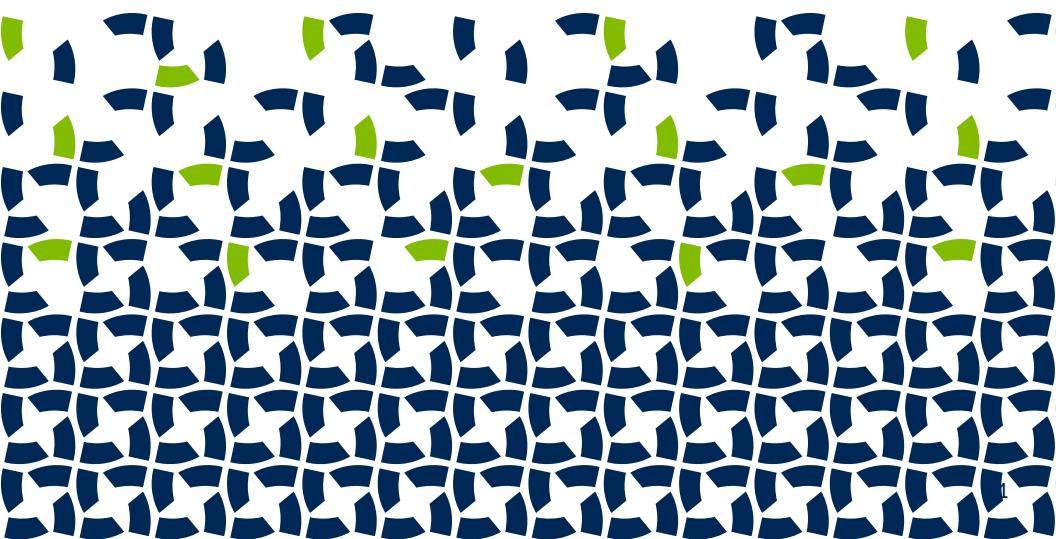
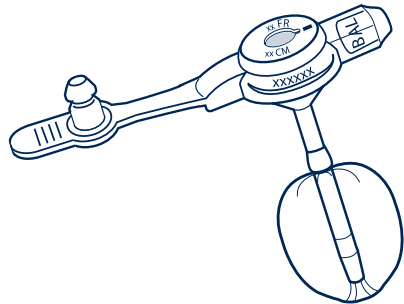




# MIC-KEY\* G FEEDING TUBE

EXTENSION SETS WITH ENFit™ CONNECTORS

## YOUR GUIDE TO PROPER CARE



# CONTENTS

---

<b>Introduction to the MIC-KEY* Gastrostomy Feeding Tube</b> .....	<b>3</b>
- Introduction to Tube Feeding	
- About the MIC-KEY*	
<b>MIC-KEY* Features</b> .....	<b>4</b>
- The External Base	
- The Extension Set Port	
- The Balloon Valve	
- The Silicone Retention Balloon	
<b>Accessories</b> .....	<b>5</b>
- The MIC-KEY* Continuous Feed Extension Set with ENFit™ Connections	
- The MIC-KEY* Bolus Feed Extension Set with ENFit™ Connections	
- The Syringes	
<b>Feeding Through the MIC-KEY*</b> .....	<b>6</b>
- Proper Placement	
- Residual	
- Decompression or Venting	
<b>Continuous Feeding</b> .....	<b>8</b>
<b>Periodic Feeding</b> .....	<b>9</b>
- Periodic Feeding with a Syringe	
- Periodic Feeding with a Gravity Drip Bag	
<b>Medications</b> .....	<b>11</b>
<b>Care and Use</b> .....	<b>11</b>
- Every Time You Feed	
- Daily Feeding Tube Care	
- Once-A-Week Tube Care	
<b>Replacing the MIC-KEY* Feeding Tube</b> .....	<b>13</b>
- When to Call your Medical Professional	
- Stomach Contents Leak Out Around the Tube	
<b>Problem Solving</b> .....	<b>15</b>
- If the Extension Set Tubing Becomes Disconnected from the Extension Set	
- Balloon Leaks or Ruptures	
- Feeding Tube Blockage	
- Balloon Will Not Deflate	
- Stoma and Skin Problems	
- Granulation Tissue	
- Difficulty Closing the Extension Set Port Cover	
<b>Children's Special Concerns</b> .....	<b>17</b>
- Problems if a Child Vomits	- Smaller Tubes
- Diarrhea	- Constipation
- Children Have Small Stomachs	- Children Are Growing
- How Much Water?	- Learning About Food
- Mouth	- Normal Activity
<b>Your MIC-KEY* Gastrostomy Feeding Tube Information</b> .....	<b>19</b>

## INTRODUCTION TO TUBE FEEDING

Good nutrition maintains health, growth, and healing. When a person cannot eat enough to meet nutritional requirements, often they are treated by a gastrostomy. A gastrostomy comfortably delivers the nourishment and liquid that your body needs through a tube into the stomach. Formula suitable for tube feeding may be commercially prepared or may be blenderized table food prescribed by your Medical Professional.

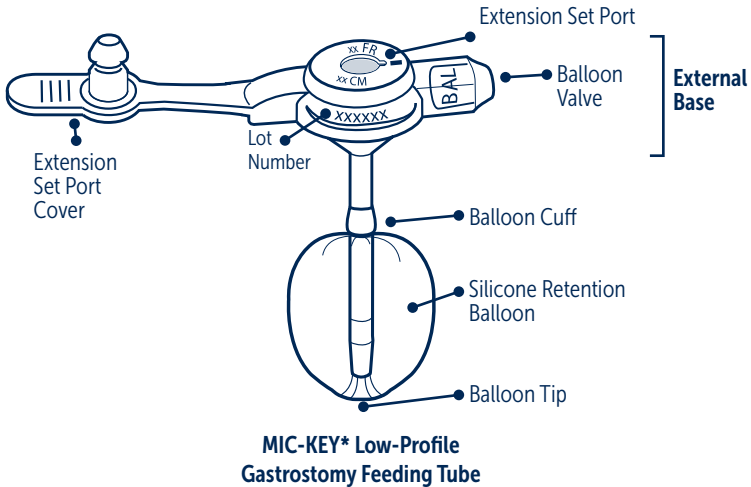
Adequate nutrition depends on the right type and amount of formula. Your Medical Professional has prescribed your feeding schedule, formula, and amount of water.

