Colorectal Surgery

Patients undergo colon surgery for a number of conditions including: colorectal cancer, polyps, inflammatory bowel disease (Crohn's disease and ulcerative colitis), colonic inertia, stricture (narrowing) of the colon and diverticular disease. Surgery to remove all or part of your colon is known as colectomy; when the rectum and anus (back passage) are also removed the procedure is called a panproctocolectomy.

Traditional "open" colon surgery procedures may require a single long abdominal incision. This usually results in an average hospital stay of a week or more and 6 weeks of recovery. Less invasive options are available to many patients facing colon surgery. The most common of these is laparoscopic surgery, in which smaller incisions are used.

The Colon And Rectum

The colon refers to the large intestine, which is the lower part of the digestive tract. The intestine is a long, tubular organ consisting of the small intestine, the colon (large intestine) and the rectum, which is the last part of the large bowel. After food is swallowed, it begins to be digested in the stomach and then empties into the small intestine, where the nutritional part of the food is absorbed. The remaining waste moves through the colon to the rectum and is expelled from the body. The colon and rectum absorb water and hold the waste until it is ready to be expelled through a process known as defaecation.

Laparoscopic Panproctocolectomy

A technique known as minimally invasive laparoscopic colon surgery allows surgeons to perform many common colon procedures through small incisions. Depending on the type of procedure, patients may leave the hospital in a few days and return to normal activities more quickly than patients recovering from open surgery.
In laparoscopic panproctocolectomy, surgeons operate through 4, 5 or 6 small openings (each about a quarter inch), while watching an enlarged image of the patient's internal organs on a television monitor. In most cases the specimen is extracted through the perineal wound (the location of the back passage) so that no additional incisions are required.
The term panproctocolectomy refers to the removal of all of the colon, rectum and anus. At the end of the procedure the small bowel is brought out onto the surface of the abdominal wall as a permanent end ileostomy. A stoma nurse will help teach you how to care for it before and after your surgery and decide with you where to site it on the abdominal wall.
A laparoscopic subtotal colectomy usually lasts between 5 and 7 hours.

Advantages Of Laparoscopic Colorectal Resections

Results may vary depending upon the type of procedure and patient's overall condition. Common advantages are:

- Less postoperative pain
- Generally shorter hospital stay
- Faster return to solid-food diet
- May result in a quicker return of bowel function
- Quicker return to normal activity
- Improved cosmetic results

- Less chance for developing an incisional hernia or adhesions
- Lower rates of wound infection

Are You A Candidate For Laparoscopic Colon Resection?

Although laparoscopic colon resection has many benefits, it may not be appropriate for some patients. Typically, laparoscopic surgery might not be suitable for patients with:

- Significant obesity (BMI over 35)
- A history of prior abdominal surgery causing dense scar tissue (adhesions)
- Large tumors
- Certain respiratory or cardiac conditions
- Previous organ transplantation
- Disorders of coagulation (blood clotting)

Each patient will be offered a thorough and objective evaluation during her/his initial consultation with us to find out if the technique is appropriate for her/his condition.

Diagnostic Tests

Most diseases of the colon are diagnosed with one of two tests: a colonoscopy or CT virtual colonoscopy. A colonoscope is a soft, bendable tube about the thickness of the index finger, which is inserted into the anus (back passage) and then advanced through the entire large intestine (see separate information sheet on Colonoscopy). A CT virtual colonoscopy is a special radiological investigation (scan) where the entire large intestine is imaged by the use of a CT scan and intravenous and intraluminal (within the bowel) contrast media.

In addition, a CT scan of the chest, abdomen and pelvis may be necessary in cases of bowel cancer, inflammatory bowel disease or diverticular disease. Patients with co-exiting rectal lesions might require an MRI (magnetic resonance imaging) scan of the pelvis and/or an endorectal ultrasound scan (ERUS).

Preparation For Surgery

Pre-operative preparation includes blood tests, medical evaluation, chest x-ray and an electrocardiogram (ECG), depending on your age and medical condition. In addition, patients with significant co-morbidity might be asked to undergo lung function tests and an echocardiogram (ultrasound examination of the heart). In high-risk patients a formal anaesthetic evaluation and cardio-pulmonary exercise (CPEX) testing will be performed. Blood transfusion and/or blood products may be needed depending on your condition and the amount of blood loss during surgery.

It is recommended that you shower the night before or morning of the operation.

