

Nasogastric tube feeding



**A guide
for parents**

Nasogastric tube feeding

A guide for parents

Table of contents

Topic	Page
Important information	1
Introduction	2
What to feed your child	4
Feeding equipment	7
Checking placement	8
Feeding methods	9
Feeding your child by gravity	10
Feeding your child by pump	13
Giving medications	16
Cleaning the feeding equipment	19
NG tube care	20
Dealing with problems	22
When to get help	25
Feeding and flushing schedule	26
Medication schedule	27
Notes	28

Important information for:

_____ (child's name)

Your child's NG tube
Date inserted:
Type of tube:
Size of tube:
External length:
When to change the tube:

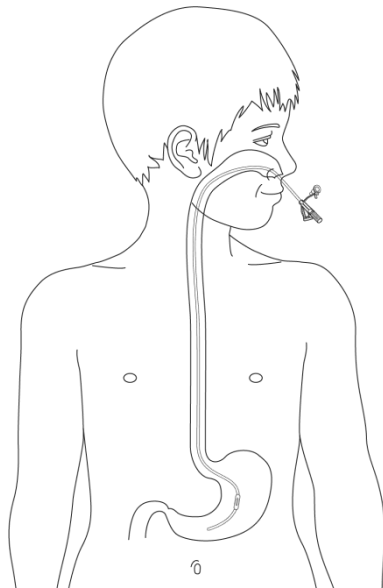
Your child's health care team
Doctor:
Clinic Nurse:
Advanced Practice Nurse:
Registered Dietitian:
Other:

Community resources
Equipment supplier:
Your pharmacy:
Other:

Introduction

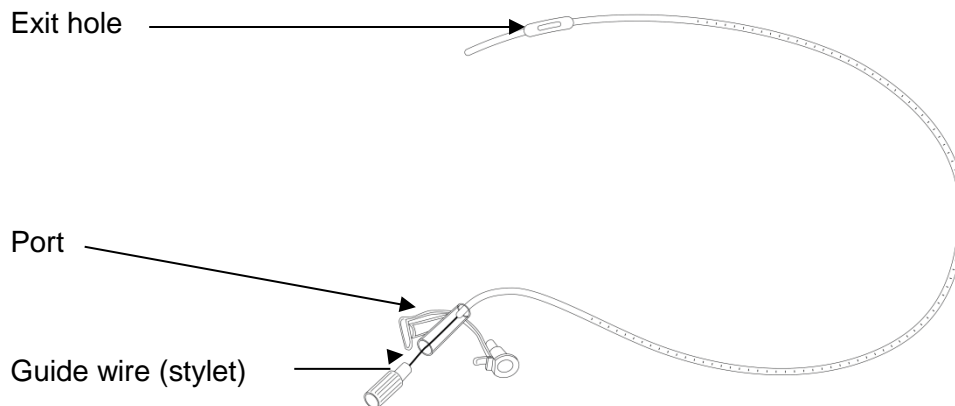
What is a nasogastric tube?

- A nasogastric (NG) tube is a soft, thin tube. It is gently passed through the nose, down the throat and into the stomach.
- The tube is used to put liquid food or medications into your child's stomach. Tube feeding gives your child food when he or she is unable to eat or drink by mouth.



This picture shows the NG tube in place

This picture shows the parts of the NG tube



How long will my child need to be fed this way?

- An NG tube is a temporary way to feed your child. Your health care team will let you know how long your child will need to be fed this way.
- If your child's feeding problems continue, a permanent tube can be placed into the stomach. This is called a gastrostomy tube (G-tube).

How is the NG tube put in?

- A nurse usually puts in the NG tube.
- The tube is lubricated so it can be easily passed through the nose and down into the stomach. As the tube is put in, your child may feel uncomfortable and cry, cough or gag a bit. This is normal.
- Once it is in place, the tube is taped to your child's nostril and cheek to keep it in place.

Before the tube can be used, it is very important to check that it is in the right place.

- The tube will be changed about every month. Your health care team will tell you how to get a new NG tube put in.

What to feed your child

Your health care team will decide what types of food will best meet your child's needs for nutrition.

The NG tube can be used to give your child nutrition and fluids such as:

- breastmilk
- formula
- nutritional drinks such as PediaSure®

You can buy formula and nutritional drinks at most drug stores. If your child needs a special formula, the store may need to order it for you.

