

TRUST POLICY & PROCEDURES FOR ENTERAL FEEDING

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	V1.3	Nov 2014	Liz O'Dell	Review
	V1.3	May 2017	Liz O'Dell	Update to reflect changes to related guidelines
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Approving Executive Signature			Director of Patient Experience & Chief Nurse	

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1. **Introduction**

This policy outlines the management of patients who are receiving artificial feeding via the enteral route (feeding into the gastrointestinal tract). This policy covers referral for enteral tube placement, how to administer feeds and troubleshooting with enteral tubes.

2. **Purpose and Outcomes**

The purpose of this policy is to ensure safe and effective practice with patients receiving enteral feeding, minimise the risk of infection and complications and standardise practice throughout the Trust.

To ensure that practice complies with:

- National Patients Safety alert guidance (2005, 2010, 2011),
- Medical Devices alerts (2010)
- N.I.C.E. guidance (2006, 2011)

3. **Definitions Used**

Enteral feeding	Feeding into the gastrointestinal tract
Nasal bridle	A tube retaining device which is placed around the septum to secure nasogastric/nasojejunal tubes.
Nasojejunal Feeding Tube	Fine bore feeding tubes that are longer than 110cm. Some are weighted or have modified ends to aid passage into the small bowel.
Nasogastric (N.G.) tube	A fine bore feeding tube whose tip sits within the stomach lumen.
NEX measurement	The NEX measurement is estimated as follows: place exit port of the NG tube at tip of nose, extend the tube to the earlobe and then to xiphisternum
Percutaneous endoscopic (P.E.G.)	An endoscopically inserted gastrostomy tube The tip sits within the stomach lumen and is secured with an internal and external plastic flange.
Percutaneous Endoscopic gastrostomy with jejunal extension (P.E.J.)	This is a long fine bore tube that is placed through an existing or newly inserted P.E.G. The tube tip is endoscopically positioned in the jejunum
Radiologically Inserted gastrostomy (R.I.G.).	A radiologically inserted gastrostomy tube. The tip sits within the stomach lumen and is held in position with a water filled balloon and is externally secured with a flange.

Surgical jejunostomy	These tubes are usually placed at the time of surgery directly into the jejunum and are used for early postoperative feeding according to surgeon's instructions. Currently the tube of choice is a Freka surgical jejunostomy 9fg.
Trans-oesophageal tubes	A wide bore tube inserted via an oesophageal stoma with the tip placed within the stomach

4. Key Responsibilities/Duties

Chief Nurse & Director of Patient Experience

The Director of Nursing is the Executive Lead for Nutrition and is responsible for the implementation of this policy within the Trust.

Nutrition and Hydration Steering Group

The Nutrition and Hydration Steering Group is accountable to the Trust Board via the Trust Quality Governance Structure and will send quarterly activity reports to Clinical Effectiveness Committee.

Medical Staff

Medical staff are responsible for ensuring the dissemination and implementation of this policy within Divisions specifically concentrating on the requesting of x-rays (if required), insertion of NG tubes and their documentation, verification of tip position and documentation of post NG insertion x-rays

Nutrition Nurse Specialists

The Nutrition Nurse Specialists are available to assist, support, and advise staff within the Acute Trust on all issues relating to enteral feeding tubes. The team are responsible for developing and disseminating best practice and for staff training in conjunction with the Dietetic team.

Dietitian

The Dietitian is responsible for completing a nutritional assessment of the patient and designing an appropriate feeding regimen, taking account of any risks.

Matrons/ Senior Sisters

Senior Matrons/ Senior Sisters are responsible for ensuring the dissemination and implementation of this policy within their clinical ward areas and for demonstrating compliance of staff competency through audit.

Registered Nursing Staff

Registered nursing staff are responsible for ensuring their own compliance with this policy. They must also have undertaken competency based training before verifying NG tube position or insertion of NG tubes. In addition, ensure all diabetic patients are referred to the diabetes specialist nurses (via iCM) when enteral feed is to commence.

5. Implementation of the enteral feeding policy

5.1 Access to the policy

This policy will be placed behind the Nutrition intranet link, providing access to key proformas for ease of use.

5.2 Training & Competence

All nursing staff who insert NG tubes for feeding will have undertaken a programme of competency assessed training.

All staff undertaking NG tube tip verification by means of pH testing will have undertaken a programme of competency assessed training.

All competency based training will be recorded on the learning hub

5.4 Referral

All patients requiring enteral feeding must be referred to the ward dietitian via iCM (using the search term “diet”) to provide an appropriate feeding regimen.

6. Monitoring Compliance and Effectiveness

Monitoring Requirement :	Training records and competencies, incident analysis, NPSA compliance. Audit
Monitoring Method:	Audit, incident analysis, review of training records, I.R.1's reporting monthly to NSG
Report Prepared by:	Nutrition nurses
Monitoring Report presented to:	Nutrition and Hydration Steering Group
Frequency of Report	Annually

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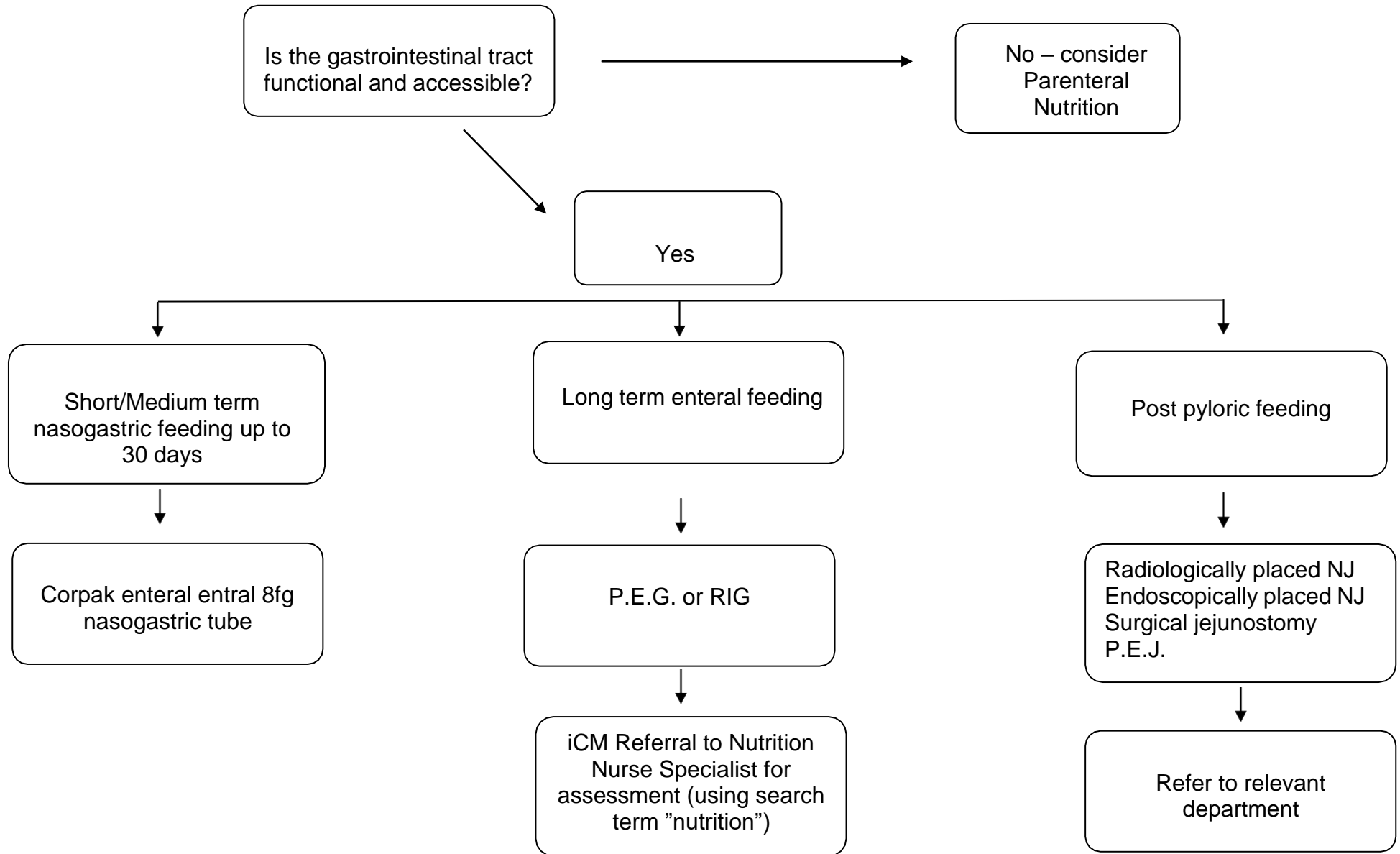
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Source of data	Date of publication/issue	Detail of requirement
NHSLA	2008	Standard 1.8
NPSA	2004	Right Patient – right care

Assessment for selection of Enteral tubes

Appendix 1



Nasogastric tubes (NG tube) Placement in adults

Before a decision is made to insert an NG tube for feeding, an assessment must be undertaken to identify if nasogastric feeding is appropriate for the patient, and the rationale for any decision is recorded in the patient's medical notes. As a minimum the following is required "Mr X has been NBM for 24 hours due to having an unsafe swallow following a CVA (for example). Following the result of an assessment by SALT, showing it is unsafe for Mr X to take diet, fluids and medication orally. A medical decision has been made that an NG tube is required for feeding" Nursing staff should not place an NG tube unless this is recorded.

