



Topic Expert Group: Nutrition

The role of human milk banks

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Target group

Very preterm infants and parents

User group

Healthcare professionals, neonatal units, hospitals, and health services

Statement of standard

Standards are established for the safe use of human donor milk when mother's own milk is not available.

Rationale

There are numerous indications of beneficial effects of feeding human milk to very preterm infants on neurocognitive development and the risk of necrotising enterocolitis. (1,2) The use of mother's own milk as primary feeding for very preterm infants should be encouraged (see TEG Nutrition). When mother's own milk is not available, human donor milk may be considered as an alternative, despite the considerable costs of running a human milk bank service. (3) The aim of human milk banks is to deliver safe and high-quality donor human milk, with elimination of pathogens while preserving immunological and nutrient components. Holder pasteurisation destroys bile-simulated lipase, reduces lactoferrin, lysozyme, immunoglobulins, and bactericidal capacity of human milk. (4) Freeze-thaw cycles also alter the structure of the fat globule membrane and its core and surface lipids. High temperature short time pasteurisation, high pressure processing, or ultraviolet irradiation are currently tested as alternative to holder pasteurisation, but they have been tested in experimental conditions only.

A recent meta-analysis suggests that donor human milk, compared to formula, reduces the risk of necrotising enterocolitis (NEC). (4) More trials are ongoing, but all units use milk that has been pasteurised with the Holder method.

Donor milk should be obtained from milk banks that have established procedures to screen donors and collect, store, and pasteurise the milk in a safe and controlled way. A track and trace system from donor to recipient should be in place.

Benefits

Short-term benefits

- Reduced risk of NEC (4)

Long-term benefits

N/A



Components of the standard

Component	Grading of evidence	Indicator of meeting the standard
For parents and family		
1. Parents are informed by healthcare professionals about the possibility of the safe provision of donor milk, when mother's own milk is not available to the child.	B (High quality)	Patient information sheet ¹
For healthcare professionals		
2. A unit guideline on infant nutrition, including the use of donor milk, when mother's own milk is not available, is adhered to by all healthcare professionals.	B (High quality)	Guideline
3. Training on infant nutrition, including the use of donor milk, when mother's own milk is not available, is attended by all responsible healthcare professionals.	B (High quality)	Training documentation
For neonatal unit		
4. A unit guideline on infant nutrition, including the use of donor milk, is available and regularly updated.	B (High quality)	Guideline
5. A relationship with an existing human milk bank is in place or considered.	B (Low quality)	Guideline
For hospital		
6. The use of donor milk is considered.	B (Low quality)	Guideline
7. Training on infant nutrition, including the use of donor milk, when mother's own milk is not available, is ensured.	B (High quality)	Training documentation
For health service		
8. A guideline on human milk banking is available and regularly updated.	B (High quality)	Guideline

¹ The TEG Nutrition very much supports the need of good communication with families and regular sharing of key information, but it is not in favour of sharing information on each standard by a „parent information sheet“, which is term chosen by the Chair Committee. In our view, sharing multiple parent information sheets bears the risk of overloading families with a plethora of written information during a stressful time period, which may not be very helpful. We suggest to consider other means of sharing information.



Where to go – further development of care

Further development	Grading of evidence
For parents and family N/A	
For healthcare professionals N/A	
For neonatal unit •	
For hospital N/A	
For health service • Support research into the health effects of donor milk. (5)	A (High quality)

Getting started

Initial steps

For parents and family

- Parents are verbally informed by healthcare professionals about the possibility of the safe provision of donor milk, when mother's own milk is not available to the child.

For healthcare professionals

- Attend training on infant nutrition, including the use of donor milk.

For neonatal unit

- Develop and implement a unit guideline on infant nutrition, including the use of donor milk.
- Develop information material on milk banks and the use of donor milk for parents.

For hospital

- Support healthcare professionals to participate in training on infant nutrition, including the use of donor milk.

For health service

- Develop and implement a guideline on human milk banking.

Source

1. Lechner BE, Vohr BR. Neurodevelopmental Outcomes of Preterm Infants Fed Human Milk: A Systematic Review. *Clin Perinatol*. 2017 Mar;44(1):69–83.
2. Corpeleijn WE, de Waard M, Christmann V, van Goudoever JB, Jansen-van der Weide MC, Kooi EMW, et al. Effect of Donor Milk on Severe Infections and Mortality in Very Low-Birth-Weight Infants: The Early Nutrition Study Randomized Clinical Trial. *JAMA Pediatr*. 2016 Jul 1;170(7):654.
3. ESPGHAN Committee on Nutrition, Arslanoglu S, Corpeleijn W, Moro G, Braegger C, Campoy C, et al. Donor human milk for preterm infants: current evidence and research directions. *J Pediatr Gastroenterol Nutr*. 2013 Oct;57(4):535–42.
4. Quigley M, Embleton ND, McGuire W. Formula versus donor breast milk for feeding preterm or low birth weight infants. *Cochrane Database Syst Rev*. 2018 20;6:CD002971.



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5. Quigley M, McGuire W. Formula versus donor breast milk for feeding preterm or low birth weight infants. In: The Cochrane Library [Internet]. John Wiley & Sons, Ltd; 2014 [cited 2018 Mar 29]. Available from: <http://cochranelibrary-wiley.com/doi/10.1002/14651858.CD002971.pub3/full>

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