



# Insertion and use of an enteral gastric tube

Teaching package developed by the  
East of England Practice Development Group  
January 2018

# Introduction

This is one of a range of teaching packages that have been developed by the East of England neonatal practice development group in order to ensure equity for staff between units. The purpose of the teaching packages is to support your learning and, alongside the pre QIS competency document, take you through from novice neonatal nurse to competence in the knowledge and skills required in your role.

You will be supported by your local practice development nurse(s) and designated preceptor(s) to develop your practice and deliver standardised evidence based care.

This document is used across the East of England ODN in all 17 units.

# Instructions for use

You should read through all of the slides and click on any links for further information

You are expected to:

1. Answer all of the questions throughout and at the end of the pack
2. Discuss these answers with your practice development nurse or preceptor(s) demonstrating a good level of understanding of the topic
3. Complete any competency associated with this teaching package

# Learning outcomes

- \* On completion of the teaching package you will be able to:
  1. Discuss the Indications and contra-indications of using an enteral tube
  2. Understand the rationale for measuring and recording length of gastric tube on insertion.
  3. Understand the rationale for checking the placement of the tube prior to every use
  4. Understand the implications of using a miss-placed gastric tube

# Indications for use of an enteral tube.

Enteral feeding is a useful method of ensuring adequate nutrients in patients who, for a variety of reasons are unable to use the oral route, or are unable to take sufficient nutrients to maintain growth and development.

The aim of this teaching pack is to ensure that Naso/Oro-gastric tubes are inserted in the correct manner. Following a proper risk assessment.

This will potentially prevent the mis-placement of tubes and the subsequent risks of feed or medication entering the lungs.

Naso/oro-gastric tubes are used only when necessary and an assessment is undertaken to identify whether this method of feeding is appropriate.

As a minimum, documentation should have a signed, dated and timed entry, of the process of initial risk assessment that evaluates the benefits against the risks of introducing a naso/oro-gastric tube for the purpose of feeding.

# Indications. Cont:

- \* Prematurity
- \* Surgical to decompress the stomach
- \* Respiratory distress
- \* Anatomical deformity affecting feeding e.g. cleft lip and palate
- \* Post surgery (tracheal –oesophageal repair)

# Contra indications

Caution should be taken when inserting an enteral tube on any of the contra-indications below. This list is not exhaustive and should there be any concern, any risks may need to be discussed with the senior medical team.

- \* Anatomical deformity i.e choanal atresia
- \* Trauma i.e. suspected base of skull fractures
- \* Recent oral, nasal or oesophageal surgery
- \* Bleeding disorders

# Comfort measures



Swaddling, sucking on a dummy or containment holding can all help to sooth an infant during the insertion procedure. Sucrose may also be considered if the infant finds insertion of the tube particularly distressing.

Pictures from: Infants and children Insertion and confirmation of placement of Nasogastric and Orogastric tubes. Feb 2016 NSW government health.  
Found at:  
[http://www1.health.nsw.gov.au/pds/ActivePDSDocuments/GL2016\\_006.pdf](http://www1.health.nsw.gov.au/pds/ActivePDSDocuments/GL2016_006.pdf)  
And google images



# Measuring the correct length



Measure from the tip of the nose to the ear, then diagonally from the ear to the mid umbilicus.

If inserting an oro-gastric tube, measure from the middle of the mouth to the ear, then diagonally from the ear to the mid umbilicus.

Pictures from: Infants and children Insertion and confirmation of placement of Nasogastric and Orogastric tubes. Feb 2016 NSW government health. Found at: [http://www1.health.nsw.gov.au/pds/ActivePDSDocuments/GL2016\\_006.pdf](http://www1.health.nsw.gov.au/pds/ActivePDSDocuments/GL2016_006.pdf)

# Passing the tube

- \* **For Naso-gastric tube placement:**

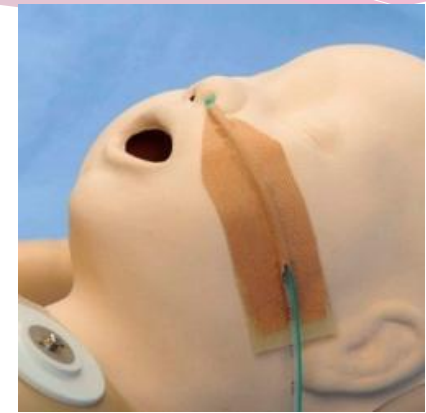
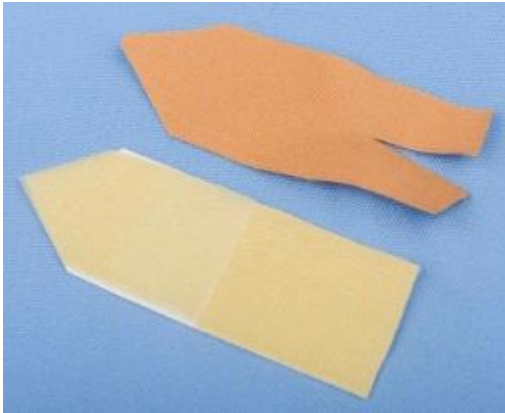
Select a clear nostril, insert the tip of the tube into the nostril and slide backwards and downwards along the floor of the nose. Advance the tube steadily\* to the predetermined length.