Important points

It is recommended that only fine bore feeding tubes are used when enterally feeding patients.

Wide bore PVC tubes should not routinely be used for enteral feeding, however they may be used to establish feeding in surgical patients, but must be changed to a fine bore tube at the earliest opportunity, within 7 days of insertion.

PVC tubes are to be used for short term feeding only, via trans-oesophageal route in Head and Neck patients. They should be changed at the earliest opportunity within 7 days of insertion.

Fine bore NG tube insertion should only be undertaken by Registered nurses who have undertaken the approved, competency Trust Nasogastric tube insertion training, or doctors who received appropriate training.

Care should be taken when inserting NG tubes into patients with tracheostomies and it should be established whether the cuff is inflated or deflated before attempting insertion and cuff pressure should be checked.

Doctors/Nurses with additional training are responsible for the insertion of feeding tubes in patients who have:

- Maxillo-facial disorders or surgery
- Recent laryngectomy
- Any disorder of the oesophagus

NG tube insertion can be dangerous as well as difficult in patients with altered anatomy e.g. oesophageal fistula, pharyngeal pouch or basal skull fracture. In these situations, or if these are suspected, senior clinical help should be sought and NG tube insertion should only be attempted under fluoroscopic control.

Timing of NG tube placement

Whilst nasogastric feeding and administration of medication via a nasogastric tube can be crucial in the treatment of some patients, the benefits of this must be balanced against the risks of tube insertion.

As there is not sufficient experienced support available to accurately confirm NG tube placement at night, placement should be delayed until that support is available.

Importantly

No NG tube for feeding purposes should be placed after 10pm

Reporting of X-rays to confirm NG position will not be undertaken after 10pm

Equipment

ANTT tray, gloves and apron

Fine bore NG tube

60ml enteral syringe

Lubricating gel

pH indicator strips

Mouth care tray/glass of water if the patient can drink (mixed to the correct consistency if swallowing problems)

Occlusive dressing e.g. Tegaderm

Procedure

Explain the procedure to the patient and gain verbal consent. If patient is unable to consent please refer to the Trust consent policy.

Assemble the equipment on the ANTT tray

Arrange a signal with which the patient can communicate e.g. raising hands

Ensure the patient is in an upright position with their head well supported. If a patient has a neurological deficit – it may be worth considering NG tube placement in the nostril on the side of the deficit

Estimate the NEX (Nose, Ear, Xiphisternum) measurement (Place exit port of tube at tip of nose, extend tube to earlobe, and then to xiphisternum).

Lubricate the first 10cm of the NG tube and ensure that the nostrils are clear

Insert the NG tube into the nostril and slide it backwards along the floor of the nose to the nasopharynx

At this point either perform mouth care or ask the patient to take sips of fluid

Advance the NG through the pharynx until the NEX measurement is reached. If the patient shows signs of distress e.g. gasping or cyanosis remove the NG immediately.

Aspirate the NG tube with the 60ml syringe and test the contents on the pH indicator strips and document on the pH chart (see testing the position of the NG tubes for further information) Once the position is confirmed remove the guide wire and secure the tube to the patient's cheek with occlusive dressing.

The guide wire must be removed immediately following insertion, even if x-ray is required, as the NG tube is radio opaque throughout its length,

Should the NG tube require repositioning, **DO NOT** re-insert the guide wire whilst the NG tube is in the patient.

Following insertion, the person who inserted the tube must document

- tube type
- size
- length of the tube (cm marking) at the nose, once secured

The method of testing the tube position and result must also be recorded.

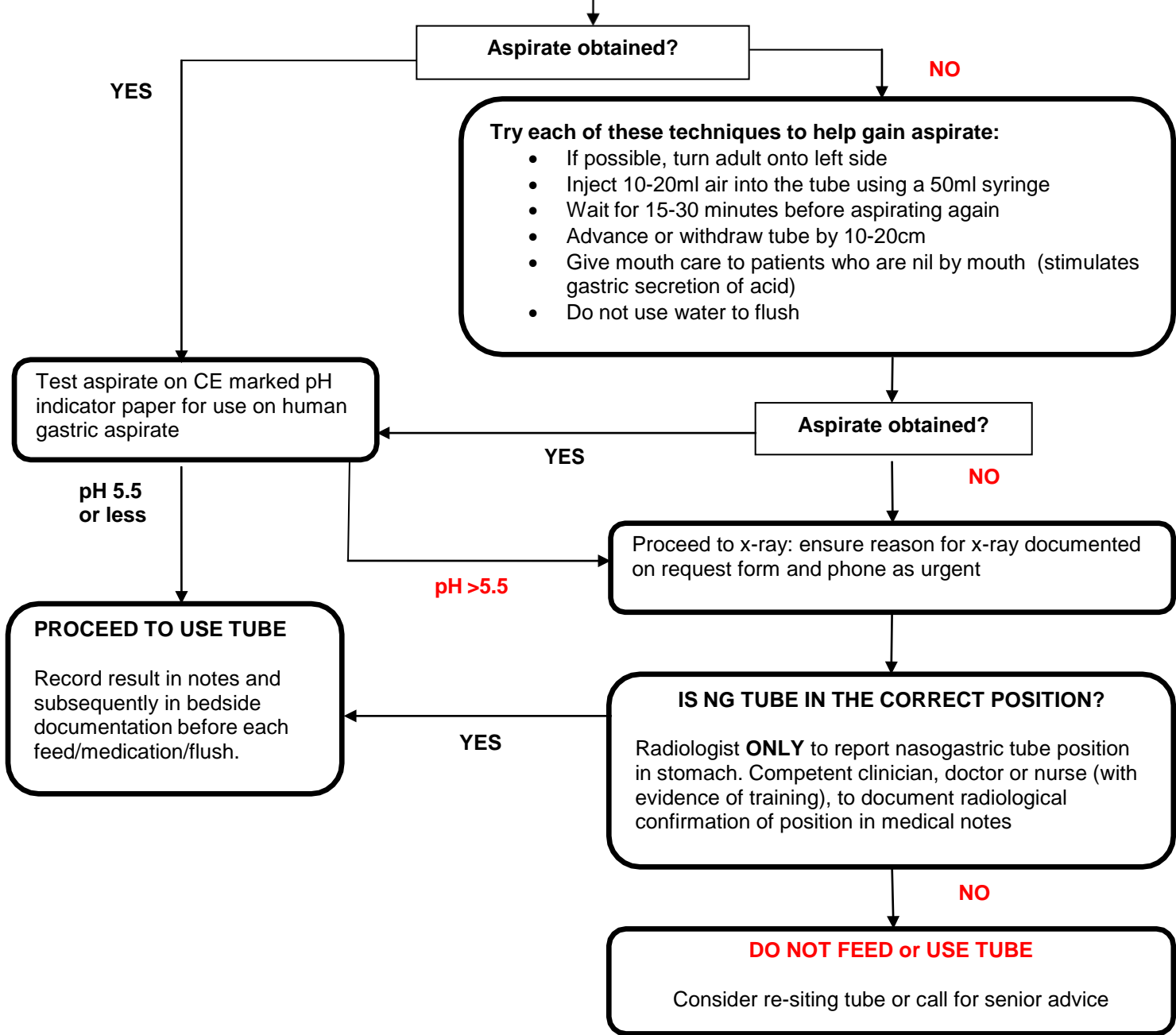
The trust sticker must be used, to document this information in the notes. (**NOT** the sticker from the NG tube packet)

The removal of the guide wire must also be documented

No more than 2 attempts at a time to be made at insertion of a nasogastric tube, allow patient to recover before trying again.

