011c)
Assess infants readiness to feed prior to considering the commencement of breastfeeding	Breastfeeding can commence as soon as infants are clinically able to feed (able to coordinate sucking, swallowing and breathing with minimal changes in cardiovascular responses) which begins between 32 – 35 weeks gestation and older (Kuehl 1997), while also showing signs of stability (Jones 2012), and appropriate feeding cues.
When establishing breastfeeding sterile water, glucose water or formula feeds should be avoided, and will only be given following discussion with parents and after assessment by the medical team.	Pre-term or sick babies may require additional nutritional support. Gut flora may be altered if supplemental feeds are given; there is an increased risk of sensitising a vulnerable infant to cows' milk protein (Jarvinen and Suomalainen 2001). Formula has a slower gastric emptying time and may reduce infant's interest in breast feeds (Van Den Driessche et al 1999). Supplemental feeds may cause mothers to feel that their milk is inadequate or inappropriate for

	their infant (Marques et al 2001, Kramer et al 2001, Jones 2005) To adhere to the OLCHC Breastfeeding Policy Statement (NPC 2013) and the ten steps to successful breastfeeding outlines by WHO/UNICEF (1998)
Maximise mothers milk production • As per Section 13)	During this early period, before oral feeding is established, maternal lactation must be sustained by expressing EBM (Bagnall 2005a)
Prior to feeding, with a gloved finger assess initiation, strength and rhythm of NNS	In order to feel the tongue compression or stripping and the suction efficiency (Bagnall 2005b)
Teach infants to associate mother with breastfeeding by: • Practicing the principles of Kangaroo Care/SCC as per Section 10.1 above.	Skin to skin contact has been shown to help establish and maintain a milk supply (Kramer et al 2001)
• Use optimal feeding positions to support the airway	To trigger the MER and elongate the nipple and reduce the rate of flow (Jones 2005)
• If mothers breasts are full of milk, or mothers have a strong milk ejection reflex, encourage mothers to express for first 2-3 minutes (before putting infants to the breast)	
• Tease infant's mouth and lips	To stimulate the rooting reflex (Bagnall 2005b)
• Express milk on to infant's lips	To stimulate the rooting and latching (Bagnall 2005b)
• Stimulate the MER	As per Section 10.1
• Offer a few drops of EBM orally	Sweet tastes stimulate sucking therefore, dripping EBM on the lips before a feed may encourage the initiation of sucking (Bagnall 2005b) and stimulate swallowing
• Monitor infant progress	To assess infant stability and tolerance of the transition process

• Offer Non-Nutritive Suck (NNS) using:
  • a soother or (adhere to soother guidelines) or
  • gloved finger or
  • offering the empty breast during tube feeds
	To stimulate the rooting, latching and swallowing reflexes, to improve the transition to breastfeeding and is associated with longer breastfeeding durations (Spatz 2004, Edwards and Spatz 2010, Spatz et al 2012)

• NSS at the breast should only be preformed after mothers have completely emptied their breasts using a breast pump,	To reduce the risk of infants receiving breast milk, especially if infants are nil orally (Edwards and Spatz 2010)
Allow infants to smell EBM during feeds	Breast milk odour stimulus in gavage-fed premature infants increases NNS, leading to a shorter time for

	transition to oral feeding (Bingham et al 2007, Yildiz et al 2011) leading to shorter lengths of hospitalisation (Raimbault et al 2007)
Breastfeeding should be assessed at least every 12 hours	To ensure there is an effective transfer of breast milk (Lennon 2012)
Use supplementary feeding techniques: • Supplementary Nursing System (available to Medela) – (See Appendix 2 for diagram)	To provide infants with a steady flow of a supplemented (fortified) feed (if additional fluid/nutritional requirements are required) while sucking and to provide nipple and breast compression (Jones 2005). Rewards infants for sucking efforts, helps promote further breastfeeding (Lennon 2012)
If the infant is starting to breastfeed after receiving EBM milk for a while, mothers may need to continue expressing breast milk until infants are fully established with breastfeeds	To maintain the breast milk supply
Mothers are encouraged to breastfeed their infants on demand	Infants may be tried at the breast as often as possible, in order to establish breast feeding and prevent infants developing a preference to other feeding techniques (Lang 1994)
Mothers should be shown how to confidently sooth their infants by: • encouraging 'skin to skin' contact, • helping mothers to cope with a fretful or upset infant by rocking, stroking, or making environmental changes.	Parents will gain necessary skills to cope with their fretful infant which are necessary for successful parenting (Kramer et al 2001)
Document: • cues displayed prior to attempting breastfeeding • how the infant fed • evidence as to whether the breastfeed was tolerated or not • any vomits or dribbling.	Good clinical records are essential to provide documentary evidence of the delivery of quality patient care (An Bord Altranais 2002, National Hospitals Office 2009).

15.6 Discharge Support and Information

Action	Rationale & Reference
Inform the **Public health nurse** prior to discharge of all infants receiving EBM/being breastfed.	Mothers who are breastfeeding may require extra support following their discharge from hospital to enable the continuation of lactation.
Inform all breastfeeding mothers prior to discharge of the breastfeeding support network (PHN or Voluntary) in their local area. Leaflets are available and the following web sites may be accessed and information printed.	Mothers will have easy access to practical accurate support from appropriately trained breastfeeding personnel to provide comprehensive breastfeeding support (Begley et al 2008, McGorrian et al 2010, CDC 2012, LLL 2012)

Voluntary Breastfeeding supports in their local area: **www.breastfeeding.ie/** Private Lactation Consultant Supports are also available: **www.alcireland.ie/** Inform mothers who also wish to express how to access expressing equipment (to buy/rent) prior to discharge: • Local pharmacy (to buy) or • Medela (to buy and/or rent)(available along with many other types of Medela pumps from "Medicare Health and Living", Glencormack Business Park, Kilmacanogue, Co. Wicklow. Phone: (01) 2014900, www.medicare.ie Check the hospital EBM Fridges or freezers for stored EBM prior to infants discharge home and return same to mothers prior to discharge	Provide contact details for local voluntary organisations offering ongoing support to complement local community public health services (NICE 2006, Health Service Executive 2009b, 2009c) International Board Certified Lactation Consultants (IBCLC) are health professionals who specialise in the clinical management of breastfeeding to assist the mother-infant breastfeeding dyad (CDC 2012)

16.0 Cleaning and Pump/Set Cleansing and Maintenance

Action	Rationale & Reference
Pumps For pumps used by more than one woman the outer surface of the pump should be cleaned before and after each using detergent and water by the user and daily by the healthcare assistant	As per hospital guidelines (Infection Control Department 2012a). As improper cleaning can lead to increased risk of EBM contamination (ASPEN 2009, HMBANA 2011, Medela 2011, Rhodes 2012)
Deep clean weekly with detergent and water followed by disinfection with actichlor by the healthcare assistant	As per OLCHC guidelines and SOP's (OLCHC 2008a, 2008b, 2008c). Improper cleaning can lead to increased risk of EBM contamination (HMBANA 2011, Becker et al 2011)
Should be serviced annually or whenever EBM enters the pump or when not working properly by the pump manufacturer	As per manufacturers instructions (ASPEN 2009)
Use only pump equipment with a mechanism to prevent backflow or aerosols into the pump	(As per Medela 2010)
Breast Expression Kit (including membrane cap) Single Person Use ONLY	Inadequate cleansing and sterilising between users may increase the risk of EBM contamination (Medela 2010, HMBANA 2011)

Change the whole breast expression kit from Medela (including the membrane cap (See Appendix 2 for diagram) inside the lid of the Symphony pump monthly	(As per Medela 2010)
Cleaning (New) Breast Expression Kit: Ensure the (new) breast expressing sets or bowl/container (if hand expressing) is:	As per hospital guidelines (Infection Control Department 2012a)
• Cleanse before and after use	To remove any milk residue and reduce the risk of EBM contamination (HMBANA 2011)
• Rinsed with cool water	To remove any milk protein residue (HMBANA 2011, Medela 2011)
• Washed in a bowl of detergent and water	To clean the equipment and reduce risk of equipment contamination in a sink (HMBANA 2011, Medela 2011)
• Patient specific bottle brushes can be used to clean parts, especially tight crevices	To clean any tight crevices in the kit (Rhodes 2012)
• Rinsed thoroughly with cool water	To remove any soap residue (Medela 2011)
• Sterilised in either :- ▪ an electric steam steriliser ▪ allowed to drip dry on a clean paper towel ▪ stored in a dry sealed labeled container with a lid until required for use	To sterile the equipment (Infection Control Department 2012a) Moisture in the connection tubing is a potential source of contamination for milk (HMBANA 2011)
▪ a sterilising unit containing water and a sterilising tablet 'acticlor' (140ppm av chlorine) ▪ Keep the kit submerged until required for use again	To sterilise the equipment (Infection Control Department 2012b)
Do not wash or sterilise the membrane cap and connection tubing (if moisture or milk is evident it should be discarded and a replacement provided)	Moisture in the pump tubing is a potential source of contamination for milk (Medela 2010, HMBANA 2011, Rhodes 2007, Chui 2012)
EBM storage boxes EBM storage boxes can be reused after washing thoroughly with detergent and water.	As per Infection Control Department (2012b) as improper cleaning can lead to increased risk of EBM contamination (ASPEN 2009)
Deep cleaning weekly with detergent and water followed by disinfection with actichlor by the healthcare assistant	As per hospital guidelines (Infection Control Department 2012b).
EBM freezer and refrigerator Temperature should be monitored daily	To provide an audit trial and ensure safe temperature control (FSAI 2007, HMBANA 2011) as per SOP for

	recording temperatures of refrigerators and freezers (OLCHC 2008a, 2008b)

