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Feeding in the Neonatal Unit

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Normal feeding

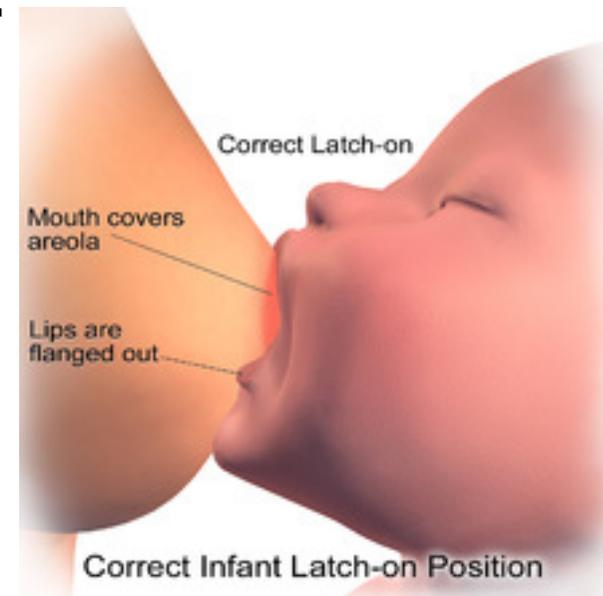
- ◆ Act of feeding is a complex process
- ◆ Structure and function closely related
- ◆ 2 important elements essential for normal feeding
- ◆ 1= acquisition of adequate nutrition
- ◆ 2= protection of the airway
- ◆ When feeding problems arise, malnutrition and respiratory symptoms can arise (Petty, 2013)

Types of milk

- ◆ Human verses formula milk
- ◆ Breast milk – nutritional advantages from Long chain polyunsaturated fatty acids, bile salt stimulated lipase, high bioavailability of calcium, copper and zinc. Well tolerated
- ◆ Preterm breast milk – different composition e.g. – phosphate, protein
- ◆ Fortification of breast milk required in preterm
- ◆ Formula – adapted to mimic breast milk
- ◆ 'Special' feeds – e.g. pre-digested formula for surgical neonates, additives to add calories etc
- ◆ King, 2005

Breast-feeding

- ◆ Hungry baby required in the well neonate
- ◆ Well positioned mother
- ◆ Baby horizontal at level of breast
- ◆ Baby brought to the breast
- ◆ Wide mouth, nipple in upper third, the whole areola into the mouth.
- ◆ Preterm neonates are started when ready







Supporting Breast feeding

- ◆ *Ongoing* support essential for both well neonates but particularly for the neonate in the neonatal unit (e.g. preterm)
- ◆ Support with expressing & storing breast milk (EBM) if neonate unable / too unwell to feed
- ◆ Mother's health & hygiene– give advice & information giving
- ◆ Show sensitivity & maintain privacy / dignity plus consider culture

Bottle feeding ?

- ◆ When a mother is unable to breast-feed or chooses not to, the nurse has a role to play in facilitation of formula feeding
- ◆ General rule = 1 level scoop of powder for each 30 mls (= 1 fluid ounce)
- ◆ Follow Dept of Health Guidelines on making up feeds
- ◆ Variety of bottles and teats available
- ◆ Sterilisation of bottles

Normal requirements

- ◆ Calorific requirements increase initially after birth and then increase slowly in 1st 2 weeks – reaching 150 mls/kg (100-120 kcal/kg/day)
- ◆ Small / preterm neonates have higher requirements to achieve ideal growth
- ◆ Requirements are based on metabolic rates and calories needed for physiological functioning
- ◆ Nutrients- Protein, Carbohydrate, Lipids, Vitamins, Electrolytes, Trace elements, Iron

'Tube' feeding

- ◆ Via nasogastric / orogastric for bolus (gavage) feeding until neonate is well enough to feed orally OR is physiologically able (i.e. suck / swallow from 34 weeks)
- ◆ *Issues in the preterm neonate–*
- ◆ *'Trophic' feeding* (minimal enteral nutrition (MEN) with breast milk to prime the gut),
Non nutritive sucking – neonate has pacifier to get used to stomach filling during a gavage feed

Feeding in the Neonatal Unit

- ◆ Total Parenteral Nutrition (TPN) – Parenterally delivered nutrients to support normal growth, required for a non-functioning gut
- ◆ Needed for intrauterine weight gain
- ◆ Start early and build up.
- ◆ Use Trophic feeding / MEN during TPN to prime gut
- ◆ (Leaf, 2007;

