SUPPLEMENTARY FEEDING OF A BREASTFED NEONATE IN THE POSTPARTUM PERIOD

This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.

1. AIM

- Appropriate use of formula supplementation when medically indicated, for the breastfed neonate
- Respect woman's decision to formula feed her neonate, when no medical indication is present

2. PATIENT

- Woman and her neonate(s)

3. STAFF

- Medical, midwifery and nursing staff
- Clinical Midwifery Consultant 2(CMC2) Lactation
- Student midwives under direct supervision of a registered midwife

4. EQUIPMENT

- Well cleaned and dried spoon
- Well cleaned and dried small cup suitable for neonatal feeding
- Breastmilk syringe and sterile cap

5. CLINICAL PRACTICE

- Review suitability for supplementary feeding in the following circumstances:
    - Maternal and neonatal conditions – as described in Appendix 1 'Acceptable Medical Reasons for Use of Breastmilk Substitutes'
    - Maternal request
- Assess breastfeeding and evaluate neonate's hydration, breastmilk transfer and maternal breast changes
- Complete the 'Breastfeeding Assessment' in the maternal clinical pathway to evaluate position, attachment and breastmilk transfer. If any issues of concern are identified, a breastfeeding plan is to be implemented
- Discuss and formulate an agreed breastfeeding plan with the woman in conjunction with her breastfeeding goals. The breastfeeding plan will not restrict time or number of breastfeeds
- Give a copy of the written breastfeeding plan to the woman. Place a copy in her bedside folder and document in the woman's medical record
- Assess breastfeed at least once per shift and review breastfeeding plan
- Encourage inpatient woman to attend breastfeeding discussion group and/or afternoon breastfeeding support unit (BSU) drop-in for ongoing education and support
- Discuss breastfeeding plan with CMC2 Lactation
- Arrange for woman to be reviewed by CMC2 Lactation and medical team if indicated
- Discuss with woman the importance of exclusive breastfeeding to six months, and the risks associated with giving formula or other supplements to a breastfed neonate without an acceptable medical reason. Document discussion in woman's medical record
- Support strategies to increase maternal breastmilk supply by:
    - providing unrestricted skin-to-skin contact
    - providing unrestricted access to the breast and frequent breastfeeds.
    - maintaining and promoting at least 8-12 feeds in 24 hours
    - facilitating effective expressing techniques e.g. hand/electric breast pump, and frequency post breastfeeds
    - discussing with woman the reasons for supplementary feeds

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- Complete Consent form for 'Supplementary Formula Feeding of Breastfed Newborns' if formula supplementation is to be given
- Document each feed in neonatal care plan including:
  - time of feed
  - type of feed - woman's own breastmilk is the first choice. Formula may be used if medically indicated.
  - volume given - based on the table below:

Age of Neonate (hours)	Volume recommended per feed (mLs)
< 24	2–10
24–48	5–15
48–72	15–30
72–96	30–60

  - method used: refer to 'Spoon and Cup Feeding - Alternate Feeding Methods in the Early Postpartum Period' LOP
  - acceptable medical reason for supplement
- Provide the woman with education and written information with SESLHD leaflet - Expressing and Storing Breastmilk https://www.seslhd.health.nsw.gov.au/sites/default/files/migration/Planning_and_Population_Health/Health_Promotion/Healthy_Weight/docs/breastfeeding/Breastfeeding_Expressing_SESLHD.pdf
- Provide the woman with education and written information resource "RHW Formula Feeding Information for Parents" (Located on RHW Public 'P' Drive)
- Discuss with CMC2 Lactation the individual management of any neonate > 72 hours of age requiring supplementary feeds

6. DOCUMENTATION

- Consent form for Supplementary Formula Feeding of a Breastfed Newborn
- Maternal Clinical Pathway
- Neonatal Care Plan
- Medical Record

7. EDUCATIONAL NOTES

- The Royal Hospital for Women (RHW) is Baby Friendly Health Initiative (BFHI) accredited and abides by the World Health Organisation (WHO) 'Ten Steps to Successful Breastfeeding' which states 'give newborn infants no food or drink other than breastmilk unless medically indicated'
- Early supplementation with formula is associated with decreased exclusive breastfeeding at six months
- 10% weight loss is not an automatic marker for the need for supplementation, but is an indicator for evaluation of the breastfeeding dyad
- Inappropriate supplementation may undermine the woman's confidence in her ability to meet her neonate's nutritional needs
- Introduction of formula or any other supplements may decrease the feeding frequency of the neonate, thereby decreasing the amount of breast stimulation the woman receives resulting in reduction of breastmilk supply

