GIG CYMRU NHS WALES | Bwrdd Iechyd Prifysgol Caerdydd a'r Fro | Cardiff and Vale University Health Board	**Reference Number: UHB 260** **Version Number: 3** **Date of Next Review: January 2025** **Previous Trust/LHB Reference Number:**

Insertion of a Flocare® Bengmark Naso-Intestinal Tube, Confirmation of correct position and on-going care in adults' procedure

Introduction and Aim

The aim of the procedure is to minimise patient risk and harm caused by a mis-placed Naso-Intestinal Feeding tube in line with patient safety and quality

Objectives

- To standardise the procedure for passing a Naso-Intestinal tube
- To standardise the procedure to confirm the correct position of a Naso-Intestinal tube
- To standardise the procedure for confirmation of correct tube position on initial insertion and during on-going care

Scope

This procedure applies to all qualified nursing and medical staff in all locations.

Equality Impact Assessment	An Equality Impact Assessment has been completed. The Equality Impact Assessment completed for the procedure found there to be no impact.
Documents to read alongside this Procedure	Insertion, management and removal of nasal bridle fixation device for Naso-Enteral tubes in adults' procedure. Insertion of a Naso-gastric tube, confirmation of correct position and on-going care in Adults, children and infants (not neonates). Consent to Examination or Treatment policy
Approved by	Nutrition and Catering Steering Group
Accountable Executive or Clinical Board Director	Executive Director of Therapies
Author(s)	Adult Nutrition Support Team

Summary of reviews/amendments			
Version Number	**Date of Review Approved**	**Date Published**	**Summary of Amendments**
1	*March 2015*	*March 2015*	New procedure document
2			Procedure reviewed- minor amendments made to page 8
3	*February 2022*	*April 2022*	Procedure reviewed- statlock nose plasters removed from section 14, page 9 as no longer available Competency section removed as available as a separate document from Nutrition Support Team

Supporting information

1. Introduction

The Flocare Bengmark® Naso-Intestinal tube is designed for trans-nasal feeding directly into the Duodenum or Jejunum. If there is stomach motility, the tube can be placed at the bedside into the stomach and the Bengmark spiral will produce spontaneous pylorus passage within 8-12 hours. If there is no stomach motility, the tube can be passed through the pylorus with the help of alternative techniques e.g. Endoscopy, Fluoroscopy.

This tube is indicated for all patients who have a functioning intestinal tract with impaired stomach motility and/or increased risk of aspiration.

2. Statement

The procedure has been produced to support staff in the correct insertion of a Flocare Bengmark® Naso-Intestinal feeding tube, confirmation of correct position and ongoing care.

3. Aim

To minimise patient risk and harm caused by a misplaced Naso-Intestinal feeding tube in line with patient safety and quality.

4. Objectives

1. To standardise the procedure for passing a Naso-Intestinal tube.
2. To standardise procedure to confirm correct position of a Naso-Intestinal tube.
3. To standardise the procedure for confirmation of correct tube position on initial insertion and during on-going care.

5. Competence, accountability and responsibility

All professionals undertaking this procedure should be either:

- Registered nurses
- Registered medical staff

It is essential for the healthcare professional to have undertaken a period of supervised practice in the insertion of a Naso-Intestinal feeding tube, supervised by a recognised practitioner i.e. qualified nurse or doctor who is competent in the insertion of a Naso-Intestinal feeding tube.

The Nutrition Support Team (NST) is responsible for implementing the procedure. A small cohort of Specialist Doctors and Nurses who have been appropriately trained will be able to carry out this procedure. Individuals are responsible for their own actions when undertaking this clinical practice as part of their wider role.

The number of supervised practices required to achieve competence will be determined by the practitioner and supervisor, taking into account the practitioner's own learning needs (minimum of 3). Evidence of competence (page 13-14) must be provided, a copy kept in the practitioner's personal file and in the ward or department where the skill is practised. Practitioners already undertaking

this procedure must have a record of their competence (page 18). The practitioner is accountable for their own practice. Evidence of continuing professional development and maintenance of competence level will be required.

