

Rectal Prolapse

What is rectal prolapse?

Rectal prolapse is a condition in which the rectum (the lower end of the colon, located just above the anus) becomes stretched out and protrudes out of the anus. Weakness of the anal sphincter muscle is often associated with rectal prolapse at this stage, resulting in leakage of stool or mucus. While the condition occurs in both sexes, it is much more common in women than men.

Why does it occur?

Several factors may contribute to the development of rectal prolapse. It may come from a lifelong habit of straining to have bowel movements or as a late consequence of the childbirth process. Rarely, there may be a genetic predisposition. It seems to be a part of the aging process in many patients who experience stretching of the ligaments that support the rectum inside the pelvis as well as weakening of the anal sphincter muscle. Sometimes rectal prolapse results from generalized pelvic floor dysfunction, in association with urinary incontinence and pelvic organ prolapse as well. Neurological problems, such as spinal cord transection or spinal cord disease, can also lead to prolapse. In most cases, however, no single cause is identified.

Is rectal prolapse the same as hemorrhoids?

Some of the symptoms may be the same: bleeding and/or tissue that protrudes from the rectum. Rectal prolapse, however, involves a segment of the bowel located higher up within the body, while hemorrhoids develop near the anal opening.

How is rectal prolapse diagnosed?

A physician can often diagnose this condition with a careful history and a complete anorectal examination. To demonstrate the prolapse, patients may be asked to sit on a commode and "strain" as if having a bowel movement.

Occasionally, a rectal prolapse may be "hidden" or internal, making the diagnosis more difficult. In this situation, an x-ray examination called a videodefecogram may be helpful. This examination, which takes x-ray pictures while the patient is having a bowel movement, can also assist the physician in determining whether surgery may be beneficial and which operation may be appropriate. Anorectal manometry may also be used to evaluate the function of the muscles around the rectum as they relate to having a bowel movement.

How is rectal prolapse treated?

Although constipation and straining may contribute to the development of rectal prolapse, simply correcting these problems may not improve the prolapse once it has developed. There are many different ways to surgically correct rectal prolapse.

Abdominal or rectal surgery may be suggested. An abdominal repair may be approached laparoscopically in selected patients. The decision to recommend an abdominal or rectal surgery takes

into account many factors, including age, physical condition, extent of prolapse and the results of various tests.

What are the various surgical treatments possible ?

Selection of Surgical Approach

Contraindications to surgical correction of rectal prolapse are based on the patient's comorbidities and his or her ability to tolerate surgery. Surgical treatments can be divided into two categories according to the approach used to repair the rectal prolapse: abdominal procedures and perineal procedures. The choice between an abdominal procedure and a perineal procedure is mainly dictated by the patient's age and comorbidities. On the whole, the abdominal procedures have a lower recurrence rate but a higher morbidity. Accordingly, older, debilitated patients (whose life expectancy is shorter) are generally treated with perineal procedures, whereas younger, healthier patients are typically treated with abdominal procedures. It should be noted, however, that many surgeons with copious experience and low recurrence rates also advocate perineal procedures for their younger, healthier patients. The choice of procedure is also dictated by the presence or absence of constipation. Children are treated with linear cauterization. Surgical therapy for internal prolapse is usually avoided because results are poor, with durable relief of symptoms occurring in fewer than 50% of patients. Regardless of the type of procedure being planned, full mechanical and antibiotic bowel preparation should be carried out before surgery. Intravenous (IV) antibiotics should always be administered preoperatively; if a foreign material is being implanted, postoperative administration of antibiotics may also be considered

1. Abdominal Surgical Procedures

As noted, abdominal repairs are typically performed in younger, healthier patients, whose life expectancy is longer. For these patients, procedures with lower recurrence rates but higher morbidities are most appropriate. The choice of abdominal procedure is often dictated by the extent of the associated constipation and by the surgeon's preference. Laparoscopic surgical rectopexy procedures have been developed that have outcomes as good as those of open abdominal procedures but are associated with shorter hospital stays and greater patient comfort.

Anterior resection- Patients with rectal prolapse and constipation often have a redundant colon, and some surgeons believe that resection of this alleviates constipation and decreases recurrence of rectal prolapse. In an anterior resection for rectal prolapse, the rectum is mobilized to the level of the lateral ligaments, and the redundant colon (sigmoid) is resected. The left colon is then anastomosed to the top of the rectum. This anastomosis is performed without laxity in the colon so that the rectum is held in place and can no longer prolapse. At present, few colorectal surgeons perform this procedure, because it is not thought to address anatomic abnormalities such as poor rectal fixation.