17.0 If the wrong EBM is given to the wrong infant

Action	Rationale & Reference
Stop the feed immediately if the feed is in progress	To prevent the infant receiving any additional EBM in error
Aspirate the enteral feeding tube if present	To remove as much EBM as possible
Notify parent/guardian of the infant • who received the EBM in Error (Recipient) • whose EBM was administered in error (Donor)	To ensure the parent/guardian is aware of the risk of infection agents being transmitted via EBM and the potential consequences of same
Follow the Occupation Blood Exposure Guidelines	To work with OLCHC's Guidelines for the management of Occupational Blood Exposure (NPC 2011g)
Arrange blood screening for both mothers and infant that received the EBM	To assess and detect if any potentially infectious agents were transmitted to the infant
Complete an Incident/Near miss Report Form	

18.0 Donating EBM

In the event of mothers having excess EBM stored within OLCHC and wishing to donate it, it is the responsibility of ward staff to:

- Inform mothers that it is their (mothers) responsibility to contact the Donor Milk Bank (DBM) (Sperrin Milk Bank) (Phone Number (00448) 68628333)
- Inform mothers that the DBM Coordinator within Sperrin Milk Bank will support and advise in this matter.
- Inform mothers that blood sampling and check-ups are performed independently of OLCHC (advised to attend family GP)
- Provide information leaflets and DBM contact details (available on the OLCHC Intranet and in the Breastfeeding Folder (lilac) at ward/unit level)
- For mothers who wish to donate breast milk following the death of their child refer to the Guidelines on Lactation Support for Mothers who's child has died in OLCHC (NPC 2013b) for more information.

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20.0 Appendices

20.1 Appendix 1: Log Book for Mother's Breastfeeding / Expressing Breast Milk

Log Book for Mother's Breastfeeding / Expressing Breast Milk

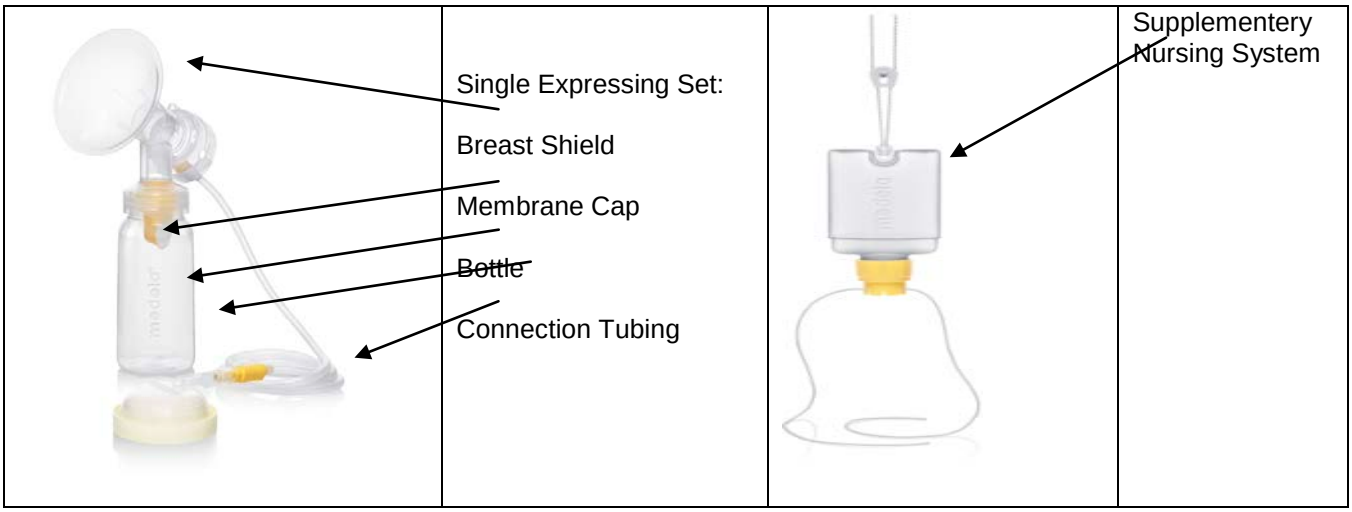
Date of B/E	Time of B/E	Type of E	Volume per E	Total Daily Volume	Nipple Condition (Intact, cracked, sore, red, bleeding)		Comments

B=Breastfeeding E=Expressing

Type of Expressing: HE = Hand Expression MHH = Manuel Hand Held

EH = Electric (Hospital Grade) EHH = Electric Hand Held

20.2 Appendix 2: Medela Equipment



Medela 'Symphony' Breast pump with: 'Double' Expressing Set

Membrane Cap

Medela (2010)

20.3 Appendix 3: Breast Shield Assessment

Breast Shield Assessment Tool (Adapted from Zoppi 2012)		**Correctly Fitting Breast Shield**
The nipple:	is **centred** and pointing in the direction of the funnel	
	moves freely in the tunnel	
	is **gently pulled** into the tunnel	
	does not rub against the sides of the breast shield	
Areolar tissue:	**Little or none is pulled** into the tunnel	
	No white rings after pumping	
The breast:	**moves gently** and rhythmic	
	is completely **empty** with no lumps after pumping	
No pain or discomfort is experienced while pumping		

20.4 Appendix 4: Expressed Breast Milk Labels

Baby's Name: Express Breast Milk Label
_____
Date of Birth:
_____
HCR Number:
_____
Ward Name:
_____
Mother's Name:
_____

Expressed:
Date:_____
Time: _____
Frozen
Date: _____
Fortified:
Y / N

Thawed:
Date: _____
Time: _____
Do not use after:
Date: _____
Time: _____
Nurse Initial:
_____/_____

Mother's Medication:
_____

Express Breast Milk Label for EBM Bottle

Expressed Breast Milk
(Infusion Use Only)(Enteral Administration Only)

Baby's Name:
_____
Date of Birth:
_____
Hospital Number:
_____
Ward Name:
_____
Mother's Name:
_____

Amount Added: _____
Time Added: _____
Fortified: Yes / No
Fortified with: _____
Do Not Use After:
Date:_____ **Time:**_____
Checked by: _____
_____

Expressed Breast Milk Label for Infusion Use Only

20.5 Appendix 5: Conditions for Mothers Breastfeeding in OLCHC

Addressograph Label:

Conditions for Mothers Breastfeeding in *Our Lady's Children's Hospital, Crumlin (OLCHC)*

OLCHC believe that breastfeeding is the healthiest way for a woman to feed her baby. OLCHC supports mothers who choose to do so subject to the following conditions and asks that you accept these conditions by signing your name to this form. Should you have any queries whatsoever in relation to the form please contact a staff member.

1. The hospital accepts no responsibility for the condition ***and subsequent use of*** any expressed milk taken by ***me*** on ***my*** departure from the hospital;
2. Any expressed milk left by ***me*** on departure from the hospital shall be disposed of by the hospital at its sole discretion;
3. The health and safety of breastfed siblings shall be ***my*** sole responsibility ***during my time of residence in the hospital***.
4. There are risks associated with breastfeeding by resident mothers of the siblings of patients in the hospital. These are mainly of infection. The hospital takes every precaution to minimise such risks. However, resident mothers choosing to breastfeed siblings of patients do so of their own choice and aware***ness*** of the risks. ***I understand the risks of (insert child's name) being resident in the hospital, which have been fully explained to me***.

I acknowledge and agree to the above conditions for breastfeeding in OLCHC.

Note:
This completed form will be ***filed*** in your child's healthcare records

Mother's Name (Block Capitals):_____Mother's Signature:_____

Nursing Staff
Name/Title: (Block Capitals):_____Nursing Staff Signature:_____

Date: _____

Copy given to parents □

20.6 Appendix 6: Storage Guidelines for EBM

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) (Bolus feeds)	Used immediately (Do not refreeze)	Discard immediately after use
Supplemented / fortified EBM (warmed to room temperature) (Bolus feeds)	Used immediately (Do not refreeze)	Discard immediately after use
Defrosted EBM (warmed to room temperature) (Continuous feeds)	Used immediately (Do not refreeze)	Discard 4 hours once infusion commenced
Supplemented / fortified EBM (warmed to room temperature) (Continuous feeds)	Used immediately (Do not refreeze)	Discard 4 hours once infusion commenced
Supplemented/fortified 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, ASPEN 2009, ABM 2010, Department of Clinical Nutrition and Dietetics 2011, HMBANA 2011)		

20.7 Appendix 7: Expressing Breast Milk Sign Out Sheet

Expressing Breast Milk Sign Out Sheet

Date	Time	Volume (mls) decanted from bottle	Volume (mls) remaining in bottle	ID Band √	Nurses Signature (Grade)	Nurses Signature (Grade)

Guidelines on Cup feeding an infant in OLCHC	
Version Number	*1st Edition: October 2006* *2nd Edition: July 2011* *3rd Edition: July 2013*
Date of Issue	*June 2013*
Reference Number	
Review Interval	*3 yearly*
Approved By *Name:* *Title: Chairperson Nurse Practice Committee*	*Signature* *Date*
Authorised By *Name:* *Title:*	*Signature* *Date* Geraldine Regan. *18/06/13*
Author/s	*Name: Elaine Harris* *Title: Clinical Placement Coordinator*
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CONTENTS

1.0 Introduction

Infants are fed by cup all over the world. It is a simple, inexpensive, practical, safe artificial method of feeding (Lang 1994). Cup feeding is an effective alternative feeding solution to gastric tube infants who are intended to be breastfed or bottle feed but who, for some reason, cannot be (Samuel 1998, Howard *et al*. 1999, Flint *et al.* 2008). Due to the potential addictive nature of cup feeding, every opportunity must be made to establish breastfeeding, as infants may become unwilling to make the wider jaw movements required to correctly establish breastfeeding (Jones 2005). Cup feeding is infant led, allowing the infant to develop their own feeding rhythm. Therefore, the incidence of apnoea and bradycardia, and conditions that are frequently observed when infants are encouraged to feed rapidly, are reduced (Lang *et al*. 1994, Roche *et al.* 2002).

