**Trust Policy**

**Guidelines for the insertion, Confirmation of Position, Administration of Bolus Nasogastric/Orogastric Tube Feeds, and Removal of Nasogastric Feeding Tubes in Children, Young People and Neonates.**

<table>
<thead>
<tr>
<th>Issue Date</th>
<th>Review Date</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2018</td>
<td>October 2023</td>
<td>V2</td>
</tr>
</tbody>
</table>

**Purpose**

To ensure that all bolus feeds or medication via nasogastric and orogastric tubes are given safely and competently by those permitted to undertake this skill as per the trust policy and standard operating procedure: delivery of feed/medication into a misplaced tube is a NEVER event.

**Who should read this document?**

UHP Registered Nurses/Practitioners, Health Care Assistants and anyone else caring for a neonate, infant, child or adolescent with a nasogastric tube in situ.

**Key Messages**

All staff undertaking this role will need to ensure that they have read the age appropriate decision tree for confirmation of nasogastric and orogastric tube placement.

**Core accountabilities**

- **Owner**: Anita Dykes, Matron for Acute Paediatrics and Neonatal Services
- **Review**: Paediatric Clinical Governance/Neonatal Clinical Governance
- **Ratification**: Nutritional Steering Group/Beverley Allingham, Deputy Chief Nurse
- **Dissemination**: All Nurses, Nursery Nurses & HCAs Acute Paediatrics & Neonates
- **Compliance**: Paediatric Clinical Educator/Line Managers/NG Lead/Neonatal Clinical Educator, Clinical Governance Steering Group Paediatrics and Neonates

**Links to other policies and procedures**

- Adult Nasogastric Tube Insertion Procedure & Management Policy PHNT TRW/CLI/POL/395/3
- Adult Enteral Tube Feeding Guidelines PHNT TRW/CLI.NUT.GUI.87
- Hand Hygiene Guidelines PHNT CLI.INF.GUI.55.9
- Ionising Radiation Health & Safety Policy TRW.H&S.POL.218.6
- Medical Devices Training Policy TRW.MED.POL.325.5
- Mental Capacity Act 2005
- Workforce Induction & Training Policy TRW/HUM/POL/621.1
- PHNT Paediatric Physical Interventions Policy TRW.ACP.POL.1022

**Version History**

- **V.1** June 2016Reviewed by Sophie King
- **V.2** November 2017Reviewed by Sophie King, Charlotte Durrant & Elizabeth Daniels

*The Trust is committed to creating a fully inclusive and accessible service. By making equality and diversity an integral part of the business, it will enable us to enhance the services we deliver and better meet the needs of patients and staff. We will treat people with dignity and respect, promote equality and diversity and eliminate all forms of discrimination, regardless of (but not limited to) age, disability, gender reassignment, race, religion or belief, sex, sexual orientation, marriage/civil partnership and pregnancy/maternity.*
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TRW.ACP.POL.1021.2 NG Policy for Children and Young People

1 Introduction

Appendix 1 Dissemination Plan & Review Checklist
Appendix 2 Equalities and Human Rights Impact Assessment
Appendix 3 Radiology Confirmation of Position Standard Operating Procedure
Appendix 4 Parental Tube Feeding Guide and Competency for NICU
This policy, in conjunction with the Trust Adult Nasogastric Tube Insertion Procedure & Management Policy, links in to the Trust Risk Management Strategy regarding the management of nasogastric feeding tubes. It is becoming frequently more common for children, young people and neonates to be provided with enteral nutritional support via nasogastric tubes both short and long term, in the hospital and at home. There is a risk that these tubes can be misplaced into the lungs during tube insertion, or at a later stage become displaced from the stomach to the oesophagus, causing pulmonary aspiration of feed. There have been a number of National Patient Safety alerts highlighting that misplaced feeding tubes can cause serious harm and death to patients.

The delivery of feed/medication into a misplaced gastric tube is a **Never Event**. These events are described by the Department of Health (DoH) as “very serious, largely preventable patient safety incidents that should never occur if the relevant preventative measures have been put in place” (DoH 2011).

pH testing is the first line test used to confirm correct tube placement for children, young people and neonates, with X Ray as the final test.

Before administration of feed or medication all checks must be documented.

### 2 Purpose, including legal or regulatory background

2.1 The procedures described below are intended to support staff in complying with the stated Trust policy, and to ensure the patient care is safe and effective.

- Explain the procedure in detail. Demonstrate the safe placement confirmation of a fine bore feeding tube.
- Explain their role and responsibility in the safe checking of nasogastric and oral tube placement and subsequent feeding.
- Underpinning knowledge; the practitioner will be able to:
  - Discuss the importance of establishing the correct placement prior to and during feeding.
  - Explain the factors which need to be considered before undertaking this procedure e.g. low blood glucose, patient vomiting.
  - Identify all the relevant equipment required for the procedure.
  - Identify risk factors and the appropriate action to be taken to ensure gastric tube remains in place during the feed.
- All input must be documented in patient’s notes in keeping with Trust policy.

2.2 **Assessment:**
The assessor must be experienced and competent in the confirmation of placement of nasogastric or orogastric tubes and subsequent feeding via tube. Formative assessment is undertaken until the learner and mentor agree that the learner is ready to undertake final summative assessment. There is no need to stipulate the number of attempts. The direct observation of practice record should be used for the formative and summative annual assessment.

2.3 Nasogastric tubes must be managed in ward environments where staff are familiar and competent in their management, to ensure patient safety.
In the event of a patient unable to be relocated for clinical reasons to an area familiar with nasogastric tube management, provision of competent staff from other clinical areas should be made available to support safe nasogastric tube management.

### 3 Accountability & Responsibility

Only staff trained and assessed in this procedure should undertake insertion & management of NG/Orogastric feeding tubes.

1. Registered Practitioners
2. Practitioners and medical staff in training, supervised by registered practitioners under direct supervision.
3. Practitioners are responsible for ensuring that their skills, knowledge and competencies are up to date, and maintained, and that they accept accountability for their practice.
4. HCAs and MCA’s at band 3 with NVQ level 3 training, and Nursery Nurses at band 4, following training and competency based assessment are supported by UHP to feed with and manage nasogastric tubes. The accountability for this task remains with the Registered Nurse who delegates the task. Band 4 Nursery Nurses may insert NG tubes in neonates following competency based training and assessment.
5. Temporary or bank workers must not carry out insertion or placement confirmation unless they have undertaken a UHP competency based assessment.

The decision to allow Band 3 and above non-registered practitioners to insert or Feed using NG tubes, should be risk assessed in each individual area and the decision made in conjunction with the Matron and Ward Manger for each area.

### 4 Guidelines/Risk Assessment and Contraindications

#### Guidelines For checking the Position of Nasogastric/Orogastric Feeding Tubes

4.1 Background
Failing to correctly check the position of the distal end of nasogastric/orogastric feeding tubes can lead to serious consequences for the patient, primarily respiratory complications following administration of fluids into the respiratory tract. Checking aspirate with blue litmus paper strips or auscultating the stomach whilst air is passed through the tube are methods now known to give ‘false positive’ results. Bronchial secretions can be mildly acidic (pH 5.5 – 7.0) and will also turn blue litmus paper a pink colour; and air passed through the tube into the bronchi can give a similar sound on auscultation as air passed into the stomach. **These methods should therefore no longer be employed to confirm the nasogastric tube position.** (MHRA, 2004; NHSQIS, 2003)

4.2 Nasogastric tubes may be contra-indicated if the child, young person or neonate has any of the following:
- Cranio-facial and upper airway deformities
- Maxillo-facial trauma
- C-Spine abnormalities
- Recent oral/nasal or oesophageal surgery
- Severe gastro/oesophageal reflux
- Basal skull fracture
- Low platelets/clotting disorders
- Allergies to the tube (or securing tape.)
- Laryngectomy
- Recent radiotherapy to head and neck

Advice from Paediatricians or Neonatologists should be sought if these or any other concerning factors are encountered.

An individual risk assessment should be conducted and documented by a competent person that considers the risks and difficulties of nasogastric tube insertion.

4.3 CHECKING THE CORRECT POSITION OF NASOGASTRIC/OROGASTRIC FEEDING TUBES PRIOR TO ADMINISTRATION OF FLUIDS OR MEDICATIONS (Please see Neonatal Specific Guidance on pages 11 and 12 of this document)

Aim
To confirm that the nasogastric/orogastric feeding tube is correctly sited in the stomach before administering fluids or medication. Nasogastric/orogastric tubes must be radio-opaque throughout their length and have externally visible length markings.

Nasogastric/orogastric tube position must be checked:
- Following placement of the nasogastric/orogastric tube
- Prior to every bolus feed
- Prior to commencing /recommencing continuous feeds
- Prior to the administration of medicine
- Following a vomit
- When symptoms suggest aspiration, such as coughing, choking, rapid breathing
- When receiving a child/neonate from another area
- At least every 12 hours for patients on non-continuous feeds
- 4 hourly for all patients on continuous feeds

Equipment
- 50ml syringe (10ml in Neonate)
- Universal indicator paper strips (pH range 0 - 6.0)
- Cooled boiled water. If child under 1 year or immuno-compromised. If child is over 1 year tap water is sufficient.
- Gloves
- Apron

N.B. All enteral feeding tubes will comply with the ISO/DIS 18250-3

Connectors for reservoir delivery systems for healthcare applications-Part 3: Enteral Applications (EnFit). This will ensure that all enteral devices are only compatible with enteral connectors.

