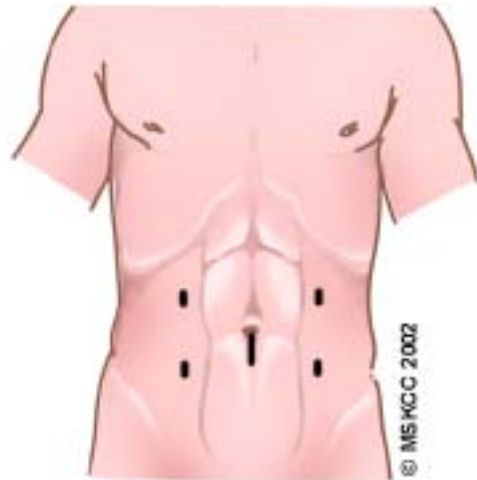


Minimally Invasive Surgery

Minimally invasive laparoscopic colon surgery allows many surgical operations to be performed through small incisions rather than one large incision. This advance in technology may allow many patients to have less pain after surgery, to have quicker return of bowel function, to leave the hospital sooner, and return to normal activities more quickly than patients having the same operation through a standard long open incision.

Laparoscopic surgery is now available for a wide variety of colorectal diseases including inflammatory bowel disease, diverticulitis, and colorectal cancer. We participated in a large national randomized controlled trial that was published in the New England Journal of Medicine (COST Study 2004). This study included 872 patients from 48 institutions and concluded that the rate of cancer recurrence and survival is the same after open and laparoscopic techniques for colon cancer (1). This has led to the increased utilization of laparoscopic surgery for this and other diseases.



Conduct of the Operation

Laparoscopic surgery is done with standard laparoscopic video equipment which includes a lighted camera, television monitor, and instruments designed to work in small incisions. Instead of one long incision, several small incisions are made through which devices called trocars are placed that enable the abdomen to be filled with carbon dioxide. This provides an environment which enables the liver, spleen, stomach, intestines, and other organs to be clearly visualized by way of a television monitor. Instruments are then placed through these trocars which allow the operation to be performed in a similar fashion as a standard open operation. The affected segment of bowel is then removed through one of the incisions after it is enlarged to a length of 4-8 centimeters.

There are times when adhesions from previous surgeries, body habitus, or other technical difficulties make laparoscopic surgery difficult or impossible resulting in the need to convert to procedure to a standard open operation. This happens between 5-20% of the time

Potential Benefits

1) Pain After Surgery

The need for narcotic pain medication may be reduced by laparoscopic surgery. In the COST trial cited above, patients needed narcotic pain medication for 1 day less than those who had open surgery (3.2 days vs 4.0 days). Other studies have shown an even greater reduction in the need for narcotic pain medications (2)

2) Return of Bowel Function

Patients who have laparoscopic surgery may pass gas (flatus) and may be able to eat sooner than those who have standard open procedures (3, 4)

3) Hospital Stay

Patients who have laparoscopic surgery may have shorter hospital stays after surgery by a mean of 1-2.7 days (1, 4)

4) Other Potential Benefits

- a) decreased blood loss during surgery
- b) decreased wound infections
- c) quicker return of lung function to normal after surgery
- d) less suppression of the immune system
- e) quicker return to normal activity after surgery
- f) better cosmetic results

Complications

There is the potential to injure bowel, blood vessels, and other organs (ureter, bladder) with the instruments placed into the abdomen. This is very rare. Those who have had previous surgeries may be at increased risk for this complication. Other rare risks include hernias at incision sites, bleeding at instrument insertion sites, heart rhythm and lung problems associated with the gas inserted into the abdomen. Risks for open procedures also apply to laparoscopic surgery. There is a possibility that because of previous surgeries or other technical factors, the laparoscopic operation may need to be converted to a standard open incision.

References

1) The Clinical Outcomes of Surgical Therapy Study Group. N Engl J Med 2004;350:2050-2059

2) Hasegawa H, et al Surg Endosc 2003;17:636-640

3) Milsom JW, et al J Am Coll Surg 1998;187:46-55

4) Lacy AM, et al Lancet 2002;359:2224-2229

Websites

- 1) www.fascrs.org
- 2) www.askasge.org
- 3) www.google.com
- 4) www.sages.org
- 5) www.cancer.org