6. Indication

Prior to passing a Naso-Intestinal feeding tube, a risk assessment must be carried out, balancing the potential risks of tube insertion against the need to feed. Actions to reduce risks and the rationale must be documented by the practitioner.

Placement must be delayed if there is not sufficient experienced support available to accurately ***place and confirm*** Naso-Intestinal tube placement (e.g. at night) then unless clinically urgent, placement must be delayed until that support is available. The rationale for any decisions made must be recorded in the patient's medical notes.

7. Consent

Informed verbal consent for the procedure must be sought under the guidance of the UHB Consent Policy. Where consent cannot be obtained, referral must be made to the Mental Capacity Act. The result of the Mental Capacity Assessment and the Best Interests Decision must be documented in the medical or nursing notes where appropriate. Artificial nutrition is associated with legal and ethical implications for practice. It is the responsibility of the clinical team responsible for the patient to ensure that due regard to legal and ethical principles is considered as part of patient care. Decisions regarding legal and ethical implications must be appropriately recorded in the medical records.

8. Contra-indications

The following are possible contra-indications for the insertion of a Naso-Intestinal feeding tube:

- Maxillo-facial surgery, trauma or disease
- Oesophageal tumours, strictures or surgery
- Unstable cervical spine
- Haematological disorders
- Paralytic ileus
- Intestinal absorption failure
- Acute abdomen

Base of skull fracture is an absolute contra-indication if a qualified nurse is carrying out the procedure.

The contra-indications are not all absolute, but individual patients must be discussed with the medical team in charge of their care before a tube is passed. Some patients may require tubes placed using direct vision, endoscopic or radiological guidance.

9. Type of tube

The Flocare Bengmark ® is polyurethane, Ch8 145cm long. A pre-lubricated metallic guidewire is contained within the tube.

10. Insertion of the tube

The procedure for passing a Naso-Intestinal tube must be followed (page 6-9).

If the tube meets resistance and cannot be advanced further or respiratory distress is evident, the procedure must be abandoned. The patient should be reassured and referral made to a senior member of the medical team who will review the situation and determine what action is necessary. This may include referral for assistance from the NST or another appropriate clinical team. Out of hours, the responsible clinical team must risk assess further attempts at insertion versus delay in provision of enteral nutrition, and any decisions documented in the medical notes.

11. Confirming tube position

The correct position of the Naso-Intestinal tube **must** be confirmed following insertion and documented before feeding is commenced. Nothing should be introduced down the tube before gastric placement is confirmed i.e. do not flush.

Procedure for passing a Flocare Bengmark® Naso-Intestinal feeding tube and confirming correct position

Equipment

Flocare Bengmark® Naso-Intestinal Tube
pH indicator paper
Appropriate tape/scissors
Non-sterile gloves
Apron
Visor
60 ml purple Enteral syringe
Glass of water/straw (if appropriate)
Tissues
Receiver
An assistant

Procedure

1. Wash hands according to UHB policy and assemble the equipment.

2. Prepare the patient for the procedure:
    - Screen bed area
    - Explain procedure and rationale

- Where appropriate obtain verbal consent and document
- Clean/clear nostrils and provide oral care
- Position patient (semi-recumbent, head tilted slightly forward)
- Agree signal to pause/stop the procedure

3. Wash hands, put on gloves and apron.

4. Examine tube and integrity –fully insert the guide-wire into the tube and ensure it is firmly attached to the connector.

5. Measure the length of the tube required, nose to ear to xiphisternum (**NEX**) and mark with indelible pen. Make two additional marks at 25cm and at 50cm after the first mark.

6. Do not use lubricating agents as these may affect pH readings or occlude the tube. Do not use water to lubricate the tube.

7. If able to swallow, provide the patient with a glass of water.

8. Insert the tip of the tube into the nostril, along the floor of the nasal passage into the oropharynx (throat), ask the patient to swallow and tilt chin down slightly.