- \* **For Oro-gastric tube placement:**

Insert the tip of the tube into the mouth and slide it backwards and inwards along the tongue to the oropharynx and advance steadily\* to the predetermined length.

\*Insertion of tube should take around 15 seconds to minimise stimulation of vagal nerve

# Securing the Naso-gastric tube



When securing the tube into place, protect the skin using a silicon based dressing, applying unit specific tape to secure the tube over the dressing.

Pictures from: Infants and children Insertion and confirmation of placement of Nasogastric and Orogastric tubes. Feb 2016 NSW government health.  
Found at:  
[http://www1.health.nsw.gov.au/pds/ActivePDSDocuments/GL2016\\_006.pdf](http://www1.health.nsw.gov.au/pds/ActivePDSDocuments/GL2016_006.pdf)

# Confirming the position of the Enteral tube



Checking the position of the gastric tube is known as a blind procedure. By following the steps for checking the tube prior to use, enables us to minimise the risks of using a misplaced tube.

# Confirming the position. cont:

- \* If the neonate requires an x-ray, ensure the oro /naso-gastric tube has been passed before x-raying.
- \* Check the length of the tube has not changed since the last documented insertion / adjustment.
- \* Check the tape is secure.
- \* Aspirate stomach contents ( a minimum of 0.2ml should be obtained) and confirm by visual inspection that stomach contents have been obtained. (appears thicker than standard liquids and viscous in texture).

NPSA 2007

# Cont:

- \* Check gastric aspirate using pH strips with graduations of 0.5 increments.
- \* If the pH is less than 5, it is safe to feed.
- \* A pH of between 5 and 6 must be checked with a second competently trained person. Both should sign the documentation to agree the tube is safe to use.



# pH above 6

- \* If the PH is above 6, try obtaining more aspirate or wait 10 to 15mins to see if pH drops.
- \* Try repositioning the baby or advancing/ retract the tube 1-2cm.
- \* If pH remains above 6 two competently trained persons must undertake a full risk assessment of the tube position, medications, feeding history.
  - \* Is the baby on medication?
  - \* Is the baby only 24 to 48 hours old?
  - \* Is the tube in the same position as previously documented on an x-ray?
  - \* Is the visible length of the tube the same as previously documented?
  - \* What is the trend in pH values?
  - \* What is the volume of aspirate?

# Cont:

- \* Consider the risks of delaying the feed in the short term to potentially using a tube that may be situated in the lungs.
- \* Document your rationale for the decision taking.
- \* Only X-ray if timely or it is clinically safe to do so and all other options has been exhausted