Decision tree for nasogastric tube placement checks in **ADULT**

- 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 in notes secured NEX measurement
- Aspirate with a syringe using gentle suction
- Guide wire **MUST** be removed following insertion, even if x-ray is required to confirm position



PPI or H2 antagonist use can cause the pH of gastric fluid to be raised. When these drugs are being used (and NG tube position has been confirmed on insertion by x-ray), the NG tube may continue to be used even if subsequent pH readings continue to fall between 5 – 6, as long as feed is tolerated and the external position of the tube has not changed. However a second competent person must check the reading or retest the pH prior to use.

A pH of 5.5 or less is reliable confirmation that the tube is not in the lung, however it does not absolutely 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 aspiration or feed regurgitation occurs proceed to x-ray in order to confirm tube position.

Nasogastric Tubes And Trans-Oesophageal Tubes Testing The Position

Important points

Registered nurses who are involved with NG tube position checks must have been assessed as competent through theoretical and practical training

pH testing is to be used as the **first line test method**, with pH of 5.5 or less, being the safe range. All tests must be documented on the NG tube confirmation of position chart, kept at the bedside.

x-ray confirmation is only required when no aspirate can be obtained or the pH test has failed to confirm position.

NG tubes should **NOT** be flushed or used for feeding until the position has been confirmed.

Ensure that feed/medication has not been given via the tube for a minimum of 1 hour before testing the tube as this can affect the pH result

Care should be taken when testing the pH of aspirates from patients who are known to have gastro-oesophageal reflux, as a pH of 5.5 or less may be obtained from the oesophagus.

pH indicator strips will be CE marked and intended by the manufacturer to test human gastric aspirate

The guide wire must be removed from the tube immediately following insertion, even if an x-ray is required to confirm position. NG tubes used within the Trust are still radio-opaque (visible on x-ray) once the guide wire has been removed

Auscultation of instilled air (whoosh test), acid/alkaline test using litmus paper or interpretation of aspirate must NOT be used as a method for checking tube position as they are not reliable

When to test tube position

On initial placement

Before each bolus feed or when starting a feed

Before administering medication

Following violent coughing, sneezing or vomiting

If the tube is accidentally dislodged

If patient complains of discomfort or pain

If there is evidence of feed in secretions

In the presence of any new or unexplained respiratory symptoms or reduction in oxygen saturation

Procedure for testing gastric aspirate

Aspirate 2-3ml from NG tube using a 60ml enfit enteral syringe for fine bore tubes

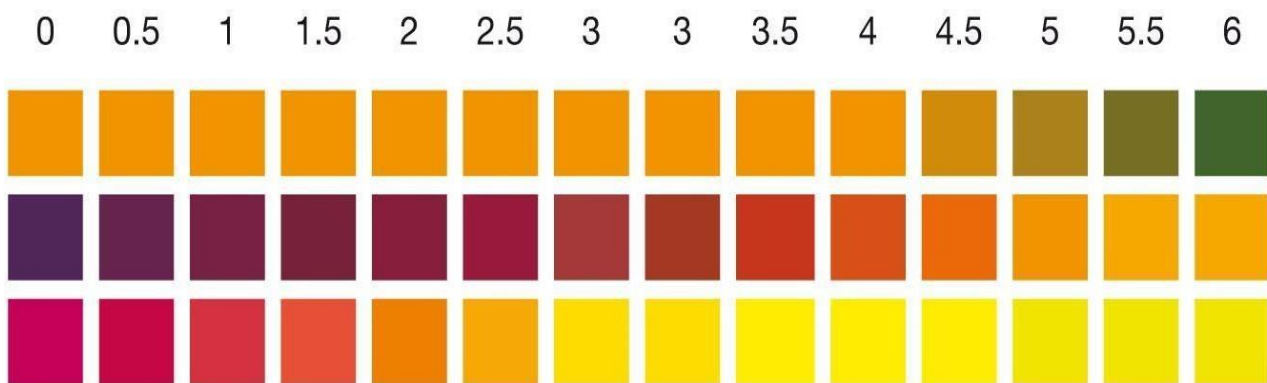
Dip the testing strip into the aspirate and read whilst moist.

Compare with colour chart within each container or with laminated colour chart.

Do not decant pH indicator strips into any other container

Document the reading on the pH testing chart

Only if it is not possible to obtain aspirate or the pH is greater than 5.5 following the initial insertion of the NG tube is an x-ray required to confirm position prior to commencing use.



Factors that may cause a raised pH i.e. >5.5

- Proton Pump Inhibitors (PPIs) e.g omeprazole or H₂ antagonist e.g. ranitidine
- Pernicious anaemia
- Previous gastric surgery
- Food and drink/enteral feed within 1 hour of testing
- If the pH is between 5 and 6 a second nurse should check the reading

If chest x-ray is required

A chest x-ray is only required to confirm NG tube position, if it is not possible to aspirate fluid with a pH of 5.5 or less. This will not be required in the majority of NG tube placements. Requests for x-ray must not be made prior to tube insertion. All CXR requests to confirm NG tube placement must be phoned through as urgent. Paediatrics: 09:00 – 16:30 Monday – Friday: 85540. Adult & all 'out of hours' requests: 83223 / 88916

The chest x-ray must be requested by a doctor and clearly state that the purpose of the examination is to confirm NG tube position. This will allow the radiographer to perform appropriate coned views of chest and upper abdomen.

If a chest x-ray is performed it must be reported by a radiologist who will make an assessment of NG tube position. No doctor other than a radiologist is permitted to assess NG tube position on an x-ray. For adult patients a radiology report will be provided up until 22.00hrs at night. For infants and children the Remote Radiology Reporting Service will be used overnight to confirm tube position.

Radiologist's report.

All chest x-rays performed for this purpose must be reported by a radiologist. If correctly placed the report will include the phrase *"NG tube noted in situ with its tip projected over the stomach beneath the left diaphragm. The radiological assessment, valid at the time the image was obtained, is that it is safe to proceed with administration of liquids via the tube."*

The NG tube must not be used until the radiologist report has been recorded in the notes by a doctor or Trust approved nurse (for NG insertion).

The purpose of the chest x-ray is to ensure that the NG tube is within the stomach or beyond. Importantly, it may not be possible to see the tip as it may have advanced out of the stomach into the small bowel. In this situation it is NOT required to "pull back" the tube. It is safe to proceed with use as an NJ tube.

Nasogastric tubes (NG tube) Care of patients with NG tubes in place

Important points

The patient's nostril should be assessed each shift for soreness and erosions and the observations recorded

External tube markings at patient's nose should be documented in patients care plan and on pH chart.

If the patient is nil by mouth particular attention should be paid to mouth care

It is important that the patient is in a position of at least 35 degrees for the duration of feeding, medication or flushes and that they maintain that position for at least ½ hour post intervention.

It is important to be aware of the day number of the tube i.e. document when the tube was inserted to ensure that NG tubes are not in position for longer than the manufacturer recommends:

Corpak enteral 8fg tube up to 30 days

Corpak wide bore tube up to 7 days (if used for feeding)

All enteral tubes used for feeding should be radio opaque throughout their length and have externally visible length markings

The standard securing methods is to tape the NG tube to the cheek with an occlusive dressing (or if friable skin, a length of hypoallergenic tape). Do not place tape around the tube and onto the patient's nose as this predisposes them to nasal erosions.

If a patient has an NG/trans-oesophageal tube that has been misplaced and this has not been detected prior to use it should be reported as a 'never event'

Managing NG tube complications

Unable to aspirate N.G./transoesophageal (T.O.) tubes

Ensure that when you attempt to aspirate your N.G. / T.O. tube that the syringe is below the level of the stomach to produce a 'siphoning effect'.

Instil air- the NG tube eyelets may be obstructed by gastric mucosa , if patient burps, the tip is likely to be in the oesophagus

Change the patient's position onto left side so that tip of tube will be in a reservoir of gastric juices.

