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INTRODUCTION

A parent being told that their child requires nasogastric feeding can be overwhelming especially if there has previously been no knowledge of this process. However, with sufficient support and training, it is envisaged that any anxieties will be reduced and you as a parent and carer will be able to undertake your child’s feeding confidently and competently.

This parent’s guide to nasogastric feeding has been developed to provide essential information and support to parents and carers.

The information in this guide has been identified by parents as a result of a questionnaire and focus groups, exploring the information that parents would like to receive.

Comments and feedback from parents, carers and staff have also been provided and used during the development of the booklet.

The Community Children’s Nursing (CCN) Team are Nurses who will provide support to your child and family within your home.
**WHAT IS A NASOGASTRIC TUBE?**

A nasogastric tube is where a narrow tube is passed into the nose and down into the stomach which allows liquid feed/medicines to be delivered into the stomach.

It may be used for a feed that is required over a short period of time or a continuous feed – a feed that is given slowly over a longer period of time.

This type of tube can also be passed into the child’s mouth and into the stomach. This is called an orogastric tube and is normally used in small babies in hospitals.

**WHY DOES MY CHILD REQUIRE A NASOGASTRIC TUBE?**

Every child is unique and the reason that they need a nasogastric tube may differ from another child.

Nasogastric tube feeding is necessary to assist the child in meeting their nutritional and/or hydration needs.

Nasogastric tubes can also be used for the delivery of medicines.

Your child’s doctor will discuss and explain the reasons that your child requires a nasogastric tube.
TRAINING

You will be trained and deemed competent in all aspects of your child’s feeding device and feeding plan.

Your CCN will offer annual update training whilst your child requires the use of a nasogastric tube.

You will be trained in:

- The importance of hand washing
- Care of your child’s nasal passage
- What to do if the nasogastric tube is accidentally dislodged
- How to store, prepare and administer your child’s feed and medicines
- How and when to check that the position of your child’s nasogastric tube is in the correct place e.g. the stomach
- How, when and what to use to flush your child’s nasogastric tube
- How to recognise and manage complications
HAND WASHING

It is very important to wash your hands before handling your child’s nasogastric tube and preparing and administering their feed. It is one of the most important ways of preventing and controlling the spread of infections.

You will become familiar with the 7 steps of hand washing – all health professionals use this method of washing their hands when working with their clients.

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**HAND HYGIENE**

**You can do it in...45 SECONDS**

- Wet hands under running water and then dispense one dose of liquid soap/antiseptic onto hands.
- Wash vigorously for 15 seconds. Following steps 1-7 without adding more water.
- Ensure hands are well rinsed.
- Dry hands thoroughly with paper towel and turn off taps with elbows or paper towel.
- Dispose of towel in bin. Always use the foot operated pedal and not your hand to open bin.
- Apply hand cream regularly.
CARE OF THE NASOGASTRIC TUBE SITE

Ensure tube is securely taped in position and always replace tape if it appears to be loose. This is to avoid the tube becoming displaced.

Use a soft hypoallergenic dressing on your child’s face for securing tube and check their facial skin daily for any reaction to tape. The CCN will advise suitable dressings to secure your child’s nasogastric tube.

Do not tape the tube too tightly to your child’s nasal passage as the tube should be able to move freely when your child swallows to avoid any damage to your child’s nasal passage.

Keep your child’s nasal passage clean and dry.

**Routine replacement of nasogastric tube**
Your child’s nasogastric tube will need to be changed. The frequency of the change will depend on the type and make of nasogastric tube that your child requires – your CCN will advise you when it needs to be changed.

The CCN will arrange to change your child’s nasogastric tube at home. Training and supervision can be provided at this time if you would like to undertake replacing your
child’s nasogastric tube yourself. You will be supervised until you are competent to do it without the CCN present.

Every time your child’s nasogastric tube is changed it is important that the position of the device is confirmed to ensure the tip of the device is in your child’s stomach (see page 13).

