

NISSEN ANTI-REFLUX SURGERY (GERD)

The esophagus is the passage that goes from the mouth to the stomach (Picture 1). After food is swallowed and enters the stomach, a muscle at the bottom of the esophagus should close. If this muscle doesn't close completely or if it relaxes, food and stomach juice can come back up into the esophagus. This is called GERD - gastroesophageal reflux (GAS-troe-ee-sof-ah-GEE-al REE-flux) disease.

Stomach juice can irritate the esophagus. It can also be inhaled when it comes all the way up to the throat. If it is inhaled, this can cause breathing problems. When the esophagus gets irritated, the child may have pain and not want to eat. Then he or she may not gain enough weight. To correct this problem, an anti-reflux operation may be needed. In this surgery the upper part of the stomach is pulled up and wrapped around the lower end of the esophagus. This surgery is permanent; it cannot be reversed (changed back later).

SYMPTOMS OF GERD

Your child may have one or all of these symptoms of GERD:

- Vomiting over a long time. This can severely irritate the esophagus (esophagitis)
- Not gaining enough weight
- Breathing problems (apnea)
- Repeated respiratory infections (colds or pneumonia)
- Reactive airway disease (wheezing or asthma)

TESTS BEFORE ANTI-REFLUX SURGERY

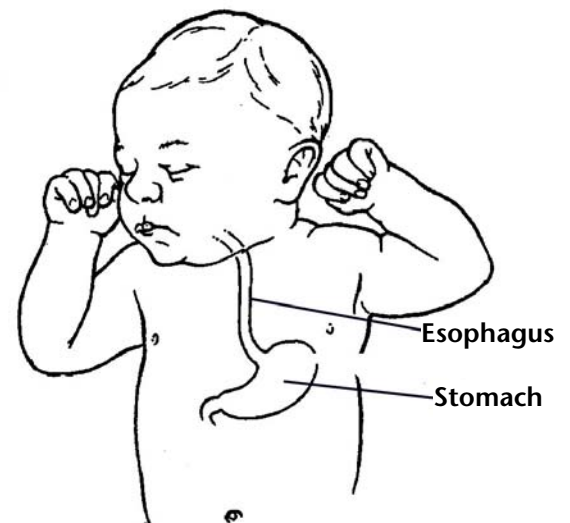
Your child may have one or more of these tests before surgery:

- *Gastrointestinal Test: Upper GI*, HH-III-9
- *Esophageal pH Monitoring*, HH-III-53
- *Endoscopy and Biopsy*, HH-III-34
- *Stomach Emptying Study*

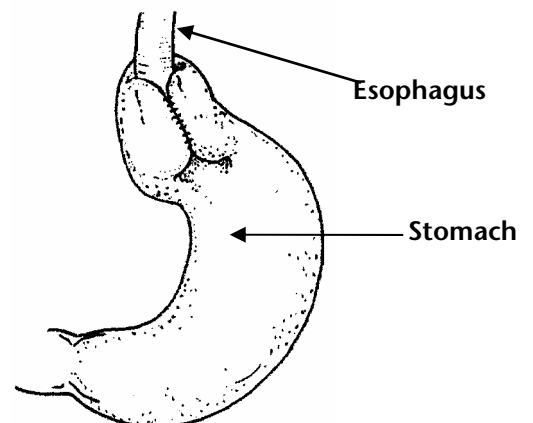
UNDERSTANDING THE SURGERY

This surgery is called a Nissen Fundoplication (NISS-in Fun-doe-ply-KAY-shun). The upper part of the stomach is wrapped around the lower end of the esophagus (Picture 1). Your child's surgeon will talk with you about the method that will be used – either an open or a laparoscopic procedure.

If the stomach emptying test was not normal, your child may have a *pyloroplasty*. The doctor will explain this also if it is needed.



Picture 1 The normal stomach and esophagus.



The Nissen Fundoplication

AFTER SURGERY

- Your child may have an NG tube (nasogastric tube) attached to a suction machine. The NG tube will be in place for 1 to 2 days to empty the stomach's juices.
- Until your child is able to eat and drink, he or she will be given IV (intravenous) fluids.
- Pain medicine will be given as needed to keep your child comfortable during the time right after surgery.
- After surgery it's important for your child to move around and walk. This will help prevent breathing problems. Aerosol treatments and chest physical therapy (postural drainage) treatments may also be given to help loosen mucus in the lungs.
- Most children have a G-tube (gastrostomy tube) put in the stomach. If your child needs one, it will be put in at the same time the anti-reflux surgery is done. The G-tube goes into the stomach through an opening in the belly. See page 3 for more about the G-tube.

DIET AFTER ANTI-REFLUX SURGERY

Children who have had this surgery often have trouble with solid foods right after surgery. Foods with chunks or those that require effort to swallow often cause problems. So, for the first two weeks after surgery, your child should be on the following diet:

Your Child May Eat These Foods

- Cream of Wheat, Cream of Rice cereal
- Gelatin dessert (such as Jell-O) without fruit, pudding
- Blenderized fruits and vegetables
- Baby food - smooth
- Creamed soups
- Broth
- Scrambled eggs
- Ice cream, frozen yogurt, milk
- Popsicles
- Applesauce
- Yogurt without fruit
- Non-acidic juices
- Nutritional supplements such as Carnation Instant Breakfast®, Ensure®, Pediasure®, Boost®, etc.

Your child may not be able to burp after the surgery. This is normal. For this reason he should not drink from a straw and should avoid foods that cause gas.

All foods should be cut and chewed VERY well. If your child's doctor allows it after the first 2 weeks following surgery, you may add other foods a little at a time. **Ask your child's doctor before making any changes in your child's diet!**

DO NOT Give These Foods

- **NO CARBONATED BEVERAGES!!**
- Fresh hard fruit (apples, peaches, plums, etc.)
- Uncooked vegetables (carrots, broccoli, celery), salad
- Potato chips, corn chips (such as Fritos or Doritos)
- Crackers
- Nuts, hard candy, gum
- Pasta, rice, bread
- Any fruit with skin
- Pizza
- Hot dogs, sausage, bacon
- Waffles
- Peanut butter



Picture 3 Do not give your child these foods.

THE G-TUBE (GASTROSTOMY TUBE)

- The G-tube will be connected to a bag or syringe for a few days. This will help empty the stomach of gastric juices.
- The tube may be used for feeding if your child is not eating enough, or it may be put in to allow the child to "burp" through the tube. Some children can't burp or vomit after this surgery. The only way they can release gas or vomit is through the G-tube. Refer to the Helping Hand, *Gastrostomy Tube: Care of the Child*, HH-II-12.
- After awhile there will be less drainage in the G-tube. When this happens the G-tube may be kept raised above the child's abdomen with a feeding syringe held up with a string. With the tube in this position, the doctor can tell if the juices are being re-absorbed, and the child will be able to burp through the tube.
- Your child's nurse will tell you how to feed and care for your child with the G-tube, and will give you Helping Hands on these topics.
- The doctor may remove the G-tube when your child has been gaining weight without using the G-tube, or when the G-tube has not been needed to burp your child for at least one month.

WHEN TO CALL THE DOCTOR

Call your child's doctor if any of the following occurs:

- Abdomen (belly) is hard or distended (sticks out).
- Gagging or retching (trying to vomit) that's not made better by opening the tube.
- Can't take feedings well.
- Can't swallow his own saliva.
- If your child vomits.
- Bile – (green fluid) coming from the G-tube



Picture 4 Sometimes the G-tube is used for feeding.

If you have any questions, be sure to ask your doctor or nurse.