If oral intake is allowed, encourage the patient to drink

Check external position, Reposition the tube needed

Mouth care, then try to aspirate again 15- 30 mins

The tip of the N.G. / T.O. tube may be occluded by the mucosa

Inject 10ml of air and put the patient on their left side and try to aspirate again

The N.G./ T.O. tube may have migrated to the small bowel

It is unlikely that you will obtain aspirate from the small bowel as there is no reservoir of fluid to aspirate from. If you do obtain aspirate it will be yellow in colour and the pH will be 6-8. Withdraw the tube 5cm and aspirate again.

The tube may be occluded

The N.G./ T.O. tube may be kinked or occluded with debris. Inject 20 mls air and retry to aspirate. If you suspect that the N.G./ T.O. tube is kinked you may have to withdraw 5cm and try again.

If you suspect that the NG/TO tube is blocked, using a 60 ml enteral/oral syringe attempt to clear the tube with 20mls of air using a push and pull technique. Do not use water as the position of the tube has not been confirmed

Transfer of care to community settings

Risk assessment

A full multidisciplinary supported risk assessment must be made and documented, (available on the intranet) before a patient with a nasogastric tube is discharged from acute care to the community

Nasal bridles

Patient selection

If there is documented evidence of **3 or more** NG tubes having been displaced by the patient within a week, **and** mittens have been unsuccessful, it may be worth considering a nasal bridle to secure the tube.

The ONLY exceptions to this are:

- ITU patients who are at high risk of displacing an NG tube during extubation due to agitation and where it is imperative that the NG tube remains in place, for essential oral medication, and removal/ reinsertion would potentially cause complications.
- Patients who have had an NG tube inserted to act as a drain during surgery where it is imperative that the NG tube remains in place, and removal/ reinsertion would potentially cause complications
- Complex nutrition patients where it is imperative that the NG tube remains in place, and removal/ reinsertion would potentially cause complications (decision made after review by nutrition consultant)

Patients with the following conditions require careful consideration and will be assessed on an individual basis: dementia, hepatic encephalopathy or disorientated or restless patients,

Contraindications

Mechanical obstructions within nasal airways
Previous damage to nasal septum
Facial fractures
Anterior cranial fractures

Referral for Nasal bridle

Refer to the Nutrition Nurse Specialists on iCM using the search term "nutrition". They will assess the patient and insert the bridle if appropriate. Use of restraint device paperwork must be completed prior to referral (available on the intranet)

Ensure that INR is <1.3 and the platelets are >100 (INR <2.5 and platelets >50 for hepatology patients with Consultant review).

If a patient has not got capacity, a mental capacity assessment should be undertaken prior to referral and a best interest decision made and documented.

If a patient has removed an NG tube secured with a nasal bridle, it is not appropriate to insert a second bridle.

Procedure

Position the patient in the upright position where possible. Insert the retrieving probe into the nostril until the first rib is at the bottom of the nostril.

Insert the bridle catheter into the opposite nostril. An audible click signifies contact between the magnets. If necessary, gently move the retrieving probe from side to side and up/down to encourage contact between the magnets. If no contact has occurred, then advance both the bridle catheter and the retrieving probe to the second rib. Once contact has occurred, remove the stylet completely from the catheter.

Slowly withdraw the retrieving probe while allowing the bridle catheter to advance into the nose.

Continue until only the umbilical tape is in the nose. If the tape does not come out of the opposite nostril, take the bridle out and replace the stylet and start again.

Using scissors cut the bridle catheter off at the umbilical tape, leaving only the tape in the nose.

Dispose of both catheter tube and probe. If the N.G. tube is not in position, insert it now.

Attach the white clip to retain the feeding tube. Ensure one end of the umbilical tape is placed into the deep channel of the clip, near the tip of the nose; snap the feeding tube into the channel.

Close the clip and press tightly until it is fully closed. The clip cannot be re-opened once closed so ensure positioning is correct.

After the clip is fully closed, tie the two tapes together creating a knot. The excess length of tape can then be trimmed. Note the position of both the clip and NG tube markings at nose. Secure the N.G. tube to the patient's cheek with a transparent dressing.

Care of a patient with a nasal bridle in situ

Nostrils should be checked 3 times a day for erosions and sore areas as for nasogastric tubes and check that the bridle clips are not causing any soreness. This should be documented on the nasal bridle chart.

Removal of a nasal bridle

Cut one side of the umbilical tape (between the clip and the nose) and gently pull both the bridle and the feeding tube out of the nose.

N.B. The bridle can remain in situ for the life of the N.G. tube

Gastrostomy Tubes

Included in this section is information relating to Percutaneous Endoscopic Gastrostomy (P.E.G.) and Radiologically Inserted Gastrostomy (R.I.G)

Referral for P.E.G./R.I.G

All referrals to the Nutrition Nurse Specialists are via iCM using the search term "nutrition"

An assessment will be undertaken utilising the following guidance

A P.E.G. should be considered after a patient has been shown to tolerate nasogastric tube feeding for 2-4 weeks, or a patient is unable to tolerate a nasogastric tube despite the tube being well secured i.e. with nasal bridle

After a neurological event such as stroke, insertion of a P.E.G should be delayed until the prognosis/quality of life of the patient can be better predicted

Gastrostomy feeding should be considered in patients likely to need long term (4 weeks or more) enteral tube feeding

The patient has aspirated or has an increased risk of aspiration

The patient is to undergo surgery/treatment that may make eating and drinking unsafe

Therapeutic endoscopy should be avoided if at all possible in patients at risk of nv-CJD. Some patients with non vascular dementia will have new variant CJD (nvCJD) It is hard to be certain which these patients are. Gastrostomies in patients with non vascular dementia to be inserted using the PIG or RIG technique. This has the advantage of using only disposable equipment so avoiding the risk of endoscope contamination with nv-CJD

P.E.G.

Pre procedure requirements

Patient/Consultant consent to be obtained as Trust protocol (for further guidance about capacity to consent please refer to the Trusts Consent policy 2010 or the Artificial nutrition and hydration difficulties and dilemmas- legal & ethical guidelines for adult patients Royal Derby Hospital 2014)

Nil by mouth and nasogastric tube for 6 hours pre procedure

Peripheral intravenous cannula in situ

Check allergies to Betadine/ antibiotics

Clotting within normal limits (< 1.3)

Anticoagulants and antiplatelet drugs to be managed in accordance with hospital policy