When your child’s nasogastric tube is being changed – you will find that the CCN will use your child’s opposite nasal passage. This is to avoid excessive use of one nasal passage. In some situations this may not be possible and if this arises the CCN will explain the reason.

**What if my child’s nasogastric tube falls out?**
If your child’s nasogastric tube comes out, ring the CCN on the contact number provided. If the CCN is not on duty you will need to go to your local hospital to have the nasogastric tube replaced. This will have been agreed before your child is discharged home. You should always carry a spare nasogastric tube with you to bring to your local hospital.

Taking good care of securing your child’s nasogastric tube will help prevent the device from coming out – very importantly you must ensure that when you are moving and handling your child during feeding that the feed tubing does not get trapped for example in your child’s buggy/Chair, which would pull on the nasogastric tube and cause it to come out.
Babies and small children will often try to pull their nasogastric tube out. At night, try putting mittens/socks on your child’s hands to keep them from pulling the tube out. You can also secure the end of the nasogastric tube or thread it under the child’s clothing to prevent the child getting access to the tube.
ENTERAL SYRINGES

You will be provided with purple enteral syringes.

These come in two types
- Single use which means you dispose of them after one use. This type is always used in hospital.
- Reusable syringes which mean you can wash and reuse the syringe for one week. This is the type most commonly used within the home and school.

Syringes come in various sizes. It is recommended that you use the largest size of syringe as possible as this reduces the amount of pressure delivered when you are using the syringe for example 60ml/20ml. This will prevent damage to the internal part of your child’s nasogastric tube.

Your CCN will explain to you the type and size of syringe identified for your child. You may be required to use a smaller size of syringe depending on the amount of flush required for your child and also your child’s medication doses.

How to care for reusable syringes
- Once you have used the enteral syringe – take the syringe apart and wash in warm soapy water and rinse.
- Leave the parts to dry
• Once dry store in a clean dry lidded container until they need to be used again.
• Dispose of your enteral syringes on a weekly basis
• Do not use the enteral syringe if
  - The markings on the syringe are no longer visible
  - The syringe is damaged in any way
  - There is stiffness when using the syringe
  - If you are unable to ensure thorough cleaning between uses.

Feeding sets
Your CCN will explain to you what type of feeding set you will use for your child.

A new feeding set will be used for each feed.

If your child requires continuous feeding – a feed which is given slowly throughout the day – a new feed set will be used daily

Disposal of enteral feeding equipment
When you are finished with your equipment – feeding syringes and sets – you are advised to double bag them and place into your household bin.

Unfortunately enteral syringes cannot be recycled and must be placed in the black bin.

You can check with your local council re a second black bin if you are finding you are accumulating a lot of waste.
CHECKING POSITION OF NASOGASTRIC FEEDING TUBE

The position of a nasogastric feeding tube is always checked before a flush/feed medicine. NEVER use your child’s nasogastric tube unless you have confirmed that it is in the stomach.

How do I check the position of my child’s nasogastric tube?

• This is done by withdrawing a small amount of stomach contents with an enteral syringe. This is called the **gastric aspirate**.
• Place 2-3 drops of the aspirate onto the pH strip.
• Let any excess aspirate on the strip run off onto a paper towel.
• Within 10 – 60 seconds check the colour of the strips against the colour chart on the pH strip container. After 60 seconds the strip is not to be used as a check as the reading will be false.
• The reading should be below 5.5 which indicates that the tip of the enteral device is in your child’s stomach. **DO NOT USE ENTERAL DEVICE if pH value is above 5.5.**
• Only use each test strip once.
• You will be shown and supervised to do this check.
Storage of pH indicator strips
• Keep the pH indicator strips in a cool dry place.
• Keep the container sealed by always replacing the correct lid after every time you remove a strip.
• Check the expiry date on the container and use within the expiry date.

Why is it that you may not be able to get an aspirate?
This may be for several reasons

• The end of the tube is above the fluid level in your child’s stomach
• The end of the tube may be in the oesophagus
• The end of the tube has adhered to the stomach wall
• There is no fluid in your child’s stomach
• The tube has travelled into the small intestine
• The tube is blocked
• The tube is kinked.