4.4 Procedure

<table>
<thead>
<tr>
<th>Wash and dry hands</th>
<th>To prevent cross infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explain the procedure to the child</td>
<td>To reduce fear, promote co-operation</td>
</tr>
<tr>
<td>Consider requesting Sucrose on Prescription, prior to insertion</td>
<td>Comfort relief before insertion of NG/OG tube</td>
</tr>
<tr>
<td>Measurement- Place exit port of tube at tip of nose, extend tube to earlobe, and then to xiphisternum.</td>
<td>To assess for the correct length required to reach stomach</td>
</tr>
<tr>
<td>Select nostril in which tube will be inserted</td>
<td>For planning of procedure</td>
</tr>
<tr>
<td>Hold NG tube between thumb and index finger 1-2 inches away from tip and begin to advance along floor of nasopharynx and oropharynx <strong>Do not advance the tube further if any resistance is felt or child becomes breathless/ coughs severely</strong></td>
<td>To advance the tube causing the least trauma to the nasal passage possible.</td>
</tr>
<tr>
<td>Advance NG tube to length noted when measurement took place</td>
<td>Looking for signs of tube going into the wrong place- trachea/lung rather than oesophagus/ stomach</td>
</tr>
<tr>
<td>Lightly secure NG tube with tape or have an assistant hold the tube in place</td>
<td>To secure Ng tube and prevent it from being pulled out in any way</td>
</tr>
<tr>
<td>Remove the end cap from the nasogastric tube</td>
<td></td>
</tr>
<tr>
<td>Withdraw 1-2ml gastric contents into the syringe by gently pulling back on the plunger</td>
<td>This is sufficient for covering all strips on the pH indicator paper</td>
</tr>
<tr>
<td>Detach the syringe from the tube and replace the cap</td>
<td></td>
</tr>
<tr>
<td>Test the pH of the gastric aspirate by applying it to the universal indicator paper strips. Ensure all pads on strip are wet.</td>
<td></td>
</tr>
<tr>
<td>Compare and confirm the strip pad colours with the colour guide on the packaging. Document PH value.</td>
<td>A reading of 5.5 or below indicates an acid reaction and placement in the stomach</td>
</tr>
<tr>
<td>When satisfied that the aspirate is gastric in origin flush the tube with water ( air Neonates).</td>
<td></td>
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</tbody>
</table>

### 4.5 If the pH is above 5.5

- The pH may be between 5-6 if the patient is on medications such as Omeprazole, Ranitidine or Gaviscon, which work to raise the gastric pH.
- The pH may be 5-6 or higher if the aspirate is taken within an hour of the infants/neonates milk feed, or if there is a continuous feed in progress.

### 4.6 Action

1. Stop continuous feed for 15-20 minutes or up to an hour
2. Repeat aspirate
3. If it is normal for the patient’s pH to be above 5.5 due to the effects of medication you need to assess the patient’s condition prior to commencing feed. This must be specific to the individual patient.
4. **Do not** instil any fluid into the tube until the position of the tube can be confirmed

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*TRW.ACP.POL.1021.2 NG Policy for Children and Young People*
5. **Do not** use the auscultation of air into the tube to check its position – Ineffective method

6. **Do not** use blue litmus paper to test the aspirate- litmus paper is not sensitive enough to distinguish between bronchial and stomach secretions

7. **Do not** monitor bubbles at the end of the tube-stomach contains air and presence of bubbles can falsely indicate stomach placement

8. **Do not** interpret the absence of respiratory distress as an indicator or correct positioning – Ineffective method, particularly with the use of small bore tubes or when the patient is unconscious

9. **Do not** rely on the appearance of the aspirate—gastric contents can look similar to respiratory secretions.

### 4.7 If there is difficulty in obtaining gastric aspirate:

1. Check the external markings of the tube against recorded length. Changes in external markings will indicate possible migration to the oesophagus or duodenum. It is still possible for migration to have occurred without external change.

2. Attempt to dislodge the tubes exit port away from the stomach mucosa by inserting 2-5ml of air (1-2 mls for neonates) via the 50ml syringe (10 mls in neonates) into the stomach, and then try to aspirate again.

3. Lie the patient on their left side and try again-exit port may enter a pool of fluid

4. If allowed/able, encourage the child to take a small amount of oral fluid and try to aspirate again

5. Try advancing the tube by 1-2cm and try again

6. If on supplementary feeding try giving a coloured drink and aspirate back, if aspirate is the expected colour it indicates stomach placement

7. If the patient is nil by mouth try mouth care as this may encourage the acidity in the stomach

8. If still unable to aspirate any gastric content seek further advice from senior nursing or medical colleagues, who may consider an x-ray to confirm tube position. Refer to risk assessment (below). If an x-ray is required the purpose needs to be stated on the x-ray request form and a white NG sticker must be completed up to “2nd line test” and filed in the patient’s clinical records. The radiographer will check that the white sticker is in the patient notes and is correctly completed before an x-ray will be undertaken. This label will also be scanned and recorded on the Imaging Department’s CRIS system.

### Risk Assessment Children, Young People and Neonates:

<table>
<thead>
<tr>
<th>Action</th>
<th>Rationale</th>
<th>Evidence/standard</th>
</tr>
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<tbody>
<tr>
<td>Before a decision is made to insert a nasogastric/orogastric tube, a risk assessment must be undertaken, which should identity the reason for the tube insertion. The rational must be recorded in patient notes. The responsibility for this decision, including purpose and type of nasogastric/orogastric tube lies with the consultant in charge of the patient.</td>
<td>To ensure that insertion of the nasogastric/orogastric tube is necessary.</td>
<td>NPSA (2005 &amp; 2011) Internal Safety Bulletin (2013) Nursing and Midwifery Council (2002a)</td>
</tr>
<tr>
<td>Check patient ID and explain the procedure to the patient and seek patient/parents/legal guardians consent where necessary</td>
<td>To obtain patient/parents/legal guardians consent where necessary</td>
<td></td>
</tr>
</tbody>
</table>
Ensure that consent is documented (where applicable). If the patient is 16 or 17 years old and deemed as unable to give informed consent then capacity must be established, and actions taken must be in the patient’s best interests.

Where applicable is the tube the same as documented on last x-ray.

Is length the same

Has the patient had any medication that would alter the pH

What is the feeding history /last Ph

If under 48 hrs old consider the presence of amniotic fluid

Nursing staff must monitor the patient during and after the procedure for any signs of cyanosis. Emergency equipment must be readily accessible.

To facilitate early intervention by medical and nursing staff should the patient deteriorate.

The age appropriate decision tree for nasogastric tube placement must be followed post insertion.

To ensure correct placement of NG tube.

<table>
<thead>
<tr>
<th>9. If an x-ray has been requested to confirm the tube position then a radiologist must be asked to report that the tube is safe to use. This report will be available to view on PACS and will confirm that the radiologist has consulted the most recent x-ray and has the standard 4 points of chest x-ray interpretation to confirm that the tube is safe to use. (<em>Only</em> a radiologist can provide this confirmation) see Appendix 4.</th>
</tr>
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<tbody>
<tr>
<td>10. A medical practitioner will be asked to confirm that the radiologists report has been checked and to sign the sticker stating that they have done so and that the radiologist has confirmed that the tube is safe to use.</td>
</tr>
<tr>
<td>11. Only staff assessed as competent will perform insertion, position confirmation and removal of any nasogastric tube.</td>
</tr>
<tr>
<td>12. <strong>Student Nurses</strong> will be able to undertake this skill <em>only under direct supervision of a suitably trained and assessed Registered Nurse</em> following training and completion of the Trust Competency assessment.</td>
</tr>
<tr>
<td>13. The presence of respiratory distress would suggest an increased risk of tube placement in the lung or bronchus but lack of symptoms cannot be relied upon to indicate a correctly positioned tube especially in children and neonates who are unconscious or those without a gag reflex</td>
</tr>
<tr>
<td>14. It is the responsibility of the <strong>Registered Nurse</strong> to confirm &amp; document that the placement of the nasogastric tube prior to its use is correct, before feed/medication is introduced.</td>
</tr>
<tr>
<td>15. Parents and carers who have been trained in the skill and deemed competent following completion of the Trust competency assessment or South West ODN Assessment Document (See appendix 4) can also perform insertion, confirmation of position and removal of nasogastric tube at home. When teaching and assessing parents and carers they must be informed that:</td>
</tr>
</tbody>
</table>
- Tube placement must be confirmed prior to feed/medication being introduced to the tube.
- The tube must not be flushed prior to confirmation of gastric placement

**Neonatal Specific Guidance:**

Neonates rarely request x-rays for tube position confirmation in isolation, but more commonly may request one as part of a multi system assessment which regularly includes Nasogastric tubes.

Whereas the paediatric process for an adult radiologist out of hours to confirm tube position (but making no comment on the overall x-ray, and then would await further review by a paediatric radiologist) for neonates, the neonatal team will be taking responsibility for the reporting of the x-ray out of hours, i.e. confirming nasogastric tube position.

The competency of the neonatal team is in the regularity with which they assess the position of the nasogastric tube as part of routine neonatal work. The role includes regular reviews of x-rays to confirm positions of endotracheal tubes, central lines, nasogastric tubes, orogastric tubes, chest drains and repogle tubes. There is also a weekly radiology meeting in which all indwelling devices are reviewed and competencies of the team are updated.

As such, within neonates someone is considered competent to report such x-rays if they are working at least in the capacity of a tier 2 practitioner. This includes (but not limited to):

- Paediatric Trainees, ST3 and above
- Trainees less than ST3 level but under support and supervision of seniors
- Advanced Neonatal Nurse Practitioners working on the tier 2 rota.
- Trust or speciality doctors working on the tier 2 rota.
- Neonatal Consultants ( substantive or locum)

In a situation where the position cannot be reliably confirmed by the above individuals, the nasogastric tube should **NOT** be used unless a discussion occurs with the allocated Paediatric Radiologist.

**4.8 Prevention of Infection**

- Ensure hand washing procedures are followed at all times
- Ensure ANTT principles are followed at all times
- Non-sterile gloves and apron should be worn.
- Check packaging on all consumables are intact and in date.
- Feed can be hung for a maximum of 24 hours and ensure feed and administration sets are labelled with date and time.
- Enteral syringes (purple) are single use items and should be discarded after each use

**4.9 Preparation and storage of feeds**

1. Wherever possible pre-packaged, ready to use feeds should be used in preference to feeds that require decanting, reconstitution or dilution.
2. Effective hand decontamination, either by soap and water or alcohol hand gel, must be carried out prior to feed preparation.

3. When decanting, reconstituting or diluting feeds a clean working area should be prepared and equipment dedicated for enteral feeding use only should be used.

4. Feeds should be mixed according to the manufacturer’s instructions and where applicable, food hygiene legislation. If ready made up feeds are not available. Ensure current guidance is followed for making up feeds.

5. Ready to use feeds and reconstituted feeds should be administered over a maximum 4 hour period.

4.10 Feeding

1. The child or young person should be kept upright in a sitting position if possible during feeds and for 30 minutes after, to reduce the risk of reflux or vomiting. For neonates the head of the cot or incubator should be elevated. For overnight feeding it is advised that the head of the bed is elevated (at approximately 30 degrees).

