

## Gastric feeding

### Standard

Infants with a naso/oro gastric tube will have the tube position checked to confirm that it is in the stomach prior to giving enteral feeds or medications by this method.

### Principles of care

Prematurity

Fluid balance

Individualised infant care

Comfort and safety of infant

Promotion of positive parenting ([Note1](#))

### Equipment

3 or 5 mL enteral syringe, graded pH paper, prescribed volume of milk in syringes.

### Pre-feed/medicine administration

At the beginning of each shift and within the shift as part of the nurse's ongoing assessment of the baby in her/his care, an individualised risk assessment should be made to assist decision making related to gastric administration of feeds and medicines. The nurse should consider:

- the need for a gastric tube,
  - can the feed/medicine be given orally
- the influence of age (presence of amniotic fluid in aspirate),
  - amniotic fluid is alkaline and may influence gastric pH if within 48 hours of birth
- the frequency of feeding
  - continuous and frequent feeding often leads to higher gastric pH
- the use of antacids, proton-pump inhibitors and histamine antagonists
  - antacids neutralise acid, proton-pump inhibitors suppress acid production, histamine antagonists slow gastric acid production

Prior to each gastric feed/medicine administration the nurse must check for the following signs of tube displacement including:

- change in documented length
- coughing/gagging or increased salivation as this could indicate coiling in the mouth

### Procedure

- Equipment is assembled and placed in an accessible position for carrying out the procedure.
- Cleanse hands according to NNU policy.
- Place infant in the anticipated position he/she will be in on completion of the feed (e.g. in the cot/incubator, parent's arms, skin-to-skin).
- Proper placement of the tube is assessed by aspirating a small amount (e.g. 0.2mL) of stomach content and testing for the presence of acid with graded pH paper
- **If pH  $\leq 5.5$**  it indicates the aspirate is acidic, it is likely that the tube is in the stomach.
  - if the tube length is correct (as documented in baby's EPR) and pH  $\leq 5.5$ , the administration of a feed/medicine can progress.
- **If insufficient or no aspirate** is available:
  - check tube length is correct and reposition tube if it has moved, re-position baby onto left side, recheck if you can obtain aspirate.
  - if there is any doubt about the position of the tube, the tube must be removed and reinserted with fresh feeding tube.
  - if there is still insufficient or no aspirate, seek advice from team leader or medical staff.

- **If aspirate pH is 6 or 6.5**
  - do not proceed. If clinically safe, consider waiting 15–30 minutes before aspirating again. Consider repositioning and/or passing the tube and re-aspirating. If still pH 6 or 6.5, seek advice from team leader or medical staff.
- **If a baby is on continuous feeds** ([Note 2](#))
  - tube checking should be synchronised with the syringe changes. When continuous feeding has stopped and if clinically safe, wait 15 to 30 minutes to allow the stomach to empty of milk and the pH level to fall before aspirating to check tube position. Staff must record hourly that the tube length is the same as that documented when the tube was first passed. If the tube has not moved it may be assumed to be in the correct position.
  - follow the instruction as above depending on availability of aspirate and pH of aspirate
- **If aspirate pH is 7 or above do not proceed**
  - seek advice from a member of senior neonatal nursing/medical staff
- **Observe infant for feed intolerance and/or complications.** If baby shows:
  - coughing, retching, desaturation, cyanosis, tachypnoea, and or tachycardia when milk/medicine is infused down the tube, stop feed and seek help
- Auscultation is **not** to be used for confirming tube position ([Note 3](#))
- Administer milk either by slow 'push' or by 'gravity' - the time taken to administer the milk depends on the volume.
- On completion of the feed:
  - document in baby's EPR tube length at time of feeding, pH value, steps taken to obtain an aspirate if there was insufficient or no aspirate or if pH was 6 or above, any complications in baby as observed during or immediately post the procedure.

Please note, there is no single method for testing tube position that is totally reliable. At all times clinical judgement should be applied and documented. If in doubt, discuss with a more senior member of the team.

### Potential complications

Aspiration, physiological instability and infection

### Note

1. Parents can participate in gastric tube feeding and testing for position once they are assessed as competent in the procedure (competency sheet in stationery cupboard) and (teaching document in stationery cupboard).
  - Parents may participate in giving bolus or gravity tube feeds to their own baby irrespective of baby's age or condition.
  - Once babies <34 PMA are older than a week, parents may begin to test tubes for position.
  - In late preterm babies e.g. 34-36 weeks PMA, and who have a gastric tube for feeds, there must be at least 24 hours of confirmed acid reactions before parents are supported in testing the tube position
  - **Siblings and other adults (unless they have responsibility for the infant) cannot carry out gastric tube feeding.**
2. Continuous gastric feeds are seldom used. Assessing tube position during gastric feeds is problematic as there will always be milk in the stomach and this will affect acidity measurements. Oro-gastric tubes **should not be used** when giving continuous feeds as there is a greater risk of tube displacement through tube coiling in the oro-pharynx. When the tube is first passed and successfully assessed as being in the stomach, the length of the tube must be documented in the infant's notes and on each daily observation chart.
3. In studies in older children and adults, auscultation has been found to be an unreliable method for confirming gastric tube position. There is no reason to believe it should be anymore reliable in the newborn population.

## References

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