The cost of some types of formula may be covered with an Ontario Drug Benefit (ODB) card if:

- you are receiving services from the Local Health Integration Network (LHIN)
- you have an Ontario Works card or ACSD (Assistance for Children with Severe Disability) benefits

If you need help to pay for formula, please talk with the Social Worker.

Feeding expressed breast milk (EBM)

You can feed fresh or thawed EBM through the NG tube.

- Use fresh EBM within 3 days.
- Use thawed EBM within 24 hours.

Before each feeding, take the EBM out of the fridge to let it warm to room temperature. You may warm EBM by placing the container or bottle in a bowl of **warm water**.

- Do not immerse the container or bottle in the water. Keep the cap or nipple above the water.
- Do not use hot water or a microwave oven.

Feeding formula



Start by washing your hands with soap and warm water.

1. Sterilize the water

Before preparing formula, sterilize the water first. Boiling the water makes it sterile and safe to use.

- All types of water must be boiled, including tap water, well water and store-bought bottled water.
- Cold tap water is a good choice. Run water from the cold water tap for at least 2 minutes before using. This removes deposits of minerals from the water pipes.

If you use well water, it must be tested to make sure it is safe. To find out how to test your water, call 905-546-2189 to speak with a Public Health Inspector.
- In a pot or kettle, heat the water to a rolling boil and continue to boil for 2 minutes. Do not use a kettle that shuts off before the water has boiled for 2 minutes.
- Let the water cool before using. Sterilized water can be used to prepare formula and to flush your child's NG tube.
- Store boiled water in a tightly-sealed container and use within 24 hours.

2. Prepare the formula

Check the expiry or “best before” date on the container of formula. After this date, the formula cannot be used and must be thrown out.

Liquid formula	<ul style="list-style-type: none">• Carefully follow the instructions on the container or the special instructions from your Dietitian.• Unopened containers of liquid formula can be stored at room temperature.• Open containers must be covered and stored in the refrigerator. Use within 24 hours.
Powdered formula	<ul style="list-style-type: none">• Carefully follow the instructions on the container or the special instructions from your Dietitian or health care team.• Prepare 1 day of formula at a time. Store prepared formula in a tightly sealed container in the refrigerator until you need it.

3. Getting ready to feed your child

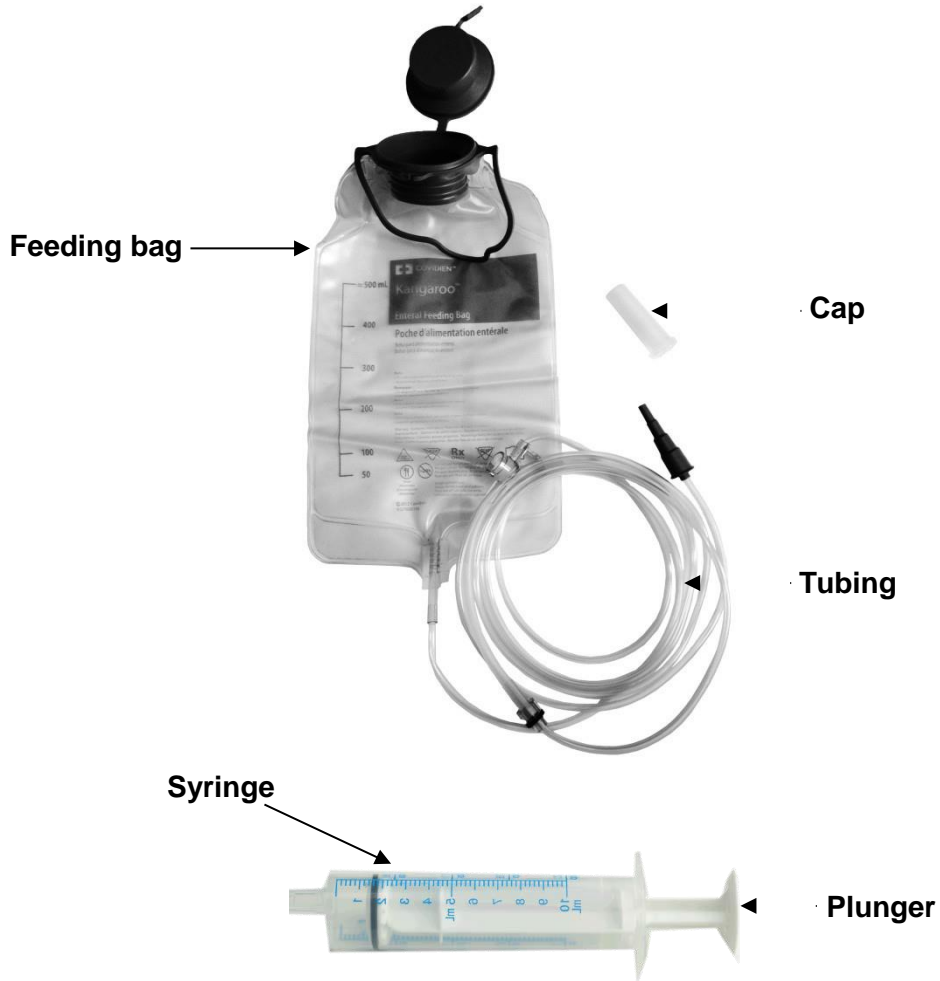
Before each feeding, take the required amount of formula out of the fridge to let it warm to room temperature. This takes about ½ hour.