2. Feeding, when clinically allowed, should be encouraged as part of the ‘normal’ meal setting, thus encouraging the child’s integration into family and social activities. Neonates to feed as per feeding regime, consider the use of a soother to maintain suck reflex whilst NG feeding.

3. Children and young people with nasogastric/orogastric tubes should be encouraged to be involved in the feeding process.

4. Check the position of the nasogastric tube before each feed or flush or medication administration.

5. Bolus feeds should run in by gravity and take approximately the same time as a meal, 15-20 minutes. Adjust the flow rate by raising or lowering the feed.

6. Continuous feeds should be administered by pump as determined by the paediatric dietician. Pumps are subject to regular servicing. Minimum handling and an aseptic non-touch technique should be used to connect the administration set to the feed tube in accordance with NICE (June 2003) guidance.

7. Flush the tube before and after each use with an appropriate volume of water (air neonates), dependent on size of tube, age of child, fluid restrictions and condition of child/neonate.

8. Administration sets and feed containers are single use only and should be disposed of after each session in the normal household waste.

4.11 Administering Medication

1. Drugs are not usually licensed for administration via enteral feeding tubes. However this may be the only option for some patients.

2. In principle medicines may be given via the nasogastric/orogastric tube if prescribed for this use by a medical practitioner.

3. Drugs should not be added to feed preparations and stored, they may precipitate and cause blockage; they may however if prescribed be given through the feeding process.

4. Choose the largest size enteral syringe possible that still enables accurate dosage.

5. Drugs should be administered singly and not mixed together. Flush with 5-10 mls of water between medicines.

6. Ensure that thick solutions are diluted with water and that the dispersible tablets are thoroughly dissolved in water immediately prior to administration.
crushing of a tablet or opening a capsule has been recommended please follow appropriate guidance and authorisation of the prescribing doctor. The contents of some capsules and enteric coated tablets may not disperse or they may need a solution other than water to disperse them. Enteric coated tablets should not be crushed as they may be designed to protect the stomach.

Three way taps are to be avoided for the administration of medicine via the enteral route to mitigate the risks of infection and wrong route errors.

7. Flush with water as per tube manufacturer’s guidelines. For babies and patients who are immuno-suppressed either cooled freshly boiled water or sterile water from a freshly opened container should be used, or air in neonates (preferred method).

8. Consideration should be given to medicines whose absorption may be affected by food. The feed should be interrupted appropriately. If this is not possible refer to the prescriber for further advice.

9. Medicines should be measured and administered using an enteral feeding syringe only. (PURPLE) Syringes supplied in hospital are single use only, and must be discarded after use.

4.12 Trouble Shooting

1. Blocked tubes- Flush with warm water; if this fails try to milk the tube.

2. Coughing/choking, cyanosis during feeding, discontinue feed immediately- check the placement of the tube, following guidance on flow chart.

4.13 Diarrhoea

Do not stop feeding seek advice from the paediatric dietician/neonatologist. Stop laxatives and review other medication. Faecal specimens may need to be tested for bacteriology. Any gut infection should be treated accordingly. Consider the use of rehydration solutions.

4.14 Nausea and Vomiting

9. Ensure the child is sat at a 30-40 degree upright position for feeding and one hour thereafter, where able. Neonates can be positioned in parent’s arms, or cot or incubator with head elevated.

10. Consider the need to reduce the speed of the feed, either by lowering the bolus feed height or using a pump-discuss with paediatric dietician/neonatologist.

11. Consider the need to review the feed volume-discuss with paediatric dietician/neonatologist.

12. If gastro-oesophageal reflux is suspected seek medical advice Consider medical causes.

Check tube placement. Refer to guidelines and age appropriate decision tree.

4.15 Aspirating stomach contents checking feeding residue has been shown to increase the incidence of tube clogging. Some protein based formulas mixed with low pH gastric juices cause sediment to form and collect in the tubes. Therefore a tube should be flushed with water after checking residual volumes, (children & young people).

4.16 Flushing guidance. Flush before and after each feed and between every drug administration. If drugs are particularly viscous, add an additional 3mls to every flush (children & young people).
Consideration of the patient’s size, condition and size of tube must be taken into account when deciding the volume of water used for flushing the tube.

Children & young people

<table>
<thead>
<tr>
<th>Nas/o/orogastric tube size</th>
<th>Normal flush volume</th>
<th>Minimum flush volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>6fg</td>
<td>5ml</td>
<td>2ml</td>
</tr>
<tr>
<td>8fg</td>
<td>5ml</td>
<td>2ml</td>
</tr>
<tr>
<td>10fg</td>
<td>5ml</td>
<td>4ml</td>
</tr>
<tr>
<td>12fg</td>
<td>20ml</td>
<td>12ml</td>
</tr>
</tbody>
</table>

Neonates

<table>
<thead>
<tr>
<th>Nas/o/orogastric Tube size</th>
<th>Normal volume of air</th>
<th>Minimum volume of air</th>
</tr>
</thead>
<tbody>
<tr>
<td>4fg</td>
<td>0.5 ml</td>
<td>0.25ml</td>
</tr>
<tr>
<td>5fg</td>
<td>1 ml</td>
<td>0.5ml</td>
</tr>
<tr>
<td>6fg</td>
<td>1 ml</td>
<td>0.5ml</td>
</tr>
<tr>
<td>8fg</td>
<td>1.5 ml</td>
<td>1ml</td>
</tr>
</tbody>
</table>

5 Training

5.1 All staff who undertake this skill (even historically) must be assessed as competent in nasogastric/orogastric tube insertion following Trust competency and assessment standards, and must maintain their competency. They must be assessed by a Trust qualified assessor.

Locum Bank staff who regularly work in Acute Paediatrics may undertake this skill if they have been trained and assessed as competent to do so by a suitably qualified practitioner, for example Paediatric NG Lead, Paediatric Clinical Educator.

5.2 Once competency assessment has been achieved the member of staff may subsequently self-verify on the following two years as long as there have been no untoward incidents and competency has been maintained regularly, at least 3 feeds being undertaken in the preceding 6 months.

5.3 New staff requiring this skill must undergo formative training and assessment, followed by summative assessment in the clinical area. The competent trainer and practitioner will sign the formative and summative assessment documents as appropriate, once the learner has reached the required standard. Please note that the competent trainer for formative training and assessment should be a trust train the trainer in NG, and for summative assessment in clinical area either a train the trainer or competent registered practitioner (already assessed as competent in NG tube insertion and management).

5.4 It is the responsibility of all staff to follow this policy in conjunction with the Adult Nasogastric Tube Insertion Procedure & Management Policy, (for adult sized patients), and it is a pre-requisite of attaining competence that the employee can demonstrate an understanding of these policies.

5.5. Evidence of training should be recorded on Clinical Educator data base, and assessment documentation should be retained for future reference.
Compentency in Theory of Insertion/Management of NG Tubes, Children & Young People & Neonates

Name: __________________________  Designation: __________________________

Assessor: __________________________  Designation: __________________________

Ward/Dept.: __________________________

Aim: To understand basic theory of Indication for NG use, insertion and on-going management. To prepare candidate for ward based competency assessments, or to utilise as revalidation for continuation of practice.

Objectives: The candidate will be able to:
- Demonstrate an understanding of the knowledge and skills necessary for Insertion (if applicable), care and management of NG Tubes, for patients who are children, young people and neonates.
- Demonstrate competency in performing the procedure on age appropriate manikin.

Update: Competence to be reviewed annually, or candidate to self-verify if has been assessed within preceding 12/24 months, has worked with NG tubes in preceding 3 months with no incidents.

Training Prerequisite

Prior to this assessment, I have successfully completed the following:

<table>
<thead>
<tr>
<th>Prerequisite Training</th>
<th>Yes/No</th>
<th>Date</th>
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<tbody>
<tr>
<td>Has read the Paediatric Nasogastric Tube Insertion Procedure and Management Policy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has read the guidelines for the insertion, Confirmation of Position, Administration of Bolus Nasogastric/Orogastric Tube Feeds, and Removal of Nasogastric Feeding Tubes in Children, young people &amp; neonates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has received training and assessment on the Applix feeding Pump (if applicable)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Candidate Signature: __________________________  Date: __________________________
## Overarching Assessment Criteria

<table>
<thead>
<tr>
<th>Candidate can state the Clinical application of the NG Tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidate can follow Trust policy on hand washing, and decontamination.</td>
</tr>
<tr>
<td>Candidate can demonstrate knowledge of all relevant safety checks</td>
</tr>
</tbody>
</table>

## Specific Assessment Criteria

<table>
<thead>
<tr>
<th>Competent Y/N</th>
<th>Specific Assessment Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 Describe the indications for insertion of NG tube, and the different types/bores of tubes available in relation to children, young people and neonates.</td>
</tr>
<tr>
<td></td>
<td>2 Describe the basic upper GI anatomy and route of NGT for children, young people and neonates.</td>
</tr>
<tr>
<td></td>
<td>3 Demonstrates an understanding of when it is unsafe to pass an NG tube and contraindications for children, young people and neonates: e.g. Cranio-facial and upper airway deformities, Maxillo-facial trauma, recent oral/nasal surgery, severe gastric reflux, basal skull fracture, low platelets/clotting disorders, allergies to tube or securing tape.</td>
</tr>
<tr>
<td></td>
<td>4 What is meant by first line check method in relation to NPSA and why?</td>
</tr>
<tr>
<td></td>
<td>☐ Is aware of the NPSA decision tree for nasogastric tube placement checks in children &amp; infants, and know where/how to access a copy.</td>
</tr>
<tr>
<td></td>
<td>☐ Is aware of the NPSA decision tree for nasogastric tube placement checks in adults, and know where/how to access a copy (N/A neonates).</td>
</tr>
<tr>
<td></td>
<td>☐ Is aware of the NPSA decision tree for nasogastric tube placement checks in neonates, and know where/how to access a copy.</td>
</tr>
<tr>
<td></td>
<td>5 Describe what information should be documented following the pH result, and where it should be documented.</td>
</tr>
<tr>
<td></td>
<td>6 Describe possible reasons when the aspirate is above pH 5.5:</td>
</tr>
<tr>
<td></td>
<td>☐ Patient on medications e.g. Omeprazole, Ranitidine or Gaviscon</td>
</tr>
<tr>
<td></td>
<td>☐ If aspirate taken within an hour of the child/neonates milk feed, or if there is a continuous feed in progress.</td>
</tr>
<tr>
<td></td>
<td>Can describe what actions to take in the event that aspirate pH is above 5.5:</td>
</tr>
<tr>
<td></td>
<td>☐ Stop continuous feed for 15-20 minutes</td>
</tr>
<tr>
<td></td>
<td>☐ Repeat aspirate</td>
</tr>
<tr>
<td></td>
<td>Assess the effects of medication the child/young person may be taking, that could affect the aspirate</td>
</tr>
<tr>
<td></td>
<td>☐ Do not instil any fluid into the tube until the position of the tube can be confirmed.</td>
</tr>
<tr>
<td></td>
<td>☐ Do not use the auscultation of air into the tube to check its position – understands rationale</td>
</tr>
<tr>
<td></td>
<td>☐ Do not use blue litmus paper to test the aspirate – understands rationale</td>
</tr>
<tr>
<td></td>
<td>☐ Do not monitor bubbles at end of tube – understands rationale</td>
</tr>
<tr>
<td></td>
<td>☐ Do not rely on the appearance of aspirate – understands rationale</td>
</tr>
<tr>
<td></td>
<td>☐ Do not interpret the absence of respiratory distress as an indicator of correct positioning – understands rationale.</td>
</tr>
</tbody>
</table>
Understands the correct process to follow in the event that aspirate cannot be obtained: Check external markings of tube against recorded length – understands rationale.