## ABOUT THE MIC-KEY\*

A MIC-KEY\* Low-Profile Gastrostomy Feeding Tube (MIC-KEY\*) has been inserted into your stomach through the abdominal wall. There is an inflatable balloon at one end and an external base at the other, which together keep your Feeding Tube in place. This tube allows for the intake of food and water that your body requires.

Your Medical Professional has measured you to ensure that you have the right size MIC-KEY\* Feeding Tube and has provided you with care and maintenance instructions. You also received instructions about your diet and medication. This pamphlet will help you remember the instructions.

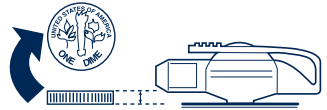
**Important:** Follow the instructions closely and never put any unapproved diet or medication through your tube.



## MIC-KEY\* FEATURES

### THE EXTERNAL BASE

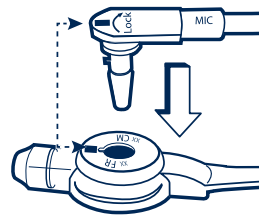
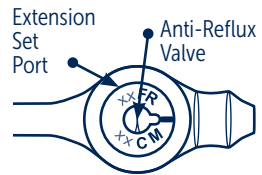
The external base holds the tube in place while allowing air circulation to the skin around and underneath it. The bottom of the base should rest just above the skin surface. A good fit is considered one-eighth inch (3 mm) above the skin, or approximately the thickness of a dime.



### THE EXTENSION SET PORT

Nourishment and liquids are delivered through the gastrostomy tube and into the stomach through the Extension Set port. When nourishment or liquids are not being administered, the Extension Set port is capped off with the attached Extension Set port cover.

The anti-reflux valve located inside and toward the top of the Extension Set port helps prevent stomach contents from leaking out of the tube. The use of the Extension Set will open or unlock the valve. The Extension Set is used for feeding and venting (also called decompression or burping).



### THE BALLOON VALVE

The balloon, which holds the tube in place, is inflated with sterile or distilled water and deflated by inserting a small Luer slip syringe into the balloon valve. It should be used only when checking the balloon volume or replacing the MIC-KEY\*.

**Important:** Never attempt to feed or introduce medication through the balloon valve.

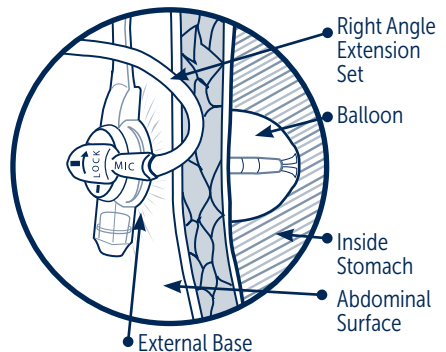
The recommended fill volume is labeled directly on the balloon valve in ml.

### THE SILICONE RETENTION BALLOON

Your Feeding Tube has a balloon inside the stomach that has been inflated to hold the tube in place. Your Medical Professional filled it with sterile or distilled water after the tube was inserted.

**Table 1: Fill Volume by Tube Size**

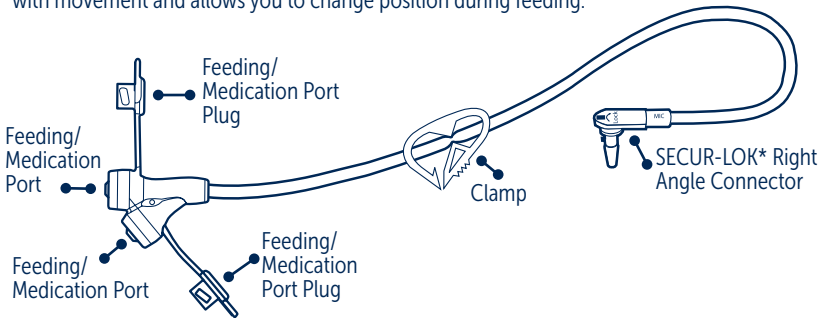
Size	Recommended Fill Volume	Maximum Fill Volume
12 Fr	3 ml	5 ml
14 Fr	5 ml	10 ml
16 Fr	5 ml	10 ml
18 Fr	5 ml	10 ml
20 Fr	5 ml	10 ml
24 Fr	5 ml	10 ml



## ACCESSORIES

### THE MIC-KEY\* CONTINUOUS FEED EXTENSION SET WITH ENFit™ CONNECTIONS

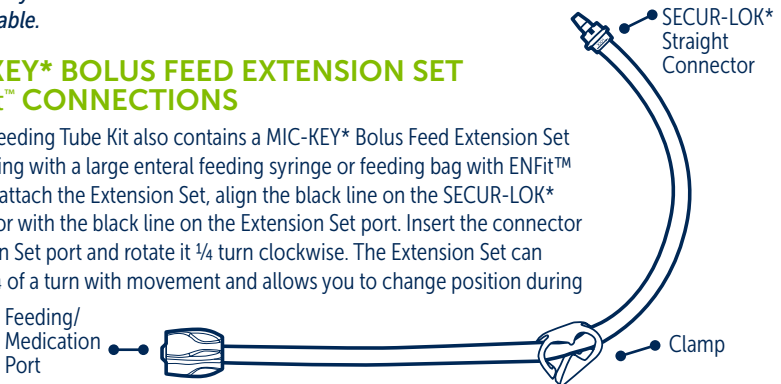
Your MIC-KEY\* Feeding Tube Kit contains a Continuous Feed Extension Set. Use this Extension Set for continuous feeding with a formula pump. To attach the Extension Set, align the black line on the SECUR-LOK\* right angle connector with the black line on the Extension Set port. Insert the connector into the Extension Set port and rotate it  $\frac{1}{4}$  turn clockwise. The Extension Set can rotate through  $\frac{3}{4}$  of a turn with movement and allows you to change position during feeding.