SUPPLEMENTARY FEEDING OF A BREASTFED NEONATE IN THE POSTPARTUM PERIOD cont'd

- Formula supplementation may result in alterations in the neonatal gut microbiome[4, 9]. Alterations in the gut environment can be responsible for mucosal inflammation and disease, autoimmune disorders and allergic conditions of childhood and adulthood
- Healthcare professionals may recommend supplementation as a means of protecting a woman from fatigue and distress, although this conflicts with their role of promoting breastfeeding
- During the early days following birth, the breastfed neonate typically consumes small amounts of milk and will regurgitate amounts in excess of what their stomach can physiologically hold. The amount of supplement offered to a breastfed neonate should reflect the amounts of colostrum typically available for age and gestation postpartum

8. RELATED POLICIES / PROCEDURES / CLINICAL PRACTICE LOP

- NSW Health PD2018_034 Breastfeeding in NSW: Promotion, Protection and Support
- Breastfeeding – Protection, Promotion and Support
- Breastfeeding – Delayed Lactogenesis II, Early Intervention and Management
- Alternative Feeding Methods in the Early Postpartum Period
- Weight Loss (Day 4-6) > 10% of Birthweight in a Breastfed Neonate ≥ 37 weeks gestation
- SESLHDGL/063 Care of infant feeding equipment within SESLHD facilities
- Breastfeeding Support Unit (BSU)
- Formula Feeding for a Neonate

9. RISK RATING

- Low

10. NATIONAL STANDARD

- Standard 5. Comprehensive Care

11. REFERENCES

1. Appleton J, Laws R, Russell CG, Fowler C, Campbell KJ, & Denney-Wilson E. 2018, Infant formula feeding practices and the role of advice and support: an exploratory qualitative study. *BMC pediatrics*, vol. *18, no.* 1 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5784678/pdf/12887_2017_Article_977.pdf
2. Australian College of Midwives. 2016. Baby Friendly Health Initiative Australia. BFHI Handbook for Maternity Facilities. Australia, 19 Nov 2018 https://www.midwives.org.au/sites/default/files/uploaded-content/website-content/BFHI/bfhi_handbook_for_maternity_facilities_v3_20161028_0.pdf
3. Australian Government National Health and Medical Research Council Department of Health and ageing. Eat for Health. Infant Feeding Guidelines Summary. NHMRC: Commonwealth of Australia 2012 http://www.eatforhealth.gov.au/sites/default/files/files/the_guidelines/n56_infant_feeding_guidelines.pdf

SUPPLEMENTARY FEEDING OF A BREASTFED NEONATE IN THE POSTPARTUM PERIOD cont'd

4. Forbes JD, Azad MB, Vehling L, Tun HM, Konya TB, Guttman DS, Field CJ, Lefebvre D, Sears MR, Becker AB, Mandhane PJ, Turvey SE, Moraes TJ, Subbarao P, Scott J A, Kozyrskyj AL, Canadian Healthily Infant Longitudinal Development (CHILD) Study Investigators, 2018, 'Association of Exposure to Formula in the hospital and Subsequent Infant Feeding Practices With Gut Microbiota and Risk of Overweight in the First Year of Life', *JAMA Paediatrics*, vol. 172, no. 7 https://www.ncbi.nlm.nih.gov/pubmed/29868719'
5. Harrison M, Brodribb W, Hepworth J. 2017, 'A qualitative systematic review of maternal infant feeding practices in transitioning from milk feeds to family foods', *Maternal Child Nutrition*, vol. 13, https://onlinelibrary.wiley.com/doi/full/10.1111/mcn.12360
6. Khanal V, Scott JA, Lee AH, Karkee R, & Binns CW. 2016, 'The supplemental use of infant formula in the context of universal breastfeeding practices in Western Nepal'. *BMC pediatrics*, vol. *16*, no. 68 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4875692/pdf/12887_2016_Article_602.pdf
7. Kellams A, Harrel C, Omage S, Gregory C, Rosen-Carole C. 2017, ABM Protocol #3, 'Supplementary Feedings in the Healthy Term Breastfed Neonate', *Breastfeeding Medicine*, vol 12, no. 3, https://www.ncbi.nlm.nih.gov/pubmed/28294631
8. Prell C, & Koletzko B. 2016, 'Breastfeeding and Complementary Feeding'. *Deutsches Arzteblatt international*, vol. *113, no.* 25, pp. 435-444 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4941615/pdf/Dtsch_Arztebl_Int-113-0435.pdf
9. O'Sullivan A, Farver M, & Smilowitz JT. 2015, 'The Influence of Early Infant-Feeding Practices on the Intestinal Microbiome and Body Composition in Infants', *Nutrition and metabolic insights*, vol. *8* (Suppl 1), pp. 1-9 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4686345/pdf/nmi-suppl.1-2015-001.pdf
10. Walker M, 2015, 'Formula Supplementation of Breastfed Infants. Helpful or Hazardous?' *Infant, Child and Adolescent Nutrition*, vol. 7, no 4, 198-207 https://journals.sagepub.com/doi/abs/10.1177/1941406415591208
11. World Health Organization, 2018, Ten Steps to Successful Breastfeeding (revised 2018), WHO, Geneva http://www.who.int/nutrition/bfhi/ten-steps/en/
12. World Health Organization and UNICEF. 2009, Acceptable medical reasons for use of breastmilk substitutes http://www.who.int/nutrition/publications/infantfeeding/WHO_NMH_NHD_09.01/en/

