Tube Feeding Using the Bolus Method

This information will help teach you how to use the bolus method to feed yourself and take your medications through your percutaneous endoscopic gastrostomy (PEG), gastrostomy tube (GT), or nasogastric tube (NGT).

After you have your feeding tube placed, call 212-639-6984 to schedule a follow-up appointment in the nutrition clinic.

About Tube Feeding

A feeding tube will give you nutrients if you aren’t able to get enough through eating and drinking, or if you can’t swallow safely. Nutrients provide energy and help you heal.

The bolus method is a type of feeding where a syringe is used to send formula through your feeding tube. The syringe you will use is called a catheter syringe. A catheter syringe doesn’t have a needle. It has a hole and a plunger in it. You draw up formula through the hole in the syringe then push the formula into your feeding tube with the plunger. A bolus refers to 1 “meal” of formula.
## Tube Feeding Nutritional Guidelines

Formula: __________

Cans per day: ____________________ (8 ounces each)

Total calories per day: __________ Calories

Additional water to take per day: __________ milliliter (mL)

Total liquid volume per day: __________ mL

## Tube Feeding Schedule

You can choose the times of your feedings, as long as you reach your daily nutritional goals.

Write in the times you prefer or your doctor, advanced practice provider (APP), or clinical dietitian nutritionist recommends.

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<th>Suggested times</th>
<th>Amount of formula</th>
<th>Water flushes before and after feeding</th>
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If you’re admitted to the hospital and need tube feedings, your APP will contact your clinical dietitian nutritionist so that there’s no change in your feeding schedule. Bring your button adapter with you to the hospital, if you have one.

**Tube Feeding Position**

Sit up in a chair during your tube feeding. If you’re getting your tube feeding while in bed, use a wedge pillow to prop yourself up to at least 45 degrees (see Figure 1). You can buy a wedge pillow through websites such as Amazon.com or at your local surgical supply store.

![Figure 1. Sitting up at a 45-degree angle](image)

Sit or stand in an upright position for 1 hour after the feeding is finished. This will prevent the formula from entering your lungs if you vomit. You can also get up and walk around, if you’d like.

**Tube Feeding Instructions**

If you feel too full or are nauseous and vomiting, tell your doctor, clinical dietitian nutritionist, or APP.
1. Clean your hands.
   - If you’re washing your hands with soap and water, wet your hands, apply soap, rub them together thoroughly for at least 20 seconds, then rinse. Dry your hands with a towel and use that same towel to turn off the faucet.
   - If you’re using an alcohol-based hand sanitizer, be sure to cover all of your hands with it, rubbing them together until they’re dry.

2. Gather your supplies in a clean and comfortable place. Don’t set up or do your tube feeding in the bathroom. You will need:
   - The amount of formula prescribed by your doctor or APP
   - An empty container
   - A cup
   - A clean cloth or paper towel
   - A container of water. You can use tap water as long as it’s safe to drink.
   - A 60 mL catheter tip syringe
   - Tape
   - A button adapter, if you have a button (see Figure 2) instead of a tube (see Figure 3)
3. Open the plug at the end of your feeding tube (see Figure 4). If you have a button, insert the adapter into it (see Figure 5).
   - If you’re using a tube without a clamp, such as one that was placed in Interventional Radiology, pinch the end of the tube to avoid leakage or put the tube in a cup. For the rest of this resource, when we use the words “unclamp” or “reclamp,” you should “unpinch” or “repinch” your feeding tube instead.
4. Fill the syringe with the amount of water recommended by your APP or clinical dietitian nutritionist into the catheter tip syringe (see Figure 6). This amount is listed in the “Tube feeding schedule” section of this resource. Place the syringe into the end of your feeding tube or button adapter.
5. Unclamp your feeding tube (see Figure 7). Flush your feeding tube (see Figure 8).