**Note:** Figure displays the relative size of the Extension Set. Various Extension Set lengths are available.

### THE MIC-KEY\* BOLUS FEED EXTENSION SET WITH ENFit™ CONNECTIONS

Your MIC-KEY\* Feeding Tube Kit also contains a MIC-KEY\* Bolus Feed Extension Set for periodic feeding with a large enteral feeding syringe or feeding bag with ENFit™ Connections. To attach the Extension Set, align the black line on the SECUR-LOK\* straight connector with the black line on the Extension Set port. Insert the connector into the Extension Set port and rotate it  $\frac{1}{4}$  turn clockwise. The Extension Set can rotate through  $\frac{3}{4}$  of a turn with movement and allows you to change position during feeding.



**Note:** Figure displays the relative size of the Extension Set. Various Extension Set lengths are available.

**Important:** The Bolus Feed and Continuous Feed Extension Sets with ENFit™ Connections are exclusively designed for your MIC-KEY\* Feeding Tube. The MIC-KEY\* Extension Sets with ENFit™ Connections will not work with other Feeding Tubes, nor will other Extension Sets work with your MIC-KEY\* Feeding Tube.

### THE SYRINGES

A small Luer slip syringe is included with your Feeding Tube Kit. Use it to inflate and deflate the retention balloon when periodically checking its volume and when you replace the MIC-KEY\* Feeding Tube. Your MIC-KEY\* Feeding Tube Kit also includes a large 35 ml enteral feeding syringe with ENFit™ Connector. It should be used when you prime and flush the Extension Sets and check for proper placement of the MIC-KEY\*.

Small Luer Slip Syringe



Large ENFit™ Syringe



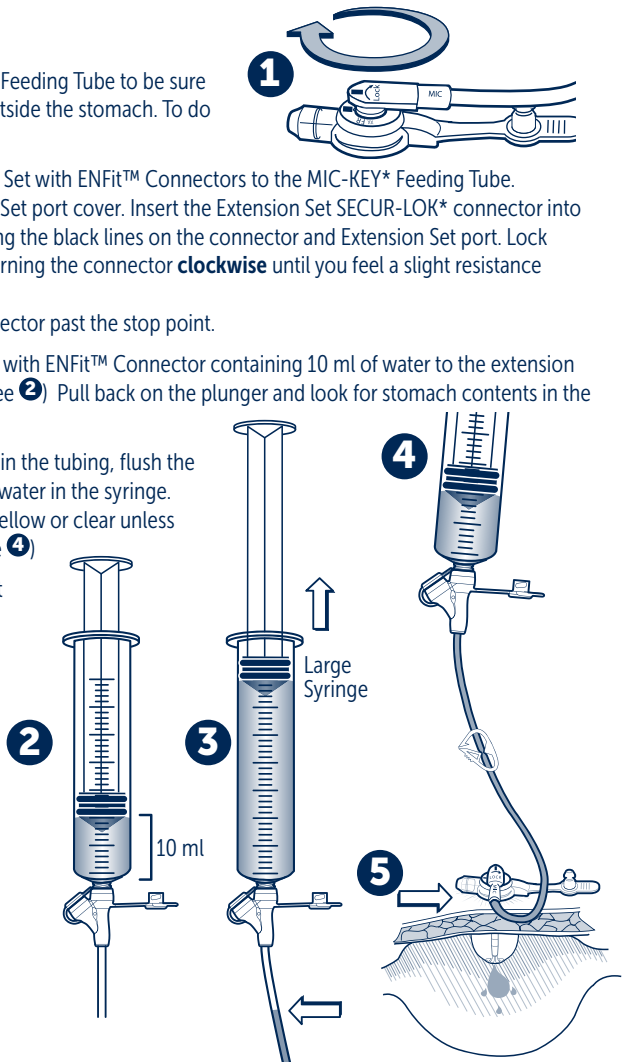
# FEEDING THROUGH THE MIC-KEY\*

## PROPER PLACEMENT

Before feeding, check the MIC-KEY\* Feeding Tube to be sure that it is not clogged or displaced outside the stomach. To do this:

1. Connect the MIC-KEY\* Extension Set with ENFit™ Connectors to the MIC-KEY\* Feeding Tube. Remove the MIC-KEY\* Extension Set port cover. Insert the Extension Set SECUR-LOK\* connector into the Extension Set port by matching the black lines on the connector and Extension Set port. Lock the Extension Set into place by turning the connector **clockwise** until you feel a slight resistance (approximately  $\frac{3}{4}$  turn). (See **1**)
2. Attach an enteral feeding syringe with ENFit™ Connector containing 10 ml of water to the extension set's feeding/medication port. (See **2**) Pull back on the plunger and look for stomach contents in the extension set tubing. (See **3**)

3. When you see stomach contents in the tubing, flush the MIC-KEY\* Feeding Tube with the water in the syringe. Stomach contents are normally yellow or clear unless there is food in the stomach. (See **4**)
4. If you feel resistance as you inject the water, pull back stomach contents again, then try to re-inject the water.
5. Check for leaking around the stoma. (See **5**)



## ANOTHER METHOD IS TO:

1. Draw 5 to 10 ml of air into an enteral feeding syringe.
2. Place a stethoscope on the left side of the abdomen just above the waist.
3. Inject the air into the extension set's feeding/medication port and listen for the stomach to "growl."
4. Try again if you do not hear it. If you still do not hear it, do not proceed to feed. Contact your Medical Professional and report the problem.

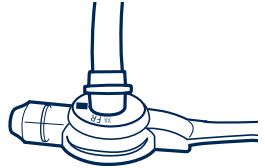
## FEEDING THROUGH THE MIC-KEY\*

### RESIDUAL

Another advantage of the MIC-KEY\* Feeding Tube is the ability to measure stomach residual without a decompression tube. Residual is the amount of gastric fluid and formula left in the stomach four hours after feeding. The stomach may not always empty completely. The amount of residual varies and may depend upon your activity or position. Check for residual if the formula backs up into the extension tubing or if you feel nauseated.

