



Clinical Practice Guideline

Guideline coverage includes NICU KEMH, NICU PCH and NETS WA

Enteral Feeding: Initiation and Progression

This document should be read in conjunction with the [Disclaimer](#)

Breast milk is the preferred feed. Consent for pasteurised donor human milk (PDHM) can be sought for all neonates ≤ 32 weeks gestation and/or ≤ 1500 grams where breast milk is unavailable or mothers choose not to breastfeed. Other infants with a risk of feed intolerance will be considered for PDHM on an individual basis by Consultant/SR. For further information refer to [Pasteurised Donor Human Milk \(PDHM\) guideline](#) or [Perron Rotary Expressed Milk \(PREM\) Bank](#).

Ready to use formula is used when neonates are not receiving breast milk or pasteurised donor milk. Feeding is by breastfeed, bottle-feed, intermittent or continuous gavage feed.

Enteral Nutrition should be commenced and gradually increased as early as possible in the presence of clinical stability. Infants who are haemodynamically unstable or unstable with sepsis normally have feeds withheld.

Table 1 - Standardised Enteral Feeding Schedule

Birth Gestation	Day 1 Of Feeding If EBM Or PDHM Available	Grading Up
< 26 Weeks	≤ 10 mL/kg/d (i.e. 1-2 mL/kg 4 to 6 hourly) then ≤ 20 mL/kg/d (i.e. 1-2 mL/kg 2 hourly), then progress \rightarrow	Increase by 20-25 mL/kg/d
26 To < 32 Weeks	≤ 20 mL/kg/d (i.e. 1-2 mL/kg 2 hourly), then progress \rightarrow	Increase by 20-25 mL/kg/d
> 32 Weeks	60 mL/kg/day maximum if stable, then progress \rightarrow	Increase by 30-35 mL/kg/d

Key Points

- **Sepsis:** In unstable patients with sepsis, consider withholding feeds until 24 to 48 hours of antibiotic therapy is completed, the blood pressure is stable without inotropes or colloidal support, and respiratory assistance is back to the baseline levels before clinical deterioration occurred.
- **Blood Transfusion:** In infants thought to be at high risk of NEC, consideration may be given to ceasing feeds for 4 hours prior to giving a blood transfusion and to resuming feeds 4 hours after its completion. If feeds are ceased, replacement IV fluids may be required.
- **PDA:** Tolerance of small feeds is not compromised by Indomethacin; small feeds may be continued during Indomethacin therapy for PDA.
- **NEC (> Stage II):** Feeds are withheld for a minimum of 7 days.

Early Trophic Feeds

Early trophic feeds maintain gut integrity and are encouraged for all infants when EBM or PDHM is available. If unable to grade up feeds, consider trophic feeds of **≤10 mL/kg/d** (i.e. 1-2 mL/kg 4 to 6 hourly).

All infants below 32 weeks gestation are to receive 0.2mL of EBM orally with each feed as available (in addition to ordered feed amount).

In women who are unable/choose not to lactate PDHM is to be used instead.

Infants on continuous milk feeds are to receive 0.2 mL of milk 2 hourly. This is to continue until suck feeds commence.

Frozen V Fresh Breast Milk (KEMH)

All preterm infants are to receive breast milk preferably in the order in which it is expressed. This ensures that all infants receive the nutritional and immunological benefits of colostrum and early milk. For most infants, this milk will have been frozen. Early milk has higher protein concentration and freezing milk may reduce or eliminate CMV. Fresh milk can be used if frozen milk (mother's own) is not readily available and as breastfeeds are introduced.

Breast Milk Fortification

Human milk is usually fortified for infants with gestational age < 35 weeks.

Human milk fortifier may be added once enteral milk intakes of 100 mL/kg/day are achieved. Refer to [Milk Room: Breast Milk Fortification and Preterm Formula](#).

