



Diagnosis and Treatment in Laparoscopic Bowel Resection Surgical Options

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ABOUT THE STUDY

Laparoscopic Bowel resection is a type of surgery to remove parts of the intestine. These include the small intestine, large intestine, or rectum. Doctors use it to treat diseases and obstructions of the large intestine (colon). Intestinal illnesses and disorders can endanger your life. It can also prevent the colon and rectum from functioning normally. It causes symptoms such as pain and discomfort. Your doctor may recommend a bowel resection for any of the following reasons:

Cancer

The amount of intestine removed depends on the size and location of the cancer. The surgeon also removes nearby lymph nodes.

Diverticulitis

Surgery may be required for serious infections and complications such as perforation.

Constipation

When the intestines become clogged, food and liquid cannot pass through it. This cuts off the blood supply and can cause tissue death.

Severe bleeding

If the doctor cannot stop the bleeding in the intestines, it may be necessary to remove that part of the intestines.

Bowel resection Surgeries

Laparoscopic bowel resection surgery is done from one of three ways mentioned below:

Laparotomy: The surgeon makes a long incision in the abdomen. They use standard surgical instruments to remove part of the intestine.

Laparoscopic resection: The surgeon makes two to four small incisions in the abdomen. They insert a thin tube into the incision with a small camera. This is called a laparoscope. It sends a picture to a monitor. The surgeon uses it to look inside the abdomen. Next, a small special surgical instrument is inserted through another incision to remove part of the intestine. Depending upon the every individual patient's condition, type of surgery will be performed. The location and size of the affected or damaged colon is also a factor. In some cases, the surgeon may need to switch from laparoscopic surgery to open surgery during surgery.

Robot-assisted laparoscopic resection: In this surgery, the instrument is attached to the robot. The surgeon controls the robot to perform surgery.

There are many types of bowel surgery. You might need this type of surgery if you have a bowel condition such as bowel cancer, diverticular disease, Crohns disease or ulcerative colitis. The exact procedure you have will depend on the reason why you're having surgery and how much of your bowel is affected. The procedures are named differently depending on what section of bowel is removed. They include:

Total colectomy: All large bowel removed.

Proctocolectomy: Large bowel and back passage (rectum) removed.

Panproctocolectomy: Anus, large bowel and back passage removed.

Hemicolectomy: Either the left or right side of large bowel removed.

Sigmoid colectomy: The part of bowel that's closest to the back passage removed.

Transverse colectomy: The middle part of large bowel removed.

Proctectomy: All parts of back passage (rectum) removed.

Bowel injuries will occur in around 0.13% of laparoscopic procedures. These injuries can range from serosa to complete skin injuries. This latter can lead to perforation or amputation

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of the intestine. Risk factors for bowel injury include surgeon-related factors such as inexperience, early learning curves, previous abdominal surgery, adhesions, and obesity. The injury may be the result of direct injury during laparoscopic insertion of the port (port injury) or during intestinal instrument manipulation. Thermal injuries to the bowel may occur because of equipment faults (e.g., damage to the insulation on a laparoscopic instrument) or improper use of an energy device (e.g., using an ultrasonic forceps as a grasper). Early recognition is essential in preventing some of the adverse outcomes from iatrogenic bowel injuries. Delayed diagnosis is associated with a higher risk of septicemia (as seen in this case), the need for a laparotomy, high risk of multiple operations, stoma formation, prolonged hospital stay, and, most importantly, mortality. The estimated mortality rate for all laparoscopic bowel procedures is 3.6%.

If an injury is recognized at the time of surgery, it can always be repaired, usually laparoscopically with minimum consequences. Ideally, experienced laparoscopic surgeons should perform the repair, as it involves laparoscopic suturing and knot tying, a complex technical task. In most of the cases, this would be safer than a poorly performed laparoscopic bowel resection repair. Intestinal damage as the use of laparoscopic surgery increases in complex surgery (eg gastrointestinal cancer surgery) and in complex patients (eg patients with high BMI [weight index] or previously undergoing laparotomy). The advantage of laparoscopy which can occur frequently is that the laparoscopy can be repeated without serious trauma to the patient. In this case, the unexpectedly severe pain experienced by a young patient undergoing fairly routine outpatient surgery should have caused a series of systemic reactions at various stages of the postoperative period.