### TO CHECK THE RESIDUAL:

1. With a Bolus Feed Extension Set with ENFit™ Connector connected to the Feeding Tube, connect an enteral feeding syringe with ENFit™ Connector to the Extension Set feeding/medication port. Twist to secure the connection.
2. Slowly pull the end of the enteral feeding syringe to aspirate or remove excess gas from the stomach.
3. If formula is also removed, carefully measure the amount of formula in the syringe and place it in a cup.
4. If the syringe is full and there appears to be more formula, reinsert the syringe and extract the remaining fluid. Measure the amount and place it in a cup.
5. Generally, replace the residual back into the stomach. It contains important electrolytes and nutrients.



### TO REPLACE THE RESIDUAL:

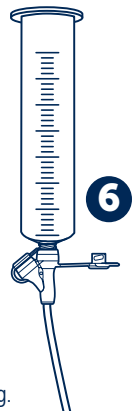
1. Slowly place the enteral feeding syringe in the cup with the extracted stomach contents.
2. Pull the plunger on the syringe to fill the syringe.
3. With a Bolus Feed Extension Set with ENFit™ Connector connected to the Feeding Tube, connect the syringe to the Extension Set feeding/medication port and slowly push the plunger to allow formula to flow back into the stomach.
4. Check the residual again in 30 minutes and resume the feeding if the amount is less than you obtained at the first check.

### DECOMPRESSION OR VENTING

Your Medical Professional may instruct you to decompress (release air or food from the stomach) before or after feedings. This decompression helps to decrease discomfort by relieving pressure in the stomach.

#### To decompress the stomach:

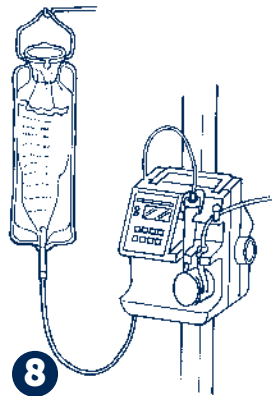
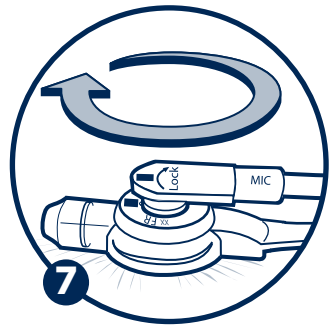
1. Attach the MIC-KEY\* Continuous Feed or Bolus Feed Extension Set with ENFit™ Connectors to the MIC-KEY\* Feeding Tube.
2. Remove the plunger from the barrel of the enteral feeding syringe with ENFit™ Connector.
3. Attach the barrel of the enteral feeding syringe to the Extension Set. Hold the syringe at a 90° angle to patient's bed. (See 6)
4. Allow fluid and air to flow up into the barrel of the syringe, (stomach contents should appear as formula or clear or yellow liquid). If there is a large volume of fluid, clamp the Extension Set, pour content from the barrel of the syringe into a collecting cup or bag. Repeat until decompression is completed.
5. Replace stomach content, flush the Extension Set with water, and begin/resume feeding.



## CONTINUOUS FEEDING

### YOUR MEDICAL PROFESSIONAL WILL RECOMMEND THE TYPE OF FORMULA BEST FOR YOU.

1. Clean the tops of formula cans and shake well. (If using powdered formula, prepare it fresh every day. Label each formula batch with the date and time you prepared it.)
2. Wash hands with soap and water and dry thoroughly.
3. Fill the feeding administration bag with formula.
4. Purge air from the feeding bag and tubing by allowing formula to run through to the end of the tubing. Then, clamp the tubing.
5. Using a MIC-KEY\* Continuous Feed Extension Set with ENFit™ Connectors, remove the Extension Set Port Plug and attach an enteral feeding syringe containing water. Twist to secure the connection.
6. Purge air from the extension set tubing by allowing water to run through the tubing. When water has reached the SECUR-LOK\* Right Angle Connector, clamp the tubing.
7. Connect the MIC-KEY\* Continuous Feed Extension Set with ENFit™ Connectors to the MIC-KEY\* Feeding Tube. (See **7**)
8. Open the clamp and flush the water through the system.
9. To minimize the amount of air entering the patient, clamp the tubing while there is still water in the Extension Set; then disconnect the syringe.
10. Connect the feeding bag tubing to the Extension Set feeding/medication port. Twist to secure the connection.
11. Connect the feeding bag tubing to the pump. Set the pump rate according to the manufacturer's instructions. Unclamp the tubing and begin feeding. (See **8**)
12. When the feeding is nearly finished, add the prescribed amount of water to the feeding bag.
13. After the formula and water have been administered, clamp the tubing then disconnect the feeding bag tubing.
14. Flush the system with water until the tubing is clear, or per physician's instructions.
15. Disconnect the Extension Set from the MIC-KEY\* Feeding Tube by rotating it counter-clockwise until the black line on the Extension Set port lines up with the black line on the SECUR-LOK\* connector. Gently detach the Extension Set and cap the MIC-KEY\* Feeding Tube securely with the attached Extension Set port cover.
16. Wash the Extension Set and feeding bag in warm soapy water immediately after each use. Rinse thoroughly and air dry.

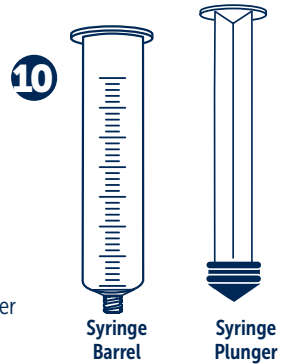
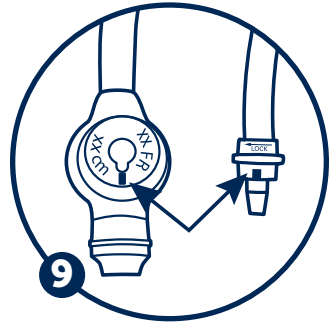