Other feeding issues in the Neonatal Unit

- ◆ Bottle verses breast feeding
- ◆ Assisting with expression of breast milk and correct handling / storage
- ◆ Cup feeding
- ◆ Supplementation
- ◆ Specialist help and devices
- ◆ Persistent feeding difficulties
- ◆ Weaning onto solids
- ◆ Family support

Feeding problems

- ◆ Common in the new-born period
- ◆ Categorised as transient or persisting
- ◆ Transient relate to perinatal & / or maternal factors and resolve within days or weeks
- ◆ Persistent difficulties suggest an underlying organic cause
- ◆ Specific problems – respiratory distress
Cardiac, Surgical – structural defects or
NEC, Reflux

Feeding Assessment

- ◆ Weight, Growth charts – full-term & Pre-term –
- ◆ Post-natal head growth & length
- ◆ Blood sugars & other bloods, intake / output – ‘balance’, observation of feeding, history, referral to speech and language therapist and/or dietician
- ◆ Assessment of the readiness to feed and feed tolerance. Readiness – bowel sounds, passing of stool, nil vomiting or aspirates, no abdominal distension
- ◆ Tolerance – aspirates, affected by stress & disease

Further Reading

- ◆ Harding, C.M., Law, J., Pring, T. (2006) The use of non-nutritive sucking to promote functional sucking skills in premature infants: An exploratory trial. *Infant* 2(6): 238-240, 42, 43. http://www.neonatal-nursing.co.uk/pdf/inf_012_nsp.pdf
- ◆ Geddes, D.T. (2007) The anatomy of the lactating breast: Latest research and clinical implications *Infant* 3(2): 59-63. http://www.neonatal-nursing.co.uk/pdf/inf_014_lbt.pdf
- ◆ Jones, E., Spencer S.A. (2005) How to achieve successful preterm breastfeeding *Infant* 1(4): 111, 112, 114, 115. http://www.infantgrapevine.co.uk/pdf/inf_004_spm.pdf
- ◆ King, C. (2005) Human milk for preterm infants – when and how to fortify. *Infant* 1(2): 44-46, 48. http://www.infantgrapevine.co.uk/pdf/inf_002_whf.pdf
- ◆ Leaf, A. (2007) Early enteral feeding in high-risk preterm infants *Infant* 3(1): 27-30. http://www.neonatal-nursing.co.uk/pdf/inf_013_pts.pdf
- ◆ Petty, J. (2013) Nutritional Needs of the Newborn Baby. *British Journal of Nursing*. 22, 13, 738-740.
- ◆ ROYAL COLLEGE OF PAEDIATRICS AND CHILD HEALTH (RCPCH)
- ◆ <http://www.rcpch.ac.uk/child-health/research-projects/uk-who-growth-charts/uk-who-growth-chart-resources-0-4-years/uk-who-0>
- ◆ Sachs M & Dykes F (2006) Growth Monitoring of Infants and Young Children in the United Kingdom Report to NICE, October. <http://www.nice.org.uk/nicemedia/live/11943/43905/43905.pdf>

Further Reading - websites

- ◆ Department of Health and Food Standards Agency – Guidelines on preparation of powdered milk formula (updated 2011). <http://www.food.gov.uk/multimedia/pdfs/formulaguidance.pdf>
- ◆ NICE Quality Standards on Breastfeeding -
- ◆ <http://www.nice.org.uk/guidance/qualitystandards/specialistneonatalcare/breastfeeding.jsp>
- ◆ DoH Infant Feeding Survey
- ◆ http://www.breastfeeding.nhs.uk/en/docs/sacn_ifs_paper_2008.pdf
- ◆ NHS Breast feeding page
- ◆ <http://www.nhs.uk/Planners/breastfeeding/Pages/breastfeeding.aspx>
- ◆ http://www.who.int/child_adolescent_health/topics/prevention_care/child/nutrition/breastfeeding/en/index.html
- ◆ <http://www.who.int/topics/breastfeeding/en/>
- ◆ <http://www.nhs.uk/Conditions/Breastfeeding/Pages/Introduction.aspx>
- ◆ <http://www.nhs.uk/conditions/bottle-feeding/Pages/introduction.aspx?url=Pages/what-is-it.aspx>
- ◆ NICE FULL Guidance on Breast Milk Donor banks -
- ◆ <http://www.nice.org.uk/nicemedia/live/12811/47545/47545.pdf>
- ◆ UNICEF UK Baby Friendly Initiative (2002). Baby Friendly best practice standards for midwifery and health visiting education. <http://www.babyfriendly.org.uk/education.htm>