Bottle Feeding UHL Obstetric Guideline

University Hospitals of Leicester NHS
NHS Trust

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1. Introduction and Who Guideline applies to

This guideline is for all maternity staff involved with the care of pregnant women/birthing people, new parents and babies in order to support them in their feeding choice. In line with the NICE Clinical Guideline 37 this policy meets the minimum requirements of the UNICEF Baby Friendly Initiative. This guideline covers;

- What formula is and types of formula
- WHO Code unicef.org.uk Babyfriendly international code
- Antenatal Information about formula feeding
- Initiation of bottle feeding where a mother chooses not to breastfeed or is advised to bottle feed for clinical or medical reasons
- Provision of Artificial Formula in the Maternity Unit
- Preparation, storage and transport of a formula feed
- Sterilisation of equipment
- Feeding Challenges and feeding volumes

Related UHL documents:

Infant Feeding Policy UHL LLR and Childrens Centre Services
Breastfeeding - Guideline to Support Successful Feeding of Healthy Term Babies
Thermal Protection of the Newborn UHL Obstetric and Neonatal Guideline
Weighing of Well Term Babies UHL Obstetric Guideline
Prevention of management of symptomatic or significant hypoglycaemia
Postnatal Care UHL Obstetric Guideline
Safer Sleep and Reducing the Risk of Sudden Infant Death Syndrome LPT Midwifery and Neonatal Guideline (LPT guideline but also on Sharepoint)

2. Guideline Standards and Procedures

2.1 What is Infant Formula?

- Reconstituted powdered infant formulas are considered to be a food class of high risk because of the susceptibility of the infant population to enteric bacterial pathogens, severe response to enterotoxins and increased mortality (Rowan and Anderson, 1998). Powdered infant formula is not a sterile product and once reconstituted provides an ideal growth medium for spoilage and

pathogenic bacteria. The latter includes E. sakazakii (Cronobacter spp.), a relatively rare cause of invasive infection with high death rates in neonates (Himelright et al. 2002). Recent outbreak of coroabactorin USA https://www.cdc.gov/cronobacter/outbreaks/infant-formula.html

- Infant feeding bottles and components can act as transfer sites for pathogenic microorganisms. Therefore, effective cleaning and sterilisation/disinfection of feeding bottle and components is important to prevent contamination of the formula as it is reconstituted by the caregiver prior to feeding. **FSA Powdered Infant Formula Research B130087**

- The Department of Health and the FSA recommend making up powder formula feeds using fresh boiled water of **at least 70°C** as this will reduce the risk of babies becoming unwell with infections like sickness or diarrhoea. Any harmful bacteria present will be killed at this temperature.

- Feeds should be made individually as required and not stored as this can lead to the growth of harmful bacteria.

- Most infant formulas are made of cow's milk that has been modified with added ingredients such as lactose, carbohydrates, vegetable and/or fish oils, vitamins and minerals to ensure that it is adequate to meet babies' nutritional needs.

- All first formula milks available in the UK have to be of a similar composition to comply with EU compositional requirements this ensures that they are all nutritionally adequate for infants.

- There is no evidence that any brand or type of formula is closer to breastmilk than any other. The International Code of Marketing of Breastmilk Substitutes (WHO Code) requires that as a health care professional you should not recommend any particular brand.

2.2 Types of Infant Formula

- First milk is whey based so easier for babies to digest and recommended for the first year. This is adequate to meet babies' nutritional needs for the first six months. At six months it is advised to introduce appropriate solid foods. Full fat cow's milk can be introduced at one year of age and formula can be stopped at this time.