6. Reclamp your feeding tube. Disconnect the syringe.

7. Wipe the top of the formula can with a clean cloth or paper
towel. Pour the prescribed amount of formula into the empty container. Draw up the formula into the syringe (see Figure 9).

Figure 9. Drawing up the formula into the syringe

8. Put the catheter tip syringe into your feeding tube or button adapter (see Figure 10). Make sure that the tip of the syringe is placed firmly. You can put a piece of tape over the connection to keep it from separating.
9. Unclamp your feeding tube and slowly push the plunger down. Clamp your feeding tube in between each syringe of formula to prevent leakage.

10. Refill the syringe with formula. Repeat the procedure until you have injected the prescribed amount of formula. Clamp your feeding tube.

11. If you feel full, wait 15 minutes before you continue the feeding.
In the meantime, you can:

- Remove the plunger from the syringe.
- Put the tip into your feeding tube.
○ Hold the syringe upright and fill it with 30 to 60 mL of water.

○ Unclamp your feeding tube.

○ Let the water drip in.

○ When you no longer feel full, refill the syringe with the formula when the level gets low (see Figure 11). Let the rest of this bolus (meal) drip in.

12. Fill the syringe with the amount of water recommended by your APP or clinical dietitian nutritionist. This amount is listed in the “Tube feeding schedule” section of this resource. Insert the syringe into your feeding tube. Unclamp and flush your feeding tube.

13. Clamp your feeding tube, remove the button adapter (if you’re using one), and cap your feeding tube.

14. After each feeding, pull the syringe apart and rinse all of the equipment with warm water. Let your supplies air dry.

15. Repeat steps 1 to 14 with each feeding.

**Important points**
Always reclamp your feeding tube before removing your catheter tip syringe to avoid leakage.

Move the clamp to different sections on your feeding tube to avoid permanent kinking of the tube.

To avoid clogging, always flush your feeding tube with the amount of water recommended by your APP or clinical dietitian nutritionist (usually 30 to 60 mL) before and after:

- Each feeding.
- Taking each medication.
- Taking additional clear liquids.

If you aren’t using your feeding tube daily, flush it with 60 mL of water at least once a day.

**Taking Medications Through Your Feeding Tube**

Ask your doctor or pharmacist if you can take your medications through your feeding tube. Most medications that you normally take by mouth can be taken through your feeding tube.

Medications must be in liquid form or crushed into a powder to prevent your feeding tube from getting clogged. Many medications come in a liquid form. Ask your doctor or pharmacist about liquid forms if you take pills, tablets, or capsules.
Enteric-coated, extended-release (XR), or slow-release (SR) tablets or capsules cannot be given through your feeding tube. If you take any medications in that form, ask your doctor or pharmacist if you can get the medication in a different form.

Do not mix different medications together unless your doctor or pharmacist tells you to. **If you’re taking more than 1 medication, ask your doctor or pharmacist if you can take any of them together.**

Some medications have to be taken on an empty stomach while others must be taken with food. Talk with your doctor about how to take your medications. Take esomeprazole (Nexium®), lansoprazole (Prevacid®), omeprazole (Prilosec®), and pantoprazole (Protonix®) at least 30 minutes before eating, with or without using a feeding tube.

Write down your medication schedule and keep it readily available. Update it when anything changes. That will make it easy for your family members or caregivers to know your medication schedule. Bring a copy of the schedule to your doctor visits. Your doctor will want to review your medications at each visit.

Always flush your feeding tube with 30 to 60 mL of water before and after you take each medication. This will prevent clogging.

**Instructions for taking medications**
1. Clean your hands.
   - If you’re washing your hands with soap and water, wet your hands, apply soap, rub them together thoroughly for at least 20 seconds, then rinse. Dry your hands with a towel, and use that same towel to turn off the faucet.
   - If you’re using an alcohol-based hand sanitizer, be sure to cover all of your hands with it, rubbing them together until they’re dry.