Although cup feeding appears to be a safe short term method to supplement infants, appropriate training must take place as there is a risk of aspiration if a poor technique is used (Jones 2005). Therefore, each nurse / care giver must have acquired the necessary knowledge and skill prior to performing cup feeding (Freer 1999, Mohrbacher and Stock 2003) Each nurse must assess if this skill is within her/his scope of practice so as to practice safely and effectively maintaining the highest standard of care for the patient (An Bord Altranais 2000).

2.0 Definition of cup feeding

Cup feeding is defined as a method of feeding milk to an infant using a small cup without a lip (Lang *et al*. 1994, Lang 1994).

3.0 Benefits of cup feeding (this is not an exhaustive list)

- Provides positive stimulation for the oral and nasal senses
- Reduces the need for nasal and/or oral gastric tubes
- Stimulates the production of saliva and lingual lipases
- Provides alternative methods of feeding when mothers are not available to breastfeed their infant.
- Assists in preventing breastfeeding problems as a result of being introduced to different sucking techniques
- Facilitates the adherence of the '10 Steps to Successful Breastfeeding' (WHO 1989)
- Infant paces him/herself
- Less energy used by infants to cup feed than to bottle feed
- Stimulates the development and coordination of suck - swallow reflexes
- Less fat is lost from the breast milk than when using gastric tube (due to reduced surface space)
- Provides socialisation for infants by stimulating eye contact between infant and feeder
- Infant is held closely and so facilitates bonding
- Relatively ease to perform
- Reduces the incidence of bronchospasm and apnoea in preterm infants
- More likely to breastfeed if cup feeding is short term

(Kuehl 1997, Lang 2002, Roche *et al*. 2002, Gilks and Watkinson 2004, UNICEF/WHO 2006, Wight *et al.* 2008)

4.0 Potential Risks of Cup feeding

- Milk lost to dribbles (Dowling *et al.* 2002, UNICEF/WHO 2006)
- It may be viewed as easier than breastfeeding and so reduce breastfeeding rates (Collins *et al.* 2004, Flint *et al*. 2008)

- Incorrect technique can lead to lip or gum trauma (Lang 1994, 2002)
- Risk of aspiration pneumonia when the improper techniques is used resulting in the milk being 'poured into' the infants mouth rather than allowing infants to lap / sip the milk at their pace (Lang 1994b, Thorley 2005, Wight *et al.* 2008)
- Long term exclusive cup feeding may deprive infants of the sucking experience (Jones 2005), especially if infants refuse the breast, due to the potential addictive nature of cup feeding (especially term infants) or not being given the opportunity to breastfeed (Lang 1994b, Thorley 2005, Flint 2008, UNICEF/WHO 2008, Wight *et al.* 2008)

5.0 Indications for use of cup feeding

- To provide a positive oral experience for infants
- To provide an alternative method of feeding when a mother is not available to breastfeed her infant
- To avoid nipple/teat confusion, which can arise from introduction of bottle feeds (Gupta *et al.* 1999)
- To reduce the need for nasal and oral gastric tubes. (Lang 1994, Howard *et al*. 2003)
- Infants who are reluctant/unable/refusing to feed from breast/bottle after birth

6.0 When are infants ready to safely start cup feeding?

According to Lang et al (1994), the following cues provide evidence that, infants are ready to safely start cup feeding when they:

- are wide awake and restless at feed times
- show signs they can 'nurse well', as defined by rooting, latching, swallowing (long draws) and breathing coordination
- are not satisfied by gastric tube feeding
- only have the energy to satisfy part of their total nutritional needs at the breast

7.0 Which infants benefit from Cup Feeding?

Preterm infants

- Infants need to develop the physiology to coordinate sucking, swallowing and breathing to start bottle or breastfeeding which begins between 32-35 weeks (Kuehl 1997). Therefore, Kuehl (1997) considers cup feeding safe for infants 32 weeks gestation and older who exhibit appropriate feeding cues. However, Lang (1994) reported cup feeding success with infants at 30 weeks gestation, arguing that such infants are only required to lap/sip milk and then coordinate swallowing and breathing. Nevertheless, it is important to assess the readiness of each infant prior to considering the commencement of cup feeding.
- Limited evidence suggests that cup feeding (versus bottle feeding) may increase breastfeeding at discharge and reduce the frequency of oxygen desaturation (Renfrew et al 2009)

Term infants

- Cup feeding is ideal when a gastric tube is unacceptable, particularly when a mother is not available for all breastfeeds.
- It can be used as a method of supplementation in a number of situations, such as infants with jaundice
- Short term solution to feeding problems (Thorley 1997)

Infants with Cleft lip (bi/unilateral) and/or palate

- Cup feeding can be used during the period when breastfeeding is being established (Flint *et al.* 2008)

Infants who cannot suck

- Cup feeding has a particularly important role with infants, who are unable to feed from either the breast or bottle, and could be considered as an alternative to the long term use of gastric tubes. Rather than suck, an infant will sip / lap the milk from the cup; many children with neurological

disorders are also capable of this (Lang *et al.* 1994).

8.0 Contraindications to Cup Feeding (*this is not an exhaustive list)*

Cup feeding is **not recommended** if infants have:-

- Compromised respiratory status
- Poor suck-swallow-breathing coordination
- Neurological problems that affect the mouth, tongue and/or cheeks (Kuebh 1997)

Cup feeding is **contraindicated** if infants are:-

- 'Nil orally' / 'fasting'
- Not tolerating cup feeds
- Sleepy / drowsy
- Not showing signs of wanting to breastfeed (rooting, latching, swallowing (long draws) and breathing coordination) (Lang *et al.* 1994, Lanese 2011)

9.0 Procedure of cup feeding

Equipment:

- Sterile straight/rounded edge of flexible cup **(Single-patient use)**(e.g. Medela Soft Cup)(Available from Material Management)(Reference No. 800.0507)
- Infant blanket
- Bib
- Expressed breast milk (EBM) or milk formula
- Plastic Apron

Method of cup feeding for staff and parents:

The method of cup feeding is the same for any infant regardless of the gestational age (Lang 2002). However, initially, the focus should be on the quality of the oral stimulation rather than the amount of milk consumed (Lanese 2011).

ACTION	RATIONALE & REFERENCE
1. Explain the procedure to parents, involve, educate and evaluate their ability to perform this skill, if present.	The philosophy of family centred care recognises the family as the constant in a child's life (Hockenberry and Wilson 2010).
2. Assess the infant for feeding cues to indicate that they are ready to cup feed.	Cup feeding should be individualised and determined in response to each infants feeding cues (Jones 2005, Lanese 2011), as indicated above (Lang *et al.* 1994).
3. Decontaminate hands and put on a disposable apron.	To prevent cross infection (European Union 2004, Infection Control Department 2010, Nurse Practice Committee (NPC) 2011).
4. Collect all the necessary equipment.	To prepare for the procedure (Trigg and Mohammed 2010).
5. Warm EBM/formula by placing it in a container of warm water or holding under	Microwave ovens are not recommended to warm or thaw milk as they:

running warm water and remove it when it feels warm enough.	• may create 'hot spots' which could burn the infant (Hockenberry and Wilson 2010, HMBANA 2011). • can reduce IgA and lysozymes levels in EBM (HMBANA 2011). For safety reasons (OLCHC 2012).
6. Ensure the correct EBM/formula is prepared for the correct patient: Patient Name, HCR No., Mother's Name, Date (not expired), as per OLCHC Breastfeeding Guidelines.	To ensure the safe administration of EBM/formula and to prevent any errors from occurring (Trigg and Mohammed 2010, HMBANA 2011, NPC 2013).
7. Administer the prescribed fortified requirements, if required/indicated.	In adherance with the Analysis Sheet from the Electronic Dietitic Manager Computer Programme used with OLCHC.
8. Fill the flexible cup approximately 2/3 full or with the required volume of EBM / formula (However if the infant is volume restricted this must not be exceeded).	To ensure there is sufficient volume of EBM/formula in the cup to allow the infant sip/lap (Kuehl 1997) and to reduce the volume of air swallowed by the infant (Lang 2002).
9. Wrap the infant securely with hands in the midline position.	To prevent his hands knocking against the cup (Lang 2002, Jones 2005).
10. Ensure the infant is calm and not crying.	To encourage a positive feeding experience (Lang 2002). Cup feeding is an active process (Johnston *et al.* 2003).
11. Use a cloth/bib under his/her chin.	To protect the infant's and carers clothing from spills (Lang 2002, Mohrbacher and Stock 2003).
12. Bib/cloth can be weighed both before and after the cup feed, if necessary.	To allow a more accurate calculation of fluid lost during cup feeding (Lang 2002, Dowling *et al.* 2002).
13. The infant MUST be awake and alert.	Cup feeding is an active process (Johnston *et al*. 2003, Thorley 2005). Cup feeding stimulates the olfactory senses of taste and smell, and the tactile sense of milk in the infant's mouth, which is sometimes lost in oro/nasogastric feeding (Lang 1994). This is to reduce the risk of aspiration pneumonia as when an improper techniques causing the milk to be 'poured into' the infants mouth rather than allowing infants to lap / sip the milk at their pace (Lang 1994b, Wight *et al.* 2008, Australian Breastfeeding Association 2012).
14. Support the infant in a semi fowler (semi-upright) position with your hand supporting the infant's back and neck.	This position is suggested for all infant feeding (Lang 2002, Johnston *et al*. 2003, Jones 2005).
15. Direct the soft rim of the cup towards the corners of the upper lip and gums, with it just	Leaving the lower lip and jaw to move freely and lap / sip the EBM/formula at the infant's own pace