- Attempt to dislodge tubes exit port away from stomach mucosa by inserting between 2-5ml air dependant on size of the child) via 50 ml syringe, then attempt aspirate again.

- Lie child/young person/neonate on left side and try again

- If able to/allowed to encourage child to take a small amount of oral fluid – try again.

- Try advancing tube 1-2cm and try again

- If on supplementary feed give coloured drink and aspirate back – explains rationale.

- Mouth care on nil by mouth/ventilated patient. Understands when to seek further advice from senior colleagues or medical staff.

### 7 Describe potential complications and appropriate remedial action:

14. Coughing/choking/cyanosis during feeding
15. Diarrhoea
16. Nausea & vomiting

### 8. Can demonstrate what equipment should be used, and that if child under 1 year of age or immuno-compromised cooled boiled water should be used, if over 1 year of age tap water is sufficient where applicable.

1. Can explain why 3 way taps should not be used
2. Can under direct observation demonstrate competence in NG insertion (on paediatric/neonatal manikin).

#### a) Administering medication:

1. Name at least 2 drugs that have significant interactions with enteral feeding formula
2. Understands medicines can only be administered by NG tube if prescribed for this use by a medical practitioner.
3. Purple syringes for measuring & administering medication
4. Flushing before and after each drug administration – understands following flush volumes/air volumes
5. Describe the legal implications of crushing drugs or opening capsules in relation to product licence

<table>
<thead>
<tr>
<th>Neonates:</th>
<th>Naso/orogastric Tube size</th>
<th>Normal volume of air</th>
<th>Minimum volume of air</th>
</tr>
</thead>
<tbody>
<tr>
<td>4fg</td>
<td>0.5 ml</td>
<td>0.25ml</td>
<td></td>
</tr>
<tr>
<td>5fg</td>
<td>1 ml</td>
<td>0.5ml</td>
<td></td>
</tr>
<tr>
<td>6fg</td>
<td>1.5 ml</td>
<td>1ml</td>
<td></td>
</tr>
<tr>
<td>8fg</td>
<td>1.5 ml</td>
<td>1ml</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Children &amp; young people:</th>
<th>Nasogastric volume</th>
<th>Normal flush volume</th>
<th>Minimum flush volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>6fg</td>
<td>5ml</td>
<td>2ml</td>
<td></td>
</tr>
<tr>
<td>8fg</td>
<td>5ml</td>
<td>2ml</td>
<td></td>
</tr>
<tr>
<td>10fg</td>
<td>5ml</td>
<td>4ml</td>
<td></td>
</tr>
<tr>
<td>12fg</td>
<td>20ml</td>
<td>12ml</td>
<td></td>
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</tbody>
</table>
### Assessment Criteria

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<th></th>
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<tr>
<td>b)</td>
<td>Describe procedure for a blocked NG/orogastric tube for enteral feeding and for surgical aspiration of stomach contents.</td>
</tr>
</tbody>
</table>

11. Describe what information should be entered into patient’s medical notes as a minimum prior to insertion of NG tube, and understands that it is the responsibility of the Registered Nurse to confirm & document correct placement prior to every feed/administration of medication. Is aware that the NG placement sticker must be used.

12. Describes in detail the actions when aspirate is not obtainable for both feeding and surgical indications

### 13. Feeding:

**Understands the following:**

1. Child should be kept in upright position if possible during feeds and for 30 minutes after to reduce risk of reflux/vomiting (N/A neonates).
2. For overnight feeding it is advised that the head of the bed is elevated (approx. 30 degrees).
3. Feeding when clinically allowed should be encouraged as part of the normal meal setting, encouraging the child’s integration into the family, and social activities where applicable.
4. Bolus feeds should be run in by gravity and take approx. the same time as eating a meal.
5. Continuous feeds should be administered by pump, as determined by the paediatric dietician/medical staff. All staff using feeding pumps should be trained and assessed in their use as per the Medical Devices Training Policy.

Flush the tube before and after each use with an appropriate volume of water dependant on the size of the tube, age of the child & fluid restrictions/condition of child.

#### 1. When it is necessary to confirm position of tube by x-ray/can describe when tube position must be checked:

Following placement of the tube, prior to every bolus feed, prior to commencing/recommencing continuous feeds, prior to administration of medicine, following a vomit, when symptoms suggest aspiration, such as coughing, choking, rapid breathing, when receiving a child/neonate with NG in situ from another area, at least every 12 hours for continuous feeds, 4 hourly in infants and neonates on continuous feeds.

For neonates please follow the risk assessment.
CANDIDATE I confirm that I have had theoretical and practical training on the insertion (if applicable) and management/principals of NGT. I agree to comply with trust policies and procedures at all times.

Signed: ______________________ Print Name: ______________________

Designation: ______________________ Date: ______________________

MANAGERS AUTHORISATION

Manager’s signature providing authority for practitioner to use this Medical Device

Signed: ______________________ Print Name: ______________________ Date: ______________________

ACTION PLAN (if competencies not achieved)

If not competent must remain under supervision until assessed as competent.
**Direct Observation of Practice Record children, young people and neonates.**

**Key skill observed: Administration of bolus Nasogastric and Orogastric tube feed**

<table>
<thead>
<tr>
<th>Date</th>
<th>Practitioner name</th>
<th>Mentor name</th>
</tr>
</thead>
</table>

Standards description.

Comments- in depth knowledge and understanding displayed and ability to perform role.

Further learning objectives identified.

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Knows nothing about the skill</td>
</tr>
<tr>
<td>2</td>
<td>Doubts knowledge and ability to perform the skill safely, without supervision.</td>
</tr>
<tr>
<td>3</td>
<td>Could perform the skill safely with supervision.</td>
</tr>
<tr>
<td>4</td>
<td>Confident of knowledge and ability to perform the skill safely.</td>
</tr>
<tr>
<td>5</td>
<td>Could teach knowledge and skill to others and can demonstrate initiative and adaptability to special problem situations.</td>
</tr>
</tbody>
</table>

(Hodge. R 2003, clinical competencies for cardiac nursing, south Devon Hospital Trust)

**Rating** (please circle as appropriate)

<table>
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<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

Signatures:

<table>
<thead>
<tr>
<th>Practitioner</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please print</td>
<td>Please print</td>
</tr>
</tbody>
</table>
Individual Staff Key Skill/Competency Register

Staff name:

Administration of bolus Nasogastric/Orogastric tube (NGT/OGT) feeds

Assessment date:

I have read the trust flow chart for safe positioning of gastric tubes and the care plan. I am competent, as indicated, in the administration of bolus naso and orogastric feeds.

<table>
<thead>
<tr>
<th>Name of Candidate:</th>
<th>Signature of Candidate:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Mentor:</td>
<td>Signature of Mentor:</td>
</tr>
</tbody>
</table>

Review Dates with mentor signature

<table>
<thead>
<tr>
<th>Key Skill</th>
<th>Year 1 Date and Sign</th>
<th>Year 2 Date and Sign</th>
<th>Year 3 Date and Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration of bolus Naso/Oro Gastric Tube Feed</td>
<td></td>
<td></td>
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</tbody>
</table>

By the end of the assessment the practitioner should demonstrate knowledge and understanding and be able to:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Level of achievement</th>
<th>Evidence to support practice</th>
<th>Mentor signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Discuss the rationale for the frequency of bolus feeds</td>
<td></td>
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<tr>
<td>2. Discuss the indications and contraindications for bolus gastric tube feeding</td>
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<td></td>
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</tr>
<tr>
<td>3. Discuss the health and safety, infection control and standard precautions applicable to the procedure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Discuss the potential complications associated with bolus gastric tube feeds and how to manage them</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Discuss the actions to take if pH is greater than 5.5 or aspirate cannot be obtained</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Discuss the assessment and action to be taken regarding Volume of gastric aspirate Nature of gastric aspirate</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Performance Criteria
By the end of the assessment the practitioner should demonstrate performance and be able to undertake the following

<table>
<thead>
<tr>
<th>Level of achievement</th>
<th>Evidence to support practice</th>
<th>Mentor signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Checks rationale regarding the need for nasogastric or orogastric tube feeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Explains the procedure to patient/parent/carer and obtain consent and appropriate documentation in notes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Ensure oxygen, suction, resuscitation equipment is available and ready for use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Collects equipment and feed following Trust protocol for checking feeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Follows local policies for additives to feed e.g. breast milk fortifier, Thick &amp; Easy, Gaviscon etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Confirms the correct placement of gastric tube following Trust flow chart for safe positioning of gastric tubes. Checks the documented length of the tube.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Administers feed safely; Demonstrates awareness of patient tolerance to feed Demonstrates attention to hygiene Assesses potential risks during feed and responds appropriately</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Correctly disposes used equipment at end of feed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Documents the procedure including: Date and time of feed Type of feed pH reading Whether the feed was tolerated</td>
<td></td>
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</tr>
</tbody>
</table>
Reducing the harm caused by misplaced gastric feeding tubes in babies under the care of neonatal units
Interim advice for healthcare staff – August 2005
Page 3 of 4

