# Guideline Framework for Mouth Care on the Neonatal Unit

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## Related documents

### References


Implications of race, equality & other diversity duties for this document

This guideline must be implemented fairly and without prejudice whether on the grounds of race, gender, sexual orientation or religion.
# Guideline Framework for Mouth Care on the Neonatal Unit

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1.0 Aim of Guideline Framework

To provide a framework to ensure that all infants nursed on the neonatal unit receive highest quality evidence based mouth care.

2.0 Scope of Guideline Framework

The guideline applies to all infants nursed within Thames Valley and Wessex Neonatal Operational Delivery Network.

### Thames Valley

- Buckinghamshire Healthcare NHS Trust - Stoke Mandeville Hospital, Aylesbury
- Frimley Health NHS Foundation Trust - Wexham Park Hospital, Slough
- Milton Keynes University Hospital NHS Foundation Trust - Milton Keynes General Hospital
- Oxford University Hospitals NHS Foundation Trust - John Radcliffe Hospital, Oxford
- Oxford University Hospitals NHS Foundation Trust - Horton General Hospital, Banbury
- Royal Berkshire NHS Foundation Trust - Reading

### Wessex

- Dorset County Hospital NHS Foundation Trust - Dorset
- Hampshire Hospitals NHS Foundation Trust - Basingstoke
- Hampshire Hospitals NHS Foundation Trust - Winchester
- Isle of Wight NHS Trust - St Mary's Hospital
- Poole Hospital NHS Foundation Trust - Poole Hospital
- Portsmouth Hospitals NHS Trust - Queen Alexandra Hospital
- Salisbury NHS Foundation Trust - Salisbury
- University Hospital Southampton NHS Foundation Trust - Princess Anne Hospital
- Western Sussex Hospitals NHS Foundation Trust - St Richard's Hospital, Chichester

These guidelines have been produced to direct nursing staff in their mouth care practice, for all infants admitted to the neonatal unit and are based on research findings and agreed current best practice. For accessibility, the guidelines have been collated under distinct subheadings, in the order that information is likely to be needed in practice. However, the reader is strongly advised to read the guidelines in full and to seek the advice and support of more senior or experienced colleagues in the practice setting.

3.0 Guideline summary.

- The principle objective of mouth care is to maintain the mouth in good condition. But it can also benefit the neonate by:
  - Providing a positive oral experience for the infant.
  - Supporting early sensory development of taste and smell.
Guideline Framework for Mouth Care on the Neonatal Unit – May 2019 v2
TV & W Governance group Ratified 05.06.19
Neonatal Generic email: england.tv-w-neonatalnetwork@nhs.net

- If maternal colostrum or breast milk is used, the neonate can gain from the advantageous constituents of the colostrum/ milk.

- Mouth care should usually be performed at least once in a 12 hour period. However the frequency of mouth care should be individualised for each baby and based on their risk assessment score, behavioural cues, sleep state and tolerance of handling.

- Colostrum, fresh maternal colostrum –when available- should always be the first choice for performing mouth care. Unlike colostrum or human milk, formula milk must not be used for mouth care if a baby if unwell or nil by mouth.

- Effective oral assessment should occur each time that mouth care is given. This should be documented using a mouth assessment tool and in the nursing record.

- Parents should be educated about mouth care and supported/ encouraged to participate in this process for their own baby.

- Babies with replogle tubes in situ should receive mouth care with sterile water, until there has been agreement with the surgical team that they are happy for the baby to receive colostrum/ maternal milk.

4.0 Background information

The mouth is important for eating, drinking, speech, communication, taste, breathing and defence. The principle objective of mouth care in any patient population is to maintain the mouth in good condition. (Bravery et al 2014.)

Specific aims of mouth care include to:

- Keep the oral mucosa clean, soft, moist and intact, thus decreasing the risk of oral and systemic infection.
- Keep the lips clean, soft, moist and intact.
- Remove debris without damaging the mucosa.
- Alleviate pain/discomfort, and for some patients thereby enabling oral intake.
- Freshen the mouth.
- Reduce oral colonisation of gram negative flora.
- Increase general wellbeing.