gently touching or resting on the infant's lower lip. **Do not apply pressure to the lower lip.**	(Lang 2002, Johnston *et al.* 2003, Jones 2005). Incorrect technique (such as applying pressure to the lips / gums) can lead to lip or gum trauma (Lang 1994, 2002).
16. Tilt the cup so the EBM/formula is raised just high enough so that the infant can sip/lap it. 	Lapping is observed when an infant is first exposed to cup feeding. **Lapping** is evident by the protruding of the tongue and lapping the milk on their tongue. The milk is often held in the mouth until swallowed (Dowling *et al.* 2002, Lang 2002, Riordan and Auerbach 2009). **Sipping** is when an infant lowers the top lip to the rim of the cup, identifying a closed mouth technique. Both mechanisms potentially allow an infant adequate time for breathing during bursts of lapping/sipping (Dowling *et al*. 2002). A regular sipping-pausing-sipping (or lapping) should develop (Kuehl 1997).
16. **DO NOT POUR MILK INTO THE INFANT'S MOUTH.**	**To prevent the risk of aspiration pneumonia (Lang, 1994; 2002; Kuehl 1997, Australian Breastfeeding Association 2012, Thorley 2005)**
18. Leave the cup in the correct tilted position as per point 15 during the feed. Do not keep removing it when the infant stops drinking.	This will allow the infant to set their own lapping / sipping rhythm. It is important to let the infant pace his own intake, in his own time (Lang 2002, Mohrbacher and Stock 2003, Jones 2005, Thorley 2005), the infant can remain unstressed, which reduced the incidence of bradycardia and apnoea often seen in infants who are encouraged to feed too quickly (Lang *et al*. 1994, Roche *et al*. 2002).
19. As with any type of feeding intervention, close observation of the infant should be continuous while cup feeding, in order to detect signs of distress (e.g. Bradycardia, tachypnea, oxygen desaturation, and colour changes at levels or frequencies that are considered unacceptable, sneezing, hiccoughing, yawning or head aversion). (If any of these signs or others are observed, cup feeding should be stopped immediately).	To assist in the early detection of signs and symptoms that an infant is either tolerating or not tolerating the cup feed (Kuehl 1997).
20. The infant has enough EBM/formula when he/she closes his/her mouth or does not take any more.	Infants will only drink to satisfaction (Samuel 1998, Mohrbacher and Stock 2003, WHO 2005).
21. If the infant does not drink sufficient:- A.Offer him/her more at the next feed B.Feed him/her earlier than usual C.Top up with feed using an alternative	To maintain the optimum hydration and nutrition status of the infant (Johnston *et al*, 2003 WHO 2005).

method D.Offer smaller feeds more frequently.	
23. When the feed is complete, wind the infant, as required and then place them on their back in the cot unless contraindicated by a medical condition	The risk of SIDS is higher when infants sleep in the prone rather than supine position (Gilbert *et al*. 2005, Hockenberry and Wilson 2010).
24. Discard any unused EBM/formula.	EBM/formula must not be reused or reheated as this reduces the risk of contamination by pathogenic organisms during the feed (Johnston *et al.* 2003, WHO 2005, FSAI 2007, NPC 2011a).
25. Decontaminate hands and remove apron prior to leaving the cubicle.	To prevent cross infection (Infection Control Department 2010, NPC 2011).
26. Tidy equipment away, rinse cup feeder in warm soapy water.	To clean the cup prior to decontamination (Samuel 1998).
27. Disinfect the cup for next feed in the appropriate decontaminating solution or device as per hospital guidelines at ward / unit level.	To disinfect the cup prior to the next feed (FSAI 2007) as per Policy on Cleaning and Disinfection (Infection Control Department 2012).
28. Once disinfected, place the cup in a storage container at the infants bed space.	To assess the cup for the next feed.
29. Document: • cues displayed prior to cup feeding • the type and volume of feed taken • how the infant fed • evidence the feed was tolerated or not • any vomits or dribbling.	To provide evidence that the cup feed was either tolerated or not (Lanese 2011). Good clinical records are essential to provide documentary evidence of the delivery of quality patient care (An Bord Altranais 2002, National Hospitals Office 2009).

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CONTENTS

1.0 Introduction

Like mothers who breastfeed healthy infants or express breast milk for their sick/premature infants, bereaved mothers need help and support managing their breast milk (Welborn 2012). Cole (2012) also acknowledges that health care workers often lack the tools to address lactation with bereaved mothers. This guideline aims to bridge this theory practice gap and provide evidence based information to enable nurses to effectively provide breastfeeding support and accurate and consistent advice to the bereaved mother who was breastfeeding or providing breast milk for their child prior their death in OLCHC. The various aspects of lactation support following the loss of an infant include:

- Psychological support
- Stopping breast milk production (Milk Suppression and Weaning and/or Stopping)
- Preventing engorgement
- Management of Expressed Breast Milk (EBM) stored in OLCHC
- Donating breast milk
- Discharge support and Information

Note: Refer to the Guidelines on OLCHC staff caring for mothers breastfeeding their sick infants in OLCHC (2013a) and Guidelines on OLCHC staff caring for mothers expressing breast milk in OLCHC (2013b) for further details on breastfeeding and expressing breastmilk.

2.0 Indications for Lactation Support

Lactation Support can be categorised into 2 types:	
Breast milk suppression	Mothers who have not established a breast milk supply (infants died in utero or shortly after delivery and breastfeeding or breast milk production has not commenced)
Weaning and/or stopping breast milk production	Mothers who have establish breast milk supply

3.0 Informed Decision Making

Ensure the decision to suppress, wean and/or stop or continue to maintain mothers breast milk production is an informed decision (Welborn 2012). For mothers to make an informed choice they need to be able to access reliable, non-judgemental, problem-solving information (McGorrian et al 2010, Cole 2012, HMBANA 2012). Providing mothers with choices at this time can empower them when other aspects of their like life may be out of their control (Cole 2012). Written information should summarise the important points about managing lactation so that mothers can use it as a resource at home (HMBANA 2012). Such advice and support should be provided verbally and supported in the form of a parental information leaflet - 'Lactation support for bereaved mothers' (available on the OLCHC Intranet).

4.0 Breast Milk Suppression (for mother who have not established a breast milk supply)

Breast milk production can commence as early as 12 weeks gestation if an infants dies in utero or shortly after delivery (Neifert 2009). The average time for milk to 'come in' is 2-3 days after birth (Riordan and Wambach 2010); however the grieving process can delay this by several days (Pugmire 1999). There are no universal guidelines on how to effectively suppress lactation for mothers after birth (Oladapo and Fawole 2009). Traditionally, breast binding and medication was used to assist mothers with this process. Medications were used to prevent and suppress milk supply, however due to their adverse side effects such medications are no longer recommended (Pugmire 1999, Moore and Catlin 2003). Breast binding

was also used in the past (Moore and Catlin 2003). However, Swift and Janke (2003) found that breast binding caused more pain and leakage than the use of a supportive bra. Pugmire (1999) and HMBANA (2012) advocate that bereaved mothers wishing to suppress their milk production should:

- Not express breast milk (the pressure of too much milk in the milk ducts causes milk production to stop, this pressure may be uncomfortable for most mothers for up to 3-4 days but can last up to 10 days)
- Wear a supportive bra (day and night to support heavy breasts)
- Use an cold compress (ice pack rotating every 10 minutes to ease discomfort and swelling)
- Take analgesia (to reduce swelling and pain)
- Take warm shower (to help some milk come out which relieves discomfort)
- Maintain a good fluid intake
- Submerge their nipples into a bowl of warm water (to relieve pressure without bringing in more milk)

5.0 Weaning and stopping breast milk production (for mother who have established a breast milk supply)

Bereaved mothers who have been breastfeeding/expressing breast milk may wish to wean and stop producing breast milk. However, abrupt weaning is not recommended as it can cause physical discomfort, as milk will continue to be produced and without sufficient removal mothers can become full and engorged which can lead to mastitis or breast abscesses (Moore and Catlin 2003, LLL 2004). Therefore, the aim of weaning and stopping breast milk production following the loss of an infant is to facilitate the gradual weaning of milk production by removing enough milk to reduce the pressure in the breasts without causing excessive breast discomfort (Pugmire 1999, Moore and Catlin 2003, HMBANA 2012). Therefore, mothers should use their previous breastfeeding/pumping schedule and shorten their pumping session times and lengthen the time between pumping sessions without causing discomfort (Neifert 2009, HMBANA 2012). This process can take up to a week depending on the frequency and duration of mother's breastfeeding/expressing schedule prior to their infant death (HMBANA 2012). The process can also be adjusted to suit the mother's individual needs.

