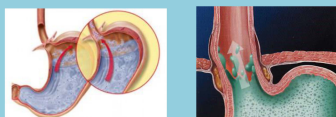


How should we treat reflux in children with disabilities when medications aren't enough? An overview of getting a fundoplication (surgery) versus "GJ" (feeding tube)

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What is reflux?

- Reflux occurs when partially digested food and stomach acid backs up from the stomach into the esophagus (swallowing tube)



- Reflux is a **normal thing** in two out of three newborns (it's what causes "spit ups" every so often)



- Most newborns outgrow reflux and never have any problems with it
- BUT** sometimes reflux doesn't go away and causes medical problems such as:
 - Abdominal pain
 - Difficulty with feeding
 - Difficulty with weight gain
 - Pneumonia



How is reflux treated?

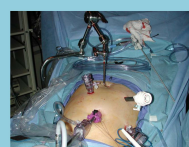
- Reflux can often be treated by changing diet or taking medications that lower stomach acid



- These treatments don't always work well in children with disabilities. Many continue to have problems even with multiple medications
- The next step is often treatment with one of two invasive procedures:
 - Fundoplication** (surgery)
 - Percutaneous gastrojejunostomy** (a special type of feeding tube)

What is a fundoplication?

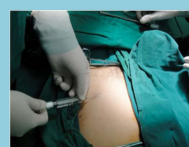
- A fundoplication ("fundo") is a type of abdominal surgery
- The **fundus** (top of the stomach) is wrapped around the bottom of the esophagus to **plicate** (tighten) the connection between the stomach and esophagus
- This stops reflux from happening (partially digested food and stomach acid can no longer back up into the esophagus)



- Many children with disabilities who undergo fundoplication have a **feeding tube** placed in the stomach at the same time
- Fundoplication can be performed with a large incision (open surgery) or with a smaller incision and cameras through the abdominal wall (laparoscopically)

What is a "GJ"?

- A percutaneous gastrojejunostomy ("GJ") is a special type of feeding tube
- This **feeding tube** is inserted with a needle through the skin (**percutaneously**) and into the stomach (**gastro**) and small bowel (**jejunum**)



- Tube feeds inserted into the GJ bypass the stomach and go directly into the small bowel
- This stops reflux from happening (there are no feeds in the stomach so nothing can back up into the esophagus)

Which one is better?

- We don't know which one is better! Both have **advantages** and **disadvantages**:

Fundoplication	GJ
More invasive (requires general anesthetic and surgery)	Less invasive (requires sedation but no incisions)
More side effects (retching and bloating from being unable to burp)	Few side effects (able to swallow and burp without any problems)
Difficult to reverse (requires surgery)	Easy to reverse (remove tube at home or in clinic without sedation)
Bolus feeding (1-2 hours a few times per day)	Continuous feeding (up to 16 hours per day)
Easy tube changes (Feeding tube can be changed at home without sedation)	Tube changes require procedure (Procedure must be performed in hospital with sedation)

Making a decision depends on a variety of patient and family factors:

- Distance from hospital (in case feeding tubes need to be changed)
- Support at home
- Family values and preferences
- Also, some children with disabilities may have too many medical problems to be able to safely undergo surgery. In that case, a GJ is the only option

Where do we go from here?

- The best research we have on this issue consists of 3 small studies that looked at children with disabilities who were treated with fundoplication compared to those treated with GJ
- Unfortunately, these studies looked at rates of complications only and did not ask parents and families about their experiences with each type of treatment
- We are in the process of performing a survey of pediatric surgeons across Canada to better understand how children with disabilities are currently being treated
- We hope this survey will set the groundwork for a larger study in which we can ask parents and families about their experiences with these procedures