



PROCEDURE

Nasogastric Tube Management

Scope (Staff):	Community health
Scope (Area):	CACH – Education Support Schools

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this [disclaimer](#)

Aim

To provide guidance regarding nasogastric tube management to nurses working in schools to ensure:

- safe positioning of the nasogastric tube (NGT) prior to feeding, flushing, and medication administration
- safe re-insertion of the nasogastric tube (NGT) as required.

Risk

Client care and safety may be compromised if correct nasogastric tube management is not followed. Non-compliance with this procedure may result in nasal trauma, an increased risk of infection, and pneumonia.^{1,2}

Background

Enteral feeding via a nasogastric tube (NGT) may be used for children who have a functioning gastrointestinal tract but are unable to take in enough food and drink by mouth to meet their nutritional needs².

Administration of enteral feeds, fluids, and medication via a NGT is indicated for short term support. Longer-term enteral feeding usually requires surgical referral for the insertion of a gastrostomy or jejunostomy tube¹.

Key points

- All nurses will refer to the [Nursing and Midwifery Board AHPRA Decision-making framework](#) in relation to scope of practice and delegation of care to ensure that decision-making is consistent, safe, person-centred and evidence-based.

- Nurses performing NGT care and management must have completed appropriate CACH training and have been deemed competent, or be directly supervised by a nurse who has been deemed competent.
- Misplacement of an NGT must always be considered a possibility. Tube position must be verified after tube reinsertion and before the administration of any substance via the tube¹.
- If the client has a naso-jejunal tube (NJT), refer to their Student Health Care Plan for all specific NJT management information.
- Nurses need to provide a culturally safe service delivery which demonstrates a welcoming environment that recognises the importance of cultural beliefs and practices of all clients.
- Community health nurses must follow the organisation's overarching [Infection Control Policies](#) and perform hand hygiene in accordance with WA Health guidelines at all appropriate stages of the procedure.

Equipment

- Nasogastric tube of appropriate size (Re-insertion only)
- Single-use sterile sachets of water-soluble lubricant (Re-insertion only)
- Enteral syringe 20mL and/or 50ml
- pH indicator strips
- Adhesive tape e.g. Fixomull® / Hyperfix™ (Re-insertion only)
- Hydrocolloid dressing e.g. Duoderm® (Re-insertion only)
- Water for flushing
- Detergent/disinfectant wipe
- Non-sterile gloves (additional personal protective precautions as appropriate to clinical situation)

Table 1 – Procedure: Confirm NGT placement

NGT placement must be confirmed before every feed, administration of medication, or separate flush.

Steps	Additional information
<p>1. Client identity and consent</p> <ul style="list-style-type: none"> • Check client identity. • Explain the procedure to the client. • Gain consent. 	<ul style="list-style-type: none"> • Check identification as per Patient/Client Identification procedure. • Consent should be gained prior to all client procedures, as per CAHS Consent to treatment policy.

	<ul style="list-style-type: none"> • A current and signed Student health care plan complies with consent requirements.
<p>2. Prepare the environment and gather equipment</p> <ul style="list-style-type: none"> • Perform hand hygiene. Apply gloves. • Clean surface being used for the procedure with detergent or disinfectant wipe, and allow to dry. • Check Student health care plan for client-specific information and instructions. 	<ul style="list-style-type: none"> • Student health care plans should detail all feeding, flushing, medication delivery, and troubleshooting requirements.
<p>3. Prepare client for optimal comfort</p> <ul style="list-style-type: none"> • Position the client upright (or at minimum of 30 degrees)¹. 	<ul style="list-style-type: none"> • An upright position reduces the risk of aspiration. • Children may feel more comfortable sitting up^{1, 3}.
<p>4. Perform hand hygiene and don gloves</p> <ul style="list-style-type: none"> • Disposable gloves are required for all NGT feeding and management. 	<ul style="list-style-type: none"> • See Standard and Transmission Based Precautions, noting Appendix 5 - Community Nurse in Education Support Schools PPE Guide.
<p>5. Confirm NGT placement</p> <ul style="list-style-type: none"> • Check the NGT tape is secure and that tube position has not moved. • Use 20mL or 50mL syringe to aspirate 0.5 – 1 mL of fluid. • Note colour and appearance of aspirate. • Apply aspirate to pH indicator strip: <ul style="list-style-type: none"> ○ If pH 5.0 or below - commence feed ○ If pH above 5.0 - do not feed. Wait 30-60 minutes and repeat testing procedure • See Appendix 1: Flowchart verification of correct NGT position. 	<ul style="list-style-type: none"> • Check that the external distance of NGT at nostril is the same as the distance recorded in Student health care plan^{4, 5}. • Aspirate 2.5 – 5 ml, to ensure the fluid is from the stomach and not from the empty space in the tube. Then return all but 0.5 – 1 ml for testing. • Ensure pH strips are stored in original intact container and are clean and dry¹. • The pH test strip must be soaked by the aspirate for a minimum of 2 seconds prior to reading¹ • Measuring the pH of withdrawn fluid helps to differentiate between respiratory and gastric placement⁵. • A pH of 5.0 or less indicates the tube tip is in a gastric location^{2, 4}.