## PERIODIC FEEDING

### PERIODIC FEEDING WITH A SYRINGE

1. Attach an enteral feeding syringe containing water to the MIC-KEY\* Bolus Feed Extension Set with ENFit™ Connectors. Twist to secure the connection.
2. Purge air from the extension set tubing by allowing water to run through the tubing. When water has reached the SECUR-LOK\* Straight Connector, clamp the tubing.
3. Connect the MIC-KEY\* Bolus Feed Extension Set with ENFit™ Connectors to the MIC-KEY\* Feeding Tube. (See step 1 on page 6 for instructions for connecting the Extension Set.) (See 9)
4. Open the clamp and flush the water through the system.
5. To minimize the amount of air entering the patient, clamp the tubing while there is still water in the extension set; then disconnect the syringe.
6. Remove the syringe plunger. Reattach the syringe. (See 10)
7. Slowly pour the formula into the syringe and unclamp the tubing. Keep the syringe filled to prevent air from entering the stomach. Adjust the flow rate by raising or lowering the syringe. The feeding should finish in 20 to 40 minutes.
8. When the syringe is nearly empty, add the prescribed amount of water to the syringe.
9. After the formula and water have been administered, clamp the tubing then disconnect the syringe.
10. Flush the system with water until the tubing is clear, or per physician's instructions.
11. Disconnect the Extension Set from the MIC-KEY\* Feeding Tube by rotating it counter-clockwise until the black line on the Extension Set port lines up with the black line on the SECUR-LOK\* connector. Gently detach the Extension Set and cap the MIC-KEY\* Feeding Tube securely with the attached Extension Set port cover.
12. Wash the Extension Set and syringe in warm soapy water immediately after each use. Rinse thoroughly and air dry.

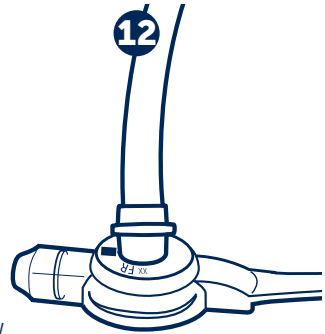


## PERIODIC FEEDING

### PERIODIC FEEDING WITH A GRAVITY DRIP BAG

#### To feed with a ("Gravity Drip") bag:

1. Fill the feeding administration bag with formula. (See 11)
2. Purge air from the feeding bag and tubing by allowing formula to run through to the end of the tubing. Then, clamp the tubing.
3. Attach an enteral feeding syringe containing water to the MIC-KEY\* Bolus Feed Extension Set with ENFit™ Connectors. Twist to secure the connection.
4. Purge air from the extension set tubing by allowing water to run through the tubing. When water has reached the SECUR-LOK\* Straight Connector, clamp the tubing.
5. Connect the MIC-KEY\* Bolus Feed Extension Set with ENFit™ Connectors to the MIC-KEY\* Feeding Tube. (See 12)
6. Open the clamp and flush the water through the system.
7. To minimize the amount of air entering the patient, clamp the tubing while there is still water in the extension set; then disconnect the syringe.
8. Connect the feeding bag tubing to the Extension Set feeding/medication port. Twist to secure the connection.
9. Open the clamp on the Bolus Extension Set and adjust the flow by opening or closing the clamp on the gravity drip bag's tubing.
10. When the feeding is nearly finished, administer the prescribed amount of water by adding it to the feeding administration bag.
11. After the formula and water have been administered, clamp the tubing then disconnect the feeding bag tubing.
12. Flush the system with water until the tubing is clear, or per physician's instructions.
13. Disconnect the Extension Set from the MIC-KEY\* Feeding Tube by rotating it counter-clockwise until the black line on the Extension Set port lines up with the black line on the SECUR-LOK\* connector. Gently detach the Extension Set and cap the MIC-KEY\* Feeding Tube securely with the attached Extension Set port cover.
14. Wash the Extension Set and feeding bag in warm soapy water immediately after each use. Rinse thoroughly and air dry.



## MEDICATIONS

Give medications in liquid form. Thick medication can plug the anti-reflux valve and is easier to give when diluted with water.

When a medication is available only in tablets or capsules, check with your Medical Professional first to make sure it can be crushed and mixed with water.

**Important:** Do **not** mix medication with formula unless directed by your Medical Professional. Do not inject medication into the balloon valve.



## CARE AND USE

### EVERY TIME YOU FEED:

**Always wash your hands with warm soapy water before touching your tube.**

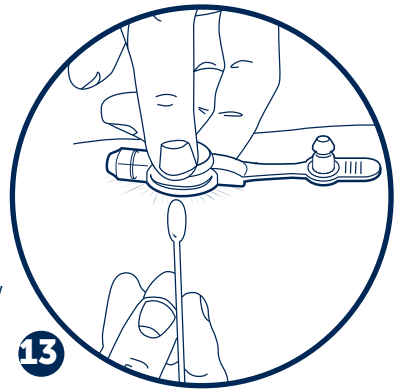
Develop a habit of inspecting the skin around the tube (stoma) after feeding by completing the following steps:

1. Make sure the skin is clean and dry.
2. Observe the stoma for a few minutes checking for gastric leakage.
3. The MIC-KEY\* Feeding Tube does not require a dressing, but if you are using a dressing for leakage, make sure to change it when it becomes wet or soiled. Never allow a wet dressing to remain in contact with the skin.
4. Gently clean the skin around the stoma.
5. Rotate the MIC-KEY\* Feeding Tube and clean again.

6. Use cotton-tipped applicators or a soft cloth, using soap and warm water. If you think soap is irritating the skin, try cleansing with water alone or try another soap.

**Important:** Do not insert cotton-tipped applicators or any other foreign objects through the anti-reflux valve as this may damage the valve (see page 4 for illustration).

7. It is important to keep the Extension Set port and anti-reflux valve clean. Dried formula may lodge inside the recess and hold the valve open. The best preventative measure is to flush thoroughly with enough water to clear all formula. Clean the anti-reflux valve with a cotton-tipped applicator or a soft cloth to remove oil or food. Be sure that residual formula is not left to pool and dry inside the valve opening. If you receive a continuous feeding, flush the MIC-KEY\* Feeding Tube through the extension set tubing at least three times daily. (See 13)



8. Wash the Extension Set after every feeding with warm soapy water and rinse it thoroughly. Prompt flushing and rinsing prevents formula from drying and building up. Extension Sets are disposable and should be replaced every few weeks.