- Other types of milk described as suitable from birth such as ones for a hungry baby or for a baby who has colic known as 'comfort milk' have no evidence to support that they have any benefit. If parents wish to use any milk other than first milk this should be discussed and evidence based information provided to enable an informed choice. Parents can be directed to https://www.firststepsnutrition.org/parents-carers

- There are Vegetarian and Halal first milks available; for updated information go to https://infantmilkinfo.org/faq/faq-types-of-infant-milk-and-ingredients/

- Follow-on-milks are described as suitable for babies from six months of age and can look very similar to first milks. This is a concern as follow-on milks should never be used for babies under six months. It is not necessary to move babies onto these milks and they should remain on first milk for the first 12 months

2.3 International Code of Marketing Breastmilk Substitutes

- It is important that all staff adhere to 'The Code' and professional codes of practice should be considered by health workers in the context of formula milk marketing.
- Only evidence-based information should be provided for parents from unbiased sources, not

from companies with a commercial interest.

- In order to be awarded Unicef Baby Friendly Accreditation, a healthcare setting must restrict the influence of commercial interests related to infant feeding, preventing advertising of formula milk, bottles, teats or solid food for babies under six months old to mothers and their families. The provision of factual information about formula and bottle feeding and the introduction of solid foods is *not* restricted in a Baby Friendly setting.
- The Code prohibits all promotion of milks and equipment related to bottle feeding and sets out requirements for labelling and information on infant feeding. Any activity that undermines breastfeeding also violates the aim and spirit of the Code. The Code and its subsequent resolutions are intended as a minimum requirement in all countries and are written into the United Nations Convention on the Rights of the Child, to which the UK is a signatory.

2.4 Antenatal Period

- Women and birthing people will receive a conversation in the antenatal period about infant feeding. This will support them to make an informed choice. This should be based upon the **"key conversations in pregnancy"** document within the health record and should reflect the focus on relationship building, the value of breastfeeding and practical ways to get feeding off to a good start.
- Women/birthing people should routinely be given the opportunity to have a discussion with their Community Midwife around feeding and caring for their baby
- All conversations about feeding should be centred around individual parents' needs. Some will find it helpful to have a general discussion about breast and formula feeding, while others will have specific questions which they want to discuss.
- Whatever the questions, it is important that health workers give only evidenced based information and that they are steadfast in their messaging around the superiority of breastfeeding for the health and wellbeing of mother and baby.
- It is also important that health workers do not undermine breastfeeding by implying that it is inherently hard and success uncertain. Challenges with breastfeeding that are discussed should be in the context of prevention and solutions if things do go wrong.
- Parents at the end of the conversation should feel well informed and supported to make a decision that is right for them.
- Discussions regarding infant feeding can take place as part of a parent education class and the principles as outlined above also apply to a group setting.
- The 'Getting to Know your Baby' 2-hour Antenatal Session provided by the Community Teams should be offered as part of routine Antenatal care. Women, birthing people and partners should be attended from 16/40.
- Parents do not need to be denied information about formula feeding. Discussing the importance of using first or new-born milks until the baby is a year old and responsiveness for bottle feeding (e.g. limiting the people who feed the baby with birthing parent giving most feeds themselves in the early weeks, pacing feeds and not overfeeding, making feeds up one at a time, etc.) will give a realistic picture of bottle feeding and so aid informed decision making. However, it is still recommended that facilitators avoid demonstrations on how to make up formula feeds in the antenatal period. These are ineffective and reinforce bottle feeding as the cultural norm, by giving the impression that everyone needs this information, and implies all babies will be bottle fed at some point.

2.5 Subsequent feeding

Responsive formula feeding There is limited research on which to base information on responsive formula feeding 'Although true responsive feeding is not possible when bottle feeding, as this can result in overfeeding, the mother-baby relationship will be helped if mothers are supported to tune in to feeding cues and to hold their babies close during feeds. Offering the bottle in response to feeding

cues, gently inviting the baby to take the teat, pacing the feeds and avoiding forcing the baby to finish the feed can all help to make the experience as acceptable and stress-free for the baby as possible, as well as reducing the risk of overfeeding. Supporting parents to give most of the feeds themselves (particularly in the early days and weeks), will help them to build a close and loving relationship with their baby and help their baby to feel safe and secure.' **Unicef UK Infosheet: | Responsive Feeding**

All parents will be given the following information about how to assist their baby bottle feed effectively:

