Information about Feeding Tubes

By Theresa Imperato, RN and Lorraine Danowski, RD

What is a feeding tube?

It is a small, flexible tube, about ⅛” in diameter that is an alternative route for nourishment and hydration.

Types of tubes

The kinds of tubes recommended for people with ALS are a PEG – Percutaneous (through the skin) Endoscopic (using an endoscope or flexible tube to view the digestive tract) Gastrostomy (opening in the stomach), or a RIG – (Radioscopically Inserted Percutaneous – through the skin - Gastrostomy tube).

When should I consider getting a feeding tube?

• When nutrition is insufficient, as documented through lab values, a patient’s own report or clinical signs
• When hydration is insufficient
• When ALS affects the muscles involved in eating: e.g. chewing, moving the food through your mouth and swallowing
• When eating leads to fatigue and one has difficulty eating enough to sufficiently nourish your body
• When noticeable weight loss, malnutrition and dehydration are present
• When decreased energy and increased fatigue accelerates the progression of weakness
• When dysphagia (difficulty swallowing) occurs on a consistent basis
• When aspiration (food or liquid taken through the mouth going down the windpipe and into the lungs) is suspected. Patients who aspirate are at a higher risk for pneumonia or infection
• Before lung capacity (FVC= forced vital capacity) falls below 50% of predicted, to decrease complications related to sedation/anesthesia

What are the advantages of getting a feeding tube?

• To maintain adequate hydration
• To administer medications in a safe way
• To decrease the risk of aspiration pneumonia
• To decrease the risk of choking, chewing or swallowing problems when eating
• To help maintain weight, reduce fatigue and improve your resistance to infection
• To reduce meal times to less than 30 minutes
• To help ensure a stable, balanced and nutritious diet with adequate hydration

What are some reasons people don’t want a feeding tube?

• Insertion of tube is a surgical procedure
• Fear of potential side effects:
  ▪ A slight risk of infection at the tube site
  ▪ Pain or discomfort at site of insertion
• It does not prevent the progression of ALS

How will I know if a feeding tube is right for me?

• If you feel that the advantages of a feeding tube outweigh the disadvantages
• If you are spending more than 45 minutes for each meal; if you feel like meals are a struggle (choking, gagging)
• If you spend your entire day consumed with getting adequate nutrition
• If you have lost more than 5-10% of your usual weight or if you are dehydrated it may be a good time to consider a feeding tube

When is the right time to have a feeding tube placed?

Most doctors recommend getting a feeding tube early – before you absolutely need one. The sooner you have a feeding tube placed, the better your body will be able to recover from the procedure.

• While you still have adequate nutrition and respiratory function
• A forced vital capacity at no less than 50% is desirable
• If food intake drops below the recommended levels of the following servings per day:
  ▪ Three or more servings of meat or protein alternative
  ▪ Two or more servings of dairy
  ▪ Five or more servings of fruits and vegetables
  ▪ Six to eleven servings of grains and starches
  ▪ Four to seven servings of fat
  ▪ Less than estimated calories and protein needs

When fluid intake drops…a feeding tube should be considered.
Dehydration a risk? Here are guidelines to monitor hydration:

- Darker than straw-colored urine reflects inadequate hydration
- If you cannot consume six to eight ounce glasses of water or non-caffeinated beverages per day to maintain hydration
- Food that are liquids at room temperature, such as sherbet, gelatin and ice cream can contribute to daily fluid requirements
- Adequate fluid intake also helps to prevent constipation, maintain bladder function, keep the lungs clear, maintain skin and oral cavity integrity

Can the feeding tube be removed?

- The feeding tube can be removed at any time, for any reason
- The tube is simply removed by a healthcare provider and the skin closes up in time
- The removal of the feeding tube may result in mild discomfort, however these tubes are designed to have easy removal and replacement when needed

Can I still eat with a feeding tube?

Yes, here’s what you need to know:

- Having a feeding tube provides an alternate access to deliver nutrients, fluids and medications
- Your speech pathologist and nutritionist will discuss with you what kinds of foods you can safely eat, depending on your ability to swallow safely
- Many people initially use the tube to deliver liquids and medication and as problems with swallowing progress, the feeding tube is utilized to deliver nutrition
- Ultimately, the feeding tube can be used as the sole method of nutrition

Can I take medications through the tube?