**Important:** Avoid using acidic irrigants such as cranberry juice and carbonated soft drinks to flush as the acidity when combined with formula proteins may actually contribute to clogging.

**Avoid puncturing or tearing any part of the MIC-KEY\* Low-Profile Gastrostomy Feeding Tube.**

## CARE AND USE

### DAILY FEEDING TUBE CARE:

Clean the MIC-KEY\* Feeding Tube daily. Care is simple and easy. Just keep the tube and the skin around the tube (stoma) clean and dry.

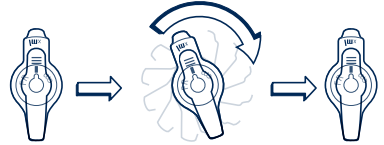
The following supplies will make your work easier:

- Soap and water
- Cotton-tipped applicators
- Tissues
- Luer slip syringe

**Important:** Do not insert cotton-tipped applicators or any other foreign objects through the anti-reflux valve as this may damage the valve.

It is also important to keep the balloon valve clean. The recess in the valve, which can trap foreign material, must be clean to function properly.

Rotate the MIC-KEY\* Feeding Tube in a full circle when you perform daily tube care. This will prevent the tube or balloon from adhering to the skin.



### ONCE-A-WEEK TUBE CARE:

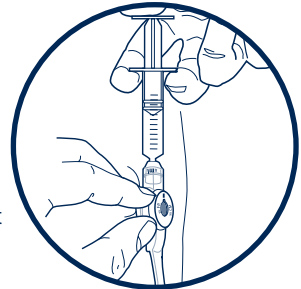
The balloon holds your Feeding Tube in place. Check the volume of water in the balloon at least once a week. To do this:

1. Attach the Luer slip syringe to the balloon valve and withdraw all the water while leaving the Feeding Tube in place.
2. If there is less water than the amount originally prescribed, replace it with the prescribed amount, as seen in Table 1: Fill Volume by Tube Size.

**Important:** Be sure to use the recommended amount of water as overinflation can decrease balloon life, and underinflation will not secure the Feeding Tube properly.

3. Use distilled or sterile water for the replacement fluid.

**Important:** Never fill the balloon with air or saline. Air will rapidly migrate out of the balloon, and the MIC-KEY\* Feeding Tube will not stay in place.



**Table 1: Fill Volume by Tube Size**

Size	Recommended Fill Volume	Maximum Fill Volume
12 Fr	3 ml	5 ml
14 Fr	5 ml	10 ml
16 Fr	5 ml	10 ml
18 Fr	5 ml	10 ml
20 Fr	5 ml	10 ml
24 Fr	5 ml	10 ml

## REPLACING THE MIC-KEY\* FEEDING TUBE

Your Medical Professional will decide when to replace the MIC-KEY\* Feeding Tube. Look for the change date on the Gastrostomy Information Section on page 19 of this booklet. You may change the tube yourself if your Medical Professional trains you to do so.

### TO REPLACE A MIC-KEY\* FEEDING TUBE:

1. Remove the new MIC-KEY\* Feeding Tube from the package. Fill the balloon with the recommended fill volume of sterile or distilled water (Table 1 on page 12). (See 14)

**Important:** Do not use air or saline to fill the balloon.

2. Remove the syringe and observe the balloon. It should be symmetrical. Check for leaks. Remove the water from the balloon.

3. Attach the Luer slip syringe to the balloon valve of the MIC-KEY\* Feeding Tube that is in the patient's stomach. Pull back on the plunger until all of the water is out of the balloon.

4. Gently remove the MIC-KEY\* Feeding Tube from the patient's stomach. It may help to use a little water-soluble lubricant as you are removing it.

**Caution:** Never use excessive force to remove a tube.

5. Lubricate the balloon tip of the replacement MIC-KEY\* Feeding Tube with a water-soluble lubricant.

**Important:** Do not use oil or petroleum jelly.

6. Gently guide the new tube into the stoma. Insert the tube all the way until the external base is flat against the skin. (See 15)

7. Hold the tube in place and fill the balloon with the recommended fill volume of sterile or distilled water (Table 1 on page 12).

**Important:** Do not use air or saline.

**Never fill the balloon with more than 10 ml (5 ml for 12 Fr sizes) of sterile or distilled water.**

8. Position the balloon against the stomach wall by pulling the MIC-KEY\* Feeding Tube up and away from the skin very gently until it stops.

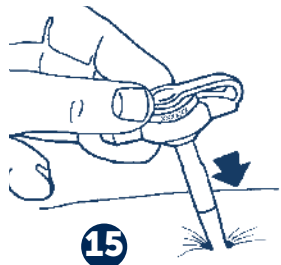
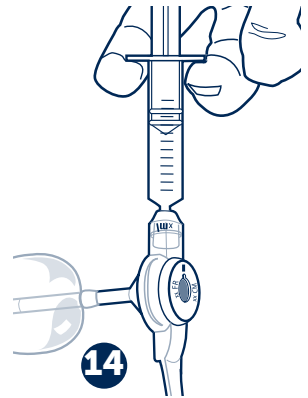
9. Wipe away fluid or lubricant from the tube and stoma.

10. Check the tube for correct placement (See "Proper Placement" section on page 6). Insert an Extension Set into the Extension Set port and...

(a) Listen for air

(b) Aspirate residual stomach contents

**Important:** Never attempt to reuse or resterilize your MIC-KEY\* Feeding Tube after it has been removed.



## REPLACING THE MIC-KEY\* FEEDING TUBE

---

### WHEN TO CALL YOUR MEDICAL PROFESSIONAL:

1. ***If the stoma bleeds (more than a small amount), or if it looks like blood is mixed with stomach contents, call your Medical Professional immediately.***
2. The stoma is persistently red and sore.
3. The red area is larger than 2.5 cm in diameter.
4. The stoma emits an odor.
5. The skin surrounding the stoma is swollen.
6. There is pus around the stoma.
7. The patient has a fever.