- The importance of responsive feeding. The term responsive feeding (previously referred to as demand or baby led feeding) is used to describe a feeding relationship which is sensitive, reciprocal and about more than nutrition. The "First Steps Nutrition" information sheet on Responsive Feeding is included in the "bottle feeding pack" and can be accessed on www.leicestermaternity.nhs.uk. or https://www.firststepsnutrition.org/parents-carers
- Young babies feel more secure when they receive most feeds from their parents rather than having lots of different people involved. This facilitates oxytocin release and reduces stress hormones (cortisol) which supports neurological development.
- How to recognise their baby's feeding cues and the importance of responding to these. They should be informed that it is not possible to "spoil" a baby and be encouraged not to leave their baby to cry for prolonged periods which will cause a rise in stress hormones. Responding to their baby's need for comfort will support the baby's neurological development.
- The importance of holding their baby close to their body in a fairly upright position when feeding their baby. They should be encouraged to offer feeds in skin contact and to engage in eye contact, talking to their baby to increase oxytocin levels and thus support their baby's brain development.
- How to hold the bottle horizontally to the ground tilting it just enough to ensure the baby is taking the milk, not air, through the teat. Although, paced feeding leads to less air intake than the classic way of bottle feeding and often less wind so some air intake should not be a concern.
- That brushing the teat against the baby's lips will encourage him/her to open his/her mouth wide and if his / her tongue is down it will encourage him/her to draw the teat into his/her mouth, rather than "forcing" him/ her to take a feed.
- How to look for signs of effective feeding i.e. bubble should be seen. If bubbles are not seen the suction between the tongue and the teat should be broken from time to time by moving the teat slightly to the side of the mouth
- The importance of "paced" bottle feeding: i.e. that their baby will feed in bursts of sucking with short pauses to rest and that their baby may need short breaks during the feed and may need to bring up wind.
- How to recognise their baby's cues that they have had sufficient milk, (closing their mouth, frowning, turning their head away, dribbling the milk) and avoid forcing their baby to take more milk than he / she wants, to avoid the possibility of overfeeding.
- All parents should be made aware that their baby's stomach capacity is the size of a small marble at birth gradually increasing in size over the first few days. Baby's may take different amounts of formula at each feed and may wake for feeds at differing intervals when they are responsively fed. If the baby is waking for feeds 6-8 times in 24 hours and is having the appropriate wet and dirty nappies for their age and is gaining weight these are good indicators that baby is having enough formula.
- That the only milk that should be given to healthy term baby in the first year of life should be the first stage infant milks and that second stage or follow on milks should not be required. Toddler milks should also not be required.
- Staff should ensure the progress of feeding and these should be assessed **twice in the first week** using the feeding assessment form in the postnatal diary and documented in the postnatal

record. Before discharge from hospital the mother should have a discharge conversation as outlined in the Weighing of Healthy Term Babies Guideline. A feeding assessment should also be documented in the child health record (Red Book), prior to transfer to the Health Visitor. Feeding should be discussed at each contact with the mother, to ensure that feeding is established. This will enable early identification of any potential complications and allow appropriate information to be given to prevent or remedy them.

2.6 Provision of Artificial Formula in the Maternity Unit

- All parents who have decided either to formula feed their infants or use formula as a supplement should be advised that they will need to provide their own supplies for the duration of their stay in hospital.
- Mothers who are supplying their own formula milk should do so in ready-made starter packs to minimise infection risk and ensure safe handling of formula milk.

2.7 Formula milk will be stocked in the Maternity unit to be given to babies only under the following circumstances:

- A clinical need defined by neonatalogist review in a breast-fed baby
- Where mothers have been admitted as an emergency or from out of area and are unaware or unprepared to provide their own formula milk supplies
- Any other circumstance deemed extenuating following discussion with the Specialist Infant Feeding Midwives or the Senior Midwife on duty.
- Students should *not* initiate a supplement in a breastfeed baby or give out formula without first seeking the advice of the Midwife supervising her/him that shift.
- Where formula milk is supplied by the hospital this should be for the shortest possible period of time until either successful breastfeeding can be established, or formula milk is provided by the mother or family.
- Formula that is provided is recorded in the Milk Log in the Milk Room