	<ul style="list-style-type: none"> • A recent feed, continuous feeds, neutralising medications, or acid inhibiting medications such as proton pump inhibitors may raise the gastric pH ⁵.
<p>5a) If aspirate is above pH 5.0: DO NOT FEED</p> <ul style="list-style-type: none"> • Check external length of NGT at nostril to confirm tube is not displaced⁶. • Wait 30-60 minutes and repeat testing procedure¹. • Notify parent/caregiver. 	<ul style="list-style-type: none"> • When gastric pH is above 5.0, NGT placement is questionable and it should not be used until position is verified⁵. • If a client is on acid-inhibiting or neutralising medications or is receiving continuous or frequent enteral feeding, follow their individual Student health care plan advice for assessment of their NGT position^{1, 4}.
<p>5b) If unable to aspirate gastric contents¹:</p> <ul style="list-style-type: none"> • Check external length of NGT at nostril to confirm that tube is not displaced⁶. • If possible, turn client onto left side. • Inject 1 - 5 mL of air into NGT using a 20 mL or 50 mL syringe and then re-aspirate. • If no aspirate is obtained, wait for 15-30 minutes and re-aspirate. • If still unable to obtain aspirate, consider NGT reinsertion or replacement. • Notify parent/caregiver that NGT position is incorrect and reinsertion may be required. 	<ul style="list-style-type: none"> • Injecting a small amount of air through the NGT may move the exit port of the feeding tube if it has lodged against the gastric mucosa. • See Table 3 for NGT replacement or reinsertion procedure.

Table 2 – Procedure: NGT Feeding

NGT feeding can be given as a bolus feed, a gravity bag feed, or via a pump, as per the client’s Student Health care plan. For procedural information about enteral feeding, refer to CACH [Gastrostomy device management](#) procedure. Additional points related to NGT feeding are noted in the table below.

Prior to NGT feeding, check client identity, explain the procedure, gain consent, review their current and signed Student health care plan, prepare the client and their environment and gather equipment, as per Steps 1-4 in [Table 1](#).

Steps	Additional Information
<p>5. Prepare NGT feed</p> <ul style="list-style-type: none"> • Refer to client's individualised nutrition care plan. • Open bottle of NG feed immediately prior to use. 	<ul style="list-style-type: none"> • Dietitian or parent/caregiver will provide details for Student health care plan regarding client's feeding regime, including enteral formula type, volume, and frequency of nutrition delivery. • Feeds given as a bolus should be removed from the fridge 15-20 minutes before administration to bring them to room temperature⁷. • Clients may receive blended, puréed and vitamised foods via their NGT, as detailed on their Student health care plan. Staff should be aware of potential increased risk of NGT blockage due to the higher viscosity of these feeds.
<p>6. Deliver NGT feed</p> <ul style="list-style-type: none"> • Avoid forcing a feed through the syringe with the plunger. • Monitor client's condition throughout the NGT feed. <ul style="list-style-type: none"> ○ For pump and continuous delivery of NGT feeds, ensure child is supervised. • Any deterioration in client condition during NGT feeding requires immediate cessation of the feed until review and confirmation of correct position of the NGT¹. • Call an ambulance if there is any respiratory distress. 	<ul style="list-style-type: none"> • For procedural information about NGT feeding, see CACH Gastrostomy device management procedure. For NGT bolus feeding, refer to Initial PEG device - Gravity feeding process steps. For NGT gravity bag and pump feeding, follow Low profile PEG device – Gravity bag feeding, and PEG and PEG-J – Pump feeding process steps, noting extension tubing is not required for NGT feeding. • Refer to CAHS Recognising and Responding to Acute Deterioration for further information on clinical communication in emergency situations.
<p>7. Storage of feed.</p> <ul style="list-style-type: none"> • Once a feed bottle is opened, cover, refrigerate, and use within 24 hours. Discard unused feed after this time⁹. 	<ul style="list-style-type: none"> • Refer to the Gastrostomy device management procedure for guidance on cleaning and storage of equipment.
<p>8. Documentation</p> <ul style="list-style-type: none"> • Record care given. 	<ul style="list-style-type: none"> • Record routine daily care given as per Student Health Care Plan.