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APPENDIX 1

Acceptable Medical Reasons for Use of Breastmilk Substitutes

NEONATAL CONDITIONS

Neonates with the following conditions should not receive breastmilk or any other milk except specialised formula:

- Classic galactosemia: a special galactose-free formula is needed.
- Maple syrup urine disease: a special formula free of leucine, isoleucine and valine is needed.
- Phenylketonuria: a special phenylalanine-free formula is needed, though some breastfeeding is possible, under careful monitoring.

Neonates with the following conditions for whom breastmilk remains the best feeding option but who may need other food in addition to breastmilk for a limited period:

- very low birth weight neonates i.e. those born weighing < 1500g
- very preterm neonates i.e. those born < 32 weeks gestational age
- neonates who are at risk of hypoglycaemia by virtue of impaired metabolic adaptation or increased glucose demand. This includes those who are preterm, small for gestational age or who have experienced significant intrapartum hypoxic/ischaemic stress, as well as those who are ill and those whose mothers are diabetic if their blood sugar fails to respond to optimal breastfeeding or breastmilk feeding

MATERNAL CONDITIONS

Mothers who are affected by any of the conditions mentioned below should receive treatment according to standard guidelines.

Mothers with HIV - may need to avoid breastfeeding

- The most appropriate neonatal feeding option for a HIV-infected mother depends on the individual circumstances of mother and neonate, including the mother's health status, but should also take into consideration the health services available and the counselling and support the mother is likely to receive.
- When replacement feeding is acceptable, feasible, affordable, sustainable and safe (AFASS)[6], avoidance of all breastfeeding by HIV-infected women is recommended.
- Mixed feeding in the first six months of life i.e. breastfeeding while also giving other fluids, formula or foods, should always be avoided by HIV-infected mothers.

Mothers with the following conditions may need to avoid breastfeeding temporarily:

- Severe illness that prevents a mother from caring for her neonate e.g. sepsis.
- Herpes simplex virus: Direct contact between lesions on the mother's breasts and the neonate's mouth should be avoided until all active lesions have resolved.
- Herpes zoster (shingles): Direct contact between lesions on the mother's breasts and the neonate's mouth should be avoided until all active lesions have resolved.
- Maternal use of the following medication including:
    - sedating psychotherapeutic drugs, anti-epileptic drugs, opioids and their combinations, as these may cause side effects such as drowsiness and respiratory depression, and are better avoided if a safer alternative is available[7]
    - radioactive iodine-131. This is better avoided given that safer alternatives are available. A mother can resume breastfeeding about two months after receiving this substance.
    - excessive use of topical iodine or iodophor e.g. povidone-iodine, especially on open wounds or mucous membranes, as this can result in thyroid suppression or electrolyte abnormalities in the breastfed neonate, and should be avoided.
    - cytotoxic chemotherapy - requires a mother to cease breastfeeding during therapy.

