

Gastroesophageal Reflux Disease

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Introduction

Esophageal reflux -- that is, the reflux of stomach contents into the esophagus -- occurs from time to time in most people and is usually experienced as heartburn. For some, reflux is more than an inconvenience and treatment may be appropriate. For a very small minority of people an operation may be appropriate to prevent this reflux.

The problem

Normally, the pressure within the abdomen is positive and the pressure within the chest is negative; thus, there is a natural tendency for stomach contents to be pushed from the abdomen up into the esophagus. Natural barriers exist to prevent this, the most important being a muscular sphincter located at the bottom of the esophagus just as it enters the stomach. This Lower Esophageal Sphincter is a complicated mechanism and it can be defective in many ways. Additionally, there are other factors that are probably important in determining who has symptoms from reflux but these are less well understood.

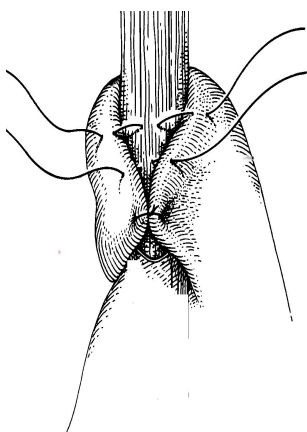
The most common symptom that patients with reflux complain of is heartburn, a burning sensation in the chest and upper abdomen. Other symptoms may include regurgitation; chronic cough or hoarseness; respiratory difficulties from aspiration of stomach contents into the lungs or asthma; or difficulty swallowing. Occasionally, patients may have anemia from chronic bleeding from inflammation of the esophagus.

Chronic reflux may also lead to chronic scarring and narrowing of the lower esophagus, which may become severe enough to prevent eating. Rarely, it may lead to changes in the lower esophagus that predispose to the development of cancer.

Unfortunately, the severity of one's symptoms do not necessarily correlate with the severity of one's reflux or with the severity of the damage that is occurring to the esophagus. Indeed, some patients who develop the worst complications of reflux disease probably do so because they have the fewest symptoms warning them that reflux is occurring. On the other hand, some patients without evidence of much injury to the lower esophagus may have severe symptoms. For this reason it is important to objectively assess the amount of reflux that an individual patient has, as well as the extent to which they have developed complications of the disease.

The Lower Esophageal Sphincter, when it works, is a wonderful thing. It knows when food or liquids are going down, and it opens to allow them to pass. It then closes when the swallow is over, preventing stomach contents from coming back up into the esophagus. It allows us to belch and to vomit and yet to stand on our heads without losing our lunch. It is a "smart" sphincter, if you will but most of us take it for granted.

The surgical approach to this disease is to remake this lower esophageal sphincter mechanism. Unfortunately, we cannot make a smart sphincter; we can only make a mechanical one. Various techniques have been developed to do this, but the most common all wrap the upper part of the stomach around the lower part of the esophagus. This creates a new valve, preventing reflux. There are many modifications of the technique that may be appropriate depending of each individual patient's physiology and anatomy, but they all work in one way or another to restore the mechanical valve or sphincter mechanism that is defective. The most common procedure, the Nissen Fundoplication, looks something like this:



In the Nissen Fundoplication the top of the stomach is freed up and passed around behind the esophagus. The stomach is then loosely sutured to itself, over a dilator which is placed in the stomach through the mouth to prevent the wrap of stomach from being fastened down too tightly. Most patients with reflux also have a hiatal hernia -- that is, the stomach has slipped part-way up into the chest. We repair this by bringing the stomach down into the abdomen and sewing the muscles back together around the esophagus, approximating their normal structure.

Advantages of a Surgical Antireflux Procedure

In general, patients are delighted with the results of their operation. Many say that it allows them a freedom of lifestyle that they never imagined they would achieve. Most do not have to take any anti-reflux medication on a regular basis, and most are able to completely eliminate the restrictions they had been faced with before their surgery, such as avoidance of certain foods and sleeping with the head of their beds elevated.

Risks of the operation

These procedures are not for everyone, however, and we generally offer them only to patients who have failed to achieve control of their symptoms with medication or who have developed complications of their reflux. In young patients, even those who have achieved adequate control of their symptoms with medication, it is still sometimes appropriate to consider surgery because of the potential risks of taking these medications for decades and because of the cost involved with this.

