P A T I E N T  I N F O R M A T I O N

Bowel Resection Surgery

Please bring this book to the hospital on the day of your surgery
Disclaimer

This document is not intended to replace the advice of a qualified healthcare provider. Please consult your healthcare provider who will be able to determine the appropriateness of the information for your specific situation.
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Introduction

Welcome to the Montfort Hospital. You are being admitted for minimally invasive bowel resection surgery also known as laparoscopic colon resection. Your hospital stay is planned for four days, including the day of surgery. This booklet will provide you with information on your care related to your surgery and discharge. Please be sure to read this booklet before you come into hospital for your surgery.

The Health Care Team

Surgeon
Your Surgeon will discuss all aspects of your care including your surgery, recovery, discharge and follow-up. He will answer any questions you might have. Your surgeon will oversee your care with the other health care providers.

Anesthesiologist
The anaesthesiologist will discuss the anaesthetic for your surgery and pain control needs after surgery.

Registered Nurses and Registered Practical Nurses
The Nurses will care for you before and after surgery. They will provide emotional support, teaching, medications, and nursing care. You may also receive care by orderlies. They will work with your nurse to assist with your care including bathing, getting out of bed and going to the washroom etc.

Physiotherapist
The Physiotherapist (P.T.) may be consulted if needed. She can assist you with specific activities such as getting out of bed, and can recommend and instruct you on appropriate strengthening exercises.

Dietitian
The Dietitian may be consulted if needed. S/he can assist you with your nutritional requirements after surgery.

All team members involved, will assist you with discharge planning.

PLEASE BRING THIS BOOKLET TO THE HOSPITAL as the healthcare team members will refer to these instructions throughout your stay.
The Clinical Pathway

The health team has put together a Clinical Pathway to help plan your care. A Clinical Pathway outlines the usual day-to-day care during your hospital stay. This will include tests, treatments, activities and teaching. It is important for you to review it so you can participate actively in your recovery. If needed, this plan of care can be adjusted based on your condition. If you have received an additional teaching booklet for an ostomy, please refer to the Clinical Pathway in that booklet.
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Bowel Resection Surgery

The Gastrointestinal Tract

The gastrointestinal tract extend from the mouth to the anus. The mouth is joined to the stomach by a tube called the oesophagus. The GI tract continues down through the stomach and into the intestine (also called the bowel). The bowel is divided into 2 parts; the small and the large bowel. The tract continues through the large bowel to the rectum and ends at the anus.

The Small Bowel

The small bowel is 20 feet long and loosely coiled in your abdomen. It has 3 sections; 1) duodenum, 2) jejunum, 3) ileum. Food is swallowed in the oesophagus, mixes with digestive juices in the stomach and is digested in the small bowel so that nutrients can be absorbed. From the small bowel, what is left of the food travels further into the large bowel or colon.

The Large Bowel (Colon)

The large bowel is 6 feet long (about 2 meters). It is part of 6 segments starting from where it connects to the end of the small bowel (the ileum). Starting from the right side of the body and going to the left side, are the cecum, ascending colon, transverse colon, descending colon, and sigmoid colon and rectum. The colon acts like a sponge and absorbs water from the liquid material as it passes through. The rectum acts as a holding area until the stool is passed through the anus or colon.
Bowel Resection

A bowel resection is performed to surgically remove a diseased part of the bowel. Common indications for the surgery are blockage of the bowel (intestinal obstruction) due to scar tissue or tumors, bleeding or infection due to diverticulosis, inflammatory bowel disease such as Crohn’s disease or Ulcerative Colitis, injuries, cancer, and precancerous polyps. A **segmental** small bowel resection is the removal of a piece of small bowel. Removal of some or all of the colon is called a **colectomy**.

You will be given a general anesthetic. An incision is made in the abdomen. The amount of bowel removed depends on the reason for the surgery. For example, a partial colectomy is performed to remove a section of diseased bowel. A right hemicolectomy, a left hemicolectomy or transverse colectomy may be performed to remove half of your colon. A low anterior resection may be necessary to remove the sigmoid colon and upper part of the rectum.

The following diagrams illustrate these procedures.

**Partial Colectomy**

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Surgical stapler clamps and cuts the bowel

Affected bowel

---
Right Hemicolecotomy

The two healthy ends of bowel are sewn back together to form an anastomosis and the incision is closed. A small drainage tube is inserted at the surgical site and brought out through the skin in your abdomen. It removes blood or fluid that can collect around the surgery site, and will be removed by the nurse during the postoperative period. Your surgeon may select surgical staples or sutures that dissolve, to close the incision.
Preparing for Surgery

Pre-Admission Unit Visit

The purpose of the Pre-Admission Unit (PAU) visit is to conduct a basic health assessment and inform you about your up-coming surgery. You will be contacted about your appointment time in the Pre-Admission Unit (PAU). During the visit:

- Blood tests, urine test and sometimes, a chest x-ray, and cardiogram may be done. Your physician or anaesthesiologist will decide on any additional tests.
- As needed, an anaesthesiologist might see you and explain your anaesthetic and pain control for after surgery.
- The nurse will review the medications that you are currently taking at home, and provide you with information regarding what will occur on the day of surgery. Instructions about foot & ankle exercises, deep breathing and coughing exercises, and pain control will also be given.
- The nurse will discuss your discharge plan. If you will need help at home following your surgery, we advise you to make arrangements before coming into hospital.