Mothers with the following conditions can continue breastfeeding, although health problems may be of concern:

- Breast abscess: Breastfeeding should continue on the unaffected breast. Feeding from the affected breast can resume once treatment has started[8]
- Hepatitis B: Neonates should be given hepatitis B vaccine within the first 48 hours or as soon as possible thereafter[9]
- Hepatitis C
- Mastitis: If breastfeeding is very painful, breastmilk must be removed by expression to prevent progression of the condition[8]
- Tuberculosis: Mother and neonate should be managed according to national tuberculosis guidelines[10]
- Substance use[11]:

- Nicotine, alcohol, ecstasy, amphetamines, cocaine and related stimulants have been demonstrated to have harmful effects on breastfed neonates.
- Alcohol, opioids, benzodiazepines and cannabis can cause sedation in both the mother and the neonate.
- Mothers should be encouraged not to use these substances and given opportunities and support to abstain. Mothers who choose not to cease their use of these substances or who are unable to do so should seek individual advice on the risks and benefits of breastfeeding depending on their individual circumstances. For mothers who use these substances in short episodes, consideration may be given to avoiding breastfeeding temporarily during this time.

ADDENDUM FOR AUSTRALIA

The list above was developed by the World Health Organization (WHO) for global use. There are some situations and more recent recommendations which are not included above, but are listed below that are considered by BFHI to be acceptable medical reasons for the use of breastmilk substitutes in Australia.

Primary Inadequate Breastmilk Supply

- Breast surgery: Women who have had breast surgery, such as breast reduction with nipple relocation, may find it necessary to use a breastmilk substitute to supplement their neonate's intake and ensure adequate nutrition.
- Bilateral breast hypoplasia: Every attempt should be made to stimulate an adequate milk supply, but if unsuccessful, the neonate may need a breastmilk substitute to supplement intake and ensure adequate nutrition.

HIV Infection

The World Health Organization (WHO) have released updated guidelines; *Guidelines on HIV and Infant Feeding, 2010, Principles and recommendations for infant feeding in the context of HIV and a summary of Evidence, Geneva WHO; 2010.* If a decision is made to use replacement feeding it must be acceptable, feasible, affordable, sustainable and safe (AFASS). An individual decision should be made in consultation with each mother, taking into account her circumstances and viral load.

Hepatitis B

Under the current Hepatitis B recommended prophylaxis, breastfeeding is not a risk factor for mother-to-child transmission[12]

Adapted from BFHI Handbook for Maternity Facilities. Baby Friendly Health Initiative, Australia Updated 2016

REFERENCES

1. Technical updates of the guidelines on Integrated Management of Childhood Illness (IMCI). Evidence and recommendations for further adaptations. Geneva, WHO, 2005.
2. Evidence on the long-term effects of breastfeeding: systematic reviews and meta-analyses. Geneva, WHO, 2007.
3. León-Cava N et al. Quantifying the benefits of breastfeeding: a summary of the evidence. Washington, DC, Pan American Health Organization, 2002 http://www.paho.org/English/AD/FCH/BOB-Main.htm accessed 26 June 2008
4. Resolution WHA39.28. Infant and Young Child Feeding. In: Thirty-ninth World Health Assembly, Geneva, 5–16 May 1986. Volume 1. Resolutions and records. Final. Geneva, WHO, 1986 (WHA39/1986/REC/1), Annex 6:122–135.
5. Hypoglycaemia of the newborn: review of the literature. Geneva, WHO, 1997 (WHO/CHD/97.1) http://whqlibdoc.who.int/hq/1997/WHO_CHD_97.1.pdf accessed 24 June 2008
6. HIV and infant feeding: update based on the technical consultation held on behalf of the Inter-Agency Task Team (IATT) on Prevention of HIV Infection in Pregnant Women, Mothers and their Infants, Geneva, 25–27 October 2006. Geneva, WHO 2007 http://whqlibdoc.who.int/publications/2007/9789241595964_eng.pdf accessed 23 June 2008
7. Breastfeeding and maternal medication: recommendations for drugs in the Eleventh WHO Model List of Essential Drugs. Geneva, WHO 2003.
8. Mastitis: causes and management. Geneva, WHO 2000 (WHO/FCH/CAH/00.13) http://whqlibdoc.who.int/hq/2000/WHO_FCH_CAH_00.13.pdf accessed 24 June 2008
9. Hepatitis B and breastfeeding. Geneva, WHO, 1996. (Update No. 22)
10. Breastfeeding and Maternal tuberculosis. Geneva, WHO 1998 (Update No. 23).
11. Background papers to the national clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn. Commissioned by the Ministerial Council on Drug Strategy under the Cost Shared Funding Model. NSW Department of Health, North Sydney, Australia, 2006.
12. National Centre for Immunisation Research and Surveillance. Hepatitis B vaccines for Australians | NCIRS Factsheet. http://www.ncirs.edu.au/assets/provider_resources/fact-sheets/hepatitis-B-fact-sheet.pdf accessed 19 July 2016