The recommended procedure for checking the position of the naso and orogastric feeding tube in babies under the care of neonatal units

Use this flowchart as a basis for decision making

<table>
<thead>
<tr>
<th>Action</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check for signs of tube displacement (if not initial insertion)</td>
<td>The tube may have caked up in the mouth or if there is more tube visible than previously documented, the tube may have kinked. Loose tape may indicate movement. If tube has been displaced, it will need repositioning or re-passing before feeding.</td>
</tr>
<tr>
<td>Aspirate 0.2-1ml gastric fluid and allow ten to 15 seconds for any colour change</td>
<td>0.2 to 1ml of aspirate will cover an adequate area on single, double or triple reagent panels of pH testing strips or paper.</td>
</tr>
<tr>
<td>Aspirate using a syringe</td>
<td>It is safe practice to use gastric tubes and enteral syringes that have non tuor lock connectors (Building a Safer NHS for Patients: Improving Medication Safety published 22/01/2004 available at <a href="http://www.dh.gov.uk">www.dh.gov.uk</a>).</td>
</tr>
<tr>
<td>Aspirate is pH 5.5 or below PROCEED TO FEED</td>
<td>Aspirates testing pH 5.5 and below should indicate correct placement in most babies (including the majority of those receiving acid suppressents) and rule out the possibility of respiratory tract placement. “Always match the pH indicator strip or paper colour change with the colour chart on the booklet or box. If there is ANY doubt about the position and/or clarity of the colour change on the pH indicator strip or paper, particularly between pHs 5 and 6, DO NOT commence feeding.</td>
</tr>
<tr>
<td>Aspirate is pH6 or above</td>
<td>The most likely reason for failure to obtain gastric aspirate pH 5.5 or below is the dilution of gastric acid by enteral feed. Waiting gives time for the stomach to empty and the pH value to fall. If pH is still 6 and above after waiting and replacing or re-passing the tube, seek advice and consider the following questions:</td>
</tr>
<tr>
<td>CAUTION – STOP FEED: if clinically safe, consider waiting 15–30 minutes before aspirating again. Consider replacing and/or re-passing the tube and re-aspirating</td>
<td></td>
</tr>
<tr>
<td>If still pH 6 or above, seek advice</td>
<td>IT IS IMPORTANT THAT STAFF FOLLOW THE FLOWCHART, RECORD THE OUTCOMES AND MAKE DECISIONS BASED ON THIS INFORMATION</td>
</tr>
<tr>
<td>Document all information</td>
<td>Documenting helps the clinical decision-making process. The tube size and length should be recorded each time the tube is passed. A record should also be made each time measurements of the pH level of the aspirate and the length of the tube’s advancement or retraction, are done.</td>
</tr>
<tr>
<td>Problems obtaining aspirate: suggest using larger size tubes with multiple ports. Turn baby onto Fisher side</td>
<td>This may facilitate the tip of the nasogastric tube entering the gastric fluid pool.</td>
</tr>
<tr>
<td>Inject 1–2ml of air using a syringe This is NOT a testing procedure</td>
<td>Injecting air through the tube may dislodge the exit-port of the feeding tube from the gastric mucosa. Care must be taken when using large syringes on neonates to ensure that the correct amount of air is inserted, i.e., no more than 2ml.</td>
</tr>
<tr>
<td>Advance or retract the tube by 1–2cm Stop if there is any resistance or obstruction</td>
<td>If the tube is in the oesophagus, advancing it may allow it to pass into the stomach. If the tube has been inserted too far, it may be in the duodenum. Consider withdrawing a few centimetres and re-aspirating. The position of the tube at the nose should already have been recorded and marked, if the tube is in situ. If the mark has not moved then advancing or retracting may not make a difference. Document the length of tube if moved.</td>
</tr>
<tr>
<td>If you still cannot obtain aspirate</td>
<td>If this is an initial insertion then consider repositioning or re-passing the tube. If the tube has been in situ already seek advice. Consider whether the length of the tube has changed and discuss options as outlined under the action point on aspirate of pH 6 and above. Record all decisions and their rationale.</td>
</tr>
</tbody>
</table>

For more information about the safety issues involved please see www.npsa.nhs.uk/advice
Reducing the harm caused by misplaced gastric feeding tubes in babies under the care of neonatal units
Interim advice for healthcare staff – August 2005
Page 4 of 4

1. Check for signs of tube displacement (if not initial insertion)
2. Reposition or re-pass tube, if not initial insertion
3. Aspirate using a syringe and gentle pressure
   Aspirate not obtained
   DO NOT FEED
   1. If possible, turn baby onto his/her side
   2. Re-aspirate
   3. Check pH level
   Aspirate not obtained
   DO NOT FEED
   1. Inject 1-2ml of air into the tube using syringe
   2. Re-aspirate
   3. Check pH level
   Aspirate not obtained
   DO NOT FEED
   1. Advance or retract the tube 1-2cms, if initial insertion, any resistance, STOP
   2. Re-aspirate
   3. Check pH level
   Aspirate not obtained
   CAUTION: DO NOT FEED AND:
   1. If initial insertion, consider replacing or re-passing tube
   2. If tube in situ, seek senior advice, advice
   3. Only consider chest and abdominal x-ray if timely
   4. Document decisions and rationale

   CAUTION: DO NOT FEED AND:
   1. Consider waiting 15-30 minutes then re-aspirate
   2. Consider replacing or re-passing tube and re-aspirating
   3. If still pH 6 or above, seek senior advice
   • Medication
   • The tube – is it the same as that documented on last x-ray and is the length the same.
   • The feeding history
   • Balancing risks
   4. Only consider x-ray if timely
   5. Document decisions and rationale

   DOCUMENT
   1. Measure length of tube and document, if initial insertion
   2. pH of aspirate
   3. Length of tube advancement/retraction, if done

   pH 6 or above
   Test on pH strip or paper
   pH 5.5 or below
   Proceed to feed

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.
Decision tree for nasogastric tube placement checks in **CHILDREN** and **INFANTS** (NOT **NEONATES**) 

- Estimate NEX measurement (Place exit port of tube at tip of nose. Extend tube to earlobe, and then to xiphisternum) 
- Insert fully radio-opaque nasogastric tube for feeding (follow manufacturer's instructions for insertion) 
- Confirm and document secured NEX measurement 
- Aspirate with a syringe using gentle suction

**Aspirate obtained?**

**YES**

**Try each of these techniques to help gain aspirate:**
- If possible, turn child/infant onto left side 
- Inject 1-5ml air into the tube using a syringe 
- Wait for 15-30 minutes before aspirating again 
- Advance or withdraw tube by 1-2cm. 
- Give mouth care to patients who are nil by mouth (stimulates gastric secretion of acid) 
- Do not use water to flush

**Test aspirate on CE marked pH indicator paper for use on human gastric aspirate**

**pH between 1 and 5.5**

**PROCEED TO FEED or USE TUBE**

- Record result in notes and subsequently on bedside documentation before each feed/medication/flush.

**pH NOT between 1 and 5.5**

**NO**

**Aspirate obtained?**

**NO**

**Proced to x-ray; ensure reason for x-ray documented on request form**

**COMPETENT CLINICIAN (with evidence of training) to document confirmation of nasogastric tube position in stomach**

**DO NOT FEED or USE TUBE**

- Consider re-siting tube or call for senior advice

**A pH of between 1 and 5.5 is reliable confirmation that the tube is not in the lung, however it does not confirm gastric placement as there is a small chance the tube tip may sit in the oesophagus where it carries a higher risk of aspiration. If this is any concern, the patient should proceed to x-ray in order to confirm tube position.**

**Where pH readings fall between 5 and 6 it is recommended that a second competent person checks the reading or retests.**

www.npsa.nhs.uk/alerts
Decision tree for nasogastric tube placement checks in ADULTS

- Estimate NEX measurement (Place exit port of tube at tip of nose. Extend tube to earlobe, and then to xiphisternum.
- Insert fully radio-opaque nasogastric tube for feeding (follow manufacturer’s instructions for insertion)
- Confirm and document secured NEX measurement
- Aspirate with a syringe using gentle suction

Aspirate obtained?

YES

Try each of these techniques to help gain aspirate:
- If possible, turn adult onto left side
- Inject 10-20ml air into the tube using a 50ml syringe
- Wait for 15-30 minutes before aspirating again
- Advance or withdraw tube by 10-20cm
- Give mouth care to patients who are nil by mouth (stimulates gastric secretion of acid)
- Do not use water to flush

Test aspirate on CE marked pH indicator paper for use on human gastric aspirate

pH between 1 and 5.5

Aspirate obtained?

YES

PROCEED TO FEED or USE TUBE
Record result in notes and subsequently on bedside documentation before each feed/medication/flush.

pH NOT between 1 and 5.5

Aspirate obtained?

YES

DO NOT FEED or USE TUBE
Consider re-siting tube or call for senior advice

NO

Competent clinician (with evidence of training) to document confirmation of nasogastric tube position in stomach

NO

Proceed to x-ray; ensure reason for x-ray documented on request form

A pH of between 1 and 5.5 is reliable confirmation that the tube is not in the lung, however it does not confirm gastric placement as there is a small chance the tube tip may sit in the oesophagus where it carries a higher risk of aspiration. If this is any concern, the patient should proceed to x-ray in order to confirm tube position.

Where pH readings fall between 5 and 6 it is recommended that a second competent person checks the reading or retests.

www.npsa.nhs.uk/alerts
Paediatric Naso/Orogastric Tube Recording Form

Affix patient ID label here:

Name: 
Address: 
Hospital No: 
Consultant: 

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
<th>pH BEFORE FEEDS</th>
<th>pH BEFORE MEDS</th>
<th>NURSES NAME/SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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Paediatric and Neonatal
RECORD OF INSERTION OF
ORO/NASOGASTRIC TUBE

Please complete and insert in patients current medical notes prior to use.

Reason for NG/OG placement :

☐ Feeding ☐ Medication
☐ Drainage

NG tube details and size

☐ Fine Bore ✅ Ryles Size: .................... (fr)

Length to which tube inserted at nostril/mouth even if under direct vision in cms:

☐ R   ☐ L Nostril   Lot num:....................

Inserter: Print name:....................Sign:....................Date:...........Time:...........