Oral hygiene performed and dentures removed

If excess hair on abdomen to trim with scissors

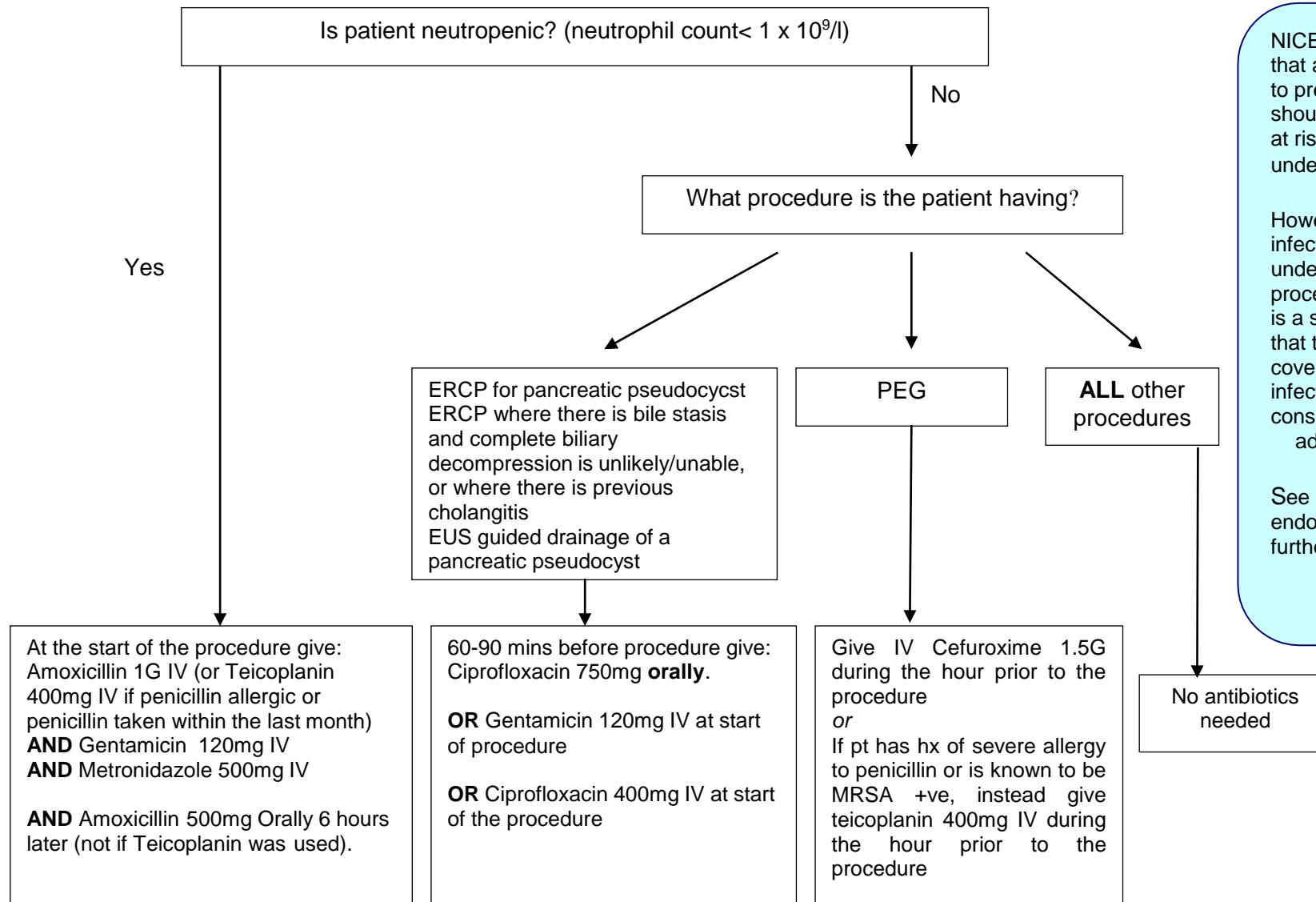
Ensure that a post procedure enteral feed regimen is prescribed

Ensure patient is wearing a hospital gown

Antibiotics to be given in Endoscopy as protocol

ANTIBIOTIC PROPHYLAXIS FOR PATIENTS UNDERGOING GASTRO- INTESTINAL ENDOSCOPY or ERCP

From Departments of Microbiology & Gastroenterology 2010



NICE guidelines recommend that antibiotic prophylaxis solely to prevent infective endocarditis should **NOT** be given to people at risk of infective endocarditis undergoing these procedures.

However, if a person at risk of infective endocarditis is undergoing a gastrointestinal procedure at a site where there is a suspected infection ensure that their antibiotic treatment covers organisms that cause infective endocarditis (Contact consultant microbiologist for advice)

See separate guidelines on endocarditis prophylaxis for further information

Nursing management of P.E.G. tubes

First 24 hours

Check blood pressure, pulse, respirations and temperature half hourly for 2 hours and then hourly until feed commences. Also check PEG site for any bleeding, leakage or displacement.

Check observations and site 4 hourly for the first 72 hours post procedure.

Document the tube details, including flange position on nursing care plan

4 hours post procedure, check site for fresh bleeding or leakage of gastric contents. If there are no complications flush the tube with 60mls of freshly drawn tap water (sterile if patient is immuno-compromised) via a 60ml oral/enteral syringe using the gravity method. The site of entry must be observed for bleeding or leakage of serous fluid. The patient should be sat in a position of at least 35 degrees to minimise the risk of aspiration, during feed and 30 minutes after end of feed.

Resume feeding regimen prescribed by the dietitian 4 hours post procedure if no complications are evident i.e. prolonged or severe pain, fresh bleeding, external leakage or swelling. If this occurs stop the feed or medication immediately, obtain senior advice urgently and consider CT scan and surgical review

It is **not** necessary to check gastrostomy position with pH strips prior to commencement of feed.

Up to 7 days

If the P.E.G. site requires cleaning, use an ANTT technique and sterile 0.9% sodium chloride solution and dry thoroughly. **DO NOT** move the triangular fixation plate.

Observe the site daily for signs of infection - discharge, swelling or redness. Send a swab for microscopy culture & sensitivity (MC& S) if any of the above are noted, document and report the findings.

Ensure that the tube is flushed with at least 50ml of freshly drawn tap water (sterile if patient is immuno-compromised) via a 60ml oral/enteral syringe using the gravity method prior to and following feed/medication administration

If you have any concerns about the position of the external flange please contact the Nutrition Nurse Specialist

Ensure that the clamp is moved to a different position (within the top 1/3 of the tube) each time it is used

After 7 days

At 7 days post procedure the Nutrition nurses will release the fixation plate.

The site, 2cm of the tube and the fixator plate should be cleaned using ANTT with 0.9% sodium chloride solution and the tube pushed 2cm into the stomach and turned through 360 degrees, the tube and fixator plate should then be repositioned at the noted marking. This is done at least weekly thereafter.

Do not immerse the PEG site in water for the first 2-3 weeks, patient should be showered not bathed.

Once the stoma site has healed it should be cleaned at least once per day with warm soapy water and dried thoroughly.

Do not use barrier creams if the site becomes sore.

Ensure that the clamp is moved to a different position (within the top 1/3 of the tube) each time it is used

Head and Neck patients

If patients are admitted for PEG insertion and are discharged within 72 hours, the NPSA information sheet **MUST** be sent by the Nutrition Nurse Specialist, with the patient/relatives/carers, to the GP, Community nurses/ Nursing Home.

Pre procedure requirements R.I.G.s

Patient/Consultant consent to be obtained as Trust protocol (for further guidance about capacity to consent please refer to the Trusts Consent policy 20....) or the Artificial nutrition and hydration difficulties and dilemmas- legal & ethical guidelines for adult patients Royal Derby Hospital 2014)

Nil by mouth and nasogastric tube for 6 hours pre procedure

The patient will require a nasogastric tube. 100ml of Gastrograffin should be diluted with 200mls of water and be given via the NG tube 24 hours prior to the scheduled appointment or as directed

Peripheral intravenous cannula in situ

Check allergies to Betadine/ antibiotics

Clotting within normal limits (< 1.3)

Anticoagulants and antiplatelet drugs to be managed in accordance with hospital policy

Oral hygiene performed and dentures removed

If excess hair on abdomen, trim with scissors

Ensure that a post procedure enteral feed regimen is prescribed

Ensure patient is wearing a hospital gown

IV antibiotics must be given **prior to leaving** the ward (refer to antibiotic protocol)

Nursing management of R.I.G. tubes

First 24 hours

Check blood pressure, pulse, respirations and temperature half hourly for 2 hours and then hourly until feed commences. Also check RIG site for any bleeding, leakage or displacement. Check observations and site 4 hourly for the first 72 hours post procedure.

4 hours post procedure, check site for bleeding or leakage of gastric contents

If there are no complications flush the tube with 50mls of fresh drawn tap water (sterile if patient is immuno-compromised) via a 60ml oral/enteral syringe using the gravity method. The site of entry must be observed for bleeding or leakage of serous fluid

If patients are unable to sit at 30° - 45°, position them on their right side

Resume feeding regimen as prescribed by the dietitian; this should commence 4 hours post procedure if no complications are evident i.e. prolonged or severe pain, fresh bleeding, external leakage or swelling. If this occurs stop the feed or medication immediately, obtain senior advice urgently and consider CT scan and surgical review. It is **not** necessary to check gastrostomy position with pH strips prior to commencement of feed

24 hours post insertion, clean the site with sterile 0.9% sodium chloride solution and dry thoroughly and remove any dressings.

The coloured balloon port should **NEVER** be accessed by ward staff.

After 7 days

At 7 days post procedure the 'T' fasteners (blue suture) should be removed.

Observe the site daily for signs of infection, discharge, swelling or redness. Send swab for microscopy culture and sensitivity (MC& S) if any of the above are noted and document the findings.

The nutrition nurses specialist will check the volume and change the water in the balloon twice monthly. Ensure that the tube is flushed with at least 50 mls of freshly drawn tap water (sterile if patient immuno-compromised) via a 60ml oral/enteral syringe using the gravity method prior to and following every feed/medication administration

Once the stoma site has healed it should be cleaned at least once per day with warm soapy water and dried thoroughly. Do not use barrier creams if the site becomes sore.