For bereaved mothers who have been breastfeeding, they may need to be taught how to hand express or use a breast pump. For further information on expressing breast milk by hand or pump refer to the Guidelines on Expressing Breast Milk for mothers in OLCHC (OLCHC 2013b).

6.0 Complications Associated with breast milk suppression, weaning and stopping

If breast milk is not removed from the breast it can lead to more severe complications such as:

- Breast engorgement
- Blocked ducts
- Mastitis (Riordan and Wambach 2010).

7.0 Breast Engorgement

If bereaved mothers are often not informed that abrupt cessation of breastfeeding or expressing, it can lead to severe engorgement and extreme pain in the breasts (Moore and Catlin 2003). Although engorgement plays a role in rapidly stopping breast milk production (Cole 2012), it is much more painful way to stop breast milk production than gradually weaning production. If breast milk is not removed from the breast it can lead to more severe complications such as blocked ducts or mastitis (Riordan and Wambach 2010).

5.1 Symptoms of Breast Engorgement:

- Swollen and oedematous breasts
- Skin looks shiny and diffusely red
- Usually the whole of both breasts are affected
- Painful breasts
- Fever that usually subsides in 24 hours
- Nipples may become stretched tight and flat resulting in milk removal issues
- Breast milk does not flow well

5.2 Preventing Breast Engorgement

Welborn (2011) recommend that mothers experiencing breast discomfort or engorgement should use the following:

- Cold Compresses (ice pack rotating every 10 minutes to ease discomfort and swelling)
- Green Cabbage Leaf Compresses (uncooked and cooled, placed on the breasts under a supportive bra, changed 2 hourly, to relieve discomfort and decrease milk supply)
- Warm Showers (to help some milk come out, to relieve discomfort)
- Analgesia (to reduce swelling and pain)
- Express milk (to relieve discomfort)
- Wear a supportive bra (day and night to support heavy breasts)
- Maintain a good fluid intake
- Submerge nipples into a bowl of warm water (to relieve pressure without bringing in more milk)

8.0 Management of Expressed Breast Milk stored in OLCHC following the death of an infant

Bereaved mothers may not be aware of what to do with their breast milk following the death of their infant (Welborn 2012). If EBM is stored in OLCHC following the death of an infant, EBM storage option must be discussed with parents. These options include:

- Parents bring the EBM home and discards it (signing a disclaimer stating that OLCHC accepts no responsibility for what happens to the milk once it leave the premises of OLCHC) (Appendix 1)
- Parents can consider donating it to a Donor Milk Bank
- OLCHC staff can discard the EBM on the mothers behalf:
  - EBM should be defrosted and discarded down the sluice in the Sluice Room while adhering to the standard precaution of handling EBM (Infection Control Department 2013).
  - The empty EBM bottle is then discarded in the Healthcare Waste Bin (Yellow Bin), with the infants contact details erased to maintain patient confidentiality.
  - Written permission must be sought from the mothers in order to perform this (Appendix 2).

This discussion and final decision must be recorded on the 'Algorithm for Nursing Staff in OLCHC on the Death of a child in OLCHC' (OLCHC 2011) and filed in the infant's healthcare records, as good clinical records are essential to provide documentary evidence of the delivery of quality patient care (An Bord Altranais 2002, National Hospitals Office 2009). For further information refer to the End of Life Care Folder.

Note: OLCHC are unable to facilitate the banking of EBM

9.0 Donating breast milk

Donor human milk has been used in the United States for over 90 years (Miracle et al 2011). However, in

the past, after the death of an infant, breast milk was often disposed of without consideration of donation, as the public and healthcare providers were unaware of human milk banks (Arnold 2006, Woo and Spatz 2007). A Human Milk Bank is a service which screens, collects, processes, handles, tests, stores and dispenses human breast milk donated by nursing mothers (NICE 2010). Due to the increased awareness of such services, bereaved mothers with large amounts of breast milk either in storage or in production may wish to donate milk to a donor milk bank. The Human Milk Bank which supplies to the Republic of Ireland is called "Sperrin Lakeland Human Milk Bank", situated in Irvinestown, Co. Fermanagh. This bank is regulated by the United Kingdom Association of Milk Banks (UK AMB) Guidelines and overseen by the National Health Service (NHS) in the United Kingdom.

The primary motivation for some bereaved mothers who donate their breast milk is not to waste the milk they expressed, to help a sick or premature infant to survive or regain health or to still feel like a mother (Arnold and Borman 1996, Welborn 2012). If mothers are interested in donating milk, screening information should be given to mothers before they contact the milk bank, in order to prevent any disappointment is their milk is not acceptable (Pugmire 1999). On mothers contacting the milk bank, the milk bank will forward all related information and screening information. Parental information leaflet - 'Lactation support for parents following the death of your child in OLCHC' is available on the OLCHC Intranet.
Donors must meet criteria similar to those of the Irish Blood Transfusion (IBTS). They must:

- provide blood samples to the human milk bank, which are screened to out rule underlying disease or infection.
- Be deemed fit and well and are approved by their General Practitioner (GP) to donate their breast milk.

(More information on donors is available on *Sperrin Lakeland Human Milk Bank Information for Parents Leaflet*).

Mothers should also be made aware that a decision is not required immediately or even within a few weeks of their infant dying, although any stored milk will need to reach the milk bank within 2 -3 months of it being expressed (UKAMB 2013).

9.1 Medication and breast milk donation

Rarely does breastfeeding have to be disrupted when taking medication. Medication compatibility with breast milk should be checked to determine the compatibility of medication with breastfeeding or if a safer alternative can be found (Briggs et al 2005, Howland 2009, AAP 2012). However, medication compatibility for donating breast milk is more restrictive. Milk bank staff will be able to advise if specific medication will affect their recruitment as a donor (UKAMB 2013).

10.0 Discharge Support and Information

To ensure that practical accurate lactation support is provided by appropriately trained breastfeeding personnel (Begley et al 2008, McGorrian et al 2010, CDC 2012, LLL 2012). Mothers should be linked with breastfeeding support networks in their local community, such as Public Health Nurses (PHN). Bereaved mothers should also be made aware of local voluntary organisations and the availability of private lactation consultants as they offer ongoing support to complement local community public health services (HSE 2009, NICE 2006).

Information on voluntary breastfeeding organisations, support groups and private lactation consultants in their local area are available on the following websites:

- www.breastfeeding.ie
- www.cuidiu-ict.ie

- www.lalecheleagueireland.com
- www.friendsofbreastfeeding.ie
- www.alcireland.ie/

11.0 Trouble Shooting Guide

If breast milk is not removed from the breast it can lead to more severe complications such as blocked ducts or mastitis (Riordan and Wambach 2010). Mothers who are at risk of developing such milk production problems should be given accurate advice and support.

Mastitis
Mastitis is usually caused in the first place by milk staying in the breast, or milk stasis, which results in non-infective inflammation. Infection may occur if milk stasis persists.

Symptoms of mastitis:
- Hard swelling in the breast, with redness of the overlying skin
- Severe pain
- Usually only a part of one breast is affected
- Fever
- Feeling ill / flu like symptoms (feeling hot and cold with aching joints)

Common causes of mastitis
- Nipple damage
- Too long between pumping sessions
- Breasts are too full
- Incomplete removal of breast milk
- Unrelieved engorgement
- Blocked milk ducts
- Stopping or weaning breast milk production too quickly
- Overly tight bra/clothing around the chest area

Management of mastitis:
Improve the removal of milk and try to correct any specific cause that is identified. Advise bereaved mothers to:
- Continue to pump leave shorter gaps between pumping sessions
- Avoid leaving long gaps between pumping sessions
- Start pumping on the unaffected breast first to stimulate the oxytocin reflex and milk flow
- Apply warm compresses to the affected breast
- Use Analgesics/Antipyretics (non-steroidal anti inflammatory to reduce breast inflammation; or paracetamol)
- Rest to aid recovery

If symptoms are severe, or if no improvement is seen after 24 hours of improved milk removal, the treatment should then include an antibiotic. However, antibiotics will not be effective without improved removal of milk (WHO 2009)

Blocked Ducts
Blocked ducts will almost always resolve spontaneously within 24 - 48 hours after onset, even without any treatment at all

Symptoms of blocked ducts:
A tender, hot, localised lump in one breast, with redness in the skin over the lump

Common Cause of blocked ducts:

- Failure to remove milk from part of the breast
- Tight / constricting clothing
- Duct to one part of the breast is blocked by thickened milk
- Trauma to the breast

Management of blocked ducts:

Improve removal of milk and correct the underlying cause:-

- Continue to express on the affected breast
- Use breast compression while pumping by positioning their hand between the rib cage and the blocked duct and apply pressure.
- Apply warm compresses
- Gentle breast massage over the lump and towards the nipple while breastfeeding (a string of the thickened milk comes out through the nipple, followed by a stream of milk and rapid relief of the blocked duct)

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13.0 Appendix 1:

OUR LADY'S CHILDREN'S HOSPITAL
CRUMLIN
Dublin 12

Tel: 01 409 6100
Fax: 01 409 8873
Website: www.olchc.ie

Ospidéal Mhuire na Leanaí, Cromghlinn
Our Lady's Children's Hospital, Crumlin

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: _____

13.1 Appendix 2:

OUR LADY'S CHILDREN'S HOSPITAL
CRUMLIN
Dublin 12

Tel: 01 409 6100
Fax: 01 409 8873
Website: www.olchc.ie

Addressograph Label:

Disclaimer for Expressed Breast Milk leaving OLCHC

I _____ (mother of _____, HCR No:_____) understand and accept that OLCHC accepts no responsibility for what happens to my expressed breast milk once it leave the premises of OLCHC.

