

Mic-Key Feeding Tube Instructions

TUBE SAFETY TIPS

- ALWAYS WASH YOUR HANDS WITH WARM SOAPY WATER BEFORE TOUCHING YOUR MIC-KEY* FEEDING TUBE.
- AVOID PUNCTURING OR TEARING ANY PART OF THE TUBE.

Preparation Procedures

Check for Proper Tube Placement. Before feeding, check the MIC-KEY* feeding tube to be sure it is not clogged or displaced outside the stomach:

- Connect the extension set to the tube and attach a Monoject catheter tip syringe containing 10 ml of water to the extension set feeding port.
- Pull back on the plunger. When you see stomach contents in the tube, flush the tube with water.
- Stomach contents are normally yellow or clear unless there is food in the stomach. If you feel resistance as you inject the water, pull back stomach contents again, then try to re-inject the water.
- Check for leaking around the stoma.

Another method:

- Draw 5-10 ml of air into a syringe.
- Place a stethoscope on your waist. Inject the air into the extension set feeding port and listen for your stomach to "growl."
- If you don't hear it, try again. If you still don't hear it, DO NOT FEED. Contact the specialist and report the problem.

Measure Residual Stomach Contents. "Residual" is the amount of gastric fluid and formula left in the stomach four hours after feeding.

Your stomach may not always empty completely, and the amount of residual varies. It may also depend on your activity or body position. Check for residual if:

- The formula backs up in the extension tubing, or
- You feel nauseated.

Generally, replace the residual back into your stomach, since it contains important electrolytes and nutrients.

Check the residual again in 30 minutes and resume feeding if the amount is less than you obtained at the first check.

As Directed, Decompress or Vent the Stomach. Your specialist may instruct you to decompress (release air or food from the stomach) before or after feedings. To decompress your stomach:

- Attach the extension set or bolus extension set to the MIC-KEY* feeding tube.
- Drain into a collecting cup or bag.

Feeding Steps

Continuous Feeding. Your specialist will recommend the type of formula best for you.

1. Clean the tops of formula cans and shake well.
If you use powdered formula, prepare it fresh every day. Be sure to use the prescribed amount. Label each formula batch with the date and time you prepared it.
2. Wash your hands with soap and water and dry them thoroughly.
3. Fill the feeding administration bag with formula.
4. Connect the feeding administration bag tubing to the MIC-KEY* extension set feeding port.
5. Purge air from the tubing by allowing formula to run through it. When formula reaches the extension set SECUR-LOK* Connector, clamp the tubing.
6. Remove the feeding port cover and insert the extension set into the feeding port by matching the black lines on both. Lock the extension set into place by turning the connector CLOCKWISE until you feel a slight resistance (about a three-quarter turn). DO NOT turn the connector past the stop point.
7. Connect the feeding administration bag tubing to the pump. Set the pump rate according to the manufacturer's instructions. Unclamp the tubing and begin feeding.
8. When the feeding is nearly finished, add the prescribed amount of water to the feeding bag.
9. After administering the formula and water, disconnect the feeding administration bag tubing from the extension set. Flush the extension set with 10-20 ml of warm water or until the tubing is clear.
10. Disconnect the extension set from the MIC-KEY* feeding tube by rotating it COUNTER-CLOCKWISE until the black line on the feeding port lines up with the black line on the extension set. Gently detach the extension set and cap the MIC-KEY* feeding tube securely with the attached feeding port cover.
11. Wash the extension set and feeding bag in warm soapy water immediately after each use. Rinse thoroughly and air dry.

Bolus Feeding

To bolus feed with a syringe,

1. Attach a water-filled catheter tip syringe to the MIC-KEY* bolus extension set. Prime the extension set by filling it with water.
2. Attach the bolus extension set to the tube's feeding port by matching the black lines on both. Insert the bolus extension set locking adapter into the feeding port and rotate it CLOCKWISE until you feel a slight resistance (about a three-quarter turn). DO NOT turn

the connector past the stop point.

3. Clamp the extension set.

4. Disconnect the syringe and remove the syringe plunger. Reattach the syringe.

5. 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 20-40 minutes.

6. When the syringe is nearly empty, add the prescribed amount of water to the syringe.

7. After administering the formula and water, clamp the tube and fill the syringe with 10-20 ml of warm water. Reinsert the syringe plunger and unclamp the tube. Flush the bolus extension set until the tubing is clear. Proceed to Step 12.

8. To bolus feed with a ("gravity drip") bag, fill the bag with the desired amount of formula and evacuate the air from the bag's tubing. Attach the bolus extension set to the feeding administration bag tubing, prime it and clamp the tubing. Attach the bolus extension set to the tube's feeding port and open the clamp. Adjust the flow by opening or closing the clamp on the bag's tubing.

9. When the feeding is nearly finished, administer the prescribed amount of water by adding it to the feeding administration bag.

10. After administering the formula and water, disconnect the bolus extension set from the feeding administration bag tubing.