You may warm formula by placing the container or bottle in a bowl of **warm** water.

- Do not immerse the container or bottle in the water. Keep the cap or nipple above the water.
- Do not use hot water or a microwave oven.

Feeding equipment (example only)

This picture shows a feeding bag set (feeding bag with tubing)



- If you are getting services from homecare/the LHIN, your supplies and equipment may be provided or rented for a limited time.
- If you are not getting homecare or services from the LHIN, your health care team will give you a list of stores where you can buy or rent equipment. Check with your insurance company to see if these costs are covered.
- You can apply to the Assistive Devices Program (ADP) provided by the Ontario Ministry of Health and Long-term Care. If you are eligible, ADP may cover some of the cost of your supplies.
- If you need help to pay for your supplies, please talk with the Social Worker.

Checking placement



Before each feeding, check that the NG tube is in the right place. If the tube is not in the stomach, food could go into the throat or lungs and harm your child.

Always wash your hands before checking placement.

You must see these 3 signs to check that the tube is in the stomach.

- | | |
|-----------------|---|
| 1. Mark | <p>The tube was measured and marked at the spot where it should come out of the nose.</p> <p>✓ If the tube is in the right place, the mark is at your child's nose.</p> <p>✗ If the mark isn't by your child's nose – do not feed your child.</p> |
| 2. Fluid | <p>Attach an empty 10 ml syringe to the connector of the NG tube. Pull back the plunger to get 0.5 to 1 ml of stomach fluid into the syringe. Remove the syringe from the NG tube. Look at the colour of the fluid.</p> <p>✓ If the tube is in the right place, the stomach fluid will look clear, cloudy or yellow. It may also look like your child's feed.</p> <p>✗ If the fluid is a different colour – do not feed your child.</p> |
| 3. pH | <p>Push the plunger slightly to put a drop of stomach fluid on all the coloured boxes of the pH strip. Compare the colour of the boxes to the pH scale on the pH strip storage container.</p> <p>✓ If the tube is in the right place, the pH will be 5.5 or less.</p> <p>✗ If the pH is 6 or more – do not feed your child.</p> |

If you have any other concerns about the NG tube placement or your child is gagging, retching, or having trouble breathing – do not go ahead with the feeding. Call your health care team.

Feeding methods

There are two ways an NG tube can be used for feedings. Your health care team will tell you which way to feed your child.

By gravity: Instructions page 10.	Food flows down, from the syringe through tubing to the NG tube. The tube is capped shut between feedings.
By pump: Instructions page 13.	A pump controls a slow, steady flow of food from a feeding bag, through tubing to the NG tube. The tube is capped shut between feedings.



In the following instructions, we refer to “formula”, but the instructions are the same for all types of liquid food: breastmilk, formula and nutritional drinks.

Feeding your child – by gravity

If your child tolerates, you may feed your child this way sometimes or all the time.