Managing Gastrostomy Tube Complications

Tube blockage

To prevent blockage occurring it is important to flush **ALL** tubes on a daily basis, regardless of whether they are used or not.

If however the tube becomes blocked the following measures can be taken:

Applying gentle pressure, flush the tube with a 60ml syringe using the plunger, with:

- 5 - 10ml of warm (previously boiled) water, and/or
- 5 - 10ml of sparkling water or diet lemonade.

Leave for 15 - 20 minutes then flush with water as usual.

Squeeze up and down the length tube, between your fingers and thumb and then flush with water.

Using a syringe with the plunger, draw 20ml of water into the syringe attach to the PEG and use a push and pull technique.

Leakage around the PE.G./balloon gastrostomy tube

Gently apply traction on the feeding tube and re-secure the external fixator next to the skin, at previously determined mark.

If the problem persists, contact Nutrition Nurse Specialist for advice.

Stoma site infections

If redness, swelling or a discharge is noticed send a swab for M C & S.

Ensure that site is cleaned at least once a day and allowed to air dry.

Unless the site is discharging do not apply dressings.

Ensure appropriate topical agents are prescribed and treatment given as prescribed.

Balloon gastrostomy displacement (if the tube has been insitu for > 2 weeks)

If the balloon gastrostomy has fallen out, contact the Nutrition Nurse Specialist between 08.00am and 4.30pm, outside of these hours ensure that a sterile 'foley' catheter the same size as displaced tube if possible (usually 12fg or 14fg) is inserted through the site to approximately 10cms, inflate the balloon as manufacturers instructions and secure. This will ensure that the tract is kept patent as a temporary measure. Contact the Nutrition Nurse Specialist at the earliest opportunity.

If less than 2 weeks following insertion,

Contact radiology for reinsertion.

P.E.G. displacement

Request endoscopic replacement and follow instructions for displaced balloon gastrostomy

Jejunal Tubes

Foley catheters must NOT be used for enteral feeding (MDA 2010)

Referral for Nasojejunal tubes (NJ) tubes

These tubes should be placed either radiologically or endoscopically. Please refer to these separate departments should they be required.

Care of jejunal tubes

Ensure that the jejunal tube is flushed with sterile water whenever the feed is interrupted.

Otherwise the feed should be administered over 24 hours

If the jejunal tube is not in use ensure that the tube is flushed at least every 8 hours with sterile water using a 60ml oral/enteral syringe.

Drug administration via jejunal tubes

Ensure that the clinical pharmacist is aware that the tube is jejunal rather than gastric.

In all cases patients should be monitored for clinical signs .To establish that the drug is being sufficiently absorbed to give therapeutic levels.

When liquid preparations are administered it is important to be aware that they are hypertonic and will not be diluted with gastric contents as with intragastric administration. The hyperosmolar solution creates a gradient across the intestinal mucosa that inhibits water absorption and can cause osmotic diarrhoea.

Radiologically/endoscopically placed N.J. tubes

When the patient arrives back on the ward, make a note of the cms markings at the nose.

If vomiting occurs or the nurse is in any doubt that the tube is in the correct position, ascertain tube position with X-ray.

Surgical jejunostomy

Leave the dressing undisturbed for 48 - 72 hours

Commence the feed as per the surgeon's instructions and as prescribed by the dietitian

The suture should be left in place and the site checked regularly for any redness or inflammation.

If the suture becomes dislodged this must be replaced or the tube may migrate from the tract.

Percutaneous Endoscopic Gastrostomy with Jejunal extension (P.E.G-J.)

The tube should **NOT** be inserted and rotated.

If the end of the P.E.G-J becomes loose, dislodged or broken do not attempt to rectify the problem yourself. Secure the end with tape and contact the Nutrition Nurse Specialist.

Administration Of Feed/Water And Medications Via Enteral Tubes

All equipment used throughout the Trust for administration of feeds, fluids or medication must be compliant with NPSA guidance (2007). The two methods of administering feed /water or medications are either by bolus or pump

Syringes

All equipment used to administer feed or medications via an enteral feeding tube will be purple in colour.

A 60ml reverse luer oral/enteral syringe must be used for aspirating NG tubes, administering flushes, medication and bolus feeds via enteral tubes (they are not suitable to draw up medication as not accurate enough).

Syringes used within this Trust are for single use ONLY and must be discarded once used.

Bolus Feeding

The administration of feed via a syringe using the gravity method

Equipment required

Enteral feed

60ml oral/enteral syringe

Freshly drawn tap water / sterile water if the patient is immunocompromised

pH testing strips (if nasogastric/transoesophageal tube)

Procedure for bolus feeding

Wash hands with soap and water and explain the procedure to the patient.

Two nurses to check the enteral feed with prescription and expiry date. Check packaging and seal for damage.

If the patient has a nasogastric/transoesophageal tube, ascertain the position of the tube tip.

Ensure that the patient is positioned at a minimum of 35 degree angle prior to feeding and remains in this position for 30minutes after administration of the feed/medication or flush.

Remove end cap of the feeding tube, remove the plunger from the syringe and connect the syringe to the feeding tube. Flush the tube, using a gravity technique, with a minimum of 50mls of freshly drawn tap water (or as regimen states), with a 60ml oral/enteral syringe.

Pour the required amount of feed (as regimen) into the syringe, hold the syringe above the feed tube and allow the feed to run in slowly. Never attempt to rush bolus feeding.

If the feed is running too slowly lift the syringe higher. If the feed is running too quickly, lower the syringe and/or pinch the feeding tube to narrow the lumen.

You may need to administer more than one syringe full of feed at a time. If so utilise the clamp between boluses if available, or try to top up the syringe before the feed runs through.

When the feeding is finished, using a 60ml oral/ enteral syringe, flush the tube with 50mls of freshly drawn tap water, (sterile if immuno- compromised), replace the cap on the feeding tube.

All syringes are single use only, and must be disposed of, after each bolus feed.

Pump feeding

Equipment required

Nutricia Infinity feeding pump
Enteral feeding pack
Administration set
60ml oral/enteral syringe
Freshly drawn tap water or sterile water if patient is immunocompromised or is a jejunostomy feeding

pH testing strips (if nasogastric/transoesophageal tube)

To set up and programme the Nutricia Infinity pump:

1. Wash hands with soap and dry thoroughly. Explain the procedure to the patient.
2. Two nurses to check the enteral feed with iCM prescription and feeding regimen. Check the expiry date, that the packaging is not damaged or the seal broken, and that there is no curdling in the feed. Shake the pack well.
3. Following the rest period ascertain the tube position if the patient has a nasogastric/transoesophageal tube.
4. Using the gravity technique flush the tube with a minimum of 50mls of water (or amount as specified on the regimen) using a 60ml oral/enteral syringe.
5. Unscrew and remove the purple protective cap from the pack of feed. Hold pack at base of spout and pierce foil. Take care not to touch connector on giving set or spout. Carefully screw giving set onto the spout.
6. Hang the pack of feed onto the drip stand.
7. Fit the giving set into the pump by opening the door, stretching the looped end of silicone tubing around the rotor wheel and attach the cassette into place. Once this is done, close the pump door.
8. Turn on the pump by pressing and holding the ON/OFF key for 2 seconds. Immediately after the pump serial number is displayed, press CLR to clear the previous volume of feed delivered. The pump will then display the flow rate (ml/hr) that has been programmed. If this is the first use, the pump will display '0'.
9. If this is the first use, press the ml/hr key followed by the + or – keys to increase or decrease the flow rate to the rate prescribed on the feeding regimen. By pressing and holding either + or – keys, the flow rate will increase or decrease rapidly. If you have previously programmed a flow rate, this should now be displayed.
10. Next, press the DOSE=VOL key. If this is the first use, 'CONT' will be displayed. Press the + or - key until the dose prescribed on the feeding regimen is set. By pressing and holding either + or - keys, the dose will increase or decrease rapidly. If you have previously programmed a dose, this should now be displayed.
11. Press and hold the FILL SET key for 2 seconds. When the pump beeps, the giving set will start to fill and FILL SET will be displayed on the screen. Once the feed is about one inch away from the end of the giving set, press and release the FILL SET key.
12. Attach the giving set to the feeding tube. Press START/STOP key to start the feed. RUN should be displayed on screen. Once the feed is running, ensure that: RUN is displayed with the arcs moving in a circle around it and the clamp on the feeding tube is open.
13. Once the full dose has been given, END OF DOSE will be displayed on the screen to indicate that feeding is complete. Disconnect the giving set from the feeding tube and flush with water as outlined in Step 4.
14. Label the giving set with the date and time and ensure the feed and giving set are discarded. A new pack of feed and giving set should be used at the beginning of each feed cycle.