9. Advance the tube gently and encourage the patient to swallow until the tube reaches the measured length (NEX).

10. Confirm correct gastric placement of the Naso-Intestinal tube

Procedure to confirm correct position following insertion:

- Use a 60 ml Enteral syringe and <u>slowly</u> aspirate fluid. Only a small amount (1 ml) is needed.
- Place aspirate on pH strip and leave for 10 seconds. A reading of **5.5 or below** indicates gastric placement.
- In addition to pH measurement, x-ray on initial placement is advisable in patients in whom the procedure was difficult i.e. coughing/vomiting or if there is any doubt regarding the pH obtained.

If aspirate is difficult to obtain *try some or all of the following:*

- Check the syringe size - must be ≥ 20 ml.
- Check the tube is inserted to correct length as measured (NEX).
- Try advancing or withdrawing the tube 5 -10 cm.
- Flush the tube with10-20ml air. DO NOT flush with water.
- Ask the patient to drink water if appropriate (i.e. safe swallow)
- Position the patient on their left side
- Wait up to 30 minutes and retry

If all attempts to obtain gastric aspirate fail on initial placement, a chest x-ray must be requested.

If aspirate is greater than pH 5.5:

If attempts to obtain gastric aspirate pH of 5.5 or less fail on initial placement, a chest x-ray must be requested.

Following confirmation of correct gastric placement:

11. Flush at least 20ml of water through the tube using a 20 ml Enteral syringe. Hold the tube firmly at the nose and carefully remove 25cm of the guide-wire. **Never re-insert the guide-wire whilst the tube is in the patient.**

12. Continue passing the tube until you reach the 2nd mark. Completely remove the guidewire from the tube at this stage and secure the tube loosely to the patient's cheek to allow for further tube migration.

13. Dispose of waste according to UHB policy.

14. Within 8-12 hours the tube should have moved through the pylorus. If the patient can tolerate gastric feeding, this may be started once correct gastric position has been confirmed, as this may aid tube migration into the jejunum.

15. Document consent, the procedure and method of confirming correct tube position including the person undertaking the procedure in the medical or nursing notes as appropriate.

16. Once the tube has reached the pre-measured 3rd mark, secure the tube to the patient's nose with a nose plaster or appropriate tape and mark the tube with indelible ink so that tube migration can be easily observed. An abdominal x-ray **must** be performed to confirm correct intestinal placement. The x-ray must be interpreted by a Healthcare professional assessed as competent to do so. If there is any difficulty in interpretation of the X-ray, the advice of the radiologist should be sought. The results of the X-ray must be documented in the medical notes.

Procedure for ongoing care of a patient with a Naso-Intestinal tube

- Check the tube position prior to giving feeds/drugs. Record daily tube checks on the Naso-Intestinal daily care record (page 11).

- The external tube length should be observed and recorded on the daily care sheet. If the external tube length has altered, this may indicate that the tube is not correctly positioned in the duodenum or jejunum.

- Flush the tube with water before and after feeding, before and after medication and between each medication. Use sterile water to flush the Naso-Intestinal tube.

- Only Enteral syringes that are labelled "Enteral" should be used to measure and administer medication. Do not use intravenous syringes.

12. Securing the tube

The tube should be well secured to the patients' nose and cheek once the tube has migrated.
Allergies and sensitivities to the tape may require a hydrocolloid dressing to provide a protective layer between the skin and tape**.** Additional fixation devices including Statlock nose plasters and nasal bridles are available from the Nutrition Support Team.

13. Documentation

The following must be documented in the medical or nursing records.

- verbal consent if appropriate
- time and date of insertion
- type and size of tube
- how correct position was confirmed
- length of tube at nostril
- person undertaking the procedure

Documentation following x-ray must include:

- who authorised the x-ray
- who confirmed the position of the tube
- confirmation that the x-ray viewed was the most current for the patient
- rationale for the confirmation of position of the Naso-Intestinal tube i.e. how placement was interpreted and clear instructions as to required actions

A full multidisciplinary supported risk assessment must be made and documented, before a patient with a Naso-Intestinal tube is discharged from acute care to community.