2. Gather your supplies in a clean and comfortable place. Don’t set up or do your tube feeding in the bathroom. You will need:
   - A small cup or glass
   - A 60 mL catheter tip syringe
   - Medication in liquid or powder form
   - Mortar and pestle or a pill crusher, if needed
   - Water (You can use tap water as long as it’s safe to drink)
   - A spoon
   - Button adapter, if you have a button

3. Flush your feeding tube with 30 to 60 mL of water. Clamp the feeding tube.

4. If your medication is in **liquid form**:
   - Liquid medications may contain sorbitol. Sorbitol can cause bloating, cramping, diarrhea (loose or watery bowel
movements), or all of these symptoms. Tell your doctor, APP or clinical dietitian nutritionist if you’re having these symptoms..

- Pour the medication into a small cup or measure the exact amount using a small measuring spoon. Unless you’re given other instructions, take each liquid medication separately.
- Add 30 mL (1 ounce) of water to the medication. Draw up the solution using the catheter tip syringe.
- Go to step 5.

If your medication is in **tablet or pill form:**

- Tablets and pills must be crushed to a fine powder using a mortar and pestle or a pill crusher. You can buy these at your local pharmacy. Crush each medication separately.
- Add 30 mL (1 ounce) of warm water to each medication. Mix it well with the spoon until the medication dissolves.
- Draw the prepared medication into the catheter tip syringe. Remember to draw up each medication separately unless directed otherwise.
- Go to step 5.

If your medication is a **capsule:**

- Capsules must be opened so that the powder inside can dissolve. Open the prescribed number of capsule(s).
Add 30 mL (1 ounce) of warm water to the medication. Mix it well with the spoon until the medication dissolves.

Draw the prepared medication into the catheter tip syringe.

Go to step 5.

5. Attach the syringe to the feeding tube or button adapter, if you’re using one. Unclamp the tube and gently push in the medication. Reclamp the tube.

6. Attach the syringe filled with 30 to 60 mL of water to your feeding tube. Unclamp the tube and flush it thoroughly. Reclamp it before removing the syringe. Repeat the flushing if the water moves too slowly through the tube.

7. Close the plug or reattach the cap at the end of your feeding tube. Remove the button adapter, if you’re using one.

8. After taking the medication(s), pull the syringe apart and wash all of the equipment with warm water. Let your supplies air dry.

Tracking Symptoms

Keep a diary

Keeping a diary can help you keep track of any problems or questions you may have. It will also help you remember what has been going on at home if you need to come to the hospital. In your diary:
• Write down your weight twice a week.

• If you’re allowed to eat or drink by mouth, keep track of the amount. This will tell you your total nutritional intake.

• Write down any swelling of your face, hands, or feet.

• Write down any changes in your bowel movement (poop), such as in the color, consistency, frequency, or amount.

• Write down any changes in your urine (pee), such as in the color, frequency, or amount.

• Write down any abdominal (belly) discomfort, nausea, vomiting, or other problem that may relate to your feeding. If you’re not sure, write it down and talk with your doctor, APP, or clinical dietitian nutritionist about it.

**Monitoring your fluid balance**

• Weigh yourself 2 times a week at the same time of day and in the same type of clothing. Write it down in your diary.

• Call your doctor, clinical dietitian nutritionist, or APP if you:
  - Gain more than 5 pounds (2.3 kilograms) in 1 week
  - Lose more than 2 pounds (.90 kilograms) in 1 week
  - Have swelling in your feet, legs, hands, or face
  - Feel very thirsty
  - Feel dizzy
Managing Side Effects

Constipation

Your bowel movements may change while you’re on tube feedings. They may also change if you’re on pain medication. The length of time between bowel movements (passing stool) varies from person to person, but if you’re having fewer bowel movements than what’s normal for you, you may be constipated (having fewer bowel movements than what is normal for you).