11. Flush the bolus extension set tubing with 10-20 ml of warm water or until the tubing is clear.

12. Disconnect the bolus extension set and wash it in warm soapy water until the tubing is clear.

After-Feeding Care

Stoma. Develop a habit of inspecting the skin around the tube (the stoma) after feeding. Make sure the skin is clean and dry, and observe the stoma for a few minutes to check for gastric leakage.

Gently clean the skin around the stoma. Rotate the MIC-KEY* feeding tube and clean again with cotton-tip 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.

If you use a dressing, change it when it becomes wet or soiled. Never allow a wet dressing to remain in contact with the skin. Note: The MIC-KEY* feeding tube does not require a dressing.

Port. Clean the MIC-KEY* tube's feeding port after feeding. Use a cotton-tip applicator or soft cloth to remove oil or food. If you receive a continuous feeding, flush the tube and the extension set tubing at least three times daily.

ADMINISTERING MEDICATIONS

First, Check ... The Correct Form of Medication for MIC-KEY* Use:

- Medication should be in liquid form when possible. If the liquid is thick, thin it with water so it doesn't clog the tube.
- If your medication is only available in a pill or capsule, ask your specialist or pharmacist if it's one you can crush and mix with water. (Not all pills and tablets can be taken this way.) If you can do this, crush the medication finely, and make sure it is well dispersed in the water.
- Do not mix medication with formula unless your specialist tells you to do this.

To Administer ...

You'll generally use a bag and extension set, attaching the extension set's medication port to the bag instead of to its feeding port.

For small amounts of medication, you may be able to eliminate the need for extension tubing by using a syringe:

- Dilute the medication with water in a luer slip syringe.
- Inject directly into the MIC-KEY* feeding port.
- When you're finished, flush the port with at least 10 ml of water.

CARING FOR YOUR MIC-KEY*

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Daily

Clean the MIC-KEY* feeding tube. The following supplies will make your work easier:

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

Tube care is easy. Just:

- Keep the tube and the skin around the tube (stoma) clean and dry.

- Rotate the MIC-KEY* feeding tube in a full circle when you perform daily tube care.
- This will prevent the tube or balloon from sticking to your skin.

Clean the extension set and feeding bag as directed for Continuous Feeding or Bolus Feeding.

If you receive a continuous feeding, flush the MIC-KEY* feeding tube and the extension set tubing at least three times daily.

At Least Once a Week:

Check Balloon Volume. The balloon holds your feeding tube in place. To check the volume of water in the balloon:

- Attach the luer slip syringe to the balloon port and withdraw all the water, while leaving the feeding tube in place. If there is less fluid than the prescribed amount, replace it.

Replace Balloon Water as Needed. Distilled or sterile water is a good choice for the replacement fluid once the stoma site has healed. Fill the balloon with the amount of water your specialist has prescribed.

- Never fill the balloon with air. Air will rapidly migrate out of the balloon and the MIC-KEY* feeding tube will not stay in place.

PROBLEM-SOLVING: WHAT TO DO IF ...

Stomach Contents Leak Out Around the Tube

First, check your stomach residual. Your stomach may be too full or contain gas. If the stomach contains too much residual more than a few times, you may be getting too much formula at one time. If you are using an intermittent (bolus) feeding, consider switching to continuous. If using a continuous feeding, try decreasing the flow rate. Make sure the balloon inside the stomach is filled by gently pulling on the tube and checking for resistance. You can also:

Test the balloon by attaching a luer slip syringe to the inflation valve. Withdraw the fluid 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 water, wait 10-20 minutes, and repeat the procedure. If the prescribed volume of water is still not in the balloon, try increasing the volume by 2 ml at a time until the leak stops. The maximum fill volume is 10 ml (5 ml for 12 French sizes). Do not exceed this amount.

CAUTION: USE CARE WHILE FILLING OR REMOVING WATER FROM THE BALLOON. THE MIC-KEY* FEEDING TUBE MAY BE EASILY PULLED OUT.

The Feeding Tube Becomes Disconnected

Stop the pump. Estimate the amount of formula lost. Thoroughly wipe the tube connections with soap and water or alcohol. (They must be free of oil and formula build-up.) Clean inside the extension set feeding port with a cotton-tip applicator and alcohol. Irrigate the tube with warm water. Dry the connections and firmly reconnect the tubes with a quarter turn. Resume the feeding, replacing the estimated volume lost during the disconnection.

The Balloon Leaks or Ruptures

Always keep a replacement MIC-KEY* feeding tube or standard gastrostomy tube at home. Silicone balloons generally last several months, but the life span of the balloon varies due to several factors, including medication administration, volume of water used to fill the balloon, gastric pH, and extent of tube care.

You Want to Prevent Tube Blockage

Flush the tube with 10-20 ml warm water. (If your specialist has given you different instructions for this procedure, follow them instead of what appears here.)

Flush:

- Before and after each feeding
- Before and after giving medications
- Every 3 to 4 hours during continuous feedings
- After checking for stomach content residuals

Do not mix medication with formula.