Get ready

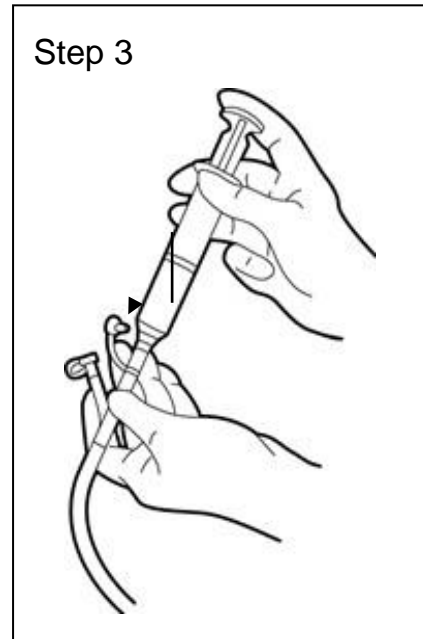
1. Wash your hands.
2. Check the expiry date on the container of formula. Prepare formula if needed.
3. If formula is in the refrigerator, take it out and allow it to sit at room temperature for ½ hour. You may warm the formula by placing the container in a bowl of warm water.
4. Gather your supplies:
 - the Feeding and Flushing Schedule (page 26)
 - formula at room temperature
 - a syringe
 - room temperature water for flushing
5. Help your child get into a comfortable position. During the feeding, your child's head should be higher than his or her stomach.
6. Wash your hands.

Check the NG tube and prepare the formula

1. Check the placement of the tube. See page 8.
2. Wipe the top of the formula container with a clean cloth. Shake the container to mix the formula. Open the container.

Flush before the feeding

1. Check the Feeding and Flushing Schedule for the amount of water to use. Draw up the required amount of room temperature water into the syringe.
2. Close the clamp on the NG tube or with the fingers of one hand, pinch the tube closed to prevent fluid from coming up from the stomach. Use your other hand to open the cap on the tube and insert the tip of the syringe. Unclamp or let go of the tube to open it.
3. **SLOWLY** push the plunger of the syringe in – to flush the water through the tube.
4. Clamp or pinch the tube closed again. Remove the syringe from the tube. Close the cap. Unclamp or let go of the tube.



Give the formula

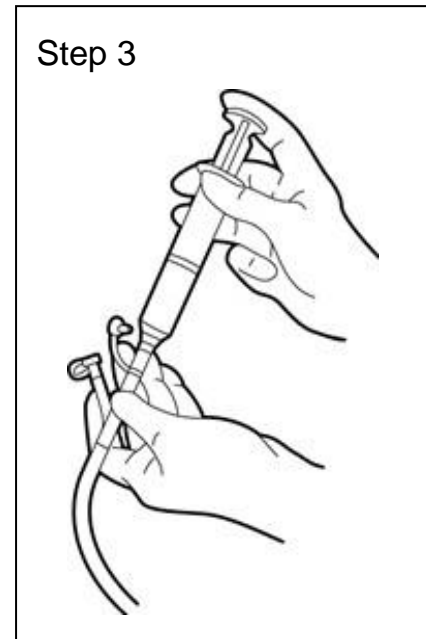
1. Remove plunger from syringe. Attach syringe to feeding tube.
2. **SLOWLY** pour some of the formula into the syringe. As you pour, the formula runs into your child's stomach.
3. Keep **SLOWLY** pouring formula into the syringe until the required amount of formula has been given.

You may raise or lower the height of the syringe to speed up or slow down the flow of formula.



Flush after the feeding

1. Draw up the required amount of room temperature water into the syringe.
2. Clamp or, with the fingers of one hand, pinch the tube closed to prevent fluid from coming up from the stomach. Use your other hand to open the cap on the tube and insert the tip of the syringe. Unclamp or let go of the tube to open it.
3. **SLOWLY** push the plunger of the syringe in – to flush the water through the tube.
4. Clamp or pinch the tube closed again. Remove the syringe from the tube. Close the cap. Unclamp or unpinch the tube.
5. Wash your hands.



When the feeding is finished

1. For about an hour after feeding, keep your child's head higher than his or her stomach.
2. Wash and store equipment, following the cleaning instructions on page 19.

Feeding your child – by pump

A pump delivers a continuous amount of formula at a set rate. Here are the main steps to feeding with a pump. Check your pump manual as the steps may be slightly different. If you have any questions, refer to the manual or call your health care team.