However in the sick or preterm neonate who is not yet receiving regular oral feeds, it also aims to

- Provide a positive oral experience for the infant.
- Support early sensory development of taste and smell.
- May affirm the mother’s sense of the importance of her milk.
- If maternal colostrum or breast milk is used for mouth care, the infant does not swallow the milk, but is able to absorb through the oral mucosa, many of the advantageous constituents of the colostrum;
  - Human milk has unique properties which promote babies’ health and development, including maternal antibodies and anti-inflammatory substances which offer protection against disease and infection. (Smith, 2012).
  - Colostrum is particularly rich in these factors, providing bactericidal, antiviral, anti-inflammatory and immunomodulatory protection.
- Internationally, some units have begun programmes of regular colostrum administration to preterm babies and have seen a lower incidence of ventilator associated pneumonia, lower infection rates and lower levels of necrotising enterocolitis (NEC). (Lee et al, 2015, hnnicu, 2015).
For some neonates there are additional factors which may compromise their oral wellbeing. These include:

- Restricted access to oral mucosa causes difficulty in performing oral hygiene and an increased risk of mucosal deterioration. (i.e. Intubated infants, infants with jaw abnormalities or infants nursed in a chin down position following oesophageal atresia repair.)
- Children with Down syndrome have a tendency towards thick, ropy sticky saliva which lacks the natural cleansing properties of normal saliva.
- Fever can lead to a dry mouth and coated tongue.
- Antibiotics can alter the mouths natural flora and increase the risk of opportunistic infection.
- Some medications cause a dry mucosa (i.e. morphine).
- Inhaled corticosteroids can increase the risk of candidiasis occurring.
- Oxygen therapy may result in dry mucosa.

**Practice Guidelines**

**Risk assessment for mouth care**

- To enable the frequency of mouth care to be correct for the individual needs of the baby, every baby should be risk assessed at the beginning of each shift. This will enable the staff member to decide on the frequency of mouth care, during the shift, although this may need to be reassessed during the shift.
- The risk assessment score should be documented in the nursing record.

**Mouth Care Assessment Tool**

(Taken from EoE (2015) Appendix 1)

<table>
<thead>
<tr>
<th>Risk Assessment Tool for Mouth Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Undertaken once per shift &amp; written in the care plan and on chart)</td>
</tr>
<tr>
<td>0 = low risk 9 = high risk</td>
</tr>
</tbody>
</table>

| Ventilated, CPAP or Flow Driver | 0 = no |
|                                | 1 = yes |
| Ventilation, CPAP or Flow Driver period | 0 = < 1 week |
|                                    | 1 = > 1 week |
| Muscle relaxed | 0 = no |
|                | 1 = yes |
| Sedated | 0 = no |
|          | 1 = yes |
| Oxygen requirement (Cannula, Headbox or Ambient) | 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.

Method for mouth care

- Staff should plan for mouth care to occur regularly, most commonly it will be given around the same time that ‘cares’ are performed. However the frequency of mouth care should be individualised for each baby and based on their behavioural cues, sleep state and tolerance of handling. A frequency of at least 6-8 hourly will be appropriate for most babies.

- Gather the required equipment together (see equipment section below for further details)
  - Cotton tipped applicators
  - Lint free gauze
  - Sterile water (labelled and dated and changed every 24 hours, and only used for mouth care)
  - Fresh colostrum (expressed breast milk, donated milk) 0.2-0.3mls ideally drawn up into a separate syringe.
  - Liquid paraffin or soft Vaseline (single patient use, used only for mouth.)
  - A source of light (can be helpful, to ensure good visualisation of the mouth.)

- Perform hand hygiene and apply non sterile gloves.
- If the baby requires suction, this should be carried out before mouth care is performed.
- During mouth care, staff should be observing the condition of the mouth, lips and tongue closely, in order to make a thorough oral assessment.
- Take a sterile gauze swab, dip into the bottle of sterile water and squeeze to remove excess water. Wipe the baby’s lips to remove dry skin or debris.
- Dispose of the swab, and clean with another if necessary, never re-dip a used swab into the sterile water bottle, as this will contaminate the water with bacteria and/or mouth debris.
- Soak the cotton bud with the colostrum and gently roll the bud along the lips. If the mouth cavity is big enough also roll the applicator around the gum line and over the tongue - the aim being to coat the buccal cavity in a layer of milk.
- If the lips are dry a thin layer of yellow soft paraffin or liquid paraffin can be applied directly to the lips, using a cotton tipped applicator or a gloved finger.
- Discard all used waste items after the procedure, including any excess milk, in order to prevent bacterial colonisation and the introduction of infection.
- Ensure equipment is restocked and left in the appropriate place, clean and tidy.
- Document the findings of oral assessment and intervention in the infant’s charts and review frequency of oral care as necessary.