Steps	Additional Information
	<ul style="list-style-type: none"> Specify the details of care provided for any variations to routine NGT feeding and care, and/or for any changes to client condition.

Medication Administration – Medication administration via NGT is given as per the client’s Student Health care plan and Medication chart. Refer to [Gastrostomy device management](#) procedure.

Flushing – An NGT should be flushed with water after every feed and after completion of each medication administration. Refer to Student health care plan and [Gastrostomy device management](#) procedure.

Nasogastric tube blockage

If an NGT is blocked, assess its position and check for kinks in the tubing.

Do not use force to flush an NGT. Instil warmed water and leave for 10 minutes, using a gentle ‘push/pull’ motion to flush NGT. Repeat if necessary.

If flushing is unsuccessful or there is any doubt regarding correct NGT position, change the tube.

Never insert a guidewire into a NGT that is in-situ.

Table 3 – Procedure: NGT reinsertion or replacement

There are many different types of nasogastric tubes. Long-term polyurethane or silicone NGTs may be considered for replacement after 4 weeks (polyurethane) or up to 6 weeks (silicone).

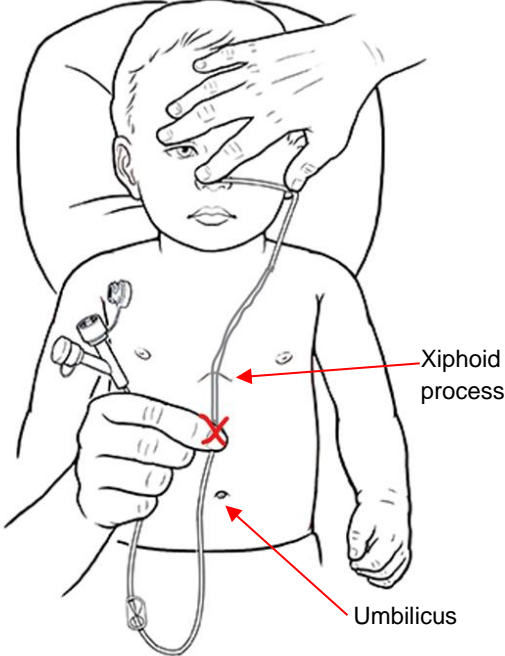
A student may remove their NGT while at school, or it may be displaced by coughing, vomiting or movement⁷. Although many tubes are reinserted without incident, there is a risk of NGT misplacement during insertion.

If a client deteriorates at the start of, or during a feed, the feed must be stopped immediately until the position of the tube can be verified.

Prior to NGT reinsertion, check client identity, explain the procedure, gain consent, review the current and signed Student health care plan, prepare the client and their environment and gather equipment, as per Steps 1-2 in [Table 1](#).

Steps	Additional Information
<p>3. Prepare client for optimal comfort</p> <ul style="list-style-type: none"> Position the client upright (or at minimum of 30 degrees)¹. Assess facial skin for signs of breakdown or pressure areas 	<ul style="list-style-type: none"> Consider the timing of reinsertion of a dislodged NGT. Preferably insert into an empty stomach, and at least one hour before or after a feed¹.