1st line test  0.5-2mls of aspirate from NGT
pH result ............ No aspirate ☐ If pH 5.5 or below NG tube can be used

If pH > 5.5 or no aspirate repeat after 30 minutes (refer to NGT policy)

pH result ............ No aspirate ☐

Checker: Print name:....................Sign:....................Date:...........Time:...........

If no aspirate or pH >5.5 after 2 tests then a CXR is required to confirm NGT position. It should be requested before 4pm if possible

2nd line test  Most recent CXR used Y/N, Confirmed correct position on PACS Y/N

Position confirmed by Radiologist on CXR using :

- Follows oesophagus, avoids contours of bronchi
- Clearly bisects the carina/bronchi
- Crosses the diaphragm in the midline
- Tip visible below left hemi-diaphragm

Does Radiologist report indicate the tube can be used safely for feeding/meds/drainage? Yes / No

Report checked by a competent practitioner: - Time:.............Date:.............

Print name:.............................Sign:..........................Bleep:..............
6 Overall Responsibility for the Document

Matron Acute Paediatrics and Neonates.

7 Consultation and Ratification

The design and process of review and revision of this policy will comply with The Development and Management of Trust Wide Documents.

The review period for this document is set as default of five years from the date it was last ratified, or earlier if developments within or external to the Trust indicate the need for a significant revision to the procedures described.

This document will be approved by the Paediatric Clinical Governance and Neonatal Clinical Governance and ratified by the Nutritional Steering Group.

Non-significant amendments to this document may be made, under delegated authority from the Nutritional Steering Group, by the nominated author. These must be ratified by the Executive Director and should be reported, retrospectively, to the approving group or committee.

Significant reviews and revisions to this document will include a consultation with named groups, or grades across the Trust. For non-significant amendments, informal consultation will be restricted to named groups, or grades that are directly affected by the proposed changes.

8 Dissemination and Implementation

Following approval and ratification, this policy will be published in the Trust’s formal documents library and all staff will be notified through the Trust’s normal notification process, currently the ‘Vital Signs’ electronic newsletter.

Document control arrangements will be in accordance with The Development and Management of Trust Wide Documents.

The document author(s) will be responsible for agreeing the training requirements associated with the newly ratified document with the Nutritional Steering Group and for working with the Trust’s training function, if required, to arrange for the required training to be delivered.

9 Monitoring Compliance and Effectiveness

- A timely review of all patients with NG /OGT tubes by Ward Manager.
- Full investigation of all Datix incidents involving NG /OGT Tubes.
- Annual training on Theoretical elements of NG feed, to include formative assessment, followed by summative assessment where appropriate. Learning will take place during the annual training week, for Paediatric nursing staff in the acute & community setting.
- Further training needs will be identified by trainer/Clinical Educator/Ward Manager, and any retraining issues addressed.
- Any adverse issues will be reported on in the manager’s meetings.
- Training and formative assessment records will be managed by Clinical Educator
- Summative assessment records will be kept by Ward Manager.
- NHSLA requirements
References


National patient Safety Agency ( 2005) How to confirm the correct position of naso and orogastric feeding tubes in babies under the care of neonatal units. London: NPSA

National Patient Safety Agency (2005) How to confirm the correct position for Nasogastric Feeding Tubes in Infants and Children and Adults. London: NPSA


National Patient safety Agency (2007b) Promoting safer measurement and administration of liquid medicines via oral and other enteral routes. London: NPSA


Nursing and Midwifery Council (2002a) Guideline for records and record keeping. NMC London

Peters S & Gill F (2009) Development of a clinical practice guideline for testing nasogastric tube placement. JSPN 14(1)


# Dissemination Plan

## Document Title
Guidelines for the insertion, Confirmation of Position, Administration of Bolus Nasogastric/Orogastric Tube Feeds, and Removal of Nasogastric Feeding Tubes in Children, Young People and Neonates.

## Date Finalised
June 2018

## Previous Documents
Information Governance to remove V.1 from Trust Documents and replace with this document

## Dissemination Plan

<table>
<thead>
<tr>
<th>Recipient(s)</th>
<th>When</th>
<th>How</th>
<th>Responsibility</th>
</tr>
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<tr>
<td>All Trust staff</td>
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<td>Vital Signs</td>
<td>Information Governance Team</td>
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## Review Checklist

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<tr>
<th>Title</th>
<th>Is the title clear and unambiguous?</th>
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<tbody>
<tr>
<td>- Is it clear whether the document is a policy, procedure, protocol, and framework, APN or SOP?</td>
<td>Y</td>
<td></td>
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<tr>
<td>- Does the style &amp; format comply?</td>
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<tr>
<td><strong>Rationale</strong></td>
<td>Are reasons for development of the document stated?</td>
<td>Y</td>
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<tr>
<td><strong>Development Process</strong></td>
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<td>- Is the method described in brief?</td>
<td>Y</td>
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<td>- Are people involved in the development identified?</td>
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<tr>
<td>- Has a reasonable attempt has been made to ensure relevant expertise has been used?</td>
<td>Y</td>
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<tr>
<td>- Is there evidence of consultation with stakeholders and users?</td>
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<td><strong>Content</strong></td>
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<td>- Is the target population clear and unambiguous?</td>
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<tr>
<td>- Are the intended outcomes described?</td>
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<td>- Are the statements clear and unambiguous?</td>
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<tr>
<td><strong>Evidence Base</strong></td>
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<td>- Is the type of evidence to support the document identified explicitly?</td>
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<tr>
<td>- Are key references cited and in full?</td>
<td>Y</td>
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<tr>
<td>- Are supporting documents referenced?</td>
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<tr>
<td><strong>Approval</strong></td>
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<td>- Does the document identify which committee/group will review it?</td>
<td>Y</td>
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<tr>
<td>- If appropriate have the joint Human Resources/staff side committee (or equivalent) approved the document?</td>
<td>N/A</td>
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<tr>
<td>- Does the document identify which Executive Director will ratify it?</td>
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<tr>
<td><strong>Dissemination &amp; Implementation</strong></td>
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<td>- Does the plan include the necessary training/support to ensure compliance?</td>
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<td><strong>Document Control</strong></td>
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<td>- Does the document identify where it will be held?</td>
<td>Y</td>
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<tr>
<td>- Have archiving arrangements for superseded documents been addressed?</td>
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<tr>
<td><strong>Monitoring Compliance &amp; Effectiveness</strong></td>
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<tr>
<td>- Are there measurable standards or KPIs to support the monitoring of compliance with and effectiveness of the document?</td>
<td>Y</td>
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<td>- Is there a plan to review or audit compliance with the document?</td>
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<td><strong>Review Date</strong></td>
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<td>- Is the review date identified?</td>
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<td>- Is the frequency of review identified? If so is it acceptable?</td>
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<tr>
<td><strong>Overall Responsibility</strong></td>
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<tr>
<td>- Is it clear who will be responsible for co-ordinating the dissemination, implementation and review of the document?</td>
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### Core Information

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Title</strong></td>
<td>Policy for the insertion, Confirmation of Position, Administration of Bolus Nasogastric/Orogastric Tube Feeds, and Removal of Nasogastric Feeding Tubes in Children, Young People and Neonates.</td>
</tr>
<tr>
<td><strong>What are the aims, objectives &amp; projected outcomes?</strong></td>
<td>The procedures described in this document are intended to support staff in complying with the stated Trust policy, and to ensure the patient care is safe and effective.</td>
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</tbody>
</table>

### Scope of the assessment

All protected characteristics have been considered when developing the policy. Workforce and Service user monitoring, analysis and publication will be undertaken to ensure compliance with legislative requirements and to meet CQC requirements.

### Collecting data

<table>
<thead>
<tr>
<th>Race</th>
<th>There is no evidence to suggest that there is a negative impact on race regarding this policy. Workforce and service data is currently monitored, analysed and published on the Trust website. Areas of concern will be addressed through appropriate action plans. Data from workforce surveys, complaints and service user surveys will be monitored and analysed as required.</th>
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<tbody>
<tr>
<td>Religion</td>
<td>There is no evidence to suggest that there is a negative impact on Religion or belief and non-belief regarding this policy. Workforce and service data is currently monitored, analysed and published on the Trust website. Areas of concern will be addressed through appropriate action plans. Data from the workforce surveys, complaints and service user surveys will be monitored and analysed as required.</td>
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<tr>
<td>Disability</td>
<td>There is no evidence to suggest that there is a negative impact on Disability regarding this policy. Workforce and service data is currently monitored, analysed and published on the Trust website. Areas of concern will be addressed through appropriate action plans. Data from the workforce surveys, complaints and service user surveys will be monitored and analysed as required.</td>
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<tr>
<td>Sex</td>
<td>There is no evidence to suggest that there is a negative impact on gender regarding this policy. Workforce and service data is currently monitored, analysed and published on the Trust website. Areas of concern will be addressed through appropriate action plans. Data from the workforce surveys, complaints and service user surveys will be monitored and analysed as required.</td>
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<td>Category</td>
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<tr>
<td>Gender Identity</td>
<td>There is no evidence to suggest that there is a negative impact on gender identity regarding this policy, currently workforce and service data for this area is not collected, due to the current provision on the data collection systems.</td>
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<td>Sexual Orientation</td>
<td>There is no evidence to suggest that there is a negative impact on sexual orientation regarding this policy. Workforce and service data is currently monitored, analysed and published on the Trust website. Areas of concern will be addressed through appropriate action plans. Data from complaints and service user surveys will be monitored and analysed as required.</td>
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<tr>
<td>Age</td>
<td>This policy will benefit children</td>
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<tr>
<td>Socio-Economic</td>
<td>There is no evidence to suggest that there is a negative impact on socio-economic regarding this policy.</td>
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<tr>
<td>Human Rights</td>
<td>Workforce and service data is currently monitored, analysed and published on the Trust website. Areas of concern will be addressed through appropriate action plans. Data from complaints and service user surveys will be monitored and analysed as required.</td>
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<tr>
<td>What are the overall trends/patterns in the above data?</td>
<td>There are currently no trends or patterns in the data that is produced. Workforce and service data is currently monitored, analysed and published on the Trust website, although there is an issue with the systems collecting all protected characteristics. Areas of concern will be addressed through appropriate action plans. Data from complaints and service user surveys will be monitored and analysed as required.</td>
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<tr>
<td>Specific issues and data gaps that may need to be addressed through consultation or further research</td>
<td>Analysis of workforce and service user data needs to be undertaken on a regular basis.</td>
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</table>
Radiological confirmation of correct placement of nasogastric tubes in Adults, Children and Neonates for feeding.

