Chapter 2: Guidelines for the insertion of orogastric and nasogastric enteral feeding tubes in the Neonatal/ Maternity Unit

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Policy Statement

The policy supports the safe insertion of nasogastric/orogastric tubes and the safe administration of nasogastric/orogastric tube feeds.

1. Scope of Policy

The policy is aimed at medical staff, advance neonatal nurse practitioners, nurses, midwives and nursery nurses working on the neonatal unit or with neonatal patients.

Nasogastric/orogastric tubes are a method of providing enteral nutrition to a neonate. Their use is indicated when an infant is unable to feed orally, or is unable to take a sufficient amount orally to maintain growth and development. Nasogastric or orogastric tubes can be inserted to facilitate drainage of excess gastric air or fluid in a compromised infant.

Nasogastric tubes are required to administer trophic (non-nutritive) feeds to promote gut maturation/ early feeding. They provide nutrition until breast feeding is fully established breast or bottle feeds. They can be used to administer oral medications and to aspirate or drain stomach contents

2. Aims and Objectives

- To identify best practice for nasogastric tube insertion, orogastric tube care and management.

- To minimise patient risk and harm caused by misplaced nasogastric/ orogastric feeding tubes in line with patient safety and quality care.

- To standardise the procedure for passing a nasogastric/ orogastric tube.

- To standardise procedure to confirm correct position of a nasogastric/ orogastric tube

- To standardise the procedure for confirmation of correct tube position on initial insertion and during on-going care.

3. Responsibilities

It is the responsibility of all medical and nursing staff involved in the care of the neonate requiring a nasogastric/ orogastric tube to be familiar with the contents of this guideline and to maintain competence in the procedures described.

If this intervention is undertaken by a NNEB/student/parent/carer, the procedure must be directly supervised by a registered health care professional, who has been deemed competent unless the NNEB/student/parent/carer has undertaken training and been assessed as being competent.

It is the responsibility of all staff to demonstrate underpinning knowledge and understanding of infection control issues related to the management of infants with nasogastric/ orogastric tube.

4. Definitions

Nasogastric feeding tube: A tube placed in the stomach, through the nose, for the purpose of enteral feeding or drainage.

Orogastric feeding tube: A tube placed in the stomach through the mouth, for the purpose of enteral feeding or drainage.

PH indicator strips test

Placing aspirate contents on to **pH indicator strips and** interpreting a pH of 5.5 or less as evidence that the aspirate is gastric contents, and therefore placed in the stomach. PH indicator strips must be CE marked and manufactured to test human gastric juice

5. Implementation/ Guidelines

Implementation

Identify babies who requires insertion of a nasogastric or orogastric tube.

- Any baby < 34 weeks gestation
- Any baby > 34 weeks gestation who is unable to feed orally, or is unable to take a sufficient amount orally to maintain growth and development
- Any baby who requires respiratory support
- Any baby who has an antenatal diagnosis/ or is showing signs of gastrointestinal compromise

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An enteral tube can be placed either nasally or orally. There are a number of factors to consider when choosing the appropriate route. Babies diagnosed with a cleft lip/palate or establishing feeding by breast or bottle will require a nasogastric tube

Orogastric route should be used for the following:

- Pre-term infants where a nasogastric tube would occupy a significant proportion of the nostril, as they are predominantly nasal breathers.
- Infants requiring nasal prong CPAP
- Baby receiving oxygen via Low Flow/ High Flow

- Choanal Atresia

If a baby requires a nasogastric tube, always pass it before any x-ray is taken and note the length. This is an accurate ways to check tube placement

Associated Risks

Risks associated with nasogastric/orogastric tubes include:

- Pain and Distress: Insertion can be traumatic and non-pharmacological methods of pain management are advised
- Re-insertion: Babies are likely to pull out the tube making regular re-insertion necessary
- Aspiration: This may occur if the tube is misplaced allowing fluid to enter the lungs.
- Reflux: Prolonged use can lead to an increased risk of gastroesophageal reflux
- Skin integrity: Damage to the skin on the face

