

# Feeding Issues

There are no standards of care as to when a feeding tube should be placed in a child with CMD. There are two time intervals when a child with CMD might require a feeding tube:

- shortly after birth or in the first few years of life, due to swallowing and breathing difficulties or
- later on in life (first, second decade or beyond) with advent of progressive muscle weakness leading to swallowing or breathing difficulties.

In the latter scenario, borrowing from ALS (amyotrophic lateral sclerosis literature), sooner rather than later is better. Reasons to start thinking about feeding tube placement are: progressive difficulty swallowing, aspiration, gastroesophageal reflux disease (GERD) not responding to medication, progressive difficulty breathing, recurrent aspiration pneumonia, weight loss, and failure to thrive. Nutritional support is imperative for maintaining weight and remaining healthy (maintaining good respiratory function and preventing immunosuppression).

The following link to a medical article reviews feeding tube placement by surgeons, gastroenterologists (GI) and interventional radiologists (IR). The article, though somewhat biased towards IR placement, gives a helpful overview when looking at the options out there. Depending on who you end up getting a consult with, surgeon vs GI doc vs IR, they may not be able to provide you with the most unbiased view on complication rate and procedural risks.

<http://www.emedicine.com/Radio/topic798.htm#Multimediamedia7>

As with everything in medicine, invasive has become de-emphasized with the knowledge that invasive, ie, surgery may have higher risks and complications than a minimally invasive technique. This doesn't mean that a PEG tube placed by a GI doc or a G tube placed by an IR doc can be done without complications, but avoiding general anesthesia (getting a Gtube placed surgically with or without a Nissen fundoplication) especially in a neurologically impaired child may decrease mortality and morbidity (death and complications).

In a recent article comparing GI/ IR placed G Jtube with surgical fundoplication with simultaneous surgical Gtube placement(gastrostomy), the authors felt GI/IR placed GJ tube was associated with less risk, quicker recovery and less need for general anesthesia:(Wales PW, et al. Fundoplication and gastrostomy versus image-guided gastrojejunal tube for enteral feeding in neurologically impaired children with gastroesophageal reflux. J Pediatr Surg. 2002 Mar;37(3):407-12. PMID: 11877658 [PubMed - indexed for MEDLINE])

“Image-guided gastrojejunal tubes are a reasonable alternative to fundoplication and gastrostomy for neurologically impaired children with GER. The majority can be inserted without general anesthesia. This technique failed in only 8.3% patients, and they subsequently required fundoplication. A total of 14.5% of GJ patients showed some spontaneous improvement and had their feeding tube removed. Each approach, however, still is associated with a significant complication rate. A randomized prospective study comparing these 2 approaches is needed.”

Your hospital may have GI docs who excel in PEG placement, ie, using a camera to go through the mouth into the stomach, making an incision in skin, pulling a feeding tube down the mouth and out through the hole in the skin. If you get a PEG (percutaneous- placed through the skin, endoscopic Gtube) there is a higher risk of infection, with a drop in risk, if antibiotics are given prior to procedure. It depends somewhat on what your hospital has to offer, what the sedation risks are for your child and how strongly you feel about PEG vs IR placed gtube. It also depends on which service, GI or IR, does most of the G tubes at your hospital in pediatric patients and your relationship with either GI or IR.

Surgeons may advocate for a laparoscopic Gtube with or without a Nissen fundoplication performed at the same time. A Nissen fundoplication is a surgical procedure that tightens up the passage between the esophagus and the stomach with the goal of preventing aspiration. It is performed in patients with significant gastroesophageal reflux. The Gtube placement and Nissen can be done simultaneously. This involves general anesthesia.

Some will advocate that if a feeding tube is being placed to decrease aspiration risk, placing a GJ tube would be recommended over a Gtube. A GJ tube allows food to be pushed into the jejunum, away from the stomach and esophagus, reducing the risk of aspiration. A GJ tube theoretically would allow you to place food in either the stomach (Gport) or jejunum (Jport). However, food is typically only pushed into the jejunum and the Gport is reserved for venting the stomach, not for pushing food or medications. A Gtube only allows you to put food into the stomach.

Anatomy review: Food from the mouth, goes down the esophagus into the stomach. The stomach empties food into the duodenum then into the jejunum. So if food is given through the Jport of the GJ tube it is posited further down than the stomach (G port), farther away from the esophagus. Currently there are not any medical articles that compare G tubes and a GJ tubes in a head to head comparison in terms of which decreasing aspiration more effectively.

G tubes are more easily replaced if they are the balloon type, and can be replaced in an ER or at home. GJ tubes may need to be replaced endoscopically or through IR and therefore if they become plugged or kinked, would require an overnight admission or an open slot in IR/GI to be done on the same day.

There are several different types of G and GJ tubes. They are usually held in place either with a balloon or a bumper/mushroom. Tubes with a balloon, can have the balloon deflated and be removed if there is a malfunction requiring replacement. Occasionally the balloon doesn't deflate. The balloon may deflate when it is not supposed to, leading to the tube coming out (tube dislodgement, requiring replacement). The bumper/mushroom is used with tubes that are pulled down from the mouth to the stomach and out through the skin (usually a PEG, ie, GI, but can also be done this way by IR). If there is a malfunction, the tube will either be removed endoscopically (need to schedule this procedure) or cut close to the skin and the inner portion or bumper/mushroom with tip will come out with subsequent bowel movements. Sometimes the bumper/mushroom type is removed applying firm external traction by a physician.

You can count on the feeding tube (whether PEG, G tube or GJ tube) needing to be replaced at some point. Feeding tubes require replacement secondary to kinking, clogging or breaks in the plastic. Whichever feeding tube is easier to replace should weigh heavily in the decision you make in terms of which one to advocate for.

The following questions can help guide your discussion with GI, IR and your pediatrician or neurologist.

1. Which tube will prevent aspiration to a greater degree: GJ tube or a G tube?  
Does the medical literature clearly show that one prevents aspiration over the other? Is their opinion based upon a comparison in the medical literature or based on anecdotal logic that pushing the food further along in the intestine should decrease aspiration?
2. Should the ease of G tube replacement over GJ tube replacement sway me towards advocating initially for a Gtube in my child? If still aspirating, could the G tube be converted easily to a GJ tube (the answer is yes), by IR or GI?
3. What are the risks of infection of GI placing a PEG vs IR placing a Gtube?
4. How soon can I go home and how soon can I feed my child through either the PEG or G tube or GJ tube?
5. A GJ tube has the option of venting the stomach. How helpful will venting the stomach be to prevent further aspiration?
6. If neither the GJ tube, Gtube or PEG prevents aspiration, is there a role for surgery with a Nissen fundoplication?
7. Because of my child's neurologic and/or pulmonary impairment, I would like my

child to be comfortable, experience no pain, while minimizing the risks of sedation. What are the standard sedation procedures for either GI or IR approach to Gtube placement? Based on my child's neurologic and/or pulmonary impairment which would you recommend and why?

There is no one right way of approaching the issue of a feeding tube. Discuss the options with your doctor and ask questions to find the best possible scenario for you or your child.

***\*\*Information courtesy of Cure CMD\*\**** ← create link to [www.curecmd.org](http://www.curecmd.org)