East of England Neonatal ODN
(Hosted by Cambridge University Hospitals)

Clinical Guideline: Mouth care

Authors: East of England Benchmarking Group members

For use in: EoE Neonatal Units
Guidance specific to the care of neonatal patients.

For use in: East of England Regional Neonatal Units

Used by: Healthcare professionals giving direct care to neonatal patients

Key Words: oral, mouth care, oral mucosa, oral cavity, lips, feeding experiences, flavour, maternal antibodies

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Approved by:

Neonatal Clinical Oversight Group	
Clinical Lead	Matthew James

Audit Standards:

1. There is an evidence-based assessment tool used for mouth care
2. There is information and education to support parents in meeting the mouth care needs of their infant
3. Mouth care is continually evaluated and reassessed
4. Practice is benchmarked annually, and action plans formulated

1. Scope

For use in neonatal units within the East of England ODN

2. Purpose

- To inform practice in order to maintain a clean and comfortable oral cavity by effective mouth care procedures.
- To ensure that effective oral care is maintained in all babies, especially for ones that are unable to orally feed.
- To introduce early flavour experiences for babies, especially those who are nil by mouth or exclusively fed via gastric tube.
- To enable staff to educate and support parents in meeting the mouth care needs of their babies.

3. Background

The mouth is a crucial orifice for eating, drinking, taste, breathing, speech, communication and the immune system[1]. A healthy oral cavity is the first line of defence against any potential infection. Dry and cracked lips can harbour pathogens as the protective barrier has been reduced[2].

Assessment and delivery of appropriate oral care refreshes the mouth, keeps the mucous membranes moist and can reduce distress and discomfort as well as prevent potential infections [3,1]. In addition, oropharyngeal administration of colostrum may provide potential immune therapy for ELBW infants and decrease incidences of NEC and sepsis ([11,4]).

The early sensory experiences of high-risk neonates are drastically different from those of a typical infant. Neonates who are fed via gastric tube do not have the same opportunities to experience flavours and traditional feeding behaviours[5]. Therefore, providing oral care with milk for babies can introduce and develop some

early positive taste and smell learning experiences and achieves the same benefit of coating the oral mucosa that the infant who is breast or bottle feeding receives[6].

Using the mother's own colostrum or breastmilk during oral cares is inexpensive and well tolerated by even the smallest and sickest ELBW infants[8, 9, 1]. It also provides positive experience for the parents. Providing oropharyngeal colostrum is associated with increased rated of feeding with breast milk ([7],).

4. Risk factors for poor oral health in a neonate

- Nil by mouth status
- Restricted oral intake / gastric tube feeding
- Respiratory support
- Oral suction
- Antibiotic therapy
- Oxygen therapy
- Muscle relaxant /sedation
- Diuretic therapy
- Tachypnoea
- Drugs that can induce dry mucosa – morphine, steroids

5. Breast milk use for mouth care

- NICE guidance and Specialist Neonatal Quality Standards promotes the support of mothers to express breast milk and establish lactation[6].
- Colostrum and breast milk have unique properties which promote babies' health and development, including maternal antibodies and anti-inflammatory substances which offer protection against disease and infection[10].
- Nurses should advise parents of babies who are unable to be enterally or orally fed, about the value of breast milk, particularly in relation to its anti-infective and anti-inflammatory properties to the vulnerable newborn.
- Babies are thought to recognize the taste of their own mother's milk and the familiarity can provide comfort to the newborn[14].
- Freezing and then thawing breast milk can decrease its cellular and host defence properties[15], therefore it is advised that fresh EBM is used in preference to EBM that has been frozen and then defrosted. Refrigerating EBM can also reduce some of the anti-infective properties of EBM but not as significantly as freezing[15].
- Nurses should request that mothers bring their fresh colostrum to the neonatal unit, in order to be able to start using it for oral care prior to freezing.

Additives such as fortifier should not be used in milk for oral cares.
If breast milk is not available, sterile water can be used instead.

It must be noted that there has been discussion that for infants who are exclusively formula fed, using formula for mouthcare provides a more positive taste experience than sterile water. There is little evidence to support this practice in terms of oral hygiene and it may adversely impact the health of the mouth and gums[16]. While at this time we are unable to advocate for the use of formula to maintain good oral hygiene, we do recognise that there may be a place for formula dummy dips during N/OGT feeds to enhance the experience.
Dummy dips should only be conducted as part of an agreed plan of care between the clinical team, families and SALT (if available on your unit).

6. Assessment

All babies on the neonatal unit should be considered eligible for oral care, as studies have so far shown that even the sickest, smallest babies; including those who are nil by mouth or ventilated benefit from moistening the lips and removing any coating[9].

Mouth care with colostrum or EBM (when available) should be introduced as soon as it is available after birth. Staff should check for any contraindications for giving a baby colostrum e.g. maternal HIV infection or specific medications.