Equipment required for insertion of an enteral tube

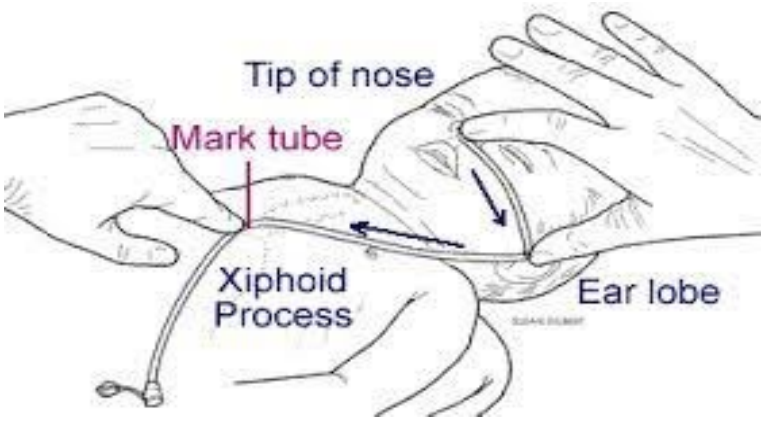
- Sterile Gastric tube
- Size 6Fr for preterm/ term infants
- Size 8Fr for those babies with gut issues or thoracic surgery
- 2ml purple oral syringe (N-Fit)
- PH indicator with range at least 1-6
- Duoderm
- Tegaderm to assist fixation
- Scissors

- Gloves & Apron
- Oral Sucrose

Choosing an appropriate route

An enteral feeding tube can either be inserted nasally or orally utilising the following scale recommended from the NPSA 2011a

NEMU – Nose, Ear Mid-Umbilicus (Ellett et al 2012)



Guidelines for placement of nasogastric tube

- Explain the procedure to family/ carers
- Place the baby supine
- Assemble all equipment required
- Measure using NEMU
- Wash hands as per ABMU hand hygiene policy
- Apply apron and gloves
- Give oral sucrose/ breastmilk for analgesia
- Cut a piece of duoderm and apply to face
- Ensure PH indicator is ready and purple syringe (NFIT) is available
- For insertion of nasogastric tube slightly extend baby's head back and pass the tube slowly into the nostril to the measured length

- For insertion of orogastric tube **–** Ensure that the head is in a neutral position, inserting the tube through the mouth.
- Apply duoderm as skin protection and secure the gastric tube with tape. Nasogastric tube secured to the side of the cheek and orogastric tube to the side of the mouth
- To confirm position aspirate a small amount of stomach contents and test using NPSA approved PH testing strip. The result should be 5.5 or less
- Document on the feeding chart the length of the tube and the result of the PH.

Check the position of the nasogastric/ orogastric tube prior to feeding

Check the nasogastric tube visually:

Is the tube at the same length as it was on the previous feed?

Is the tape loose?

Is there any kinking of the tube in the mouth?

- Only aspirate the amount required to test the pH (0.2-1 ml).
- Do not aspirate more than the required volume unless medically indicated
- A pH reading of 5.5 or below indicates that the tube is in the correct position in the stomach and you can begin feeding.
- Note the length of the nasogastric tube and the pH on the feeding chart

Troubleshooting

See Appendix A

6. Equality Impact Assessment Statement

This policy has been screened for relevance to equality. No potential negative impact has been identified so a full equality impact assessment is not required.

7. References

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- Fox, G., Hoque, N., & Watts, T. (2013) Oxford Handbook of Neonatology. Oxford: Oxford University Press

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- Parker L, Torrazza R, Yuefeng Li, Talaga E, Shuster J, Neu J (2015) Aspiration and evaluation of gastric residuals in the NICU: State of the Science
  Journal of Perinatal Neonatal Nursing 2015; 29(1) 51-59

- Wallace, T. & Steward, D. (2014).
  Gastric Tube Use and Care in the NICU.
  Newborn and Infant Review Volume 14 (3): 103-108.