In general, no formal bowel preparation (emptying) is required for a panproctocolectomy. In special cases, we might want your colon and rectum to be completely empty before surgery. If this is the case, you must drink a special cleansing solution. You may be on several days of clear liquids, laxatives and enemas prior to the operation. If you are unable to take the preparation please let us know in advance. If you do not complete the preparation, it may be unsafe to undergo the surgery and it may have to be rescheduled.

After midnight the night before the operation, you should not eat or drink anything except medications that your surgeon has told you are permissible to take with a sip of water the morning of surgery.

Drugs such as aspirin, blood thinners, anti-inflammatory medications (arthritis medications) and Vitamin E will need to be stopped temporarily for several days to a week prior to surgery. Diet medication or St. John's Wort should not be used for the two weeks prior to surgery.

The amount of alcohol you drink can affect you during and after your surgery. It is important that you talk with us about your alcohol intake so that we can plan your care. Stopping alcohol suddenly can cause seizures, delirium, and death. If we know you are at risk for these complications, we can prescribe medications to help prevent them. If you drink alcohol regularly, you may be at risk for other complications during and after surgery. These include bleeding, infections, heart problems, and a longer hospital stay. Here are things you can do to prevent problems before your surgery:

- Be honest with us about how much alcohol you drink
- Try to stop drinking alcohol once your surgery is planned. If you develop a headache, nausea, increased anxiety, or cannot sleep after you stop drinking, tell your doctor right away. These are early signs of alcohol withdrawal and can be treated.
- Tell us if you cannot stop drinking.

People who smoke can develop breathing problems when they have surgery. Stopping even for a few days before surgery can help. Please quit smoking for at least 48 hours before surgery and arrange for any help you may need at home.

How Is Laparoscopic Colorectal Resection Performed?

"Laparoscopic" or "Key-hole" surgery describes the techniques a surgeon uses to gain access to the abdominal cavity. A specialized camera called a laparoscope (a tiny telescope connected to a video camera) is inserted through a port (a narrow hollow tube like instrument) placed through the abdominal wall. At the beginning of the procedure, the abdomen is inflated with carbon dioxide gas to provide a working space for the surgeon. The laparoscope transmits images inside the abdominal cavity, giving the surgeon a magnified view of the patient's internal organs on a television monitor.
Several other ports are subsequently inserted to allow the surgeon to work inside and remove the colon and rectum. At the end of the procedure the resected bowel is typically removed through the perineal wound or by lengthening one of the small port incisions, most commonly the one just below the umbilicus (belly button).

What Happens If The Operation Cannot Be Performed Or Completed By The Laparoscopic Method?

In a number of patients the laparoscopic method cannot be performed. Factors that may increase the possibility of choosing or converting to the "open" procedure may include:

- Obesity
- A history of prior abdominal surgery causing dense scar tissue
- Inability to visualize organs
- Bleeding problems during the operation

- Large tumors

The decision to perform the open procedure is a judgment decision made by your surgeon either before or during the actual operation. When the surgeon feels that it is safest to convert the laparoscopic procedure to an open one; this is not a complication, but rather sound surgical judgment. The decision to convert to an open procedure is strictly based on patient safety.

What Should I Expect After The Surgery?

After the operation, it is important to follow our instructions. Although many people feel better in a few days, remember that your body needs time to heal.

When you wake up after your surgery, you will be in the Recovery Area. You will stay there until you are awake and your pain is under control. Most people return to their ward after 2-3 hours. Patients with significant pre-existing medical conditions will be transferred to the High Dependency Unit (HDU) or Intensive Care Unit (ICU) instead.

You will receive oxygen through a thin tube called a nasal cannula that rests below your nose. A nurse will be monitoring your body temperature, pulse, blood pressure, and oxygen levels.

You will have a Foley® catheter in your bladder to monitor the amount of urine you are making. You will also have compression stockings on your lower legs to help your circulation. They will be taken off when you are able to walk. You might also have 1 or 2 drains in your lower abdomen and perineum (the place were the back passage used to be) to drain extra fluid from the area; most of the time, the drains are removed after a few days.

You will be given medications to control your pain and keep you comfortable. There are different ways that these medications can be given:

- Epidural catheter: some people may get pain medication through an epidural catheter in their spine
- Nerve block: some patients may get a nerve block before or during surgery. In a nerve block, your doctor injects medication into some of your nerves to reduce pain after surgery
- Intravenous (IV) medications: some people may get pain medication straight into a vein through their IV line
- Oral medications: some patients may get oral pain medications (medication that's swallowed, such as pills).