### STOMACH CONTENTS LEAK OUT AROUND THE TUBE


1. Check stomach residual (See "Residual" on page 8 for instructions). The stomach may be too full or contain gas. If the stomach contains too much residual more than a few times, the patient may be getting too much formula at one time.
  - If you are using an intermittent or periodic feeding, consider switching to continuous.
  - If you are using a continuous feeding, try decreasing the flow rate.
2. Ensure that the balloon inside the stomach is filled by gently pulling on the tube and checking for resistance. Check the Gastrostomy Information Section (page 19) and Table 1 (page 5) for the prescribed balloon fill volume. Test the balloon by attaching a Luer slip syringe to the balloon valve. Withdraw the water from the balloon and note the volume in the syringe.
  - If the amount is less than prescribed, refill the balloon with the prescribed amount of sterile or distilled water, wait 10 to 20 minutes and repeat the procedure.
  - If the prescribed volume of water is still in the balloon, try increasing the volume by 1 ml at a time until the leak stops.  
**Important:** The maximum fill volume is 10 ml (5 ml for 12 French sizes). Do not exceed this.

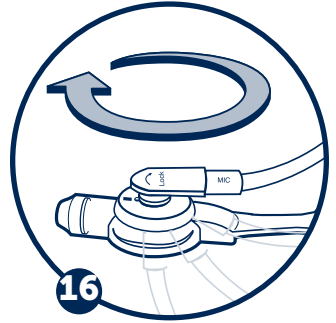
**Caution:** Use care while filling or removing water from the balloon. The MIC-KEY\* Feeding Tube may be easily pulled out.
3. If this leaking occurs frequently, contact your Medical Professional about possible causes, such as improper MIC-KEY\* sizing and improper feeding.

## PROBLEM SOLVING

---

### IF THE EXTENSION SET TUBING BECOMES DISCONNECTED FROM THE EXTENSION SET

1. Stop the pump.
2. Estimate the amount of formula lost.
3. Thoroughly wipe the tube connections with soap and water or alcohol. They must be free from oil or formula build-up.
4. Clean inside the Extension Set port with a cotton-tipped applicator and alcohol.
5. Irrigate the extension set tubing with warm water.
6. Dry the connections and firmly reconnect the extension set with a quarter turn. (See )
7. Resume the feeding, replacing the estimated volume lost during the disconnection.



### BALLOON LEAKS OR RUPTURES

- This indicates that your MIC-KEY\* Feeding Tube should be replaced.
- Always keep a replacement MIC-KEY\* Feeding Tube or conventional gastrostomy tube at home. Silicone balloons generally last several months, but the life span of the balloon varies according to several factors: medication, volume of water used to fill the balloon, gastric pH, and tube care.

### FEEDING TUBE BLOCKAGE

1. Attach the MIC-KEY\* Extension Set to the Extension Set port of the MIC-KEY\* Feeding Tube. Place a catheter tip syringe filled with 10–20 ml of warm water into the Extension Set.
2. Gently pull back on, then depress the plunger to dislodge the clog.
3. If the clog remains, repeat the previous step. Gentle suction alternating with syringe pressure will clear most obstructions. If this fails, consult your Medical Professional.

If your Medical Professional has given you different instructions for this procedure, follow them instead of what appears here.

#### To prevent blockages, flush your tube:

1. Before and after each feeding.
2. Before and after giving medications.
3. Every 3 to 4 hours if the patient is receiving continuous feedings.
4. After checking for stomach content residuals.

**Important:** Always flush through the Extension Set. Using a syringe in the Extension Set port can damage the anti-reflux valve and cause leaking. Avoid using acidic irrigants such as cranberry juice and carbonated soft drinks to flush as the acidity when combined with formula proteins may actually contribute to clogging.

## PROBLEM SOLVING

---

### Do not mix medication with formula.

- Medication should be in liquid form. If a medication is available only in tablets or capsules, check with a Medical Professional first to make sure it can be crushed and mixed with water.
- When giving multiple medications, give them one at a time.
  - Rinse the tube with warm water before and after.
  - Flush through the Extension Set with 5 ml water between each medication.

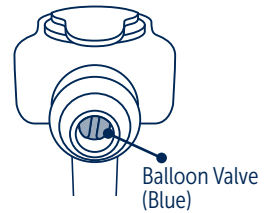
### BALLOON WILL NOT DEFLATE

If you cannot extract water from the balloon with the syringe, ensure the recess in the balloon valve is clean. Occasionally the recess will trap spills of formula or other material as a result of normal daily activities. Be sure the valve is not clogged with food.

Be sure you have an appropriate replacement tube to insert into stoma.

#### To deflate the balloon:

1. Clean inside the recess.
2. Firmly seat the syringe into the valve, and push and twist  $\frac{1}{4}$  turn.
3. Try pulling back on the plunger again.
4. If the balloon will not deflate, use the end of a large paper clip to depress the blue valve and release the water.



### STOMA AND SKIN PROBLEMS

Redness or soreness around the skin and stoma may be the result of gastric leakage. Clean and dry the area frequently. Be sure to rotate the MIC-KEY\* Feeding Tube in a full circle during daily tube care.

### GRANULATION TISSUE

Granulation tissue is the result of the body trying to repair the surgical incision. The tissue may proliferate and require treatment. If it bleeds or a large amount of tissue builds up, contact your Medical Professional.

### DIFFICULTY CLOSING THE EXTENSION SET PORT COVER

#### If the Extension Set port cover becomes difficult to close or does not stay in place:

1. Verify that the Extension Set port is free of formula build-up.
2. Lubricate the tip of the Extension Set port cover with water. This will ease the insertion of the Extension Set port cover into the Extension Set port.



## CHILDREN'S SPECIAL CONCERNS

---

Children are special, and they have special needs. If you are caring for a child with a gastrostomy, the following tips may help.

### PROBLEMS IF A CHILD VOMITS

A vomiting child may inhale formula and stomach contents into the lungs. Aspiration is the medical term for this and it can lead to serious medical problems.

If a child develops difficulty breathing during or immediately after a feeding, **stop the feeding at once, drain (decompress) the stomach, and call your Medical Professional.** If the child feels nauseated, wait one to two hours before feeding and then resume the feeding slowly. The same is true for vomiting. Wait and feed at a slower rate.