What fluid to use for oral care

- Due to the current knowledge of the many beneficial properties of colostrum, fresh maternal colostrum – when available – should always be the first choice for performing mouth care.
- Second choice (when available) should be maternal breast milk. Ideally freshly expressed milk. Refrigeration can reduce some of the anti-infective properties of breast milk, however freezing and thawing breast milk reduces its’ cellular and host defence properties. Therefore if fresh milk is not available, refrigerated, but never frozen milk is the next best option.
- The maternal breast milk used for mouth care should not contain additives such as fortifier (Dewhurst 2010).
- Do not ‘take’ milk allocated for the days’ feeds, for mouth care, as this will deplete the volume of milk the baby receives if done regularly.
Third choice for mouth care will usually be sterile water if no form of human milk is available for the baby. This can also be used to ‘dilute’ colostrum if the amount available is very small.

When the parents plan for their baby to be formula fed, **and** the baby will not be receiving human milk in the short term, then it would be possible to use formula milk when performing mouth care. Whilst it will lack the beneficial effects of human milk, it seems likely that the baby will still be able to gain pleasure from tasting the milk. Also if the baby is being tube fed they will still gain a positive association between satiation and the taste of the formula feed. **However, unlike colostrum or human milk, formula milk must not be used for mouth care if a baby is unwell or Nil by Mouth as we do not have evidence that it is safe for all sick or extremely small babies.**

**General practice**

- All babies on the neonatal unit should be considered eligible for mouth care as studies so far have shown that coating the baby’s mouth with colostrum is safe, even for the sickest babies, and smallest babies, including those who are nil by mouth or requiring ventilation.
- Mouth care with colostrum or breast milk (when available) should be performed at least once in a 12 hour period.
- Mouth care with colostrum or breast milk should be introduced within 48 hours of birth.
- Coating the oral mucosa with EBM/ Formula prior to a tube feed promotes the association of tasting milk at feed time. This can be done before each feed using the cotton bud technique described previously. During or prior to a tube feed, it is also possible to dip a baby’s pacifier into the milk and offer this to the baby to suck. However this should only be done with informed consent of the parents. Also, a baby on hourly tube feeds is not likely to benefit from mouth care/ pacifier dips with every feed; instead staff should be guided by the baby’s behavioural cues.
- Do not ‘force’ mouth care onto a sleeping baby, or a baby that is unwilling to open its mouth. The baby is likely to be more receptive on another occasion, and it is important that the experience is positive, helping to reduce the risk of oral aversion, for babies that already have many negative oral experiences. (i.e. Due to intubation, oropharyngeal suctioning and presence of oro-gastric tubes.)
- Unit guidance about storage of breast milk should be followed for milk used for mouth care. The same stringent rules about times limits for keeping milk out of the fridge must still apply.
- Soft yellow paraffin and liquid paraffin can be applied to the lips to soothe dryness, but should be used with caution as they are highly flammable.
- If a baby is being nursed under phototherapy then soft yellow paraffin and liquid paraffin should NOT be applied to the baby’s lips, due to the low but possible risk of causing burning to the skin, when exposed to the phototherapy lights.

**Effective oral assessment**

- Effective oral assessment should occur each time that mouth care is given, and should involve consideration of:
  - **Lips and corners of the mouth**- which should be smooth, pink and moist. Check for any dryness, cracks, ulceration and bleeding.
  - **Tongue**- observe the appearance, it should be pink and moist with papillae (taste buds) with a shiny appearance. Check for cracking or splitting, presence of oral candida, redness, ulceration.
  - **Saliva**- should be thin and watery.
  - **Mucous membranes**- should be pink and moist, observe redness, ulceration or candida.
- Assessment of the mouth should be documented using a mouth assessment tool. An example of one adapted for neonates can be seen below.
## Oral Assessment Tool for Neonates
(Adapted from EoE 2015 and Douglas 2010)

<table>
<thead>
<tr>
<th>Category</th>
<th>Method of assessment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lips and corner of the mouth.</td>
<td>Observe appearance of tissue.</td>
<td>Normal, Smooth, pink and moist.</td>
<td>Dry, cracked or swollen.</td>
<td>Ulcerated or bleeding.</td>
</tr>
<tr>
<td>Tongue</td>
<td>Observe appearance of the tongue.</td>
<td>Normal, Firm without fissures or prominent papillae. Pink and moist.</td>
<td>Coated or loss of papillae, with a shiny appearance with or without redness and/or oral Candida.</td>
<td>Ulcerated, sloughing or cracked.</td>
</tr>
<tr>
<td>Saliva</td>
<td>Observe consistency and quality of the saliva.</td>
<td>Normal, Thin and watery.</td>
<td>Excess amount of saliva, Drooling.</td>
<td>Thick, ropy or absent.</td>
</tr>
<tr>
<td>Mucous membrane</td>
<td>Observe the appearance of the tissue.</td>
<td>Normal, Pink and moist.</td>
<td>Reddened or coated without ulceration and or oral candida.</td>
<td>Ulceration and sloughing with or without bleeding.</td>
</tr>
</tbody>
</table>