Get ready

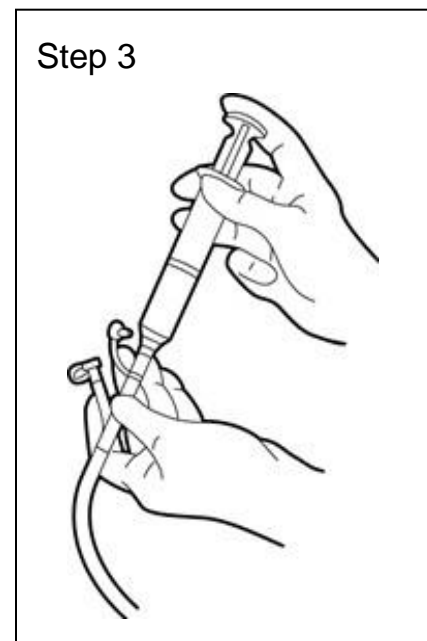
1. Wash your hands.
2. Check the expiry date on the container of formula. Prepare formula if needed.
3. If formula is in the refrigerator, take it out and allow it to sit at room temperature for ½ hour. You may warm the formula by placing the container in a bowl of warm water.
4. Gather your supplies:
 - the Feeding and Flushing Schedule (page 26)
 - formula at room temperature
 - feeding bag set
 - syringe for water flush
 - feeding pump and IV pole if needed
 - room temperature water for flushing
5. Help your child get into a comfortable position. During the feeding, your child's head should be higher than his or her stomach.
6. Wash your hands.

Check the NG tube and prepare the feeding equipment

1. Check the placement of the tube. See page 8.
2. Wipe the top of the formula container with a clean cloth. Shake to mix the formula.
3. Open the formula and pour into the feeding bag. Do not pour more than 2 to 4 hours supply into the bag at one time, unless the Dietitian has given you other instructions.
4. Hang the feeding bag on the IV pole if needed.
5. Plug the pump into an electrical outlet.
6. Follow the pump manufacturer's directions for priming.
7. Let the formula run to the end of the tube. This lets the air out of the tube, so that it does not go into your child's stomach.

Flush before the feeding

1. Check the Feeding and Flushing Schedule for the amount of water to use. Draw up the required amount of room temperature water into the syringe.
2. Clamp or with the fingers of one hand, pinch the tube closed to prevent fluid from coming up from the stomach. Use your other hand to open the cap on the tube and insert the tip of the syringe. Unclamp or let go of the tube to open it.
3. **SLOWLY** push the plunger of the syringe in - to flush the water through the tube.
4. Clamp or pinch the tube closed again. Remove the syringe from the tube. Close the cap. Unclamp or unpinch the tube.



Give the formula

1. Connect the tip of the feeding set to the tube.
2. Press the **POWER ON** button.
3. Set the **RATE, VOLUME** and **DOSE** on the pump according to your Feeding and Flushing Schedule.
4. Follow the manufacturer's directions in the pump manual.
5. Press the **START** button.
6. Check the Feeding and Flushing Schedule to know how often to flush.

Flush after the feeding

1. After the feeding, press the **STOP** button on the pump. Press the **POWER OFF** button.
2. Flush the NG tube again with the required amount of room temperature water.
3. Wash your hands.

When the feeding is finished

1. For about an hour after feeding, keep your child's head higher than his or her stomach.
2. Wash and store equipment, following the cleaning instructions on page 19.
3. Keep the pump plugged in when you are not using it. This keeps the battery fully charged.

Giving medications

You can only give **liquid** medications through the NG tube.

- If the medication comes in a capsule, ask the pharmacist if the medication can be opened and mixed with water.
- If the medication comes as a pill, ask the pharmacist if the medication can be crushed and mixed with water.

To crush and mix a medication with water:

1. Crush the pill to a fine powder. If needed, you may buy a pill crusher at the pharmacy.
2. Add 5 to 10 ml of room temperature water. Mix until the powder dissolves. Some medications may require more water to dissolve. The Pharmacist will let you know if more water is required to dissolve a medication.

Tips for giving your child medications

- Each medication must be given separately. Do not crush or mix medications together.
- Do not mix medications with formula or put medication in the feeding bag or syringe.
- Check the directions for each medication carefully. If a medication needs to be taken on an “empty stomach”, give it 1 hour before or 2 hours after a feeding.
- When you give medications through the NG tube you need to be careful that the tube does not become blocked. **Flush the tube before and after giving each medication.**
- After giving the medication, wash your syringe and equipment with warm, soapy water. Rinse with water and dry well.