To pause the pump during feeding:

Press START/STOP if feeding needs to be temporarily stopped (i.e. to give medication, change the feed container, change of feed programme, etc).

After 3 minutes, the pump will alarm and 'PUSH START' will be displayed. If you press START/STOP again, the alarm will silence and the pump will remain in hold for another 3 minutes. Pressing START/STOP for a second time will restart the pump.

Press INFO to see the amount of feed given since the memory was last cleared (should show total given so far for the day if the memory is cleared as in step 8 above).

To clear the memory

If you wish to clear a value from the Infinity pump's internal memory, press the key of the value that you want to clear followed by the CLR key:

ml/h resets to '0'

VOL=DOSE resets to 'CONT'

INFO resets to 0ml

***Pressing and holding the CLR key for 2 seconds will clear all values in the memory**

Administration Of Medications Via Enteral Tubes

Important Points

Drugs are not usually licensed for administration via enteral feeding tubes; this has implications for those prescribing, supplying and administering the drug, as they become liable for any adverse event a patient may experience. (White and Bradnam 2007)

Ensure that all medications to be given via an enteral feeding tube are prescribed on the drug card to be given via this route.

If medications are not available in a liquid, suspension or effervescent form please discuss with ward pharmacist. If medications are to be crushed ensure that they are crushed either in a pestle and mortar, pill crusher or between two metal spoons until they are a fine powder. Disperse in warm water and use a gentle 'swirling' motion as they are administered into the feeding tube. If tablets are enteric coated or sustained release formulation **DO NOT** crush (see BAPEN chart) Medications must be given separately and the tube must be flushed with at least 10mls of water between each medication.

No medication should be added to the feed/feed chamber.

Medicines should be measured in either a graduated medicine measuring pots/small volume oral/enteral syringes **NOT** in a 60ml syringe, as they are not accurate enough.

All oral/enteral syringes must be labelled with the name and dose of the medicine, patients name, date and time, unless preparation and administration is one uninterrupted process and the syringe does not leave the hand of the person preparing it.

Medication should not be given via tubes that are for aspiration or on free drainage.

Three way taps should **NEVER** be used.

All syringes are single use only and must be discarded after use.

For further information regarding the preparation of specific medicines for administration via an enteral feeding tube refer to the Trust Medicines code or ward pharmacist.

Administration of medication

The administration of medication should be via a syringe using the gravity method, NOT using the plunger of the syringe

Equipment required

60ml oral/enteral syringe

Graduated medicine measuring pots/small volume oral/enteral syringes

Two metal spoons/pestle and mortar/pill crusher

Gloves (if required)

pH testing strips (if NG/transoesophageal tube)

Freshly drawn tap water

Procedure for administration of medications via enteral tubes

Wash hands with soap and water and explain the procedure to the patient.

Prepare all medications as per prescription, in separate graduated measures or oral/enteral syringes. Refer to B.A.P.E.N. chart, ward pharmacist or medicines code for specific preparation instructions.

If feed is in progress stop it and disconnect the administration set, placing a cap over the end

If the patient has a nasogastric/transoesophageal tube, ascertain the tube position.

Using a 60ml oral/enteral syringe flush the tube with 50mls of fresh drawn tap water (sterile if immuno compromised) using the gravity method prior to administration of drugs

Administer the medications separately by pouring into the 60ml oral/enteral syringe, the tube should be flushed with at least 10mls of water between each medicine

After final medicine flush the tube using a 60ml oral/enteral syringe with fresh drawn tap water (administration of sterile water if patient is immuno compromised)

ADMINISTERING DRUGS VIA ENTERAL FEEDING TUBES A PRACTICAL GUIDE

STEP BY STEP GUIDE

UNLICENSED ROUTE

Crushing tablets, opening capsules, and administration via feeding tubes generally falls outside a drug's product licence. In these circumstances the prescriber and practitioner accept liability for any adverse effects resulting from this administration.

TUBE TIP POSITION

- Check the drug is absorbed from the site of delivery.
- This can be a problem for jejunal tubes (some drugs have a reduced absorption).

WHICH TYPE OF WATER?

- Check local policy
- The type of water recommended depends on local practice and the exit site of the tube.

SYRINGE TYPE AND SIZE?

- 50ml oral, enteral or catheter tipped syringe should be used.
- It may be necessary to use a specially designed connector.
- A smaller syringe may produce too much pressure and split the tube (check manufacturers guidelines).
- Do not use syringes intended for intravenous use due to the risk of accidental parenteral administration.

INFECTION CONTROL AND SAFETY

- Wash hands and wear gloves.
- It is important that exposure to drug powder is kept to a minimum⁺.

TUBE BLOCKAGE

- Inadequate flushing is the most common cause of tube blockage.
- Using the wrong formulation of medication can also cause tube blockage.
- If flushing with warm water does not unblock the tube, seek specialist advice, do not apply excessive force.

DISCHARGE PLANNING

- Ensure the agreed feed and drug regimen are practical in a community setting.
- Ensure all necessary information is given to the community pharmacist and GP.

- Can the patient still take their medication orally?
- Do not add medication directly to the feed
- Seek further advice for fluid restricted or paediatric patients as flushing volumes may need to be reduced
- Review all medication, is it all really necessary?
 - Can an alternative route be used?

STOP THE FEED
Flush the tube with at least 30ml of water

Do you need to allow a break before administering the medicines?

Assemble medication and equipment needed e.g. syringes, pestle and mortar
Prepare each drug separately
Never mix drugs unless instructed by a pharmacist

SOLUBLE TABLETS Dissolve in 10-15ml of water. Administer down tube	LIQUIDS Shake well. Viscous (thick) liquids - dilute with an equal amount of water immediately before administration. Administer down tube.	TABLETS* Crush uncoated and sugar coated tablets using a pestle and mortar or suitable device	CAPSULES* Open capsules and tip powder into medicine pot
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Do not crush:
Enteric Coated (EC) medicines
Modified release (MR, SR, LA, XL) medicines
Hormone preparations
Cytotoxics
Always seek advice

Mix with 10-15ml of water.
Administer down the tube.

Use a tablet crusher/containers, and/or draw up water into the syringe used and flush this down tube.
This ensures that the whole dose is given.

If more than one medicine is to be administered - flush between drugs with at least 10ml of water to ensure that the drug is cleared from the tube.

Flush tube with at least 30ml of water following administration of last drug

Do you need to allow a break before restarting the feed?

RE-START THE FEED

For further advice contact your local hospital
Medicines Information Department

Produced by the British Association for Parenteral and Enteral Nutrition
www.bapen.org.uk Registered Charity 1023192
and
The British Pharmaceutical Nutrition Group
www.bpng.co.uk

PREFERRED FORMULATIONS

- Liquids or soluble tablets are the preferred formulations to be administered via a feeding tube.
- Some injections can be given enterally.
- *Crushing tablets or opening capsules should be considered as a last resort.

MEDICINES THAT SHOULD NOT BE CRUSHED

- Enteric Coated (EC): The coating is designed to resist gastric acid to protect the drug and/or reduce gastric side effects.
- Modified/Slow Release (MR, SR, LA, XL): These are tablets or capsules that are specifically designed to release the drug over a long period of time. Crushing these will cause all the drug to be released at once and may cause toxic side effects.
- + Cytotoxics & Hormones: These should not be crushed due to the risks to staff from exposure to the powdered drug.

INTERACTIONS

Interactions between feed and drugs can be important. Always check with your pharmacist before administering any medication via a feeding tube. Where possible give dose during a break in the feeding regimen to minimise this.

Problem Drugs

- **Phenytoin, Digoxin and Carbamazepine:** Blood levels may be affected by feeds, these should be checked regularly. It may be necessary to increase the dose.
 - **Antacids:** The metal ions in the antacids bind to the protein in the feed and can block the tube. Consider using alternative drugs.
 - **Penicillins:** Feed may reduce the absorption, a higher dose may be needed. If possible stop feed 1 hour before and 2 hours after administration.
 - **Other antibiotics:** Levels of antibiotics such as ciprofloxacin, tetracyclines and rifampin can be significantly reduced by feed.
 - Consider other alternatives or increase doses.
- (This list is not exhaustive).