Steps	Additional Information
<p>before NGT reinsertion. Alternate nostril insertion where possible, considering client's individual Student health care plan⁸.</p>	<ul style="list-style-type: none"> • Clear client's nostrils of mucous/debris as necessary. • An upright position reduces the risk of aspiration, and children may feel more comfortable sitting up^{1, 3}.
<p>4. Perform hand hygiene and don gloves</p> <ul style="list-style-type: none"> • Disposable gloves are required for <u>all</u> NGT feeding and management. • Assess risk of exposure to body fluids and use appropriate additional PPE. 	<ul style="list-style-type: none"> • See Standard and Transmission Based Precautions, noting <i>Appendix 5 - Community Nurse in Education Support Schools PPE Guide</i>. • See Standard and Transmission Based Precautions, noting <i>Table 1 - Implementing Standard Precautions when undertaking aerosol generating procedures (AGPs)</i>. NGT reinsertion may induce coughing and can therefore be considered an aerosol generating procedure¹.
<p>5. Prepare equipment</p> <ul style="list-style-type: none"> • Open equipment and check integrity of tube. • If the tube has a guidewire, flush the tube with 10 mL of water prior to insertion. Check that the guidewire retracts easily and can then be properly re-inserted back into the tube¹. 	<ul style="list-style-type: none"> • If the client removed their NGT prematurely, it may be cleaned and reinserted. • If the NGT cannot be adequately cleaned or is beginning to show signs of wear (i.e., tube is brittle or splitting), it should be discarded and replaced with a new one⁶.

Steps	Additional Information
<p>6. Determine length of tube to be inserted.</p> <ul style="list-style-type: none"> • Ensure that client's head is straight and is in a neutral position¹. • Measure from nostril to ear lobe, then from ear lobe to the xiphoid process, and then from xiphoid process to a point midway between xiphoid process and umbilicus^{1, 3}. • Note the cm marking on the side of the NGT at the midway point between the xiphoid process and the umbilicus. <p>Note: For weighted-tip tubes, the length of the weighted tip is not included in the tube insertion measurement. Measure from where the fluid leaves the tube.</p>	<ul style="list-style-type: none"> • Correct head positioning facilitates insertion of the NGT. 
<p>7. Insert tube.</p> <ul style="list-style-type: none"> • Lubricate the tip of the NGT with water-based lubricant • Gently insert NGT into one nostril and guide it steadily to the back of the throat⁶. • Encourage the client to swallow if able, to assist movement of the tube into the oesophagus • Advance NGT until the measured length mark is level with child's nostril. • If resistance is encountered, slightly adjust direction and reattempt advancement. <ul style="list-style-type: none"> ○ If resistance persists, stop immediately and remove the tube, and reattempt insertion via the other nostril. ○ Check that NGT has not coiled at the back of the throat. 	<ul style="list-style-type: none"> • Use a gentle technique to avoid pain and physical damage¹. • Advance tube parallel to hard palate. • You may need to demonstrate a swallow. Offer client a sip of water if needed. • Indications that the NGT may be misplaced include¹: <ul style="list-style-type: none"> ○ Change of external tube length ○ No aspirate or pH > 5.0 ○ Client discomfort ○ Coughing, cyanosis and breathing difficulty

Steps	Additional Information
<ul style="list-style-type: none"> ○ Remove NGT immediately if client develops any symptoms of respiratory distress⁶. ● Seek prompt advice for any child suffering any adverse effects from NGT insertion, such as respiratory distress or excessive vomiting³. ● If the tube has a guidewire – hold the tube firmly at the nose while removing the guidewire¹. 	<ul style="list-style-type: none"> ○ Vomiting, reflux, regurgitation of feed ● The absence of respiratory symptoms does not exclude the tube being in the respiratory tract¹. ● Removing the guidewire without holding the tube can cause the tube to pull out with the guidewire¹.
<p>8. If NGT reinsertion is not successful</p> <ul style="list-style-type: none"> ● Do not continue if insertion is unsuccessful after three attempts¹. ● Document actions in the client's notes and inform parent/caregiver. 	<ul style="list-style-type: none"> ● If unable to pass the tube down one nostril, try the alternate nostril^{3, 8}. ● Allow the child to rest between attempts at insertion¹.
<p>9. Secure tube</p> <ul style="list-style-type: none"> ● Secure tube in place with adhesive tape applied onto cheek. Avoid taping tube with pressure against the cheek or nostril. 	<ul style="list-style-type: none"> ● Use dressing/tape provided by parent to protect the skin and secure NGT in place. ● Pressure from the tube can injure the nostril and cheek¹.
<p>10. Confirm NGT placement after reinsertion¹.</p> <ul style="list-style-type: none"> ● Use a 20 mL syringe to aspirate 0.5 to 1mL of fluid of gastric content⁷. ● Follow steps in Table 1 above to confirm NGT placement. 	<ul style="list-style-type: none"> ● See Appendix 1 for flowchart illustrating assessment of correct NGT positioning. ● If unable to obtain aspirate when checking tube position after NGT reinsertion or replacement, slide tube in or out 1 – 2 cm and try to aspirate again⁶. Retape in correct position.
<p>11. Documentation</p> <ul style="list-style-type: none"> ● Record details of tube reinsertion. 	<p>Document:</p> <ul style="list-style-type: none"> ● Date and time of insertion ● Type and size of NGT reinserted ● Measurement of tube inserted, recording external cm marking at nostril ● pH, volume, and appearance of aspirate and possible reason for result e.g. acid inhibiting medications, continuous feeds