**Score 0**- no action required.

**Score 1-4**- increase frequency of mouth care and reassess at end of shift.

**Score 5-8** – discuss with senior nursing or medical staff. Increasing the frequency of mouth care may not be effective, further investigation or active treatment may be required.

- The oral assessment score should be documented in the nursing record after every episode of mouth care.

### Parents

- Parents should be educated about mouth care and supported/ encouraged to participate in this process for their own baby. It is important that they are taught how to do so safely and are observed performing mouth care, until staff are happy they are competent.
- Offer staff written information on mouth care, to reinforce verbal teaching (see example in Appendix 1).
- Parents should be informed of the beneficial effects of colostrum and human breast milk generally, and particularly for mouth care offered when a baby is unable to be enterally fed.
- Staff should ensure that they are working within the guidance of the breast feeding policy, to support mothers to express their milk.
- Staff should inform parents that initially it is normal for colostrum to be produced in small volumes, but that even relatively small volumes of milk can be collected and stored for current or future use.
Equipment

- It is acceptable to use cotton tipped applicators for mouth care, as there is no current NPSA alert out against this product. However they should be used with consideration of the following advice;
  - Check the cotton tip is firmly attached before use.
  - Do not leave the applicator soaking in liquid; instead moisten the tip immediately before use.
  - If the baby is likely to bite down on the tip, consider using another product, such as a lint free gauze wrapped around a fingertip.
  - Ensure that parents are informed of this advice.

- Soft yellow paraffin and liquid paraffin can be used to soften lips during mouth care as there is no current NPSA alert against this product. However some units are concerned about using these products due to their flammable nature- especially when babies have an oxygen requirement. Use will be based on local policy.

- Sterile water may be available in more than one form. An individual ‘water for injection’ pod can be used for each episode of mouth care. It is also acceptable to use 60-100ml bottles of sterile water. These must be dated and labelled when opened, changed at least every 24hours and only used for mouth care purposes.

- Foam cleaning sponges are NOT recommended for mouth care in neonates. They are too large to enable gentle and targeted mouth care. Also there has been a NPSA alert in 2012, where an adult patient died after because the sponge head became detached from the stick handle whilst in use in a patient’s mouth.

Documentation

- All episodes of mouth care should be documented in the nursing record.
- Any concerns arising from mouth care and the accompanying oral assessment should be clearly documented, including action taken.
- If mouth care is performed using maternal colostrum/breast milk this may need to be recorded in a designated place in unit paperwork- as many units are gathering this information for the ‘Badger’ data base.

Staff

- Staff should familiarise themselves with;
  - Breast feeding policy
  - Guideline for expressing and storing breast milk

- Staff should make themselves familiar with the mouth care guideline and seek further advice or clarification from the nurse in charge, or unit developmental care leads, if required.

Contraindications

- Mouth care using colostrum/ maternal breast milk may be contraindicated if there are concerns about the safety of the mothers’ milk. For example the mother has HIV, or is taking medication that contraindicates breast feeding.

Replogle tubes

- Babies with replogle tubes in situ should receive mouth care with sterile water, until there has been agreement with the surgical team that they are happy for the baby to receive colostrum/ maternal milk.
- This is because of the risk of small amounts of the milk being swallowed by the baby and then sitting around the tip of the replogle tube in the oesophageal pouch, increasing the chance of an infection in the mucosa of the pouch- known colloquially as ‘pouchitis’.
• In practice the surgical team is often willing for a baby with a replogle tube in situ to receive mouth care with colostrum/breast milk, but staff are asked to flush the replogle tube with additional volumes of saline-following the mouth care, to ensure that no trace of milk can remain in the oesophageal pouch.

Oral Thrush

• Oral thrush is caused by a yeast fungus called Candida Albicans. Healthy people have this fungus in their mouths and it does not normally cause a problem, but it can overgrow and infect the membranes in the mouth. Babies are at increased risk of oral thrush because their immune systems are immature, even more so if the baby is preterm. Also if the baby has recently been treated with antibiotics, the risk of candida increases, because the antibiotics reduce the level of healthy bacteria in the infants mouth, which then allows fungus levels to increase.