Mesh rectopexy- In a Mesh rectopexy (Ripstein procedure), the entire rectum is mobilized down to the coccyx posteriorly, the lateral ligaments laterally, and the anterior cul-de-sac anteriorly (see the image below). A nonabsorbable material (eg, Marlex mesh or an Ivalon sponge) is fixed to the presacral fascia. The rectum is placed on tension, and the material is partially wrapped around the rectum to keep it in position. To prevent a circumferential obstruction, the anterior rectal wall is not covered with the sponge or mesh. The Ivalon sponge is not used in the United States. The peritoneal reflections are then closed to cover the foreign body. The Marlex mesh or sponge causes an intense inflammatory reaction that scars and fixes the rectum into place. This procedure should not be performed on patients who have a large component of constipation or a very redundant sigmoid colon, because the symptoms are likely to worsen. If the rectum is inadvertently entered during mobilization, the foreign material should not be implanted, because of the risk of infection. Although the rate of Marlex erosion into the rectum is low, management is extremely difficult, and for this reason, many surgeons prefer resection with suture rectopexy (see below) to Marlex fixation.

Suture rectopexy- A suture rectopexy is essentially the same as a Marlex rectopexy, except that the rectum is fixed to the presacral fascia with suture material rather than mesh or an Ivalon sponge.

Resection rectopexy- A resection with rectopexy (Frykman-Goldberg procedure) is a combination of an anterior resection and a Marlex rectopexy; it is a good option for patients with a significant component of constipation. The rectum is completely mobilized to the coccyx posteriorly, to the lateral ligaments laterally (some surgeons divide the lateral ligaments), and to the cul-de-sac anteriorly. The redundant sigmoid colon is then resected, and the remaining colon is anastomosed to the top of the rectum. The lateral ligaments (or the rectal fascia) are then sutured to the presacral fascia with the rectum on tension, which keeps the rectum in place and prevents further rectal prolapse. The rectopexy is accomplished with suture instead of nonabsorbable mesh because the bowel is opened for the anastomosis and the mesh may become contaminated.

2. Perineal Surgical Procedures

Perineal procedures have higher recurrence rates but lower morbidities and are often performed in elderly persons or in patients for whom general anesthesia is contraindicated.

Anal encirclement- With anal encirclement (Thiersch wire), a nonabsorbable band is placed subcutaneously around the anus. The purpose of this procedure is to keep the rectum from prolapsing by restricting the size of the anal lumen. Although the procedure was initially described as using a wire, it now employs other materials (eg, Silastic tubing and nonabsorbable suture material) instead. Anal encirclement is effective in mechanically preventing the rectum from prolapsing, but it does not treat the underlying disorder. Complications from this procedure include obstruction with fecal impaction and erosion of the wire with infection. Anal encirclement is no longer commonly performed; it is usually reserved for only the most debilitated patients and for patients with the highest surgical risks, in whom palliation is the goal. Anal encirclement carries a very high risk of fecal impaction.

Delorme mucosal sleeve resection- In a Delorme mucosal sleeve resection (see the image below), a circumferential incision is made through the mucosa of the prolapsed rectum near the dentate line; with the electrocautery, the mucosa is stripped from the rectum to the apex of the prolapse and excised. The denuded prolapsed muscle is then pleated with a suture and reefed up like an accordion, and the transected edges of the mucosa are sutured together. This procedure is often used for small prolapses but may also be used for large ones.

Altemeier perineal rectosigmoidectomy- In an Altemeier perineal rectosigmoidectomy, a full-thickness circumferential incision is made in the prolapsed rectum about 1-2 cm from the dentate line (see the image below). The hernia sac is entered, and the prolapse is delivered. The mesentery of the prolapsed bowel is serially ligated until no further redundant bowel can be pulled down. The bowel is transected and either hand-sewn to the distal anal canal or stapled with a circular stapler. Before anastomosis, some surgeons plicate the levator ani muscles anteriorly, which may help improve continence. In a study of the long-term outcome of Altemeier perineal rectosigmoidectomy, Altomare et al reviewed the medical records of 93 patients and concluded that this operation is relatively safe and effective in frail, older patients, with postoperative morbidity being low.[6] However, the recurrence rate after the procedure was not negligible, and the operation was found to be unpredictable in terms of restoring continence. Recurrences can be treated with a repeat Altemeier procedure.

STARR- Partial rectal prolapse is treated with a procedure similar to hemorrhoidectomy and helps particularly in patients with Obstructive Defecatory Syndrome (ODS). Two PPH staplers are used to resect full thickness rectal walls both anteriorly and posteriorly and corrects the prolapse.

What is laparoscopic rectopexy?

Laparoscopic rectopexy is one of the surgeries used to repair a rectal prolapse. In this surgery, the rectum is restored to its normal position in the pelvis, so that it no longer prolapses (protrudes) through the anus. Usually, stitches are used to secure the rectum, often along with mesh. The term "laparoscopic" refers to surgery performed through very small "keyhole" incisions in the abdomen. A laparoscope--a small, telescope-like instrument containing a camera--is placed through an incision near the bellybutton in order to see the inside of the abdomen. The surgery is done using instruments placed via these small incisions.