Nursing Management Of Patients Receiving Enteral Feeding

Important points

All diabetic patients must be referred to the diabetes specialist nurses (via iCM) when enteral feed is to be commenced

Giving sets must be labelled "enteral" and with the date and time opened.

Giving sets must not be used for longer than 24 hours.

Patients must be positioned at least at a 35 ° angle whilst feeding and maintain this position for at least 30 minutes after the feed has been discontinued.

Maintain strict fluid balance.

Weigh weekly

Monitor blood glucose levels of diabetic patients receiving enteral feed a minimum of four times daily

Administer the enteral feed at room temperature

Managing Complications During Enteral Feeding

Diarrhoea

Review of medications e.g. antibiotics, laxatives

Refer to dietitian for review

Ensure adequate fluids are given to replace any losses

Constipation

Review of medications e.g. analgesics

Check fluid intake

Refer to dietitian for review

Aspiration/reflux

Ensure correct positioning of the patient during feeding and maintain the position for an hour after discontinuing the feed

Ensure that fine bore not wide bore NG tubes are used for feeding

Review medication and consider the use of prokinetics

Nausea and vomiting

Review the feeding rate

If the patient is nauseous consider the use of anti emetics

If the patient is vomiting – stop the feed and contact the dietitian

Discharging patients home with enteral feed

A patient has been given a potential discharge date or is ready for discharge with **long** term enteral feeding tube. Contact the Home Enteral Feeding Team (HEF) on 85234 (Dietitian) or 85775 (Nutrition Nurses)

Bolus feed

Pump feed or combination of pump and bolus feed

Liaise with Nutrition Nurses who will arrange training for patient/family/ carers/care home on bolus feeding, medication administration via the tube and tube management prior to discharge.

Nursing Home
The HEF team will check that the NH Staff are trained in pump feeding. If not training will be arranged prior to discharge

Own Home
Obtain contact details of relevant people who will be involved in feeding and liaise with HEF dietitian who will arrange training prior to discharge

If the patient is to be discharged within 72 hours of having a PEG or RIG the Nutrition Nurses will ensure that the relevant health professionals are contacted with NPSA guidance

HEF dietitian will liaise with Nutrition Nurses to teach administration of medicines, bolus feeding, and tube management.

The HEF dietitian will provide a pump and drip stand from their stock. **DO NOT** send a pump from the ward

A supply of feed and giving sets should be on the TTOs for discharge. The HEF dietitian will arrange for a company Homeward to deliver the feed and giving sets following discharge. Ensure sufficient supplies to last until Homeward delivery – 3-5 days supply. If the patient is to be discharged out of area a 7 day supply should be prescribed. NB The number of TTO's required may change during holiday periods. Please check with the ward dietitian

A written feeding regimen will be supplied to the patients, their carers, agency carers and the Nursing home by the Dietitians

The Nutrition nurses will supply reusable syringes for discharge and contact the District Nurse re: insertion and rotation of PEG's and changing of R.I.G. water and will identify if training is required.

En If patients have Nasogastric tubes in situ and have been identified for discharge the HEF team should be contacted immediately

Guidelines For Insertion And Subsequent Testing Of Nasogastric Tubes In Infants And Children

Purpose

To safely insert a nasogastric tube and to ensure the correct procedure is followed when checking the position of a nasogastric tube following Patient Safety Alert NPSA/2011/PSA002

Aim and scope

To safely insert a short or long term nasogastric tube and confirm the position. To ensure all Registered Nurses or HCA Band 3s within Derbyshire Children's Hospital who are assessed as competent test the position of a nasogastric tube following of the guidance of Patient Safety Alert NPSA/2011/PSA002: Reducing the harm caused by misplaced nasogastric feeding tubes in adults, children and infants.

Definitions

Nasogastric tube will be known as an NG tube

NEX measurement (Nose, Ear lobe, Xiphisternum)

Place exit port of tube at tip of nose. Extend tube to earlobe and then to xiphisternum

NB

Ryles tubes must not be used for the administration of feeds or medicines. They are for drainage purposes only

NB this guidance is not to be used for neonates

Nasogastric Tube Placement In Infants And Children

All personnel who insert NG tubes for feeding will have been competency assessed

Equipment

Tray, Gloves and Apron
Feeding tube which is radio-opaque throughout the length with externally visible length markings
Enteral syringe
Duoderm and mifix tape
pH paper which is CE marked and suitable for testing human gastric aspirate
Cool boiled water

Procedure

Ensure assessment of the need for insertion has been made by 2 competent healthcare professions and that this assessment is documented in the medical record.

Explain to the child or carer the reasons for insertion and the procedure to help reduce anxiety

Provide distraction, involving the Play team where appropriate

Position the child in a semi upright position. Infants may be wrapped to aid insertion

Wash hands and wear appropriate PPE

Use the NEX measurement to determine the length of tube to be inserted. Place the exit port of the tube at the tip of the nose. Extend the tube to the earlobe and then to the xiphisternum.

Some NG tubes, such as Corflo, have a guide wire to aid insertion. If this is not needed, remove at this point.

Direct the tube you have measured backwards into the nostril. Direct the tube towards the ear and the tube will find its way down the nasal passage.

Try and advance the tube when the baby / child swallows

In an older child offer a drink with a straw if able to manage oral fluids. Swallowing causes oesophageal peristalsis which opens the cardiac sphincter and will facilitate tube insertion.

Observe for vagal stimulation i.e. bradycardia, apnoea. The vagus nerve pathway lies from the medulla through the neck and thorax and into the abdomen. Stimulation may directly affect the cardiac and pulmonary plexus.

Secure the tube with duoderm and mifix tape.

Procedure (continued)

To ascertain correct placement of the tube in the stomach, aspirate the tube and test the fluid obtained with pH paper / sticks. To confirm correct placement the pH should be 5.5 or less. Record result on insertion sticker.

If no aspirate is obtained:

Position the baby / child on their left side
Insert 1-5mls of air using a syringe
Wait for 15 – 30mins before aspirating again
Give mouth care to stimulate gastric secretions
DO NOT instill water

If no aspirate can be obtained, an x-ray will be required. Ensure the reason for x-ray is documented on the request form ie, To confirm NG tube placement for the purposes of feeding

The radiologist is responsible for reporting on the X-ray within 1 hour of X-ray been performed. (last orders 22.00)

Once correct position is confirmed and reported on by the radiologist, Medical staff, or trust approved nurse (for NG insertion) to complete insertion sticker in medical notes

Proceed to feed or use the tube

Subsequent Testing of Nasogastric Tubes in Infants & Children

NB Only healthcare professionals who have received theoretical and practical training and been assessed as competent may test tube position.

When to test the nasogastric tube

Following initial insertion

Following episodes of vomiting, retching or coughing spasms

When there is suggestion of tube displacement (for example, loose tape or portion of visible tube appears longer)

In the presence of any new or unexplained respiratory symptoms

Before each bolus feed, or when commencing a continuous feed
At least once a day during a continuous feed

Before administering medication via the tube.

Verification of tube position

Aspirate the nasogastric tube. Test aspirate on CE marked pH indicator paper recommended for use on human gastric aspirate.

If pH is 5.5 or less proceed to feed or use tube. Record result on insertion label placed in medical notes

Any readings between 5 and 6 should be checked by a second competent practitioner. (One practitioner must be a registered nurse).

If no aspirate obtained try the following techniques to help gain aspirate:

- Turn infant / child 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

Important Points

In some situations it may not be possible to obtain an aspirate with a pH of 5.5 or less after initial placement has been confirmed. These include:

Frequent medications given via NGT

Being fed continuously

Treatment with acid reducing medications eg ranitidine, omeprazole

In these cases the external measurement of the tube should be identical to that recorded at initial placement and fixation tapes should be checked to ensure they have not moved or become loose.

Tube length should be recorded daily and before the administration of any liquid via the tube.

Administering air (the Whoosh test), using litmus for an acid / alkaline test and the assessing the appearance of aspirate are all unreliable methods to confirm nasogastric tube position and should not be used.