<u>MCN for Neonatology</u> <u>West of Scotland</u> <u>Neonatal Guideline</u>



Confirming the Position of a Nasogastric & Orogastric Tubes

Scope of this Guideline

This guideline is applicable to all healthcare professionals (HCP) and nursing support staff caring for neonates within the West of Scotland in both hospital and community settings. In addition, this guideline is also applicable to parents who have been trained to administer enteral feeds via a gastric tube. Staff should also be aware of guidelines for hand hygiene.

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1.0 Aim of the Guideline

- To promote a clear, consistent, and evidenced based approach to confirming the position of an orogastric and nasogastric tube in neonates

- To promote the safety and well-being of all patients who require a nasogastric or orogastric tube.

2.0	Background	
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The incorrect placement of a gastric tube can lead to life threatening complications such as aspiration pneumonia (1,2). It is therefore crucial that a clinical procedure is followed to confirm the position of the tube on insertion and prior to use (3,4).

A pH of 1- 5.5 is considered the "safe range" (2,4). It is reported that tracheal secretions have a pH of 6 or above (5), therefore any pH that is not clearly 5.5 or less should be rechecked. Every pH reading should be documented in patient electronic records or written notes. Importantly failure to obtain a pH should be documented with subsequent management clearly outlined in patient electronic or written notes.

Indications

Gastric tube position should be checked -

- Immediately after initial tube insertion
- For babies with feeding tube already in situ -
 - Check for evidence of tube displacement before each feed (loose tape, movement of tube marker) - and test for pH level prior to each feed by using the minimum of aspirate (no more than 0.2ml)
 - continuous feeds check for evidence of tube displacement hourly and test aspirate pH prior to syringe changes 4hourly
 - Nil orally test for aspirate pH 6 hourly
 - Before medications are given
- Following a bout of coughing, retching or vomiting

3.0 Procedure

- 1. Gather necessary equipment i.e. pH indicator strip and 10ml syringe.
- 2. Wash and dry hands.
- 3. If parents are present, explain that you are going to check the feeding tube position.
- 4. Remove the stopper from the tube.
- 5. Attach a syringe to the end of the tube.
- 6. Aspirate the gastric contents by gently pulling back on the plunger until a small amount of liquid appears in the syringe (0.2-1.0ml).
- 7. Detach the syringe from the tube remembering to replace the stopper.
- 8. Test the pH of the fluid using a pH indicator strip. Allow 10 60 seconds for any colour change to take place.
- 9. If the aspirate has a pH 5.5 or below, proceed to feed. (Aspirates testing pH 5.5 or below should indicate correct placement in most infants).

4.0 Gastric Aspirate pH 6 or above or No Aspirate

pH 6 or Above

If the pH reading is 6 or above, do not feed and consider the following:

- 1. Is there any evidence of tube displacement? (loose tape, movement of tube marker) Confirm that tube length is correct (refer to documentation in baby's care plan).
- 2. Is the infant on medication that would affect the pH?
- 3. Is the infant receiving continuous feeds or had a feed in the last hour? If so, retest after 15-30 minutes.
- 4. Have you obtained large quantities of feed coloured aspirate? (Although it is reassuring to obtain a large volume of milk on aspirate, this is not a definitive test.)
- 5. Has a feed been administered very recently? Milk has a pH of 6 to 7 and will temporarily raise the pH by diluting the acidic stomach contents
- 6. Has the infant consistently had a gastric pH \geq 6.0?

If the answer to any of the above questions is "Yes", discuss with medical staff /senior nursing staff prior to administering the feed.

If not, or in any doubt, seek advice from a member of medical/senior neonatal nursing staff. You may have to reposition or remove the gastric tube and reinsert. However, this should only be done as a last resort.

It is important that actions and their rationale are documented in electronic records or written notes.

No aspirate obtained

If there is any difficulty obtaining an aspirate: -

- 1. Insert 1-2 mls of air via the syringe down the gastric tube in an attempt to push the tube's port away from the stomach wall. Try again to aspirate the tube and test with pH indicator strip.
- 2. Lie the baby on his/her side and try again.
- 3. Attempt to retract the tube slightly (1-2cms) and try again. If this is an initial insertion, then consider replacing or re-passing the tube. If any resistance is felt and this is an initial tube insertion, **STOP** and seek advice from medical staff / senior nursing staff.
- 4. If the tube has been in-situ already, seek advice from senior neonatal nursing staff.

Infants who consistently have an aspirate pH 6.0 or above should have their care discussed and agreed with the multidisciplinary team. Decisions made should be clearly documented in the infant's medical, nursing and dietetic notes and communicated to all involved in the infant's care.

N.B. None of the existing methods for testing the position of gastric feeding tubes are totally reliable. The most accurate method for confirming correct tube placement is radiography. However, X-Ray for the sole purpose of confirming gastric tube position in a neonate is not recommended.

If a feeding tube is required and it is likely that the baby will need a chest x-ray, it should be passed prior to the x-ray being performed as the x-ray will confirm the position of a tube from which you may be unable to obtain an aspirate.

Please see accompanying flow chart (Appendix 1) on gastric tube position confirmation

Appendix 1



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.

References

- National Patient Safety Agency (2011a) Patient Safety Alert NPSA/2011/PSA002 Reducing the harm caused by misplaced nasogastric feeding tubes in adults, children and infants https://www.cas.mhra.gov.uk/ViewandAcknowledgment/ViewAlert.aspx?AlertID= 101559 [Accessed 3rd October 2024]
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Authors

West of Scotland Neonatal Guidelines Group Andrena Kelly – Nurse Educator – RHC

2025 Review Lavinia Raeside – ANNP, RHC, Glasgow

Other professionals consulted

Anisa Patel, Clinical Pharmacist, NICU, RHC Sharron Lynch, Neonatal Nurse Educator/Quality Midwife, PRM Catherine Nicoll, Neonatal Nurse Educator, RHC.

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