Formula

When EBM and/or PDHM are not options, infant formula is the only choice. When parental permission has been given for formula:

< 35 Weeks	Commence as per Table 1 using Term Formula initially and progress to Preterm Formula as tolerated.
> 35 Weeks	Use Term Formula (Preterm or an enriched Term Formula may be required for some infants - referral to the dietitian is recommended)

Hypoglycaemia

Refer to [Hypoglycaemia](#) guideline.

Term Neonates

Breastfeeding is promoted and actively encouraged for all neonates. The first breastfeed should be offered within the first few hours after birth if no contraindications. Term formula may be required if breast milk is unavailable. If judged appropriate by the Neonatologist, near term and term infants (≥ 36 weeks), could commence on full feeds ± breastfeeding if appropriate.

Also refer to [Obstetrics & Gynaecology Clinical Practice Guideline - Newborn Feeding](#).

Feed Intolerance

Refer to [Feed Intolerance](#) guideline.

References

1. Johnston M, Landers S, Noble L, Szucs K, L V. Breastfeeding and the use of human milk. *Pediatrics*. 2012; 129(3) e827-41. Epub 2012 Feb 27.
2. Patole S. Strategies for prevention of feed intolerance in preterm neonates: a systematic review. *J Matern Fetal Neonatal Med*. 2005; 18(1): 67-76.
3. Ziegler EE. Meeting the nutritional needs of the low-birth-weight infant. *Annals of nutrition & metabolism*. 2011; 58 Suppl 1: 8-18.
4. Patole SK, de Klerk N. Impact of standardised feeding regimens on incidence of neonatal necrotising enterocolitis: a systematic review and meta-analysis of observational studies. *Arch Dis Child Fetal Neonatal Ed*. 2005; 90(2): F147-51.
5. Leaf A, Dorling J, Kempley S, McCormick K, Mannix P, Brocklehurst P. ADEPT - Abnormal Doppler Enteral Prescription Trial. *BMC pediatrics*. 2009; 9: 63.
6. Berseth CL. Effect of early feeding on maturation of the preterm infant's small intestine. *J Pediatr*. 1992; 120(6): 947-53.
7. Owens L, Burrin DG, Berseth CL. Minimal enteral feeding induces maturation of intestinal motor function but not mucosal growth in neonatal dogs. *J Nutr*. 2002; 132(9): 2717-22.
8. Bombell S, McGuire W. Early trophic feeding for very low birth weight infants. *Cochrane Database Syst Rev*. 2009; (3): CD000504.
9. Friis H, Andersen HK. Rate of inactivation of cytomegalovirus in raw banked milk during storage at -20 degrees C and pasteurisation. *Br Med J (Clin Res Ed)*. 1982; 285: 1604-5.
10. Kuschel CA, Harding JE. Multicomponent fortified human milk for promoting growth in preterm infants. *Cochrane Database Syst Rev*. 2004; 2: CD000343.
11. Agostoni C, Buonocore G, Carnielli VP, De Curtis M, Darmaun D, Decsi T, et al. Enteral nutrient supply for preterm infants: commentary from the European Society of Paediatric Gastroenterology, Hepatology and Nutrition Committee on Nutrition. *J Pediatr Gastroenterol Nutr*. 2010; 50(1): 85-91.
12. Tsang RC, Uauy R, Koletzko B, Zlotkin SH, editors. *Nutrition of the preterm infant. Scientific basis and practical guidelines*. 2nd Edition ed. Cincinnati, Ohio: Digital Educational Publishing, Inc.; 2005.


Related WNHS policies, procedures and guidelines

[Neonatal Clinical Guidelines - Pasteurised Donor Human Milk \(PDHM\)](#)

- [Milk Room: Breast Milk Fortification and Preterm Formula](#)
- [Hypoglycaemia](#)
- [Feed Intolerance](#)

[Obstetrics & Gynaecology Clinical Practice Guideline - Newborn Feeding](#)

[PREM Bank](#)

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