I have received a copy of this completed disclaimer.

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: _____

Guidelines for OLCHC employees wishing to continue breastfeeding their infants on return to employment in OLCHC		
Version Number		
Date of Issue		
Reference Number		
Review Interval	*3 yearly*	
Approved By *Name: Fionnuala O' Neill* *Title: Chairperson Nurse Practice Committee*	*Signature*	*Date* 18/06/13
Authorised By *Name: Geraldine Regan* *Title: Director of Nursing*	*Signature* Geraldine Regan	*Date* 18/06/13
Author/s	*Name: Elaine Harris* *Title: Clinical Placement Coordinator*	
Location of Copies	*On Hospital Intranet and locally in department*	

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April 2016		

Document Change History	
Change to Document	***Reason for Change***

CONTENTS

1.0 Introduction

Our Lady's Children's Hospital Crumlin (OLCHC) believes that breastfeeding is the healthiest way for a woman to feed her infant. Breastfeeding is important for the health and well-being of both mothers and children. We encourage and support employees in their efforts to combine working and breastfeeding. OLCHC support hospital staff who choose to breastfeed in accordance with the Breastfeeding Policy Statement (OLCHC 2012a). OLCHC encourage all of our pregnant and postpartum employees to consider breastfeeding their children as a means of promoting the health of both child and mother. This guideline reflects OLCHC's commitment to staff.

2.0 Definition of breastfeeding

Many definitions exist for breastfeeding with WHO's (1996, 2002) definition leading the way by defining it as children receiving breast milk directly from the breast or indirectly via expression of breast milk exclusively until 6 months of age and supplemental diet with continued breastfeeding until 2 years or older. Government of Ireland (2004) define breastfeeding as 'breastfeeding a child or expressing breast milk and feeding it to a child immediately or storing it for the purpose of feeding it to the child at a later time'.

3.0 Definitions of employee who is breastfeeding

Legislation in Ireland defines "an employee who is breastfeeding" as any employee who is breastfeeding within 6 months (26 weeks) of giving birth and has informed her employer accordingly.

4.0 Purpose of the guideline

The purpose of this guideline is to provide guidance to OLCHC staff wishing to breastfeed their infant(s) on return to employment in OLCHC.

5.0 Benefits of breastfeeding for the infant: (this is not an exhaustive list)

Breast milk is associated with long and short term health benefits and has been shown to:

- Reduce the risk of developing:
  - GI infections
  - Respiratory Infections
  - Otitis Media
  - Juvenile onset diabetes
  - Obesity
  - Celiac Disease (when gluten is introduced while breastfeeding)
  - Clinical Asthma, Atopic Dermatitis, and Eczema
  - Dental Caries
  - Leukemia
  - Childhood Inflammatory Disease
  - SIDS
- Promote brain growth and cognition
- Enhance intellectual and visual development
- Protect preterm infants against infection
- Improve GI function and maturity
- Prime the GI tract to protect against microbial invasion

- Improve glucose tolerance
- Stimulate the maturity of the immune system
- Reduced mortality rate among preterm and low birth weight infants from necrotising enterocolitis (NEC)

(Landers 2003, King & Jones 2005, Henderson et al 2007, Dyson et al 2008, Lee et al 2009, American Academy Pediatrics (AAP) 2012)

6.0 Benefits of breastfeeding for the employer: (this is not an exhaustive list)

Employers also stand to benefit when their female employees breastfeed:

- Less staff turnover and increased retention of skilled workers after the birth of their children
- Reduced absenteeism by parents of breastfed infants. Breastfed infants are more resistant to illness
- Lower and less health care costs because breastfed infants are healthier
- Higher job productivity,
- Higher employee satisfaction and morale
- Higher employee commitment
- Enhanced loyalty among employees
- Added recruitment incentives for women
- Creates a positive corporate image of the organisation within the community

HSE (2013b)

7.0 Legislation surrounding breastfeeding mothers returning to work

The Maternity Protection Acts 1994 and Amendment Act 2004 entitle breastfeeding employees who have given birth within the previous 26 weeks to receive a one hour:

- paid breastfeeding/lactation breaks where **lactation facilities** are provided

or

- reduction of working hours without a loss of pay for breastfeeding where **no lactation facilities** are provided.

As OLCHC provides lactation facilities, OLCHC breastfeeding employees are entitled to a lactation break. This lactation break is a non accumulative paid break (in addition to meal breaks) that can be broken into a 60 minute break X 1, a 30 minute breaks X 2 or a 20 minute breaks X 3 per 8 hour working day. The regulations provides for a pro-rata entitlement for employees that are part-time or not working an eight hour day. While at the discretion of the employee but without prejudicing employee entitlement to breastfeed in the work place, provisions should be made by the employer in conjunction with the employee should negotiate the number and frequency of breastfeeding breaks to which an employee is entitled. Employees returning after this time may only be provided with lactation breaks, subject to discussion with their Manager and departmental service needs. The need for lactation breaks does not

apply to non breastfeeding employees as in order to sustain breastfeeding it is vital that mothers either breastfeed or express breast milk at regular intervals every day. If they are not able to do this, their milk supply will be jeopardised.

A breastfeeding employee returning to work within 26 weeks is also supported through Health and Safety legislation (Government of Ireland 2007). Therefore, an employer is required to must assess the workplace for risks to breastfeeding mothers returning to work.

8.0 Responsibilities

The following have responsibilities in relate to this entitlement:

- Employee that wishes to exercise their right to breastfeed in the work place
- Employee who are granted their right to breastfeed in the work place
- Employer

8.1 Responsibilities of Employee that wishes to exercise their right to breastfeed in the work place:

Employee that wishes to exercise their right to breastfeed in the work place:

- must notify their line manager /employer (in writing) of their intention to exercise this entitlement to breastfeed must confirm this information at least 4 weeks before the intended return date to employment from maternity leave. (If an employee does not provide written notice of their return to work, this could affect their rights as contained in the Act).

8.2 Responsibilities of Employee who are granted their right to breastfeed in the work place:

Once permission is granted by OLCHC to lactating mothers to exercise this right, the breastfeeding employee must/can:

- Negotiate and agree at local level the management of lactation breaks prior to their commencement
- Contact the Nurses Home Coordinator (nurses.home@olchc.ie) as per OLCHC (2012b) to book access to the Staff Lactation Room. Access is then given to the breastfeeding employee for a 3 month period at a time
- Pay €10 deposit to the Nurses Home Coordinator for use of the lactation facilities, which is reimbursed when the employee no longer requires these facilities
- Use the designated Staff Expressing Room (Room 29, 3rd Floor, Nurses Home) for the purpose of breastfeeding or expressing breast milk during their working hours
- Respect the privacy and security of the room and of those who use it

- Respectfully coordinate their use with other mothers using the room
- Log their use of the room in the record book provided
- Ensure the room is clean as they depart
- Take responsibility for their infant/child while being breastfed directly in OLCHC
- Take responsibility for the labelling and storage of their own breast milk
- Take responsibility for the care and maintenance of their own equipment (e.g. breast pump)
- Notify their employer at the earliest practical time in writing of when they want to cease their entitlement to lactate

8.3 Responsibilities of Employer

It is the responsibility of the employees Direct Line Manager to:

- Comply with legislation, i.e. Maternity Protection (Amendment) Act 2004
- Inform all staff of the availability of agreed lactation breaks for the breastfeeding employee and the organisation/hospital's support of same
- Inform the breastfeeding employee of the facilities available
- Reply to the request for lactation breaks within two weeks of receiving it
- Perform a risk assessment prior to the lactating employee returning to work. If a risk is established, the employer must put in place measures to remove the risk. If it is not possible for the employer to do this, the employee must be granted suitable alternative work. If the employee cannot be granted suitable alternative work, then they must be granted Health and Safety Leave (Government of Ireland 2007, OLCHC 2012c)
- Negotiate and agree the management of such lactation breaks with the breastfeeding employee
- Inform the Human Resource Department of the planned return to work of the breastfeeding employee
- Ensure that all relevant staff are informed of the necessary lactation break needs
- Ensure that the return to work breastfeeding employee is supported

9.1 Further Supportive and Informative Employee and Employer Literature

To support this document 'Your Maternity Leave Rights explained: Plain English Guide to the Maternity Protection Acts 1994–2004' published by the Equity Authority (2011) and 'Breastfeeding and Work' published by the HSE (2013) are two information booklets that may assist and provide further advice for employees and lactating employee returning to the workplace

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Our Lady's Children's Hospital, Crumlin
Nursing Careplan 4: Breastfeeding
(If performed in conjunction with expressing breast milk, please refer to Care Plan 4 a: Expressing Brest Milk)