The Balloon Will Not Deflate

If you cannot extract water from the balloon with the syringe, make sure the recess in the balloon valve is clean: The recess sometimes traps spills of formula or other material. Be sure the valve is not closed by food. Then:

- Clean inside the recess, then firmly seat the syringe into the valve, push, and twist one quarter turn.
- Try pulling back on the plunger again.
- If the balloon still will not deflate, use the end of a large paper clip to depress the valve and release the water. **BE SURE YOU HAVE A REPLACEMENT TUBE TO INSERT INTO THE STOMA.**

Stoma and/or Skin Problems Occur

Stoma. IMMEDIATELY CALL YOUR SPECIALIST IF:

- The stoma is bleeding more than a small amount, or
- You notice blood mixed with stomach contents.

ALSO CALL YOUR SPECIALIST IF:

- The stoma is persistently red and sore, and/or if the red area is larger than 2.5 cm in diameter.

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.

- The stoma emits an odor.
- The skin surrounding the stoma is swollen.
- There is pus around the stoma.
- You have a fever.

Skin: Granulation Tissue. Granulation tissue is the result of the body's effort to repair the surgical incision. The tissue area may enlarge and require treatment. If it bleeds or a large amount of tissue builds up, contact your specialist.

REPLACING THE MIC-KEY* TUBE

When? Check With Your Specialist

He or she will decide when to replace the MIC-KEY* feeding tube. You may change the tube yourself if the specialist trains you to do so.

Steps to Follow

To replace a MIC-KEY* feeding tube:

1. Remove the new MIC-KEY* feeding tube from the package. Fill the balloon with 5 ml sterile or distilled water.
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. Pull back on the plunger until all the water is out of the balloon.
4. Gently remove the MIC-KEY* feeding tube from your stomach. It may help to use a little water-soluble lubricant as you are removing it.
5. Lubricate the tip of the replacement MIC-KEY* feeding tube with a water-soluble agent. **DO NOT USE OIL OR PETROLEUM JELLY.**
6. Gently guide the new tube into the stoma. Insert the tube all the way until it is flat against the skin.
7. Hold the tube in place and fill the balloon with 5 ml (3-5 ml for 12 French sizes) distilled or sterile water. Do not use air. **NEVER FILL THE BALLOON WITH MORE**

THAN 10 ML (5 ML FOR 12 FRENCH SIZES) OF FLUID.

8. Position the balloon against the stomach wall by pulling the MIC-KEY* feeding tube up and away very gently until it stops.

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

10. Check the tube for correct placement. Insert an extension set into the feeding port, then:

- Listen for air, and
- Aspirate residual stomach contents.

CHILDREN'S SPECIAL CONCERNS

Be Aware of These Differences

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

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

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

Children Are Growing. Keep in mind that children with gastrostomies have the same basic growth and developmental needs as other children.

Children Need to Get Enough Water. Gastrostomy patients are no different from the rest of us: If the weather is warm or your child has a fever, additional water may prevent dehydration. Ask your specialist for guidelines.

Children Need to Experience Food. Even though your child receives nourishment through a tube, being at the table during meals is important: It gives your child the chance to experience food. Encourage your child to touch and taste, just like everyone else, even if it makes a mess around the high chair.

All Babies Need Oral Stimulation. The mouth is a very sensitive part of your baby's body. Even if your 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, talk with your specialist about other opportunities for your child to chew or suck.

Children Need to Move About. It's important for babies to roll over on their stomachs:

That's how they learn to push up and crawl. The MIC-KEY* feeding tube's low-profile design may make rolling over easier for your child.

Know What to Do If ...

Your Child Vomits. If your child vomits during feeding, these actions may help:

- Have your child sit up during feeding. NOTE: Some children have gastroesophageal reflux, causing food to flow 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.
- Be sure the formula is mixed correctly and warm.
- Don't use formula that's been hanging longer than 4 hours.
- Slow the rate of feeding or even take a short break, starting again when your child feels better (flush the tube with warm water before resuming feeding).

IF VOMITING (OR NAUSEA) PERSISTS, OR YOUR CHILD VOMITS AFTER FEEDING, CALL THE SPECIALIST.

Your Child Develops Difficulty Breathing During or Immediately After a Feeding. STOP THE FEEDING AT ONCE, DRAIN (DECOMPRESS) THE STOMACH, AND CALL THE SPECIALIST. If the child feels nauseated, wait one to two hours and then resume the feeding at a slower rate.

Your Child's Feeding Tube Clogs. Children's smaller tubes clog more easily but require less water to flush out. Infants usually receive a 10 to 15 ml flush.

Your Child Develops Diarrhea. Causes of diarrhea include:

- Rapid formula administration-try giving the formula at a slower rate.
- Spoiled formula-It's best to mix new formula for each feeding. If you do save leftover formula, always refrigerate it, and never keep it longer than 24 hours.
- Changes in formula, medications, or feeding routines-these and other changes can cause constipation as well as diarrhea. Introduce changes gradually if possible.

IF DIARRHEA LASTS LONGER THAN 3 DAYS, CALL THE SPECIALIST.