To enable appropriate mouth care, each individual baby will require a thorough oral risk assessment. This assessment represents the vital first step in planning oral care. The use of a risk assessment tool (Appendix 1) enables a consistent approach to decisions about the timing of mouth care.

Each baby should be risk assessed (Appendix 1), at the beginning of each shift. This will enable the practitioner to decide on the frequency of the mouth care required. However, this may need to be reassessed during the shift.

The condition of the mouth should be assessed regularly (Appendix 2) to provide an outcome to measure the quality and effectiveness of mouth care interventions. This will also highlight problems at an early stage.

7. Equipment

- Baby's own fresh EBM/sterile water
- Cotton tipped applicators/gauze
- Non-sterile gloves if required
- Waste bag

8. Method

It is part of the nurses' role to facilitate family-centred care, therefore, whenever possible, oral care should be performed by the family/carer. The East of England Neonatal ODN Parent Passport assistance cards should be used for staff/parent teaching to ensure the consistency of the method taught.

1. Assess that the baby's clinical condition is stable enough to receive mouth care.

2. Ensure baby is awake. Aim to perform mouth cares with EBM prior to a tube feed, to promote the association of tasting milk at feed time.

3. Carry out thorough hand hygiene, as per Trust policy.

4. Prepare equipment ready for use.

5. Check that the baby's milk or sterile water is in date. If breast milk, ideally this should be freshly expressed and not taken from the stock of milk used for feeding

6. If the infant requires suction this should be carried out before the mouth care is performed to remove secretions from the oral cavity.

7. It is vital that mouth care is a positive experience for babies, in order to counterbalance the many negative experiences they have and with the aim of reducing the risk of oral aversion. Carers and staff should therefore be guided by the baby's behavioural cues throughout mouth cares, pausing to allow the baby to recover from any periods of instability and only continue if the baby is able to maintain homeostasis.

8. Dip a cotton tipped applicator/gauze in the milk/sterile water and squeeze lightly, to remove excess liquid. Administration of Buccal Colostrum should be considered first as this has shown many benefits ([12]). Use this to clean gently and slowly around the oral cavity, paying particular attention to the gums, palate, tongue and buccal mucosa (lip & cheek lining). Using a 'dab and roll' technique is preferable to wiping, which can be too tickly and over-stimulating. Repeat until clean, provided the baby is tolerating the procedure. Never re-dip a used swab into a sterile water bottle / container of milk as this will contaminate the liquid with bacteria.

9. With a fresh applicator/gauze gently apply milk/sterile water over the lips using the same dab and roll technique to freshen and remove any coating. Repeat if lips are very dry or coated. This acts as a lubricant and helps to prevent breakdown of the surface tissue, increasing the baby's comfort.

10. Discard any used equipment.

11. Wash and dry hands thoroughly to prevent potential spread of infection.

12. Document the mouth care assessment score (Appendix 2) to indicate the condition of the mouth prior to mouth care, and that care has been given.

13. Escalate any concerns to the Doctor and record in medical notes.

14. For babies receiving suck feeds, the frequency of oral care will be significantly reduced. Babies' lips may still become dry, so nurses and parents can continue to use gauze or a soft cloth for oral care.

9. Parental Education

Oral care is a prime example of one of the procedures that can be offered and taught to parents on the neonatal unit[13]. Nurses should encourage parents/carers to participate in early involvement on the neonatal unit to provide family-centred care, ensure that parents are involved in their baby's plan of care and prepare for them discharge home. Parents should also:

- Be made aware of written information or reputable internet sources on oral care and its importance.
- Receive demonstration from nurses in the delivery of oral care to their infant, appropriate to gestation and clinical condition.
- Be encouraged to document in their Parent Passport that they are delivering mouth care to their baby.

10. Audit

Audit will be through annual benchmarking activity and consequent action planning using infant's records to assess quality outcomes and guideline adherence. Poor scores may necessitate more frequent audits to ensure progress is being made.

References

1. Gross D, Oude-Reimer M et al (2018)., European Standards of Care for Newborn Health: Mouth care.

2. Fernandez et al (2017), Oral care in the neonatal intensive care unt. The journal of Maternal-Fetal & Neonatal Medicine, Volume 30, (8).

3. Whiteing, N. & Hunter, J. (2008) Nursing management of patients who are nil by mouth. *Nursing Standard. 22(26): 40-45.*

4. Lee et al (2015), *Oropharyngeal colostrum administration in extremely premature infants: an RCT*. Pediatrics. 2015 Feb;135(2):e357-66)

5. Bloomfield, H.F et al (2017) Early Human Development: Smell and taste in the preterm infant. Volume 114 pp 31-14

6. National Institute for Clinical Excellence (NICE) (2011) *Specialist neonatal care quality standards*. London. NICE.

7. Snyder et al (2017), *Early provision of oropharyngeal colostrum leads to sustained breast milk feedings in preterm infants* Pediatrics & Neonatology, Volume 58, (6), 2017, p534-540

8. Spatz, D. L. & Edwards T. M. (2009) *The Use of Colostrum and Human Milk for Oral Care in the Neonatal Intensive Care Unit.* National Association of neonatal nurses. E-News. (1) 4.