What will I do if I cannot get an aspirate?
• You could try positioning your child on their left side which may help in allowing the end of the tube fall away from the stomach wall, and it may help to allow easier access to stomach fluid.
• Inject 1-5 mls of air into the tube using a syringe – your CCN will tell you the amount of air and show you how to do this. Do not repeatedly do this as it will make your child uncomfortable if they have a lot of air in their stomach. This will allow any kinking of the tube
to be released and also help to move its position if it is adhered to the stomach wall.

- You can wait 15-30 minutes to try aspirating the nasogastric tube again – this will allow for stomach contents being produced in the stomach.
- Advance or withdraw the nasogastric tube as shown by your CCN which will alter the position of the end of the tube.
- You can give mouth care to your child as this will stimulate gastric secretions.
- If your child is allowed to have fluid orally – offer a small amount and wait at least 15 minutes and try aspirating again.
- If you still cannot get an aspirate contact your CCN.
- **NEVER** use the nasogastric tube unless the pH is below 5.5

**What will I do if the pH reading is above 5.5?**

- **Do not** use your child’s nasogastric tube
- If the pH reading is between 6-8 the end of the tube may have migrated into the small intestine.
- Medicines can cause pH readings above 5.5 If this is the case, your CCN will discuss how best to manage your medicines with the assistance of the Pharmacist and Consultant
FLUSHING THE NASOGASTRIC FEEDING TUBE

Flushing is administering water into the nasogastric feeding tube, usually with a syringe to clear feed medication in order to keep it from blocking. Never flush your child’s nasogastric tube unless position is confirmed in your child’s stomach.

You need to flush the nasogastric tube
• Before and after each medication administration
• Before and after feeding
• Daily if nasogastric tube is not being currently used
• During continuous feeds the nasogastric feeding tube will be flushed every 4-6 hours.

What do I use to flush my child’s enteral device?
Your CCN will advise if sterile/cooled boiled/tap water is to be used for the flush.

Sterile water is always used in hospital.

How much flush do I use?
Your child’s Dietitan/CCN will advise you on the volume required to flush your child’s enteral device.

How do I flush my child’s enteral device?
You will be shown how to flush your child’s nasogastric tube using a pulsatile action.
That is a push/pause technique. This technique promotes a turbulence effect within the tubing and ensures adequate flushing and helps prevent any blockages occurring.

**Hint** If you say the words “push pause” during time of flush you will remember to do this technique.
ENTERAL FEEDS

Your child’s Dietitian will prescribe the most suitable type of feed that your child requires and they will always ensure, with the support of your CCN, that you are aware of all aspects of preparation and administration of your child’s feed.

There are two types of feed
1. Ready to use feed which has been specially prepared and prepacked.
2. Reconstituted feeds which come in powdered form which you prepare yourself.

Ready to use feed
- Store ready to use feed in a cool, dry place out of direct sunlight. Avoid storing feeds in gardens sheds/garages and next to radiators.
- Use within expiry date
- Depending on the amount of feed your child has been prescribed, there may possibly be left over feed – this can be labelled with date and time it was opened, refrigerate and disposed of after 24 hours if not used.

Reconstituted feed
- To prepare powdered feeds boil the kettle and leave it to cool for no longer than 30 minutes.
- Prepared powdered feeds must be used within 4 hours otherwise prepare a new feed
Methods of administration of enteral feeds
There are two methods of enteral feeding

1. Bolus feeding – this can be administered by gravity/feeding pump
2. Continuous feeding – feed administered at a slower rate over a prolonged period of time.

Bolus feeding
• This is a feed given over a short period of time – usually less than 30 minutes.
• It can be given by gravity by attaching the barrel of a 60ml syringe to your feeding set and pouring the required amount of feed into the syringe barrel.
• The higher you hold the syringe above the child, the faster it will flow. Your child will be sick if the feed is given too quickly.
• To slow the rate of the feed, lower the syringe so it is closer to your child’s stomach.
• If your child coughs/retches feed may flow back up into the syringe barrel – if you raise the syringe it will reverse the flow.
A bolus feed can also be administered by a feeding pump which will be set to the duration in which the feed should be delivered.