14. Resources

There are minimal resources required for implementation of this procedure. All Naso-Intestinal tubes are available through the NST. pH indicator strips are available from pharmacy and additional securing devices e.g. nasal bridles are available from the Nutrition Support Team.

15. Responsibilities

The NST will continue to provide the training and support of staff for ongoing care. Incident forms must be completed for misplaced Naso-Intestinal feeding

tubes or other adverse events associated with their use. Serious clinical incidences must be escalated to the Patient Safety and Quality Department.

16. Implementation

The procedure will be available on the UHB Intranet site. Adherence to the procedure will be audited on an ad hoc basis by the NST.

17. Equality Impact Assessment

An Equality Impact Assessment has been undertaken to assess the relevance of this procedure to equality and potential impact on different groups, specifically in relation to the General Duty of the Race Relations (Amendment) Act 2000 and the Disability Discrimination Act 2005 and including other equality legislation. The assessment identified that the procedure presented a low risk to the UHB.

18. References

1. National Patient Safety Agency (2005 and update 2011, 2012) Patient Safety Alert 05: Reducing the harm caused by misplaced naso-gastric tubes NPSA, London.
2. Mensforth A, Nightingale J. (2001). Insertion and Care of Enteral Feeding Tubes In. Nightingale J (Ed) *Intestinal Failure.* Greenwich Medical Media, London.

Addressograph

Daily care record for Naso-Intestinal feeding tube

Tube type and size:

Date	Time	Length at nose (cm)	Secured well	Comments – problems identified i.e. red/sore nose, bleeding or pressure area	Signature

pH checking is not routinely undertaken to confirm position of Naso-Intestinal feeding tubes.
If displacement of Naso-Intestinal feeding tube is suspected discuss with medical team or NST. Chest x-ray may be indicated to confirm correct position of the feeding tube.
Use sterile water only for flushes.
For advice contact the Nutrition Support Team on x 46393 (UHW) or 25281 (UHL).

NASO-INTESTINAL TUBE FEEDING

A	PLACEMENT OF NASO-INTESTINAL TUBE
	Placement can be undertaken at bedside (Bengmark only), under endoscopic, radiological guidance or placed in theatre. For bedside placement please contact the Nutrition Support Team (x 46393)

B	CONFIRMATION OF NASO-INTESTINAL TUBE PLACEMENT
	When to confirm position: ➢ On initial placement of the Naso-Intestinal tube ➢ After rest periods ➢ Following episodes of vomiting, violent coughing or retching ➢ At least once during continuous feeding (24 hr) ➢ Possible tube displacement (change in patient's clinical condition, external tube length, or loose tape) **Methods used to confirm correct position:** As Naso-Intestinal tubes are sited in the jejunum, position is not routinely confirmed using gastric aspirate. Surrogate markers should be used to check position (external tube length, clinical condition). If migration of Naso-Intestinal feeding tube is suspected discuss with medical team or NST. A chest x-ray may be required to confirm correct position of the tube. **Lower Chest X-ray / abdominal X-ray** should be requested on initial placement and the result documented in the medical notes. CXR should **not** be used for daily confirmation.

C	MAINTENANCE OF THE NASO-INTESTINAL TUBE
	Flushing - the tube should be flushed promptly and regularly to prevent occlusion ➢ At least 30 ml of sterile water (unless fluid restricted) should be used to flush the tube before and after each feed (and at least every 8 hours during continuous feed) Liaise with your Dietitian. ➢ At least 10 ml of sterile water should be used between medications to prevent drug interactions and occlusions. ➢ Liaise with your ward pharmacist to ensure the medication is appropriately prescribed for jejunal or duodenal administration. **Occlusion – use warm water or carbonated water to unblock the tube** Pancreatic enzymes may be used if the occlusion is feed related. Do **not** use coke, lemon juice etc. as this may make the blockage worse.

D	EQUIPMENT
	➢ Naso-Intestinal tubes are supplied by the Nutrition Support Team (x46393) ➢ Pumps are obtained from the medical equipment resource library (x 43226) ➢ Regimens are available from the Dietitian (x 44294 or 42761 at weekends)