Complications of the procedure include some risks that are common to any significant abdominal operation:

- Anesthetic complications -- these are exceedingly rare if you are in otherwise good health, but catastrophic complications, usually related to unrecognized heart or lung disease can occur. Your anesthesiologist can discuss these risks with you.
- Bleeding -- If you were to need a blood transfusion we would normally prefer to give you your own blood, and arrangements can be made for you to donate your own blood in anticipation of the surgery. We do not necessarily encourage you to do this, however, because we believe this risk to be quite small. To date we have never had to transfuse a patient for one of these procedures, though someday we undoubtedly will need to do so.
- Infection -- The risk of infection with these types of infections is exceedingly rare. To date we have had none, but with any operation there is a risk of developing an infection in the wound, deep inside the abdomen, the lungs, or the bladder.

Other complications of the procedure include:

- Damage to the stomach or esophagus. These can be injured during the procedure, either by the instruments we are using, or by interfering with the blood supply to them as we do the operation. This risk is exceedingly small, and if recognized at the time can probably be repaired laparoscopically. It could, however, require an open operation to repair the injury, and could even require removal of a part of the stomach or esophagus.
- Damage to the liver or spleen. Both of these must be manipulated to perform the operation, and injury to either organ could produce bleeding that could necessitate an open operation, a transfusion, or even removal of the spleen. These risks are small, and have not occurred in our experience.
- The possibility that the chest cavity might be entered and a small tube would have to be inserted during the operation to drain the air out of that side of the chest.
- The possibility that the wrap could loosen up with time so that your reflux may recur.
- The possibility that you could develop progressive difficulty swallowing over time. This could be a consequence of many problems, and not necessarily directly a consequence of the operation that has been performed but perhaps of progression of your underlying illness.
- The possibility that the operation cannot be performed laparoscopically and that we will have to do an open operation. This should happen rarely, but we agree to do the laparoscopic operation only on patients in whom we think that the open operation would also be appropriate -- just in case.

Two “complications” occur commonly and are better thought of as “side-effects” of the operation than as complications. Many people

experience them to some degree after their operation, and the symptoms almost always disappear within a period of several weeks after the operation.

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- Difficulty swallowing solid foods is a common mild symptom immediately after the operation, but it almost always resolves within 4-12 weeks.
- “Gas bloat” syndrome -- The operation will make it difficult for you to belch or vomit, and some people will complain of some abdominal distension after eating, that they can eat less than before the operation, and that they cannot belch or vomit normally. Some patients may notice that they pass more gas than before their operation. Again, these are common mild symptoms immediately after your operation but they almost always resolves or cease to be a concern within a short time.

What to expect after the surgery

We can almost always complete the procedure laparoscopically. This usually requires 5 small puncture sites in the upper abdomen. Very, very rarely, we may leave a tube in your stomach to drain your stomach overnight, which we will remove the next morning. Most patients can return home in one or two days and return to regular activity, including work and exercise, within 7-14 days.

Diet -- For the first two weeks until we see you back in clinic we ask that you stick to a liquid diet. This includes any food which has been pureed to a soupy consistency, yoghurt, and any other liquids. You may find that warm liquids work better than cold ones.

After two weeks you may begin to add solids to your diet. Begin with soft, moist foods such as pastas, scrambled eggs, steamed vegetables. Next try soft fish or chicken. Red meat and bread should be the last two things that return to your diet. You may find that foods which preoperatively caused you to have reflux now help you to swallow. Beginning your meal with a warm drink will often help the whole meal to go down better, and sipping warm peppermint tea or an alcoholic beverage may be particularly helpful.

In general, you should avoid carbonated beverages and do not chew gum for at least several weeks postoperatively-- both cause gas to build up inside the stomach and may make you uncomfortable if you cannot belch freely.

Avoid tablets of Aspirin, Advil, Motrin, Naprosyn, Indocin, Fosamax, tetracycline, Vitamin C and all other similar medications that are known to cause ulcers for at least 2, and preferably for several weeks. Do not take them until you are swallowing solids without difficulty, and take them with food. If these get hung up at the area of the wrap they can rapidly cause a dangerous ulcer. Elixers of these medications are safe, however. Tylenol is safe in pill form, but comes in an elixer, as well.

Wound care -- When you are discharged you will have tape strips across the wounds. You may shower on the first day after the operation and there is no need to keep the tape strips dry. Simply pat them dry when you are done. They will peel off on their own in 7-10 days. There are no sutures to be removed.

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