To avoid constipation, talk with your doctor or APP about taking a stool softener such as docusate sodium (Colace®), a mild laxative such as senna (Senokot®), or a fiber supplement such as Metamucil®. If you’re constipated, discuss the following options with your doctor, APP, or clinical dietitian nutritionist:

- Drink liquids if you’re allowed, or take additional liquids through your feeding tube
  - Take 1 cup of liquid 3 times a day between your feedings through your feeding tube.
  - Take 4 ounces of prune juice every day. If you’re taking the prune juice through your feeding tube, flush your feeding tube with 30 to 60 mL of water before and after taking the juice.

Call your doctor, APP, or clinical dietitian nutritionist if:
• Your bowel movements are hard and dry.
• You don’t have a bowel movement after 2 days.
• You have nausea or vomiting.

**Bloating, nausea, stomach cramps, or diarrhea**

If you have bloating, nausea, stomach cramps, or diarrhea:

• Replace the formula in your next feeding with an equal amount of clear liquid, such as broth, Gatorade® or clear juices (white cranberry, white grape, or apple). For example, if you take 240 mL of formula per feeding, take 240 mL of clear liquid diluted with 240 mL of water instead of formula.

• Then, for your next feeding, take half as much formula as you usually take and double the amount of water you usually use for your water flushes. Allow it to drip slowly.

• When your symptoms go away, take the full amount of formula and your usual water flushes before and after each feeding.

• If the bloating, nausea, stomach cramps, or diarrhea last longer than 24 hours or you vomit, call your doctor or APP.

**Ordering Supplies**

Your case manager will check with your insurance company about your insurance coverage. If your insurance covers tube feedings, we will refer you to a home care provider. They will supply you with formula and equipment.
If your insurance doesn’t cover your formula or supplies, you can buy that brand or a generic substitute at a local pharmacy, grocery store, or online. Always reorder formula and equipment when you have only 10 days of supplies at home.

If you’re no longer having tube feedings, your leftover supplies can often be donated. Please contact the Oley Foundation by calling 518-262-5079 or going to their website at www.oley.org

**Storing Formula**

- Check the expiration date of your formula. Unopened cans of formula can be stored at room temperature for long periods of time.

- Cover open cans of formula and store them in the refrigerator between feedings. Throw away any open, unused cans of formula after 24 hours.

**When to Call Your Healthcare Provider**

Call your healthcare provider if you:

- See any of the following at your insertion site:
  - Bleeding that soaks a small gauze pad
  - Pus or drainage with a foul smell
  - Redness
  - Swelling
○ Increased pain that doesn’t go away with medication

• Have any of the following changes to your bowel function:
  ○ Haven’t had a bowel movement in 2 days
  ○ Have hard and dry bowel movements
  ○ Have any changes in your bowel movement, such as in the color, consistency, frequency, or amount.

• Have any changes in your urine, such as in the color, frequency, or amount.

• Have changes in your weight, such as:
  ○ Gain more than 5 pounds (2.3 kilograms) per week
  ○ Lose more than 2 pounds (.90 kilograms) per week

• Feel too full after feedings

• Have swelling in your abdomen, feet, legs, hands, or face

• Have nausea or vomiting for more than 24 hours

• Have bloating, stomach cramps, or diarrhea for more than 24 hours

• Have a fever of 101° F (38.3° C) or higher

• Have chills

• Are dizzy

• Have trouble breathing
Contact Information

If you have any questions or concerns, call the Nutrition Service office at 212-639-6984 and ask for the outpatient APP. You can reach the office Monday through Friday from 9:00 AM to 5:00 PM. After 5:00 PM, during weekend, and on holidays, please call 212-639-2000 and ask for the gastrointestinal (GI) fellow on call.

Doctor: ____________________
Telephone: 212-639 6984

Home care agency: ____________________
Telephone: ____________________

Home care agency contact person: ____________________
Telephone: ____________________

For more resources, visit www.mskcc.org/pe to search our virtual library.