You may have one or more of these after your surgery. They're all effective methods to control your pain, and the Anaesthetist will talk with you before choosing the best one(s) for you.

We only use absorbable wound stitches so no stitches need to be removed after operation; this also ensures a very good cosmetic appearance. The wound becomes waterproof 24 hours after surgery, so you can shower or bath without fear after the second post-operative day.

You are encouraged to be out of bed the day after surgery and to walk. This will help diminish the soreness in your muscles. You will probably be able to get back to most of your

normal activities in one to two weeks time. These activities include driving, walking up stairs, working and engaging in sexual intercourse.

In most cases a follow-up appointment is organized within 2 weeks after your operation.

What Complications Can Occur?

Complications after colorectal surgery are unfortunately not uncommon and include:

- Bleeding
- Infection (of the wounds, inside the abdomen, chest, bladder)
- Injury to adjacent organs such as the small intestine, ureter, bladder or spleen; if the spleen needs to be removed (splenectomy) due to bleeding you will need to take daily antibiotics and have 3 annual vaccines for the rest of your life
- The nerves that control sexual function lie within the pelvis. Only a small number of people experience changes in sexual function (impotence, retrograde ejaculation) as a result of this surgery
- The nerves that control urination also lie within the pelvis. There is a small chance that you may have changes in urinary function. We shall make every effort to protect these nerves. However, a small number of people lose urinary control for a short period of time after surgery. If this happens to you, you may need to use a catheter for a longer amount of time after your surgery. Permanent loss of urinary control is uncommon
- Blood clots in deep veins in your legs (deep vein thrombosis) that may travel to your lungs (pulmonary embolism)
- Incisional hernia (smaller rate than with conventional surgery)
- Adhesions (much smaller risk than with open surgery)
- Parastomal hernia (hernia around the ileostomy site)
- Perineal hernia (hernia at a site where the back passage used to be located; the risk might be higher compared to open procedures).

It is important for you to recognize the early signs of possible complications. Contact us on 07968228831 or present to the Accident and Emergency Department if you notice severe abdominal pain, fevers, chills, or rectal bleeding.

A Guide For Patients With Ileostomy

Strict dietary restrictions are not generally required after an ileostomy; however, some general dietary guidelines do apply:

- Immediately after surgery (for about 2 weeks), you should to eat a diet that is low in roughage to allow the intestine time to heal and to prevent blockage due to swelling. Foods with roughage include whole grains, raw vegetables and fresh fruit. This is a temporary limitation.
- Eat meals at regular times, eat more slowly and chew well. These efforts help your remaining intestine digest and absorb food, reduce gas, improve regularity and control output.
- With time you will find that you can resume a more normal diet and you will learn which foods tend to be constipating, which may have more of a laxative effect, and

which cause stool to change colour, or cause gas or odour. This varies according to the individual and the length of small intestine remaining.
- If your stool is very thick (constipated), some dietary changes may help. Stool-thinning foods may include grape juice, apple juice and prune juice. Be cautious with foods that are constipating. For some people that includes apple, banana, cheese, potato, pasta and rice.

It is very important that you stay well hydrated if you have an ileostomy. You can become dehydrated if the amount of stool you are making is more than what you eat or drink. Drink 8-10 glasses of liquids a day. Call us if you have any of the following signs or symptoms of dehydration:

- Excessive thirst
- Dry mouth
- Dry skin
- Fatigue
- Loss of appetite
- Feeling dizzy when you stand
- Headache
- Leg cramps

While you have an ileostomy, you are also at risk for having a bowel obstruction. A bowel obstruction happens when the intestine is partly or completely blocked. The blockage prevents food, liquids, and gas from moving through the intestines in the normal way. The blockage can be caused by food, scar tissue, or a twist in the intestine. Call us if you have any of the following signs or symptoms of a bowel obstruction:

- Tender and bloated stomach
- Abdominal cramping
- Nausea or vomiting
- Inability to pass gas or stool
- Decreased or no output from your ileostomy

When To Call Your Surgeon

Be sure to call us or present to the Accident and Emergency Department if you develop any of the following:

- Persistent fever over 38°C
- Bleeding from the rectum
- Increasing abdominal swelling
- Pain that is not relieved by your medications
- Persistent nausea and/or vomiting
- Chills
- Persistent cough or shortness of breath
- Purulent drainage (pus) from any incision
- Redness surrounding any of your incisions that is worsening or getting bigger
- You are unable to eat or drink liquids.