Steps	Additional Information
	<ul style="list-style-type: none"> Any difficulties experienced during re-insertion of the tube, number of insertion attempts, advancement or withdrawal of tube, and retaping.

Documentation

Nurses must maintain accurate, comprehensive and contemporaneous documentation in electronic and/or written health records of assessments, planning, decision making and evaluations, according to CACH processes.



References
<ol style="list-style-type: none"> Perth Children's Hospital. Nasogastric and Nasojejunal Tube Management. Perth: CAHS; 2023. NHS Improvement. Resource set: Initial placement checks for nasogastric and orogastric tubes. 2016. State-wide Emergency Care of Children Working Group. Nasogastric Tube Insertion. Queensland Government; 2023. The Royal Children's Hospital Melbourne. NGT position checks and feeding. The Royal Children's Hospital Melbourne. Wathen B, Peyton C. Pediatric nasogastric tube placement. Nursing2020 Critical Care. 2014;9(3):14-8. Child and Adolescent Health Service. Nasogastric tube feeding - A guide for parents and carers. Perth: State of Western Australia; 2024. The Royal Children's Hospital Melbourne. Nursing guideline: Enteral feeding and medication administration. The Royal Children's Hospital Melbourne; 2017. Agency for Clinical Innovation. Gastric tube or nasogastric tube replacement. Paediatric ECAT protocol: Agency for Clinical Innovation; 2023.

Related internal policies, procedures and guidelines
<p>The following documents can be accessed in the CH Clinical Nursing Manual: HealthPoint link or Internet link</p>
<p>Clinical Handover - Nursing</p>
<p>Gastrostomy Device Management</p>
<p>Student Health Care Plans</p>
<p>The following documents can be accessed in the CACH Operational Policy Manual</p>

Client Identification
The following documents can be accessed in the CAHS Policy Manual
Aseptic technique
Clinical Documentation
Consent to Treatment
Hand Hygiene
Infection Control
Nasogastric and Nasojejunal Tube Management (PCH)
Recognising and Responding to Acute Deterioration
Standard and Transmission Based Precautions

Related external legislation, policies, and guidelines
Clinical Handover Policy (MP0095)
Clinical Incident Management Policy (MP 0122/19)
Recognising and Responding to Acute Deterioration Policy (MP 0171/22)
Related external resources (including related forms)
DOE Student Health Care
Nasogastric Tube Feeding: A Guide for Parents and Carers – Gastroenterology Intranet Information Hub

This document can be made available in alternative formats on request.

Document Owner:	Nurse Director, Community Health		
Reviewer / Team:	Clinical Nursing Policy Team		
Date First Issued:	13 July 2018	Last Reviewed:	22 July 2024
Amendment Dates:	29 October 2024	Next Review Date:	20 August 2027
Approved by:	Community Health Clinical Nursing Policy Governance Group	Date:	22 July 2024
Endorsed by:	Executive Director – Nursing	Date:	22 July 2024
Aboriginal Impact Statement and Declaration (ISD)		Date ISD approved:	22 May 2024
Standards Applicable:	NSQHS Standards:  Child Safe Standards: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10		
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 <h2 style="margin: 0;">Healthy kids, healthy communities</h2> <div style="display: flex; justify-content: space-around; margin: 0;"> Compassion Excellence Collaboration Accountability Equity Respect </div> <p style="margin: 0; font-size: small;">Neonatology Community Health Mental Health Perth Children’s Hospital</p>			

Appendix 1: Verifying nasogastric tube position for clients not using acid-inhibiting medication or on continuous feeds.

