

10. Infant and Family Centred Developmental Care Toolkit: Optimising Nutrition

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For use in: EoE Neonatal Units

Guidance specific to the care of neonatal patients

Used by: Medical Staff, Nurses, Allied Health Professionals, Infant Feeding Leads


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Optimising Nutrition

The Importance of Nutrition in Developmental Care

Improvements in neonatal care over the last twenty years have led to an increase in the survival of premature infants, especially those born very preterm or extremely preterm. As a result, the attention of both families and neonatal teams has begun to broaden to include not just survival and avoidance of severe complications, but also the quality of survival and later outcome. This shift in focus has led to increased emphasis being placed on the nutritional care of preterm infants, as evidence shows that the quantity and quality of nutrition a preterm infant received during their neonatal journey is not only related to growth, immediate functions, and length of hospital stay, but also to long-term health and quality of life.

Preterm infants have nutritional needs that are considerably greater than those of the infant born at term. Meeting those needs represents a continuing challenge for both the neonatal multidisciplinary team and the infants' families.

Preterm nutritional care aims to:

1. Support growth and body composition that matches that of normal intrauterine growth to term and the growth of healthy infants born at term.
2. Support optimal brain and immune function as well as minimising the risk of adverse events.

Adequate and appropriate nutrition in the first weeks of life is a key determinant for health outcomes not only during infancy, but also for development, performance, and disease risks in later life. In preterm infants the quality and quantity of nutrition is not only linked to immediate outcomes such as the risks of infections, necrotizing enterocolitis (NEC), bronchopulmonary dysplasia (BPD) and retinopathy of prematurity (ROP), but also to outcomes in later life such as lung function, visual and neuro-cognitive development, the risk of metabolic syndrome, and long-term quality of life. Nutritional provision therefore underpins all aspects of Developmental Care.

Some preterm infants receive parenteral and enteral nutrition with a transitional period in-between. This transition phase is a critical time period where risks of poor growth are high. The development and use of standardised feeding guidelines and protocols designed to maintain targeted intake throughout the transition phase and through to discharge can help to achieve nutritional goals. Data from multiple studies suggest that the use of standardised feeding protocols allow preterm infants to achieve full enteral feeds faster, shorten the time on parenteral nutrition and hospital stay, decrease the rates of Necrotising enterocolitis (NEC), and improve both short and long term growth and neurodevelopment.

In order to maximise the benefit preterm infants obtain from the nutrition they receive, a range of neurodevelopmental supports should be put in place. Strategies include promoting quality sleep, minimising stress and pain and supporting family participation in the delivery of nutrition. Parents and caregivers play a key role in the delivery of nutrition and supporting feeding of all kinds. It is therefore vital that they are included in all feeding decisions, and that they are equipped with the necessary skills to support their child's nutrition and feeding.

It is the responsibility of all staff to support infants to access expressed breast milk or donor human milk as required. This also includes understanding basic principles to support lactation and supporting parents to express their milk. Parents and caregivers should be supported to understand the benefits of breastmilk and colostrum for their baby and how it can be used.

Partnering with Families

Parents and caregivers play a key role in the delivery of nutrition and supporting all methods of feeding. It is therefore vital that they are included in all feeding decisions, and that they are equipped with the necessary skills and knowledge to support their child's nutrition and feeding.

(Refer to EoE ODN website for partnering with families resource [Guidelines - East of England](#))

Strategies to support optimal nutrition:

Fresh maternal breast milk is the feed of choice for all infants, especially for those born preterm, provided it is adequately fortified in line with national and network guidance. Benefits, other than nutritional, include:

- Improved immunity
- Reduced risk of NEC/ sepsis
- Improved neurodevelopmental outcomes
- Reduced morbidity (eg NEC, BPD, asthma)

Skin to skin

Skin-to skin promotes release of oxytocin for parent/ caregiver and baby which enhances milk ejection

- Improves tolerance of enteral feeding
- Supports early positive oral experiences and allows the baby access to the breast
- Supports behavioural regulation and organisation, reducing energy expenditure and supporting sleep
- Positive taste and smell experiences

(Refer to EoE ODN website for skin to skin resource [Guidelines - East of England](#))

Supporting the use of breastmilk and colostrum

- Mouth cares: positive early oral experiences, opportunities for pleasant taste and smell, promoting clean oral structures and reducing respiratory infections or Ventilator Associated Pneumonia (VAP).

- Buccal colostrum: positive early oral experiences, opportunities for pleasant taste and smell and increases parental involvement to support long-term feeding outcomes and help to increase milk provision.
- Dummy dips: where appropriate small volume tastes of EBM on a dummy or gloved finger offer non-nutritive sucking opportunities, taste and smell.

Supporting feeding skills

- Facilitating positive early feeding experiences
- Introduction of oral feeding at developmentally appropriate stages
- Promoting close and loving parent – child relationships
- Acknowledging and responding to infant communication/behavioural cues

The East of England Neonatal Network has a range of nutrition and feeding focussed guidelines designed to support optimal nutrition strategies for growth and development. The guidelines can be found on the East of England Neonatal ODN website.

[Parenteral feeding of Infants on the Neonatal Unit](#)

[Enteral feeding of Preterm Infants on the Neonatal Unit](#)

[Nutrition Care Pathway](#)

[The use of Donor Human Milk in the Neonatal Unit.](#)

[Oral Feeding Guidelines](#)

[Neonatal Feeding Guidelines](#)

[Gastric Tube Feeding Guidelines](#)

[Nipple Shield Policy](#)

[NG OG Tube Feeding Confidence Document](#)

[Mouthcare Guidelines](#)

[BFI Neonatal Resources](#)



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