Yes, these are your options:

- Some medications come in liquid form and they can be easily put down the tube
- Some medications come only in pills, most can be crushed, dissolved in water and put through the feeding tube
- **Verify with your pharmacist** which medications can be crushed, dissolved or are available as liquid (time-released and enteric-coated medications cannot be crushed and sent down tube)
How is the tube placed?

- Prior to placement, you will likely be required to have a pre-procedure assessment and lab work. At this time, all medication, vitamins, supplements (especially blood thinners) should be discussed with your doctor.
- You will be given instructions in preparation for the procedure and will not be able take anything by mouth (NPO) the evening and morning prior to the procedure.
- A gastroenterologist may place a tube by endoscopic technique or a RIG may be performed by an Interventional Radiologist.
- For a PEG:
  - The procedure is usually done under mild sedation (so you are in a twilight sleep state) with a local anesthetic in a GI or endoscopy lab.
  - Rarely the placement of the tube is done under general anesthesia, due to increased respiratory risk, therefore placement is suggested early prior to changes in your respiratory function.
  - Placement of the tube takes less than thirty minutes.
  - A thin, flexible tube, or endoscope, is passed through the mouth, and into the stomach for visualization. There is a light at the tip of the endoscope that can be seen through the abdominal wall. A small incision is made externally at the location of the light and then the tube is threaded into the stomach and secured.
- For a RIG:
  - A nasogastric (NG) tube is placed and air is pumped into the stomach.
  - Scanning equipment is used to determine proper position.
  - Once the tube is placed, dye is flushed into the tube and an x-ray confirms placement and the NG Tube is removed.

![Diagram of tube placement](image-url)
Recovery from tube placement

- Recovery from the sedation is usually within hours and the tube may be used for feedings within a day or two as per physician or discharge instructions
- An overnight stay is generally not necessary, but may be required for malnourished or dehydrated patients
- Home health nursing should be ordered to provide education and to evaluate the tube site once you return home
- Formula and needed equipment will be ordered by your doctor and delivered to your home from a certified medical equipment/supply provider
- If feeding tube placement is done early, formula may not be required immediately and teaching will be done with water flushes only

Formula Selection

- Formulas may contain different calorie concentrations so that feedings may be accomplished with less volume
- Formulas will be recommended by a Registered Dietitian based on the patient’s specific medical history
- Disease specific formulas may also be prescribed
- How many Calories are necessary to maintain proper nutrition?
  - 25 Cals/kg = weight maintenance
  - 30 Cals/kg = weight gain
  - 35 Cals/kg = Calories for a highly stressed individual (e.g. recuperation from surgery etc.)
  - For example, a 127 lb. woman or 58 kgs (weight in pounds / 2.2) x 25 Cals = 1440 Cals

Drawings by A.D.A.M.
How are feedings administered?

- Bolus – One can of formula can be administered through a large syringe into the tube in a time period tolerated by the patient. You will need to be at a 45-degree angle or upright for at least 1 hour following a bolus feeding.
- Gravity feed – One can of formula, is placed in a feeding bag, put on a pole or hook 2-3 feet above you and the formula is then allowed to flow gradually through the tube for at least 30-minutes per feeding.
- Continuous feed – A pump delivers a constant amount of formula throughout the day or night. A Registered Dietitian or healthcare provider can calculate Calorie and Fluid needs and pump settings would be provided by your healthcare provider.
- No matter what form of administration you select, you must remain upright or 45-degree angle while the formula is being given and remain this way for at least an hour after the feeding finishes. If using a continuous pump feeding, you will be required to remain at the 45-degree angle.

What goes down the tube?

- Formula
- Water, juice and Gatorade
- Most medications
- Carbonated beverages (club soda, but never cola as this erodes the tube)
- Enzyme treatments
- Electrolyte replacement solution-under medical supervision
- *Almost* any clear fluids

*The ALS Association thanks and acknowledges Theresa Imperato, RN and Lorraine Danowski, RD, from The ALS Association Greater New York Chapter and Certified Center at Stony Brook for sharing their time and expertise on this factsheet.*