

# Large Bowel Diseases

## What is the large bowel?

The large bowel, or large intestine, consists of a flexible tube about four and a half feet long. Its parts consist of the cecum that is situated in the right lower abdomen, the ascending colon, the transverse colon, the descending colon, the sigmoid colon, rectum and the anus. The function of the large bowel is to absorb water from the undigested food matter and to pass waste material from the body.

## What diseases can affect the large bowel?

The diseases of the large bowel for which surgery may be required include:

- Tuberculosis
- Malignant (cancerous) tumors
- Obstruction (blockage)
- Diverticular disease
- Ulcerative colitis

## What symptoms do diseases of large bowel produce?

The symptoms of large bowel disease vary depending on the site and type of the pathology. They include

- Abdominal pain, often in the centre
- Rectal bleeding
- Change in the bowel habits (new diarrhea, constipation etc)
- Loss of appetite and weight loss

## How are the large bowel diseases diagnosed?

In addition to a detailed history and physical examination tests to visualize the large bowel are usually required. These tests may include:

**Barium enema:** In this test a small tube is passed through the rectum and a liquid barium is injected through it. Multiple x-rays are then obtained to follow the passage of the barium through the large bowel and to identify the area of the problem.

**Colonoscopy:** This test is performed after giving intravenous injection of a sedative to make the patient sleepy and relaxed. A thin, flexible telescope is passed via the rectum to check the entire large bowel. Biopsy samples can be obtained from suspicious or unhealthy-looking areas.

**CT scan:** A CT scan is obtained after the patient drinks a liquid contrast material. This helps identify the location and nature of the large bowel pathology.

## How does laparoscopic surgery help in the treatment of large bowel diseases?

Treatment for many of the large bowel diseases involves removal of the diseased segment. In the past this was done via a large abdominal incision. After such an operation the recovery is slow and the patient has to spend many days in the hospital. Today most of the operations for diseases of the large bowel can be performed by the laparoscopic technique. This operation is carried out under general anesthesia. The surgeon makes a small (about 1-cm) incision and places a short tube called a cannula through the abdominal wall. This cannula is connected to a special pump that pumps carbon dioxide gas. As the abdomen gets filled up with the gas, the abdominal wall is lifted up, thus providing the surgeon a space to work in. To look inside the abdomen, the surgeon passes a rod-like telescope through the cannula. The telescope is connected to a miniature video camera that picks up the picture of the inside of the abdomen and transmits it to a television screen. The surgeon then carries out the operation with the help of special, long instruments introduced inside the abdomen through other cannulas and by observing the picture of the operative site on the television screen. It is possible to carefully examine the large bowel to identify the site of the problem. The blood vessels entering the diseased segment are controlled or sealed using special devices. One of the small incisions is then extended to bring out the diseased segment of large bowel, excise it and join the

ends back. The large bowel is then placed back in the abdomen and the small incisions are closed. Alternately, the diseased segment may be resected and the healthy ends rejoined inside the abdomen using special staplers and then retrieved through a small incision. In cancerous tumors situated low in the rectum, sometimes the entire rectum along with the anus needs to be removed and a part of the large bowel needs to be brought out on the skin as a stoma or a colostomy.

**What are the advantages of laparoscopic surgery?**

- Less pain from the incisions after surgery
- Shorter hospital stay
- Shorter recovery time
- Faster return to normal diet
- Faster return to work or normal activity
- Better cosmetic healing

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