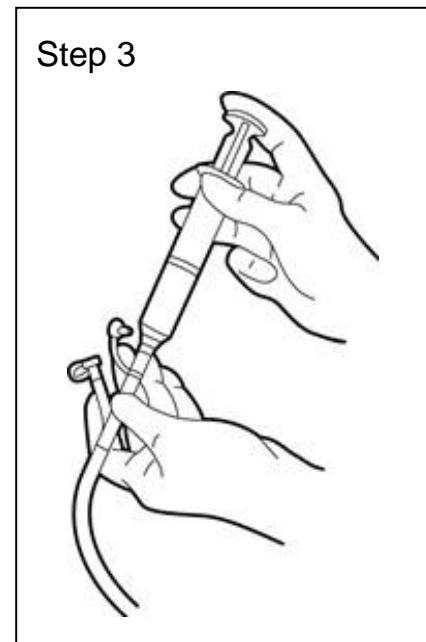
If you have any questions, please talk with your pharmacist or health care team.

Get ready

1. Wash your hands.
2. Gather your supplies:
 - syringe
 - liquid or dissolved medication
 - water at room temperature for flushing
 - a container for each medication as needed

Flush before giving the medication

1. Check the Feeding and Flushing Schedule for the amount of water to use. Draw up the required amount of room temperature water into the syringe.
2. Clamp the tube or with the fingers of one hand, pinch the tube closed to prevent fluid from coming up from the stomach. Unclamp or use your other hand to open the cap on the tube and insert the tip of the syringe. Unclamp or let go of the tube to open it.
3. **SLOWLY** push the plunger of the syringe in - to flush the water through the tube.
4. Clamp or pinch the tube closed again. Remove the syringe from the tube. Close the cap. Let go of the tube.



Give the medication

1. Draw up the first medication into the syringe.
2. With the fingers of one hand, clamp or pinch the tube closed to prevent fluid from coming up from the stomach. Use your other hand to open the cap on the tube and insert the tip of the syringe. Unclamp or let go of the tube to open it.
3. Gently push the plunger of the syringe in - to push the medication through the tube.
4. Clamp or pinch the NG tube closed. Remove the syringe from the tube. Close the cap. Let go of the tube.

Flush after giving the medication

1. Draw up the required amount of room temperature water into the syringe.
2. With the fingers of one hand, clamp or pinch the tube closed to prevent fluid from coming up from the stomach. Use your other hand to open the cap on the tube and insert the tip of the syringe. Unclamp or let go of the tube to open it.
3. **SLOWLY** push the plunger of the syringe in - to flush the water through the tube.
4. Clamp or pinch the tube closed again. Remove the syringe from the tube. Close the cap. Let go of the tube.

Cleaning the feeding equipment

It is important to keep all your equipment clean. Do not wash equipment in the dishwasher. Clean feeding equipment after it is disconnected from your child's tube.

After each feeding

- Rinse feeding bag, extension set and syringe with water.
- Drain well and allow to air dry on a clean surface.

Each day

- In a clean sink, wash the feeding bag, extension set and syringes with warm soapy water. Use the syringe to flush soapy water through the tubing.
- After washing, rinse the feeding bag set with diluted clear vinegar:
 - mix 30 ml (1/8 cup) of vinegar with 125 ml (1/2 cup) of water
 - pour this into the feeding bag and shake, then empty the bag
 - rinse well with cool water, letting the water run through the tubing
- Throw away the feeding bag set and syringe after 7 days. Use new equipment each week.
- Store your dry supplies in a clean plastic container or zip lock bag.

NG tube care

Skin care

- Keep the skin clean and dry.
- Check the skin around your child's nose and the taped areas.
- If the skin gets red or broken down, move the tape. If you have any concerns, call your health care team.

Securing the tube

- If the tape on the cheek gets wet or dirty, remove the old tape and replace with new tape.
- Always have a second person to help with changing the tape.
- Secure the tube to your child's clothing so that he or she cannot pull on the tube.

Whenever you look at the tube, check that the measurement mark is at your child's nose.

Flushing the tube

- Flushing the NG tube with room temperature water keeps it from getting blocked.
- Flush the tube before and after feedings, and before and after giving medications.
- For continuous feedings, flush the tube every 4 to 6 hours.

Changing the tube

- The tube needs to be changed:
 - every month
 - if it gets blocked or pulled out of place

Mouth care

- You need to care for your child's mouth, even if he or she is not eating or drinking. Mouth care can prevent a dry mouth, cavities and gum problems.
- Mouth care depends on your child's age:
 - Before teeth grow, a baby's gums need to be massaged.
 - As teeth develop, they need to be brushed and flossed.
- Your health care team will tell you how to care for your child's mouth.