• The main symptom of oral thrush is a white coating on their tongue, although there may be white patches elsewhere in the mouth. Some babies appear not to be bothered by the patches, whilst others will be reluctant to feed. There is often associated nappy rash, caused by the same infection that needs to be treated as well.

• Mouth care should be performed in the usual way for babies suspected or known to have thrush and can be performed more frequently if the baby seems to gain relief from discomfort when mouth care is performed.

• If the baby is prescribed antifungal oral medicine as treatment (usually nystatin suspension or miconazole gel) this should be given as prescribed.

• For the candida to be treated most effectively the treatment medication needs to be given at the end of mouth care, so that it remains coating the oral cavity and can continue to work. However this does not prevent colostrum/breast milk being given first as part of ‘routine’ mouth care. The milk can be tasted and enjoyed by the baby for a minute or two, before then administering the treatment medication a minute or two later.

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<td>Dec 2018</td>
<td>Reviewed by Lead Nurses and Practice Development Nurses</td>
<td>KR/Team</td>
<td>To go to Governance group for ratification.</td>
</tr>
</tbody>
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Review Date: October 2021
Appendix 1

Mouth Care - Parent’s information leaflet

- Your baby’s mouth is important for eating, drinking, communicating, tasting, breathing and keeping out infection.

- You will be encouraged to offer mouth care to your baby;
  - When they are awake
  - When they are stable
  - At least once every 12 hours
  - When you feel comfortable.

- Mouth care will help your baby to;
  - Have clean, soft, moist and intact mouth lining and tongue.
  - Have clean, soft, moist and intact lips.
  - Feel comfortable and fresh.
  - Reduce the possible build-up bacteria in baby’s mouth.
  - Enjoy the taste and smell of colostrum, breast milk, formula milk or water- depending how you wish to feed your baby.
  - If your baby is able to have colostrum or fresh breast milk they should benefit from their special properties, which promote health. These include;
    - Antibodies (anti-viral and bacteriocidal)
    - Anti-inflammatory substances
    - Immuno-modulatory protection
  - If you do not plan to breast feed, you can still choose to express for a short time and give your baby your milk/colostrum. Please ask your midwife, your baby’s nurse or the infant feeding advisors if you would like more information or help to do this.
  - You will be shown how to do mouth care for your baby, and then when you feel comfortable you can do mouth care for your baby whenever you feel your baby needs it.

What equipment do you need?

- Gather equipment needed;
  - Gauze swabs.
  - Cotton buds- if used in your hospital.
    (These can be good for tiny babies, but for safety check the cotton tip is firmly attached before use, and don’t use if your baby is strong enough to bite onto the bud and may pull off the cotton fibres.)
  - Sterile water bottle or plastic vial.
  - Colostrum, fresh breast milk or formula milk.
  - Liquid paraffin/ soft Vaseline –if used in your hospital.
How to do Mouth Care

- Start with clean hands.
- Take a gauze swab and dip it into the bottle of sterile water and squeeze to remove excess water.
- Wipe your baby’s lips to remove any dry skin or debris.
- Dispose of the swab, and use another clean one if needed.
- Soak a clean cotton bud or rolled up gauze in the milk prepared for mouth care (approx. 0.2-0.3mls).
- Cotton buds should be used straight after soaking, as the cotton tip is more likely to become loose if it is left wet for a long time.
- Gently roll the cotton bud/ gauze along your baby’s lips, and if possible around the gum line and over the tongue.
- The idea is to coat the mouth in a layer of milk.
- If baby’s lips are dry you may wish to apply a thin layer of soft paraffin (Vaseline) or liquid paraffin directly to the lips, using a cotton tipped applicator or your finger tip.
- Discard all used items, including any remaining milk and wash your hands.

Other useful information

- Try to be aware of how your baby’s lips, tongue and mouth appear, and let the baby’s nurse know if they appear dry, sore, swollen, red, cracked or bleeding, so they can help to make this better.
- Please write on your baby’s nursing charts that your baby had mouth care, or let your baby’s nurse know so that they can record this for you.
- If your baby is being given oral medicine, such as for thrush, this works best if it is given at the end of mouth care, because it remains in their mouth to do its job. We recommend giving ‘mouth care to your baby like usual, and giving them a minute or two to enjoy the milk taste and smell. Then give your baby the oral medicine, in the same way as you would give them the milk used for mouth care.

Please feel free to ask for help or more information at any time.