Background
Nasogastric tubes are placed on the wards at PHINT for a variety of reasons, including patient feeding and administration of medication, as well as drainage. There have been a number of patient safety incidents previously at PHINT involving incorrect placement of nasogastric tubes. These are considered as NEVER events.

There is significant morbidity and risk of death associated with feeding through misplaced nasogastric tubes. In some patients (where there is minimal aspirate following placement of the NG tube) a chest film will be required to assess the location of the tube. In these cases, prior to feeding or administration of medication, a Radiologist will be involved with evaluating the location of the tube.

There are two exceptions to this for Neonatal Intensive Care Unit and Adult Intensive Care.

This SOP should be read in conjunction with current PHINT Trust Policy ‘Adult Insertion Procedure and Management Policy’ and the ‘Policy for the Insertion, Confirmation of Position, Administration of bolus Nasogastric/Orogastric tube feeds, and removal of Nasogastric feeding tubes in Children, Young People and Neonates’

For adults in Critical Care, please refer to (G01) Guidelines for Nutrition Support in Critical Care and ITU NG Documentation 2017.

Pathway for Management of Nasogastric Tubes placed for feeding / medication
Following the Trust decision tree for nasogastric tube placement checks in adults and children (excluding neonates), many patients will not require imaging after placement of a nasogastric tube for feeding or medication administration. Where there is clear evidence of gastric contents being aspirated by a nasogastric tube, with a proven pH of the fluid being below 5.5, there is no need to perform a chest X-ray. However, in those patients where the pH exceeds 5.5, or there is minimal or no aspirate, imaging will be required. In ward patients, if the aspirate is less than 2.5ml a chest X-ray will be required. Some patients may be taking a proton pump inhibitor (such as Omeprazole), and in these cases ward staff should try to aspirate as long as possible after nasogastric tube insertion.

A chest X-ray (coded as ZXNGT on CRIS) will therefore be requested in patients where the pH exceeds 5.5 and aspirate is less than 2mls. In this situation, a chest X-ray request form will be generated, which will be sent to the Radiology Department by 4pm on the same day, during the working week. The Radiology Department will then undertake confirmation of position of the nasogastric tube within working hours.

Within working hours (0900 – 1700), a chest X-ray will be acquired by a Radiographer and the images sent to the Radiologist working in inpatient CT for reporting. The images will be placed in the Inpatient reporting silo, for the consultant to report.
Out of hours (i.e. after 1700 weekdays and at weekends), in the unusual circumstances where nasogastric tubes are placed for feeding or administration of medication, the Radiology Registrar or consultant on call can report these images — but MUST be contacted specifically for review. Otherwise out of hours images are not reported until the next working day.

**Paediatric NGT chest x-rays performed out of hours:**

Patients <18 years old (excluding neonates) who have NGT positioning X-rays can be reported out of hours if specifically requested. These will be coded as ZXNGT and placed in the IP reporting silo as per the adult population. Only the positioning of the NGT will be reported. The paediatric radiologist will issue a full report of any other ancillary findings in normal working hours. The paediatric radiologist should be notified by the reporter either within Insight or by email that a paediatric film requires review.

A short code should be used by the reporter after reporting the NGT position:

This interim report is specifically for the NG tube position and not for any other paediatric findings. This film will be reviewed by a paediatric radiologist in normal working hours. It is the clinician’s responsibility to view this final report and act on these findings.

**Neonatal NGT placement and imaging:**

For neonates, imaging is not usually performed solely for NGT position but part of a multisystem assessment. The neonatal team will be taking responsibility for the reporting of the X-rays out of hours ie confirming NG tube positions.

The competency of the neonatal team is in the regularity with which the position of NG tubes (and other tubes) is assessed as part of the routine neonatal work. The roles include regular reviews of x-rays to confirm positions of ET tubes, central lines, NG or orogastric tubes, replogle tubes and chest drains. There is also a weekly radiology meeting in which the above are reviewed and competences of members of the team are updated.

As such someone is considered competent to report such X-rays if they are working at least in the capacity of a tier 2 practitioner. This includes (but not limited to)

- Paediatric trainees, ST3 and above
- Trainees less that ST3 level but with support and supervision of seniors
- Advanced Neonatal Nurse Practitioners working on the tier 2 rota
- Trust or specialty doctors working on the tier 2 rota
- Neonatal consultants (substantive or locum)

In a situation where the position cannot be reliably confirmed by the above individuals, the NG tube should not be used unless a discussion occurs with the allocated Paediatric Radiologist.

**ICU NGT placement and imaging:**

In the adult intensive care unit (Penrose, Pencarrow) imaging is not usually performed solely for determining the position of NGT but part of a wider assessment of lines, tubes and other inserted artefacts.

The Intensive Care team regularly review X-rays and confirm positions of ET tubes, central venous catheters, PICC lines, NG or orogastric tubes, pacing wires and chest drains. There are regular timetabled radiology meetings on ICU in which the above are also reviewed and competences of members of the team are updated.

All ICU trainees, ACCPs and trust grade staff must complete training in NG tube assessment (covered in the Basic ICM course (six monthly) and/or on-line self-assessment available through ESR) before being deemed competent. The intensive care team will take responsibility for reporting out of hours portable X-rays and confirming NG tube position. Individuals considered competent to report such X-rays will therefore include:
a. Intensive care trainees, ST3 and above
b. Trainees less that ST3 level but with support and supervision of seniors
c. Advanced Critical Care Practitioners (ACCP)
d. Trust or speciality doctors working with support and supervision of seniors
e. Intensive Care Consultants

In a situation where the position cannot be reliably confirmed by the above individuals, the NG tube should not be used until a discussion occurs between the clinician and duty radiologist to confirm its position.

**Ward Doctor / Ward Nurse Responsibilities**
Where there is doubt about the precise placement of a nasogastric tube, ward staff will first undertake troubleshooting actions (Reference 7.9 of Trust Policy for Adult Nasogastric Tube Insertion). When the troubleshooting measures have been undertaken and there is still doubt about the precise placement of the nasogastric tube, a chest X-ray request will then be made by the Ward Doctor. The troubleshooting measures will be detailed within the body of the text on the request form, as well as details about why the nasogastric tube has been inserted.

Radiographers will check that the record of insertion of nasogastric tube paperwork is inserted in the notes and fully completed as far as “2nd line test,” before an X-ray is performed. This form is also to be scanned on to CRIS system whenever possible.

Once a report has been obtained from Radiology, the ward doctor will check the radiology report prior to administering any fluids or feed, or requesting that the nursing staff commence these. The ward doctor will complete the bottom section of the ward sticker ‘record of insertion of nasogastric tube’. This acts as confirmation that the radiology report has been read by the ward doctor, and that it is safe to proceed with administration of feed or medication via the nasogastric tube.

**Radiologist Responsibilities**
When a chest X-ray is obtained to confirm position of the nasogastric tube, the Radiologist will be alerted to its presence in his/her reporting workflow. ALL IP ZXNGT films are placed into the IP reporting silo for radiologist review. When a nasogastric tube is in an optimal position, the Radiologist will document this in his/her chest X-ray report and confirm that it is safe to administer fluids via the nasogastric tube. However, when a nasogastric tube is thought to have been misplaced, the Radiologist will immediately inform the ward staff and request immediate removal where indicated.

**Radiographer Responsibilities**
The radiographer will receive requests to obtain chest films to confirm nasogastric tube placement. The radiographer will check the ‘record of NGT insertion’ paperwork in the notes. The imaging area will include from above the apices of both lungs to well below the diaphragm and should indicate the position of the tip of the nasogastric tube. No feed or administration of medication should be performed via the nasogastric tube until the radiology report has been issued.

Paediatric NGT films in normal working hours are allocated to the specific Paediatric reporting silo.
South West Neonatal Network Guideline/Policy

*Parent Education: Tube Feeding Guideline*

| Main Author(s): | Robyn Smart – Lead Nurse - SWNODN  
Joaanne Kirby – Family Support Sister – Derriford Hospital  
Lisa Ramsey – Developmental Care Sister – Southmead Hospital |
<table>
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<td>Ratifying Committee:</td>
<td>South West Neonatal Network Executive Board</td>
</tr>
<tr>
<td>Date Ratified:</td>
<td>12th December 2017</td>
</tr>
<tr>
<td>Review Date:</td>
<td>June 2018</td>
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<td>Version:</td>
<td>01</td>
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<td>KEYWORDS:</td>
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December 2017
1. Background
Supporting families, within the neonatal unit, to bond and build a close relationship with their baby(s) is paramount. Offering parents the chance to become more involved with their baby’s care has been shown to have improved outcomes for both the baby(s) and parents alike. Nasogastric (NG) Tube feeding is one aspect of care that parents can carry out on each unit once they are taught the correct safe procedure and can empower parents to feel more involved and have more of a parental role in their baby’s care. As a region we pride ourselves on maintaining our focus of care on the infant and keeping family central in everything we do. Every infant is an individual and every parent is also an individual and must be treated that way, tube feeding may feel too clinical for some and may not be safe to do for others.

2. Scope
This guidelines applies to neonatal units that fall within the South west Neonatal Network, this includes the following hospitals:

- Northern Devon Healthcare Trust
- North Devon District Hospital, Barnstaple
- Royal United Hospital Bath NHS Trust
- Royal United Hospital, Bath
- North Bristol NHS Trust
- Southmead Hospital, Bristol
- University Hospitals Bristol NHS Foundation Trust
- St Michael’s Hospital, Bristol
- Royal Devon and Exeter NHS Foundation Trust
- Royal Devon and Exeter Hospital, Exeter
- Gloucestershire Hospitals NHS Foundation Trust
- Gloucester Royal Hospital, Gloucester
- Plymouth Hospitals NHS Trust
- Derriford Hospital, Plymouth
- Great Western Hospitals NHS Foundation Trust
- Great Western Hospital, Swindon
- Taunton and Somerset NHS Foundation Trust
- Musgrove Park Hospital, Taunton
- Torbay and South Devon NHS Foundation Trust
- Torbay Hospital, Torbay
- Torbay Hospital NHS Trust
- Royal Cornwall Hospitals NHS Trust
- Royal Cornwall Hospital, Truro
- Yeovil District Hospital NHS Foundation Trust
- Yeovil District Hospital, Yeovil

3. Indications and Benefits
NG Tube feeding should be offered and taught to parents within the neonatal unit. Parents of infants who are medically stable and those on Continuous Positive Airway Pressure (CPAP) and other oxygen delivery methods should be encouraged to participate.