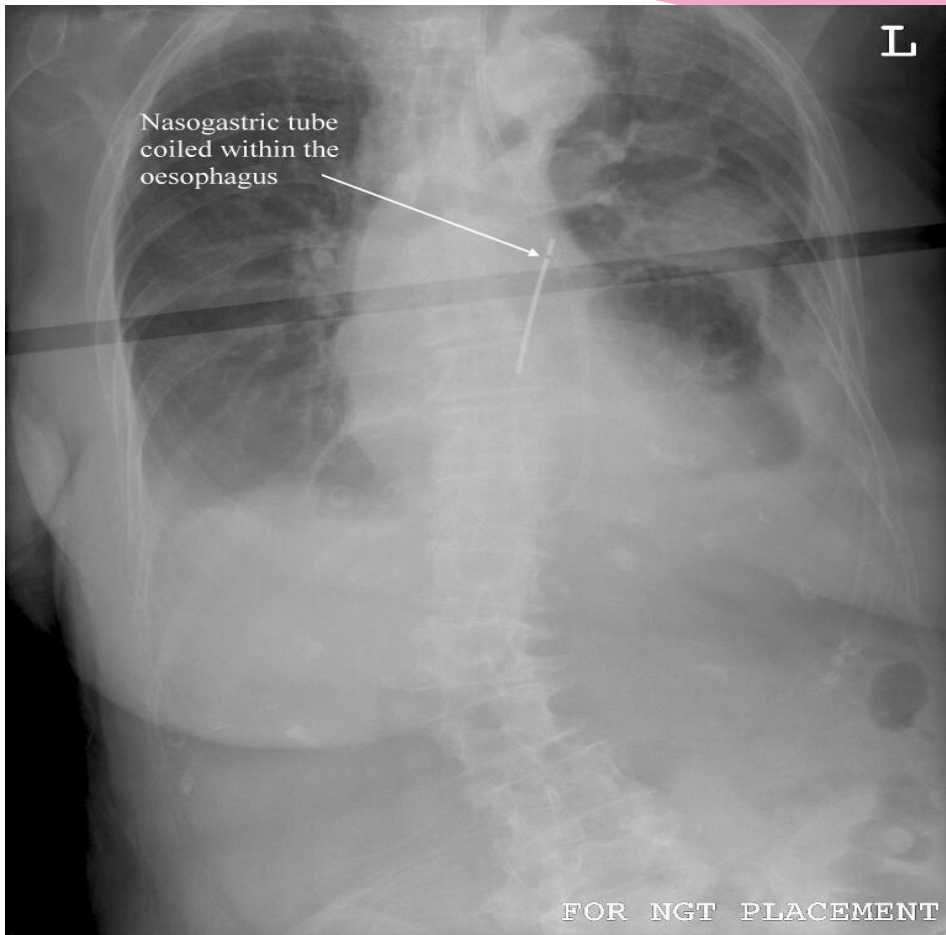


# Unable to obtain an Aspirate

## DO NOT FEED

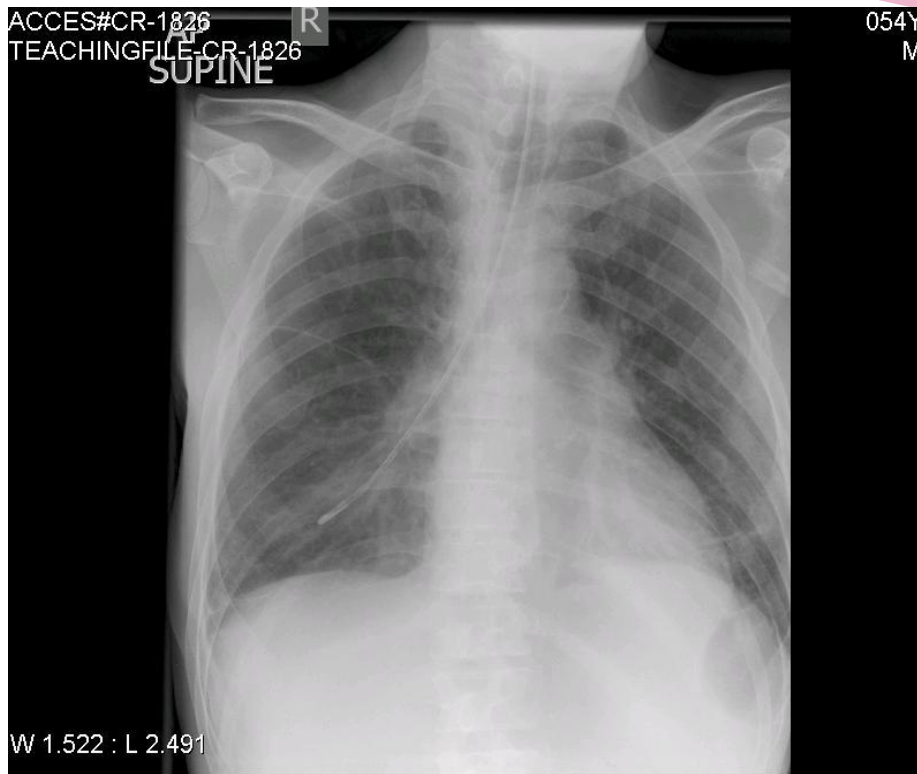
- \* If initial insertion, consider re-passing the tube.
- \* Change the position of the baby
- \* Push 1-2 ml of air to move the tip of the tube in the stomach
- \* Advance/retract the tube 1-2cm
- \* If the baby can orally feed offer some milk, or encourage sucking on a dummy to stimulate gastric juices.
- \* Keep trying to re-aspirate.
- \* Only consider x-ray if timely
- \* Document all decisions and rationale.

# X-ray of a mis-placed tube 1



- \* There is a risk of the milk back flowing up the oesophagus and being aspirated into the lungs.

# X-ray of a mis-placed tube 2



- \* If the tube is used whilst in the lungs.
- \* At best it will cause the baby to require resuscitation, and potentially developing a chest infection.
- \* Worst case: resuscitation is not successful, leading to a potential death

- \* **Using a mis-placed tube is classed as a NEVER EVENT and will become an automatic Serious Incident within your trust.**
- \* Discovering a mis-placed tube is **not**.
- \* Using the methods outlined in this document, ensuring you have properly documented your actions, provides the best available process to reduce these risks and becomes your evidence that you have followed correct procedures.

# Check your understanding

- \* Please answer the following questions and discuss your answers with your PDN / Preceptor(s)
  1. When would you consider using an enteral tube?
  2. What contra-indications are there for using enteral tubes?
  3. What visual measures would you use to confirm the position of the enteral tube?
  4. What pH is considered safe to use without checking with another competent person?
  5. What factors would you consider when risk assessing an enteral tube with a high pH

# Cont:

6. What measures could you use to try to get a better aspirate or lower pH?
7. When would you consider x-raying?
8. What events may occur that could indicate the tube has moved?
9. If a misplaced tube is used, what event is this referred to as? What implications would this have on the trust.
10. What is the worst case scenario for a baby who has a misplaced tube used?

# Additional reading / resources

- \* Insert reading list here using the modified Harvard system
- \* This link will take you to the ARU system

<https://libweb.anglia.ac.uk/referencing/harvard.htm>

**T**  
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more







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*(Hosted by Cambridge University Hospitals)*