9. *Negrea, I (2021) Neonatology for nurses. [E-book]* : MedDocs Publishers LLC. Accessed at Neonatology for Nurses (meddocsonline.org) on 15/7/21.

10. Rodriguez, N. A; Meier, P.P; Groer, M.W. & Zeller, J.M. (2008) Oropharyngles administration of colostrum to extremely low birth weight infants: theoretical Perspectives. *Journal of Perinatology 29 1-7.*

11. Tao, J., Mao, J., Yang, J. *et al.* Effects of oropharyngeal administration of colostrum on the incidence of necrotizing enterocolitis, late-onset sepsis, and death in preterm infants: a meta-analysis of RCTs. European Journal of Clinical Nutrition 74 1122-1131

12. Rodriguez.N.A, Meier.P.P, Groer.M.W, Zeller.J.M, Engstrom.J.L, Fogg.L, Dowling.D. A Pilot Study to Determine the Safety and Feasibility of Oropharyngeal Administration of Own Mother's Colostrum to Extremely Low-Birth-Weight Infants. *Advances in Neonatal Care. August 2010 (10) 4 p206-212.*

13. Petty, J. (2015) *Bedside Guide for Neonatal Care: Learning Tools to Support Practice.* Palgrave: London.

14. Unicef (2016) *Guidance for Neonatal Units.* The Baby Friendly Initiative: Unicef. Accessed at Guidance for Neonatal Units (unicef.org.uk)f on 28.06.21 @ 13.00.

15. Wight, N.E. (2001) Donor human milk for preterm infants. *Journal of Perinatology 21 249-254.*

16. Devalia, U; Tomlinson, S; Lau, K; Bolooki, H; Johnson King, O. & Lui, C. (2019) *Mini Mouthcare Matters: A guide for hospital healthcare professionals.* Health

Education England (2019) accessed at http://mouthcarematters.hee.nhs.uk/wp-content/uploads/sites/6/2020/01/MINI-MCM-GUIDE-2019-final.pdf on 08/12/21

17. BLISS (2019) Bliss Baby Charter Principle 5: Unit information and support. Accessed at Baby-Charter-booklet-2020.pdf on 28.6.21 @ 15:00.

18. Clinical Guidelines Education Team (2001) *Implementing Clinical Guidelines: A Resource for the Health Care Team*. Bailliere-Tindall. Edinburgh.

Appendix 1

Mouth Care Assessment Tool

Risk Assessment Tool for Mouth Care (Undertaken once per shift & documented according to local documentation) **0 = low risk 9 = high risk**	
Ventilated, CPAP or Flow Driver	0 = no 1 = yes
Ventilated period	0 = ventilated < 1 week 1 = ventilated > 1 week
Paralysed	0 = no 1 = yes
Sedated	0 = no 1 = yes
Oxygen requirement	0 = no 1 = yes
Feeds via gastric tube or NBM	0 = no 1 = yes
Fluid restricted	0 = no 1 = yes
Antibiotics	0 = no 1 = yes

Candida =/- receiving antifungal	0 = no 1 = yes

The Risk Assessment will determine the frequency of mouth Care

0 = no mouth care required
1- 4 = 6-8 hourly mouth care
5-8 = 4-6 hourly mouth care
>8 = minimum of 4 hourly mouth care

If your risk assessment or assessment of the mouth score = 0 and yet mouth care is still needed, then please put the score in the care plan and write next to it why mouth care was needed

Appendix 2

Assessment of the Mouth Undertaken at each mouth care (Score written on chart where mouth care indicated & care plan)		
Lips	**Observation**	**0 = smooth, pink, moist** **1 = coated, dry or cracked** **2 = ulceration or bleeding**
Tongue	**Observation**	**0 = pink, moist papillae** **1 = coated/shiny + >/< red appearance** **2 = blistered or cracked**
Oral secretions	**Observation**	**0 = minimal (no oral suction)** **1 = moderate (oral suction)** **2 = copious (> 4^0 suction)**
Consistency of oral secretions	**Observation**	**0 = clear and clean** **1 = thin & mucoid** **2 = thick & discoloured**

Adapted from: Jiggins M, Talbot J (1999) **Mouth Care in PICU.** Paediatric Nursing Dec/Jan;11(10):23-26

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Surname:	Telephone contact number:
Title of document to be excepted from:	
Rationale why Trust is unable to adhere to the document:	
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EOE ODN Executive Administrator
Box 93
Cambridge University Hospital
Hills Road
Cambridge CB2 0QQ