**If nausea or vomiting persists, call your Medical Professional.**

**Note:** *Some children have gastroesophageal reflux. Food routinely flows backward up the esophagus. Correct feeding position is VERY IMPORTANT for these children. Place them in an upright position or at least a 30-degree angle before feeding. Notify your Medical Professional if your child vomits after feeding.*

### SMALLER TUBES

The tubes used in children may have a smaller diameter than those used in adults. Smaller tubes clog more easily but require less water to flush out. Infants usually receive a 3 to 5 ml flush.

### DIARRHEA

Two reasons for diarrhea are rapid formula administration or spoiled formula.

Try giving the formula at a slower rate, and follow the formula manufacturer's instructions for leftover formula.

**Never keep mixed formula longer than 24 hours.**

Changes in formula, medications, or feeding routines can also cause diarrhea.

**If diarrhea persists for more than three days, call your Medical Professional.**

### CONSTIPATION

Certain types of formulas cause constipation in sensitive individuals. Inactivity, change in formula, medication, or change in the feeding routine can also cause constipation.

## CHILDREN'S SPECIAL CONCERNS

---

### CHILDREN HAVE SMALL STOMACHS

Infants develop the capacity to hold large feedings in their stomachs as they grow. Feedings usually begin with frequent small amounts of formula. Periodic feedings take 20 to 40 minutes. A gravity flow system or a pump regulates a slow steady flow and leaves you free to do other things. Be patient, and slowly increase the amount of formula given during the feeding.

If the child's stomach is full, formula may leak around the stoma. The child may also become colicky and vomit, or burp up formula. Ask your Medical Professional if decompression or venting is appropriate for this child.

### CHILDREN ARE GROWING

Children with gastrostomies have the same basic growth and developmental needs as other children. Consult your Medical Professional about changing the stoma length of the feeding tube as your child grows.

### HOW MUCH WATER?

When our bodies need water, we feel thirsty and we drink more. Gastrostomy patients are the same. If the weather is warm or the child has a fever, additional water may prevent dehydration. Ask your Medical Professional for guidelines.

### LEARNING ABOUT FOOD

Although your child receives nourishment through a tube, group participation at the table during meals is important. It gives the child an opportunity to experience food.

Encourage your child to touch and taste, just like everyone else, even if it makes a mess.

### MOUTH

The mouth is a very sensitive part of the baby's body. Even if the child cannot suck and swallow well enough to eat, the sucking reflex is there. Sucking seems to comfort babies. Experiment with a pacifier. Use it to stimulate your child's lips, gums, and tongue during feedings. As the baby grows, provide other opportunities to chew or suck. Talk with your Medical Professional about oral stimulation and ways to promote normal development.

### NORMAL ACTIVITY

It is important for babies to roll over on their stomachs. They learn to push up and crawl this way. The MIC-KEY\* Feeding Tube low-profile design may make it easier for this activity to occur.

# YOUR MIC-KEY\* GASTROSTOMY FEEDING TUBE INFORMATION

---

Name \_\_\_\_\_

Phone \_\_\_\_\_

Medical Professional \_\_\_\_\_

Phone \_\_\_\_\_

Other Medical Professional(s) \_\_\_\_\_

Phone \_\_\_\_\_

## Tube Specifications

### MIC-KEY\* Feeding Tube

Order # \_\_\_\_\_ Lot # \_\_\_\_\_

French Size \_\_\_\_\_ Stoma Length (cm) \_\_\_\_\_

Balloon Fill Volume \_\_\_\_\_ ml \_\_\_\_\_

Placement Date \_\_\_\_\_

Change Out Dates \_\_\_\_\_

### MIC-KEY\* Continuous Feed Extension Set (5 per case), change every few weeks

Order # \_\_\_\_\_

### MIC-KEY\* Bolus Feed Extension Set (5 per case), change every few weeks

Order # \_\_\_\_\_

## Formula Preparation

Type of Formula \_\_\_\_\_

Amount of Formula \_\_\_\_\_

Feeding times \_\_\_\_\_

Amount of Each Feeding \_\_\_\_\_ Amount of Water \_\_\_\_\_

Pump Setting or Flow Rate \_\_\_\_\_ Additional Ingredients \_\_\_\_\_

Blenderized Table Food: Follow the doctor's instructions

Flush with \_\_\_\_\_ ml water before and after every feeding.

Mix well and refrigerate. Follow your Medical Professional's instructions.

If you have any questions about your HALYARD\* MIC-KEY\* Feeding Tube, please call Halyard Health at 1-844-425-9273 in the United States, visit [www.mic-key.com](http://www.mic-key.com), or contact your Medical Professional.

**For more information about MIC-KEY\*  
products, visit our websites:**

**Clinicians:  
[www.mic-key.com](http://www.mic-key.com)**

- Links to relevant journal articles
- Instructions for use
- Care guide pamphlets
- Animated care instructions

**Patients:  
[www.mic-key.com](http://www.mic-key.com)**

- Patient success stories
- Links to relevant journal articles
- “Be the Expert” forum articles
- Instructions for use
- Care guide pamphlets
- Animated care instructions

For more information for clinicians and  
product code ordering information, please visit:

**[www.halyardhealth.com](http://www.halyardhealth.com)**

Call 1-844-HALYARD (1-844-425-9273)  
in the United States and Canada.

Distributed in the USA by Halyard Sales, LLC, Alpharetta, GA 30004

In USA, please call 1-844-425-9273 • [halyardhealth.com](http://halyardhealth.com)

 Halyard Health, Inc., 5405 Windward Parkway, Alpharetta, GA 30004 USA

 Halyard Belgium BVBA, Leonardo Da Vincilaan 1, 1930 Zaventem, Belgium

Sponsored in Australia by Halyard Australia Pty Limited; 52 Alfred Street, Milsons Point, NSW 2061

製造販売元 ハリヤード・ヘルスケア・インク 横浜市西区みなとみらい二丁目2番1号

\*Registered Trademark or Trademark of Halyard Health, Inc., or its affiliates. © 2015 HYH. 2015-08-20

™ ENFit is a registered trademark of GEDSA used with their permission.

15-H1-596-0-00 / 70201229