2.8 Preparation of Formula Feeds within the Maternity Unit

- **Parents who are staying on the ward for more than a few days** and who need a larger supply of Formula milk need to be informed that Formula milk for use in the hospital should be in ready to use cartons/bottles. The hospital does not have adequate storage and preparation facilities for powdered formula preparation.
- Sterile bottles and teats may be provided by the hospital or the mother may bring in her own bottles and teats.
- Once opened, cartons of ready-made formula should be decanted into 250ml sterile bottles, labelled and stored in the fridge in the milk room on the postnatal ward. This is to minimise the risk of contamination. Multi-dose bottles labelled, S number, name, date & time and stored in the fridge in the milk room.
- Once opened the formula milk can be stored for a maximum of 24 hours in the fridge and then should be discarded.
- Once opened formula milk can be kept at room temperature for 2 hours and then must be discarded.
- Once the baby has commencing feeding from the bottle the milk must be discarded within an hour.

- When a baby requires feeding the required amount of milk should be poured into a 50ml sterile bottle and used as required. Hand washing and clean work surfaces are important for infection prevention. The expiry time and date should be documented in the postnatal notes.
- Warming formula milk is not always necessary and can be problematic on the wards but the bottle can be warmed under hot running water from the tap but care should be taken not to contaminate the teat or contents of the bottle. Alternatively, the bottle can be placed in warm water in a safe container. Risk of spilling and scalding should be assessed and the water temperature should be warm not hot.
- All feeds, bottles and teats are intended for single use and as such should be discarded in a timely manner and not re-sterilised.
- Cleaning of the milk room is the responsibility of the maternity care assistants on duty and should be checked at the start of each shift to ensure good hygiene and infection prevention. Any milk stored in the fridge that is over 24 hours old, unlabelled or belongs to mothers who have been discharged should be discarded. Formula milk stored anywhere on the unit should be checked regularly to ensure it is still in date and stock is being used in date sequence.
- The fridge temperature should be recorded to ensure that it is below 5° C at the beginning of each shift. If the fridge is warmer than this milk may grow bacteria and have to be discarded.
- Any equipment requiring sterilisation should be cleaned in hot soapy water, using a bottle brush, rinsed and stored in a labelled microwave sterilisation bag but sterilised when the equipment is needed and not in advance.

2.9 Feeding challenges and/or difficulties identified

- If the baby is at risk of hypoglycaemia or has feeding problems a documented feeding plan should be initiated that includes the appropriate volume and frequency of feeds for the age and weight of the baby. (see “Prevention and management of symptomatic or significant hypoglycaemia in neonates” guideline) Using birth weight - Volumes per Day:
    - Day 1 50ml/kg
    - Day 2 75ml/kg
    - Day 3 90ml/kg
    - Day 4 100ml/kg
    - Day 5 120ml/kg
    - Day 6 150mls/kg

- Bottle feeding challenges and/or difficulties are to be identified early and documented in the clinical records with a management plan.
- Consult with a Neonatologist where there are concerns about the baby’s health. Observations of the baby may be recommended by the Neonatologist using the NEWS chart.
- The advice or support of the Infant Feeding Team may be sought for any babies with feeding challenges. Where there are sucking disorders or cleft, lip palate abnormalities an appropriate referral will be required to the Speech and Language Team or the Regional Cleft Lip Palate team.
- Ongoing bottle feeding challenges will require referral to appropriate community resources on discharge from hospital such as the Specialist Infant Feeding Clinic at the Leicester General on 0116 258 4830.

2.10 Sterilisation of equipment and Preparation of Infant formula feeds Parent Information:

- This should take place on a one-to-one basis or in small groups of bottle-feeding mothers prior

to going home or following a home birth prior to the Midwife / health care worker leaving the mother and baby. This should be documented in the baby postnatal record.