**Remember to flush with water your child’s nasogastric tube before and after feed.**

**Continuous feed**
- This method of feeding is always administered by a feeding pump.
- The nasogastric tube is flushed before and after feed and 4-6 hourly during the feed.
- Where possible your child will be prescribed a feed which can be attached for the period of time it is required – otherwise add new feed every four hours to the feeding system.

**Important factors if your child requires overnight continuous feeds**
- Sleep in the same room as your child
- Your child should be fed at an angle of at least 30 degrees during continuous feed.
- Never leave your child unattended if they are awake.
- Position the feeding pump at the side of your child’s bed/cot ensuring the administration set is threaded through the bars rather than dangling over the top of the cot/bed sides.
- The feed tubing should be threaded through the inside of your child’s night clothes
Preparing to feed your child

- Collect everything you need
- Wipe clean your tray with antibacterial wipe/spray.
- pH indicator strips
- Feed
- Enteral syringes
- Feeding set
- Feeding pump
- Water for flushing
- Medicines if required at that time
- Set in order of use the equipment required for feeding and prepare.

ORAL HYGIENE

- For children under 2 years of age – mouth care is recommended.
- Tooth brushing should be performed twice daily.
- If your child is not allowed oral fluids – additional oral hygiene maybe required to keep the mouth moist to prevent gum disease and stimulate saliva and gastric secretions.
- Your child should be registered with a Dentist
- If your child is unable to use toothpaste – speak to your Dentist about obtaining an alternative product to toothpaste.
Glossary

Administration Set
Plastic tubing used to connect the container to the feeding device

Aseptic Non-Touch Technique (ANTT)
A unique and contemporary practice to reduce Health Care Assoicate Infections using an aseptic technique

Aspiration
A procedure used to determine the position of the end of the tube. Aspiration also refers to the accidental sucking in of food particles or fluids into the lungs

Balloon
A water filled balloon holds some gastrostomy devices securely in the stomach

Bolus/Intermittent Feeding
A prescribed volume of feed given slowly via a syringe at a specific time.

Carer (caregiver)
Someone other than a health professional who is involved in caring for a person with a medical condition.

Continuous feeding
Continuous feeds are the administration of a feed at a slower rate over a prolonged period.

Decanting
Pouring feed from the original container into the administration set container
Enteral nutrition
The provision of safe and effective nutritional support through the use of an enteral feeding device.

Flush
Administering a small volume of water through the tube to clean it after you have used it to deliver your feed or medications.

Gastro-oesophageal reflux disease (GORD)
A common condition where acid from the stomach leaks out of the stomach and up into the oesophagus.

Hypoallergenic
Reduces the possibility of an allergic reaction

Immuno-compromised
Vulnerable to infection due to having an immune system that has been impaired by disease or a medical treatment

Naso-gastric
A narrow tube that is passed into the nose and down the oesophagus into the stomach which allows liquid feed/medication to be delivered directly into stomach.

Orogastric (tube) feeding
Nutrition support provided by a tube inserted through the mouth via the oesophagus into the stomach

PH Indicator Strips
Used to confirm the feeding device is in the correct position by measuring the amount of acid in the stomach contents.

Push/Pause technique
A pulsatile flushing action to promote a turbulence effect within the tube.
**Single Use**
Use only once and then discard

**Single child use**
Can be used more than once on one specific child only.
This booklet has been developed by Patricia Meehan & Gillian McCorkell WHSCT along with parents, carers and staff from within Northern Ireland in conjunction with the Development of Gain Guidelines for Caring for an Infant, Child, or Young Person who requires enteral feeding.

A special thanks is extended to all the children and their parents who consented to photographs which are used. Further support and useful links can be found at PINNT/Half PINNT at http://pinnt.com/home.aspx
Further copies of this guideline can be obtained by either contacting the GAIN Office or by logging on to the GAIN Website.

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