By enhancing parental involvement in their baby’s care on the neonatal unit, benefits have been demonstrated for both baby and parents.

Benefits to the Infant include:
- Family integrated care which includes parents NG tube feeding has shown Improved outcomes for infants and reduced length of stay. (O’Brien et al 2013)
- Increased parental involvement in infant care has shown improved weight gain and reduced length of stay. (Levin 1994)

Benefits to the mother and family include:
- Reduced maternal stress (O’Brien at al 2013)
4. Contraindications and Risk

- Ventilated infants should not be excluded from being NG tube fed by parents; however, clinical stability should be a considered factor when training parents. This should be decided on a case by case basis in collaboration with the medical and nursing team and communicated with the families effectively.
- Parents who are known substance users should not be excluded from the process of NG tube feeding, but staff should be mindful of safe behaviours if under the influence of any drugs or alcohol.
- Clinical staff should work in partnership with families with special educational needs, their ability to carry out NG tube feeding unsupervised should be decided on a case by case basis.
- This guideline is not mandatory for all families; parents who are not confident or comfortable with this procedure do not have to take part in it. However support and encouragement to engage in the care of their baby should be given at all times.
- Parents will require access to wherever their milk is stored and milk warming facilities.

5. Preparation

A collaborative discussion between the nursing/clinical staff and family of the baby will encourage participation in delivering their babies care. This should be offered as an education opportunity at the earliest point in the care pathway, in order to support families in feeling confident in the care of their baby within the neonatal unit. Parents will be required to observe three feeds prior to starting the competency. They will be signed off as competent when the education sheets which highlight the safety aspects have been completed as well as the practical procedure. Only then will they be left unsupervised. The competency documents should be available for families to review prior to being taught the procedure. Staff may require support and teaching from the local education leads to support families in developing new skills.

6. Procedure

- Parents to be given NG tube feeding information sheet.
- Parents to be given Competency and Education documents.
- Parents to observe staff giving three NG tube feeds; this should be documented within the Competency document for continuity between staff. NB. Each parent being trained must observe three NG tube feeds each.
- Staff to teach the procedure to parents as per the competency document, emphasising the importance of checking the NG tube position and highlighting that the NG tube should not be used without a positive pH result. This should be documented within the Competency document for continuity between staff.
- Once confident and comfortable with the process, parents may start taking part in tube feeds under strict nurse supervision and instruction. At least three NG tube feeds must be observed prior to proceeding with lone tube feeding. This should be documented within the Competency document for continuity between staff.
- Although the minimum is three observed NG tube feeds however Parents are encouraged to carry out the procedure supervised as many times as they feel appropriate before sign off of the competency.
- When parents are feeling confident with procedure and are able to demonstrate understanding and ability, then the competency document can be completed.
- Parent to undertake NG tube feed procedure without prompting. Parent to explain the process as they demonstrate it.
• Once the staff member is satisfied the parent is competent and safe to NG tube feed then they can sign off competencies. Parent to also sign competency sheet.
• Completed competency document to be filed in baby’s medical notes.
• A small sticker to be placed on baby’s cot card identifying parents as signed off to complete NG tube feeds.
• Ensure parents understand that the procedure is the same for every unit but that equipment and pH strips may vary.
• On transferring between units, please include a photocopy of the competency declaration. There is no requirement for parents to undertake full training when moving between units within the South West Neonatal Network who have adopted this guideline; however a brief local checklist should be completed with parents on admission, providing families with information and education on locally used products if they wish to continue checking tubes. Signed Declaration to be filed in the baby’s medical notes.
• Clinical staff should work in partnership with families to care plan for the day. Clear expectation of the parents should be outlined to the nurse caring for that family on a daily basis. Indication of their presence at feed times and what to do if they are running late should be a continuing discussion throughout the babies stay.

7. Other resources
UNICEF Baby Friendly Initiative – Neonatal Standards and Professional Resources:
https://www.unicef.org.uk/babyfriendly/baby-friendly-resources/

South West Neonatal Network NG Tube Feeding Information Sheet available from:

South West Neonatal Network NG Tube Feeding Competency Document available from:

South West Neonatal Network NG Tube Feeding Unit Transfer Document available from:

8. References

Nasogastric tube feeding learning pack for:

If you’re reading this information it probably means that your baby needs a Nasogastric (NG) tube to support them with feeding. It also means that you’ve either expressed an interest in tube feeding or the Neonatal team feel that it may be beneficial for you to learn how to tube feed your baby.

This leaflet will support you in learning how to tube feed your baby. The staff on the Neonatal unit will teach you the techniques and show you how to do it in practice. They will then sign you off in this booklet. Keep it with your baby on the Neonatal unit.

If at ANY TIME you decide that this is something you would rather not do, that’s absolutely fine. However, if you do decide you would like to learn how to tube feed your baby, you’ll be fully supported and won’t be expected to undertake the procedure until you feel confident and competent.

Sometimes the Gastric Tube will be placed via the babies mouth, this is called an Orogastric (OG) Tube, this leaflet will refer to Nasogastric Tubes but OG Tubes should be treated in the same way.

South West Neonatal Network Guideline
Nasogastric Tube Feeding Learning Pack
Website: www.swornadoorganisation.co.uk Email: swornadoorganisation@nhs.uk
Authors: D. Prescott, R. Smart
Ratified 12/17 Review 06/16
Before you start – Preparation

- Make sure your baby is settled in their cot or in skin-to-skin cuddles. Some parents like to take turns to cuddle their baby while the other parent tube feeds.
- For some infants, the use of a pacifier during a tube feed may be suggested in order to promote an association between a full tummy and sucking, particularly if they look hungry.
- Wash your hands.
- Clean a work surface – usually the incubator tray or cot side is easiest.
- Gather your equipment:
  - Appropriate size of syringe to administer the feed e.g. 5, 10 or 20ml syringe.
  - 10ml syringe to assess the position of the NG tube.
  - pH testing strip.
- Make sure you know how much milk you need before you start. For smaller amounts of milk, it might be easier to draw up the milk into a syringe before you begin. You’ll need to label with your baby’s name stickers if you’re using a new container.
- Warm your labelled milk using the milk warmer or other local method. Ask your Neonatal nurse to show you how to do this if you haven’t been shown.
- Once warm, check the milk is your baby’s and take to your baby’s cot side.

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South West Neonatal Network Guideline
Nasogastric Tube Feeding Learning Pack
Website: www.sweeneonatalnetwork.co.uk Email: sweeneonatalnetwork@nhs.uk
Authors: D. Prescott, R Smart
Released 12/17 Review 06/18
Checking the tube position

1. Open the cap on the end of your baby’s NG tube.
2. Attach the 10ml syringe to the open end of the NG tube using a clockwise twist.
3. Gently pull back on the plunger of the 10ml syringe until you obtain a small sample of milk (aspirate) in the syringe, no more than 1ml.
4. Remove the syringe from the NG tube, using an anti-clockwise twist.
5. Replace the cap of the NG tube.
6. Gently press the plunger of the 10ml syringe until a small amount of aspirate is visible at the end of the syringe.
7. Drop the aspirate onto the pH strip

The pH strip

This strip indicates the acidity of the aspirate. An acid reaction will change the colour on the strip the colour/ number you should get is ____________ That means that the aspirate has been in the stomach. Do not proceed with the tube feed if you do not obtain this. Go directly to the nurse overseeing the care of your baby.

A non-acidic reaction might mean that the NG tube is no longer in the stomach and could be in your baby’s lungs.

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South West Neonatal Network Guideline
Nasogastric Tube Feeding Learning Pack
Website: www.swn Neonatal Network.co.uk Email: swnneonatalnetwork@nhs.uk
Authors: D. Prescott, R Smart
Ratified 12/17 Review 06/18
Dinner!

1. Remove the plunger from the syringe that you plan to use to give the feed.
2. Attach the empty syringe to the NG tube.
3. Pour the appropriate amount of milk into the syringe. Gently push with plunger to start the milk flowing.
4. Once the required amount of milk has been given, remove the syringe from the NG tube.
5. Replace the cap onto the end of the NG tube.

NG feeds are gravity fed. The higher the syringe is held, the faster the milk will flow.

It is much nicer for your baby to be able to see your face when you are feeding them it helps to build your relationship and also allows you to check they are coping with the feed.

Throughout the feed, you must watch your baby to make sure they remain settled, show no signs of distress and the NG tube stays in the same position as when you started the feed.

If your baby starts to splutter, cough, go floppy, lose consciousness, change colour or appears to be struggling to breathe:

Call for HELP immediately.

1. Kink the end of the tube with your thumb.
2. Gently replace the plunger into the neck of the syringe.
3. Reverse the syringe so that the milk is away from the NG tube.
4. Disconnect the syringe from the NG tube.

If your baby appears to be uncomfortable, you can slow the feed by reducing the height of the tube or by kinking the tube with your thumb to pause the feed. It may not always be necessary to stop and disconnect the tube. However, until you are happy with how to stop a feed, it’s useful to practice.

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South West Neonatal Network Guideline
Nasogastric Tube Feeding Learning Pack
Website: www.swneonatalnetwork.co.uk Email: swneonatalnetwork@uhl-tr.nhs.uk
Authors: D. Prescott, R. Smart
Ratified 10/17 Review 06/18
Competency Assessment Checklist

Baby’s name:

Consultant:

Please sign to indicate that you have worked through this program thoroughly, have had as much opportunity to practice as you would like, and feel both confident and competent to carry out nasogastric tube care. Please ensure that all your questions or concerns have been thoroughly discussed before signing this form.

I’m willing to take responsibility for the nasogastric tube feeding of my baby. I’ve learnt how and why the following should be done:

1. Wash my hands correctly.
2. Sterilise all equipment needed.
3. Set up an area for preparing feeds.
4. Handle the equipment confidently.
5. Decide the right amount of milk to be given.
6. Check the correct position of the Nasogastric (NG) tube.
7. Recognise when the NG tube has not been inserted properly and take appropriate action.
8. Give a NG feed.

Learner Signature(s)
Print name(s)
Date

Signature of Nurse
Print name
Date

Parent/Carer 1          Parent/Carer 2