Care plan 4		**Goals** **Issue date: June 2013** **Review date: June 2016**	
……. Is being breastfed		**1.** …….. mother will receive consistent and appropriate breastfeeding advice and support **2.** …….. mother will be cared for while breastfeeding **3.** …….. will continue to breastfeed **4.** …….. will be introduced to complementary foods safely **5.** …….. mother is aware of the community breastfeeding support available prior to discharged	
Commenced, date, time and signature	No	**Nursing Intervention** (in conjunction with OLCHC's Guideline on Breastfeeding (2013)	Discontinued, date, time and signature
	1a	**Breastfeeding advice and information (Tick when performed√)**	
		Explain the benefits of providing breast milk to infants **Give** mothers -'Breastfeeding Log' □ - Written Breastfeeding Information □ **Teach** mother how to: - Stimulate the milk ejection reflex □ - Perform Kangaroo Care □ - Recognise the infants feeding cues □ - Position the infant for feeds □ - Recognise a good latch □ - Recognise a good suck □ - Release the infants latch □ - Recognise that infant is feeding well □ - Hand express □	
	1b	**Breastfeeding support**	
		Support mothers in their choice of feeding Advise mothers on the importance of their own health and nutrition Facilitate where possible that mothers have access to meal breaks, water, sleep and rest	
	2a	**Breastfeeding Facilities (Tick the facilities used by the mother√)**	
		Single cubicle □, Screen □, 'Do Not Disturb' Sign □, Curtains □, Bed for mother □, Expressing Room □	
	2b	**Minimising disturbance to breastfeeding**	
		Do not interrupt the infant and mother when breastfeeding Arrange all procedures, examination etc around breastfeeding where possible	

Patient Name……..
HCR Number……..
Ward……

Our Lady's Children's Hospital, Crumlin
Nursing Careplan 4: Breastfeeding
(If performed in conjunction with expressing breast milk, please refer to Care Plan 4 a: Expressing Brest Milk)

	2c	**Use of artificial bottles, teats or soothers**	
		Avoid the use of artificial bottles, teats or soothers, useless clinically indicated **Inform** parents of the impact of soothers on breastfeeding -Yes □ - No □ Document if parents wish their infant to use a soother in the nursing assessment sheet Avoid giving infants food or drink other than breast milk, unless medically indicated. Document if alternative feeding methods are clinically indicated: Cup □, Bottle □, Enteral feeding tubes □ …Document Type…, Syringe □, Dropper □, Other: ……..	
	2d	**Frequency**	
		Mothers should breastfeed: - If newborn: 8-10 times in 24hrs, 5-6hrly (night) at least and 'On demand' □ - If not a newborn: at usual breastfeeding times, and 'On demand' □ - If (re)establishing breastfeed: continue expressing until breastfeeding established □ 'Rooming-in' should be facilitated where possible	
	3	**Introducing complementary/solid foods**	
		Commence the introduction of complementary /solid food from 6 months onwards while continuing to breastfeed Mothers can continue to breastfeed until infants are at least 2years of age	
	4	**Discharge Supports**	
		Inform the Public Health Nurse of all breastfeeding infants on discharge Inform mothers of : - Voluntary Breastfeeding Support Networks at: www.breastfeeding.ie/ □ - Private Lactation Consultant Supports at: www.alcireland.ie/ □	

Patient Name……..
HCR Number……..
Ward……

Our Lady's Children's Hospital, Crumlin
Nursing Care Plan 4a: Expressing Breast Milk (EBM) and Donor Breast Milk (DBM)
(If performed in conjunction with breastfeeding, please refer to Care Plan 4 : breastfeeding)

Care plan 4a		**Goals** **Issue date: March 2013** **Review date: March 2016**	
……. Is receiving EBM/DBM		**1.** ……. mother will be supported with accurate advice and education to establish and continue expressing breast milk for their infant **2.** ……. EBM/DBM will be handled safely and appropriately **3.** ……. will receive (fortified) EBM/DBM in a safe manner **4.** ……. mother will be supported to (re)establish breastfeeding their infant when clinically indicated **5.** ……. mother wishes to wean expressing **6.** ……. mother has support for expressing and breastfeeding when discharged	
Commenced, date, time and signature	**No**	**Nursing Intervention** (in conjunction with OLCHC's Guideline on EBM (2012), DBM Folder, Guidelines on Lactation Support for mothers who's child has died (2013) and End of Life Care Resource Folder)	Discontinued, date, time and signature
	1a	**Expressing support, advice and information (Tick when performed√)**	
		Explain the benefits of providing breast milk to infants □ **Give** mothers -'Expressing EBM Log' □ - Written Expressing Information □ **Teach** mother how to: - Stimulate the milk ejection reflex □ - Perform Kangaroo Care □ - Express with a pump using HOP* □ - Hand express □ - Assemble expressing equipment □ - Clean equipment □ - Use EBM Labels □ - Store EBM □ - Use Non-nutritive Suck (NNS) □ - Perform Mouth Care with EBM □ **Perform** Breast Shield Assessment: Yes □ No □ **Expression type chosen** by mother: - Hand Expressing □ - Breast pump expressing □ - Double Pumping □ - Single Pumping □	
	1b	**Expressing Facilities (Tick the facilities used by the mother√)**	
		Single cubicle □, Screen □, 'Do Not Disturb' Sign □, Curtains □, Bed for mother □, Expressing Room □, Parents accommodation □.	
	2	**Safe handling of EBM**	
		Store EBM/DBM for the appropriate length of time in the appropriate storage unit Defrost sufficient volumes of EBM/DBM in the EBM fridge EBM/DBM is defrosted when free of crystals (not when taken from the freezer) Do not re-freeze EBM/DBM once thawed. EBM/DBM bottles should only be opened once and all decanted at this time Discard empty EBM bottles in the Healthcare Waste Bin (Yellow Bin)	
	3a	**Feeding infants (fortified) EBM/DBM (fresh and defrosted)/DBM (defrosted)**	
		2 nurses must check the (fortified) EBM/DBM (one must be registered) for the correct: • Milk • Infant's name • Infant's Date of birth • Within date • Infant's name band • Infant's feeding sheet Agitate gently prior to decanting and 1-2hrly during continuous feeds Add fortification as per dietician prescription at room temperature …… Label with patient ID, time/ date of expiry and store in infants EBM box in EBM fridge **Administer EBM/DBM** via Cup □, Enteral feeding tubes □ …Type…, Bottle □, Syringe □, Dropper □, Supplementer □, Other: …….. Place enteral feeding syringes vertically in BBraun pumps Document in infants Intake and Output Sheet	

Created by E Harris (CPC) August 2012
*HOP - Hands on Pumping *HMB - Human Milk Bank

Patient Name……..
HCR Number……..
Ward……

Our Lady's Children's Hospital, Crumlin
Nursing Care Plan 4a: Expressing Breast Milk (EBM) and Donor Breast Milk (DBM)
(If performed in conjunction with breastfeeding, please refer to Care Plan 4 : breastfeeding)

	3b	**Maternal Medication**	
		Ask mothers if they are taking medication: (either recreational 'over the counter' or prescribed) Determine Medication/EBM compatibility with the Pharmacy Department & identify safer alternative if required	
	3c	**Information/Ordering/Labeling DBM for infants**	
		Written - DBM Information Given □ Order DBM (type & amount) by: **Phone** and **Fax** or **Email** (**DBM Prescription Form**) by 1pm Document DBM batch numbers in infant's Intake & Output Sheets Document infant's addressograph label & administration date on both labels When DBM bottle is empty, the DBM label: - Top label - collected by ward staff & returned by Neonatal CNS to the HMB* - Bottom label - filed into the infant's HCR (Doctors continuation notes) Report all DBM disposal due to breakage or loss (expiration of storage) to HMB*	
	3d	**Pump/equipment maintenance**	
		- **Kit** (Single person use) Next due: ...Change monthly… **- Pump** (Multi Users) Cleaned as per Expressing & Infection Control Guidelines **- EBM Freezer/Refrigerator** - Daily temperature monitoring	
	3e	**Misappropriation of EBM/DBM**	
		Stop feed immediately, and aspirate the enteral feeding tube if possible Notify the parents/guardians involved, and HMB if DBM involved Follow the Occupational Blood Exposure Guidelines Arrange blood screening for both mothers and infants involved Complete an Incident/Near Miss Report Form.	
	4	**Transition from expressing to breastfeeding directly**	
		Assess infants readiness to breastfeed directly **Commence the following to stimulate rooting, latching and sucking**: -Kangaroo Care □ -Mouth Care with EBM □ -Offer Non-Nutritive Suck (NNS): Parent informed of NNS impact with soother -Yes □ - No □ Gloved Finger □ Offer empty breast □ Soother □ .. Clinical indication for soother... -Rub EBM on infant's lips □ -Offer EBM/DBM drops PO - direct from breast □ -indirect □	
	5	**Weaning the expressing process**	
		Wean gradually (reduce by a pumping session every 2-3days) & express to comfort as needed without causing discomfort Mothers need to choose feeding alternatives: -Milk formula if <1 year □Type: _____ -Regular full fat milk if >1 year □ - Other: _____ -Type of feeding equipment to introduce: _____ Give mother: 'How to prepare your baby's bottles' leaflet □ (available at www.hse.ie) On the death of a child whose mother is expressing: wean as above, Give verbal advice on: EBM storage (discard □/bring home□), information on EBM donation □	
	6	**Discharge Supports**	
		Inform the Public Health Nurse of all infants receiving EBM/DBM on discharge □ Inform mothers of : - Voluntary Breastfeeding Support Networks at: www.breastfeeding.ie/ □ - Private Lactation Consultant Supports at: www.alcireland.ie/ □ - Expressing equipment: Local pharmacy (buy) and Medela (buy/rent): www.medicare.ie □	

Created by E Harris (CPC) August 2012
*HOP - Hands on Pumping *HMB - Human Milk Bank

Patient Name……..
HCR Number……...
Ward……

Guidelines for OLCHC employees wishing to continue breastfeeding their infants on return to employment in OLCHC		
Version Number		
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Approved By *Name: Fionnuala O' Neill* *Title: Chairperson Nurse Practice Committee*	*Signature*	*Date* 18/06/13
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CONTENTS

1.0 Introduction

Our Lady's Children's Hospital Crumlin (OLCHC) believes that breastfeeding is the healthiest way for a woman to feed her infant. Breastfeeding is important for the health and well-being of both mothers and children. We encourage and support employees in their efforts to combine working and breastfeeding. OLCHC support hospital staff who choose to breastfeed in accordance with the Breastfeeding Policy Statement (OLCHC 2012a). OLCHC encourage all of our pregnant and postpartum employees to consider breastfeeding their children as a means of promoting the health of both child and mother. This guideline reflects OLCHC's commitment to staff.