Dealing with problems

How to prevent problems at home:

- ✓ Keep the skin on the cheek and around the nose clean and dry.
- ✓ Make sure the tube is well secured to the skin.
- ✓ Flush the tube before and after giving a feeding or a medication.
- ✓ Flush the tube every 4 to 6 hours if your child has continuous feeding with a pump.

How to manage problems

Here are some common problems and how to manage them at home. If you are unsure of what to do, please call your health care team.

Problem	Why	What to do
Skin around the cheek or nose is red or swollen	The tube or tape may irritate the skin.	<ul style="list-style-type: none"> • Try to keep the skin dry. • Check that the tube is in the correct position (not being pulled) and taped well. • Change the tape as needed. • If the problem continues, call your health care team.
Nausea and vomiting	Your child may feel sick because:	
	<ul style="list-style-type: none"> • the tube is in the wrong position 	<ul style="list-style-type: none"> • Check position of NG tube.
	<ul style="list-style-type: none"> • the feeding is too fast • he or she may have reflux with feeding • he or she has an illness such as the flu 	<ul style="list-style-type: none"> • Slow the rate of flow of the feeding. • If that does not work, try holding the feeding for 10 to 15 minutes, then restart at a slower rate. • If your child continues to be sick, call your health care team. • If the vomiting continues, go to the nearest hospital emergency department.

Problem	Why	What to do
<p>Diarrhea More than 3 loose, watery bowel movements a day.</p>	Medication may cause diarrhea.	<ul style="list-style-type: none"> • Talk with the health care provider who ordered your child’s medication.
	The feeding is going in too fast.	<ul style="list-style-type: none"> • Slow down the flow of formula. • Talk with the health care team about changing the flow of formula.
	The feeding tube may have moved out of place.	<ul style="list-style-type: none"> • Check the position of the feeding tube.
	Your child may have an illness or infection.	<ul style="list-style-type: none"> • Always wash your hands before feeding your child or giving medications. • Always use clean equipment. • When your child has diarrhea, you need to replace fluids. Talk to your health care team about how to do this. • If diarrhea lasts longer than 2 days, call your health care team.
<p>Dehydration Dark yellow urine or passing urine less than 2 times a day Dry lips, dry skin, or dry tongue</p>	Your child is not getting enough fluids.	<ul style="list-style-type: none"> • Call your health care team.

Problem	Why	What to do
<p>Formula does not run through the NG tube</p>	<p>NG tube is blocked.</p> <p>This can happen slowly over time, from a build-up of formula or medications inside the tube.</p> <p>It can happen suddenly, for example, when crushed medication blocks the tube.</p>	<ul style="list-style-type: none"> • Fill a syringe with warm water. • Slowly attempt to push in the warm water, and gently pull back to see if you can remove the blockage. • Repeat this several times. • Dispose of the fluid. • If the problem continues, the NG tube will need to be replaced.
<p>Tube comes out</p>	<p>Tube has come out by accident.</p>	<ul style="list-style-type: none"> • From Monday to Friday daytime, call your health care team. • After hours, take your child to the nearest hospital emergency department.
<p>Trouble breathing during or right after a feeding</p>	<p>The NG tube may not be in the correct position.</p> <p>The formula may be coming back up into the throat from the stomach.</p>	<ul style="list-style-type: none"> • Immediately stop the feed. • Make sure your child is in a safe position for feeding (sitting or propped up). • Call your health care team. If breathing worsens, call 911.

When to get help

**Call
911**

Get medical help right away if your child is choking or having trouble breathing.

Call your health care team for help with any of these problems:

- tube falls out
- tube is still blocked after flushing
- diarrhea
- fever
- nausea or vomiting
- fluid in the tube is bloody or coffee coloured
- signs that tube is in the wrong place
- stomach looks bloated or tight
- losing weight
- skin around the nose or cheek looks red, swollen or broken down

Feeding and Flushing Schedule

Date: _____

Name of formula	Amount to give each day
1.	_____ □ ml
2.	_____ □ ml

If feeding by gravity:

Your child needs _____ml per feed.

Each feeding takes about _____minutes.

If feeding by pump:

Rate: _____ml an hour.

- Bolus feed takes about _____minutes.
- Continuous feed to run over _____ hours.

Formula Schedule		Water Flush Schedule
Time	Amount	
		Before feeding begins, flush with _____ml. After feeding ends, flush with _____ml. Flush with _____ml every _____hours.

Along with formula, your child may also have:

Through the feeding tube:	By mouth:



**If you have questions or need more information,
please talk with a member of the health care team.**