- The importance of hand washing and taking apart, washing in hot water with washing up liquid and using a bottle brush for each part to decontaminate the feeding equipment is supremely important to prevent harmful bacteria growth in the formula. Always rinse off the soap before sterilising.
- Cleaning the work surfaces with a clean cloth and hot soapy water or disinfectant to prevent cross contamination
- Following birth mothers who are formula feeding should be given the NHS Bottle Feeding leaflet https://www.firststepsnutrition.org/making-infant-milk-safely and https://www.unicef.org.uk/babyfriendly/baby-friendly-resources/foreign-language-resources/hindi-resources/ which is available in several languages. This can also be viewed on www.leicestermaternity.nhs.uk and the Bottle Feeding Log
- This leaflet, postnatal diary assessment forms and the Discharge/Primary Visit conversation and the websites can be used to inform about:

1) The different types of bottle feeding equipment available – teats and bottles,
2) How to sterilise feeding equipment and different methods of sterilisation.
3) How to correctly prepare a bottle of infant formula
4) Present recommendations about the storage and transportation of formula milk.

- Mothers should be given information on how to access help and support with feeding and caring for their baby in their local area. Contact numbers are included on discharge documentation given to all mothers.

3. Education and Training

All staff involved in supporting infant feeding should undertake regular training as detailed in the training needs analysis.

4. Monitoring Compliance

Monitoring	
Process for monitoring:	Review of health records
How often will monitoring take place:	Annually

Population:	Babies readmitted to hospital with feeding problems during the first 28 days of life
Person responsible for monitoring:	Infant Feeding Team
Auditable standards:	All babies admitted to hospital with feeding problems within the first 28 days of birth are notified to infant feeding coordinators.
Results reported to:	Maternity Service Governance Group
Person responsible for completion of action plan:	Lead Infant Feeding Midwife
Action plan to be signed off by:	Maternity Service Governance Group
Action plan to be monitored by:	Maternity Service Governance Group
How learning will take place: one or more of the following for a:	Newsletter Team meetings Unit meetings Band 7 meetings Teaching sessions Communication boards Emails Face to face where appropriate

All mothers will be given advice and information on their chosen method of infant feeding. This will be monitored by prospective review of the mothers handheld and medical records. The Baby Friendly Audit Tool will also be used to audit the patients' experience.

5. Supporting References

UNICEF UK (2017) *Guide to the Baby Friendly Initiative Standards*

UNICEF UK (2013) *The Evidence and Rationale for the UNICEF UK Baby Friendly Initiative Standards*

Bibliography

Department of Health and food Standards Agency (2013) Revised Guidance for health professionals on safe preparation, storage and Handling of powdered infant formula

NHS (2012) Guide to bottle feeding: www.nhs.uk/bottlefeeding

UNICEF UK Responsive Bottle Feeding: https://www.unicef.org.uk/babyfriendly/baby-friendly-resources/bottle-feeding-resources/

6. Key Words

Responsive bottle feeding, Paced bottle feeding, feeding cues, Formula, sterilisation of bottle feeding equipment, making up a formula feed, bottle feeding in skin contact

The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.
As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

DEVELOPMENT AND APPROVAL RECORD FOR THIS DOCUMENT		
Author / Lead Officer:	D Pemberton and M Tonks	**Job Title:** Infant Feeding Coordinator and Senior Midwife
Reviewed by:	Ann Raja and Donna Brownless	
Approved by:	Maternity Service Governance Group	**Date Approved:** 29.09.14 and 17.12.14

REVIEW RECORD			
Date	**Issue Number**	**Reviewed By**	**Description Of Changes (If Any)**
27.03.14	V2	As above	Brought into line with BFI
July 2017	V3	As above	Amended to include responsive feeding and up-to-date references, including information from the First Steps Nutrition charity.
August 2020	V4	Ann Raja	What formula is and types of formula added in. Antenatal information about formula feeding added in. Provisions of artificial formula in the maternity unit added in. Feeding challenges and feeding volumes added in.
October 2023	V5	Ann Raja and Donna Brownless	Information on WHO code and Antenatal Session 'Getting to Know your baby'.