2.0 Definition of breastfeeding

Many definitions exist for breastfeeding with WHO's (1996, 2002) definition leading the way by defining it as children receiving breast milk directly from the breast or indirectly via expression of breast milk exclusively until 6 months of age and supplemental diet with continued breastfeeding until 2 years or older. Government of Ireland (2004) define breastfeeding as 'breastfeeding a child or expressing breast milk and feeding it to a child immediately or storing it for the purpose of feeding it to the child at a later time'.

3.0 Definitions of employee who is breastfeeding

Legislation in Ireland defines "an employee who is breastfeeding" as any employee who is breastfeeding within 6 months (26 weeks) of giving birth and has informed her employer accordingly.

4.0 Purpose of the guideline

The purpose of this guideline is to provide guidance to OLCHC staff wishing to breastfeed their infant(s) on return to employment in OLCHC.

5.0 Benefits of breastfeeding for the infant: (this is not an exhaustive list)

Breast milk is associated with long and short term health benefits and has been shown to:

- Reduce the risk of developing:
  - GI infections
  - Respiratory Infections
  - Otitis Media
  - Juvenile onset diabetes
  - Obesity
  - Celiac Disease (when gluten is introduced while breastfeeding)
  - Clinical Asthma, Atopic Dermatitis, and Eczema
  - Dental Caries
  - Leukemia
  - Childhood Inflammatory Disease
  - SIDS
- Promote brain growth and cognition
- Enhance intellectual and visual development
- Protect preterm infants against infection
- Improve GI function and maturity
- Prime the GI tract to protect against microbial invasion

- Improve glucose tolerance
- Stimulate the maturity of the immune system
- Reduced mortality rate among preterm and low birth weight infants from necrotising enterocolitis (NEC)

(Landers 2003, King & Jones 2005, Henderson et al 2007, Dyson et al 2008, Lee et al 2009, American Academy Pediatrics (AAP) 2012)

6.0 Benefits of breastfeeding for the employer: (this is not an exhaustive list)

Employers also stand to benefit when their female employees breastfeed:

- Less staff turnover and increased retention of skilled workers after the birth of their children
- Reduced absenteeism by parents of breastfed infants. Breastfed infants are more resistant to illness
- Lower and less health care costs because breastfed infants are healthier
- Higher job productivity,
- Higher employee satisfaction and morale
- Higher employee commitment
- Enhanced loyalty among employees
- Added recruitment incentives for women
- Creates a positive corporate image of the organisation within the community

HSE (2013b)

7.0 Legislation surrounding breastfeeding mothers returning to work

The Maternity Protection Acts 1994 and Amendment Act 2004 entitle breastfeeding employees who have given birth within the previous 26 weeks to receive a one hour:

- paid breastfeeding/lactation breaks where **lactation facilities** are provided

or

- reduction of working hours without a loss of pay for breastfeeding where **no lactation facilities** are provided.

As OLCHC provides lactation facilities, OLCHC breastfeeding employees are entitled to a lactation break. This lactation break is a non accumulative paid break (in addition to meal breaks) that can be broken into a 60 minute break X 1, a 30 minute breaks X 2 or a 20 minute breaks X 3 per 8 hour working day. The regulations provides for a pro-rata entitlement for employees that are part-time or not working an eight hour day. While at the discretion of the employee but without prejudicing employee entitlement to breastfeed in the work place, provisions should be made by the employer in conjunction with the employee should negotiate the number and frequency of breastfeeding breaks to which an employee is entitled. Employees returning after this time may only be provided with lactation breaks, subject to discussion with their Manager and departmental service needs. The need for lactation breaks does not

apply to non breastfeeding employees as in order to sustain breastfeeding it is vital that mothers either breastfeed or express breast milk at regular intervals every day. If they are not able to do this, their milk supply will be jeopardised.

A breastfeeding employee returning to work within 26 weeks is also supported through Health and Safety legislation (Government of Ireland 2007). Therefore, an employer is required to must assess the workplace for risks to breastfeeding mothers returning to work.

8.0 Responsibilities

The following have responsibilities in relate to this entitlement:

- Employee that wishes to exercise their right to breastfeed in the work place
- Employee who are granted their right to breastfeed in the work place
- Employer

8.1 Responsibilities of Employee that wishes to exercise their right to breastfeed in the work place:

Employee that wishes to exercise their right to breastfeed in the work place:

- must notify their line manager /employer (in writing) of their intention to exercise this entitlement to breastfeed must confirm this information at least 4 weeks before the intended return date to employment from maternity leave. (If an employee does not provide written notice of their return to work, this could affect their rights as contained in the Act).

8.2 Responsibilities of Employee who are granted their right to breastfeed in the work place:

Once permission is granted by OLCHC to lactating mothers to exercise this right, the breastfeeding employee must/can:

- Negotiate and agree at local level the management of lactation breaks prior to their commencement
- Contact the Nurses Home Coordinator (nurses.home@olchc.ie) as per OLCHC (2012b) to book access to the Staff Lactation Room. Access is then given to the breastfeeding employee for a 3 month period at a time
- Pay €10 deposit to the Nurses Home Coordinator for use of the lactation facilities, which is reimbursed when the employee no longer requires these facilities
- Use the designated Staff Expressing Room (Room 29, 3rd Floor, Nurses Home) for the purpose of breastfeeding or expressing breast milk during their working hours
- Respect the privacy and security of the room and of those who use it

- Respectfully coordinate their use with other mothers using the room
- Log their use of the room in the record book provided
- Ensure the room is clean as they depart
- Take responsibility for their infant/child while being breastfed directly in OLCHC
- Take responsibility for the labelling and storage of their own breast milk
- Take responsibility for the care and maintenance of their own equipment (e.g. breast pump)
- Notify their employer at the earliest practical time in writing of when they want to cease their entitlement to lactate

8.3 Responsibilities of Employer

It is the responsibility of the employees Direct Line Manager to:

- Comply with legislation, i.e. Maternity Protection (Amendment) Act 2004
- Inform all staff of the availability of agreed lactation breaks for the breastfeeding employee and the organisation/hospital's support of same
- Inform the breastfeeding employee of the facilities available
- Reply to the request for lactation breaks within two weeks of receiving it
- Perform a risk assessment prior to the lactating employee returning to work. If a risk is established, the employer must put in place measures to remove the risk. If it is not possible for the employer to do this, the employee must be granted suitable alternative work. If the employee cannot be granted suitable alternative work, then they must be granted Health and Safety Leave (Government of Ireland 2007, OLCHC 2012c)
- Negotiate and agree the management of such lactation breaks with the breastfeeding employee
- Inform the Human Resource Department of the planned return to work of the breastfeeding employee
- Ensure that all relevant staff are informed of the necessary lactation break needs
- Ensure that the return to work breastfeeding employee is supported

9.1 Further Supportive and Informative Employee and Employer Literature

To support this document 'Your Maternity Leave Rights explained: Plain English Guide to the Maternity Protection Acts 1994–2004' published by the Equity Authority (2011) and 'Breastfeeding and Work' published by the HSE (2013) are two information booklets that may assist and provide further advice for employees and lactating employee returning to the workplace

10.0 References

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Addressograph Label:

Conditions for Mothers Breastfeeding in *Our Lady's Children's Hospital, Crumlin (OLCHC)*

OLCHC believe that breastfeeding is the healthiest way for a woman to feed her baby. OLCHC supports mothers who choose to do so subject to the following conditions and asks that you accept these conditions by signing your name to this form. Should you have any queries whatsoever in relation to the form please contact a staff member.

1. The hospital accepts no responsibility for the condition *and subsequent use of* any expressed milk taken by *me* on *my* departure from the hospital;
2. Any expressed milk left by *me* on departure from the hospital shall be disposed of by the hospital at its sole discretion;
3. The health and safety of breastfed siblings shall be *my* sole responsibility *during my time of residence in the hospital*.
4. There are risks associated with breastfeeding by resident mothers of the siblings of patients in the hospital. These are mainly of infection. The hospital takes every precaution to minimise such risks. However, resident mothers choosing to breastfeed siblings of patients do so of their own choice and awareness of the risks. *I understand the risks of (insert child's name) being resident in the hospital, which have been fully explained to me*.

I acknowledge and agree to the above conditions for breastfeeding in OLCHC.

Note:
This completed form will be *filed* in your child's healthcare records in the nursing section

Mother's Name (Block Capitals):_____ Mother's Signature:_____

Nursing Staff Name/
Title: (Block Capitals):_____ Nursing Staff Signature:_____

Date: _____

Copy given to parents □