The policy also contains the following additional components:

8. Related Policies

All Wales Enteral Feeding Guidelines

http://www.walesneonatalnetwork.wales.nhs.uk/document/255792

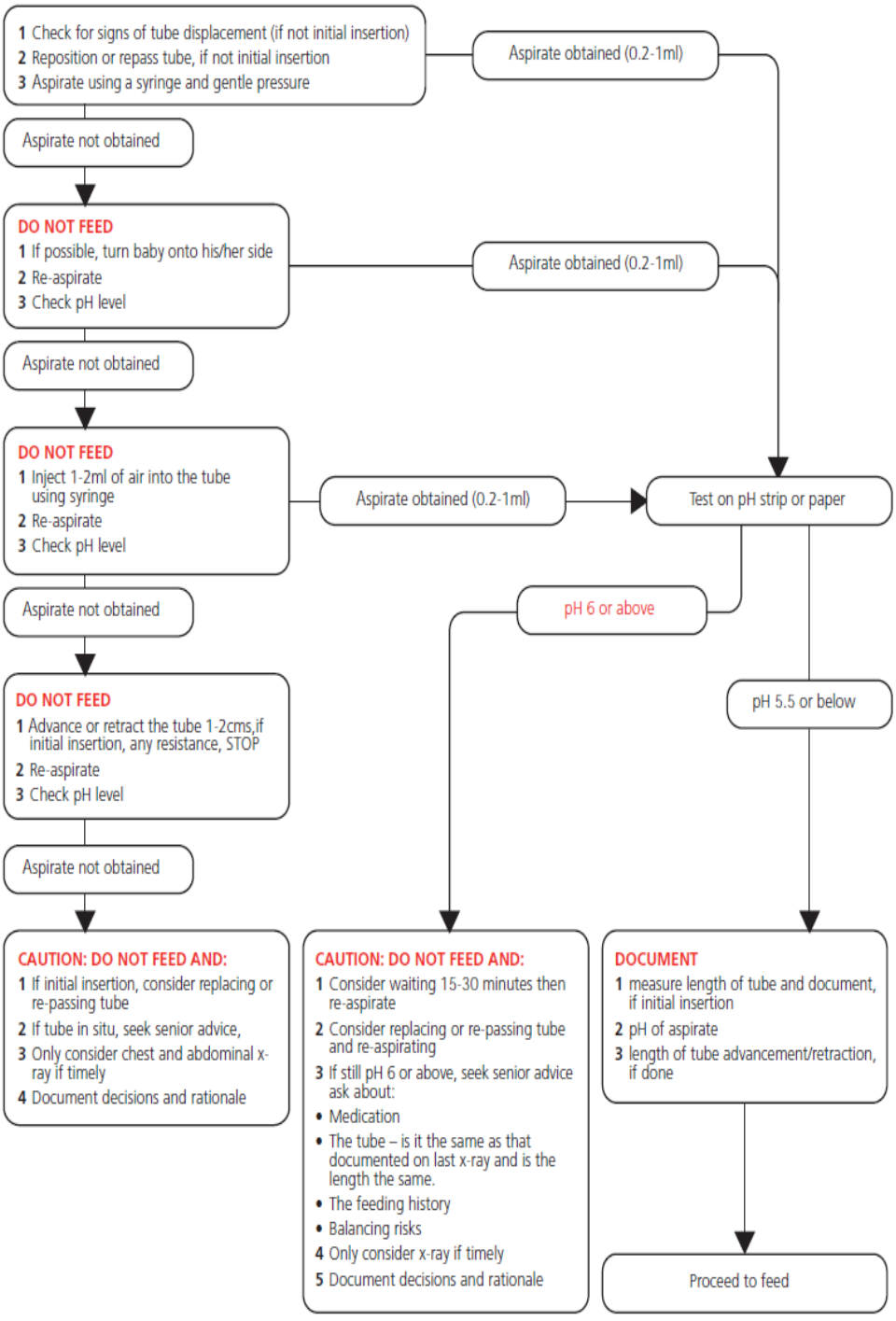
9. Information, Instruction and Training

All staff who insert, maintain or use feeding tube's should be assessed as competent through theoretical and practical training. For nurses this is generally achieved through pre-registration training, and confirmed during the preceptorship period. For medical staff, this is achieved through pre-registration training and post-registration experience.

All staff need to complete the nasogastric/ orogastric insertion competency framework. Parents can pass nasogastric /orogastric tubes but only through family integrated care competency training and they are expected to test the position of the tube prior to the commencement of feeding. There is a separate competency document for parents to complete.

Appendix A

The recommended procedure for checking the position of nasogastric/ orogastric tubes in babies under the care of the neonatal unit (NPSA 2011)



CAUTION: If there is ANY query about position and/or the clarity of the colour change on the pH strip, particularly between ranges 5 to 6, then feeding should not commence.