Stop smoking. Tobacco in any form should be avoided. This includes pipes, cigars, regular and low tar cigarettes and chewing tobacco. Even one or two cigarettes a day are harmful. Smoking damages the lining of the arteries, and therefore increases the risk of arteriosclerosis Smokers should know that it is never too late to benefit from quitting. Smoking places you at risk for lung complications after surgery. **Smoking cessation programs are available to you to assist you to stop smoking.** Contact the University of Ottawa Heart Institute: Prevention and Rehabilitation Centre Heart Check Smoking Cessation Program at 613-761-4753 or [www.ottawaheart.ca](http://www.ottawaheart.ca).

Make arrangements for help in the home (if needed), before you come to the hospital on the day of your surgery.

Finally, refer to your Clinical Pathway so you and your family know what is to be expected on a daily basis.

Your bowel requires preparation for surgery. You will need to go to your local pharmacy to purchase the items listed below. You don’t need a prescription for the items. Please speak to your pharmacist for assistance.
**Bowel Preparation**

Your bowel preparation is to start **1 day before** your surgery. The nurse in pre-admission will instruct you.

**One day before your surgery:**

1. Take the preparation that the doctor ordered and told to you by the nurse in the pre-operation admission.

2. You must begin a clear liquid diet at 18h30, no solid food. Your diet can consists of as much of the following as you like: water, clear fruit juice (apple, white grape), clear broth soups, plain jello (any flavour, nothing added), coffee or tea with no milk, any clear pop (ginger ale, 7-up).

3. Do not drink alcoholic beverages for 24 hours before surgery.

**Skin Preparation**

Please follow these instructions regarding your skin preparation:

- Take a shower on the evening before surgery and again on the morning of your surgery.
On the Day of Surgery

- **If you have been instructed** to take some of your usual medications (such as your blood pressure pills or heart pills) on the morning of surgery, you may take them with a sip of water.
- Bring in your personal care items such as a toothbrush, comb, and shampoo, oversized slippers are recommended as your feet may swell for a few days after surgery.
- Bring telephone numbers of your spouse/relative who will be helping you, so they can be contacted if needed. Include both the home (or cell) and work numbers.

After Surgery

Following surgery you will awaken in the Post Anaesthetic Care Unit (PACU) where you will stay until your condition is stable. Then you will come to the ward. Please note that visitors are not permitted in PACU.

**Assessments**

You will be checked often by the nurse to ensure that you are comfortable and progressing well. Your temperature, heart rate, blood pressure, and abdominal incisions will be checked. The nurse will also listen to your lungs to check your breath sounds and your abdomen to check your bowel sounds. You will also be asked about “passing gas” and bowel movements a few days following surgery.

**Intravenous**

You will have an intravenous (I.V.) to replace your fluids until you are able to drink and eat well. Do not pull on the IV tubing. When you are walking, use your hand that does not have the IV to push the IV pole.

**Oxygen**

Oxygen is carried throughout the body by the bloodstream to the tissues. The body may re-quire extra oxygen with certain conditions like lung disease, heart disease or surgery.
Extra oxygen helps to restore normal oxygen levels in the blood and body tissues, and reduces the workload of the heart and lungs. Extra oxygen is given through a mask placed over your nose and mouth or by small tubes placed into your nostrils. The amount of oxygen in your blood is measured painlessly by a small clip on your finger. This is called pulse oximetry. The measurement is used to determine if you are getting the right amount of oxygen. The nurses will increase, or decrease the amount of oxygen based on their assessment. The oxygen will be discontinued when appropriate.

**Pain Management**

After surgery, your doctors and nurses want to make your recovery as pain free as possible. Pain is personal. The amount of pain you feel may not be the same as others feel, even for those who have had the same surgery. The goal is that your pain will be well controlled when at rest and also with activity. With satisfactory pain control you will be comfortable enough to sleep. You may not be totally pain free. However, the amount of pain should not limit you from deep breathing, coughing, turning in bed and getting out of bed and walking.

There are two usual ways to manage pain following a bowel resection surgery. The anesthetist will discuss your pain control with you. The medication to control your pain may be delivered by a pump either through your IV (Intravenous) or a small tube placed in your lower back (epidural catheter). Pain killers are used in both cases but IV and freezing is used only with an epidural.

If you have patient controlled analgesia, you will be given a handset. This allows you to obtain medicine when you need it by pressing the button on the handset. The medication works very quickly. Press the button as soon as the pain starts, or if you know your pain will worsen when you start walking or doing breathing exercises, take the medicine before you start your activity. It is important that you only take the medicine when you need it. Do not permit family or friends to push the handset for you. If you have an epidural and are receiving freezing, you will not be given a handset. The medication will be delivered continuously by the pump.

The doctors and nurses will routinely assess the amount of pain you may be experiencing. These assessments help determine how effective the pain control measure is and whether changes need to be made. It may not be possible to stop all pain completely, but by working together with your nurses and doctors, your pain will be reduced and kept under control.

You should tell the doctors and nurses if you are experiencing any side effects from the pain medicine such as nausea and/or vomiting, itchy skin, or feeling drowsy.

You are encouraged to get up and move about with the pain pump, which is attached to a pole. The pump will operate on a battery when not plugged in. Once you are able to take food and fluids by mouth, you will receive your medication orally and the pain pump will be removed.
Deep Breathing and Coughing

Air enters the nose and mouth, travels down the windpipe (trachea) into the large airways (bronchi). As air moves into the lungs, the airways get smaller and smaller like branches on a tree. Along the branches are tiny air sacs called alveoli. This is where oxygen moves into the bloodstream and is carried to the cells. Normally, alveoli stay open because we tend to take large breaths. Because of surgical procedures, anaesthesia, pain or not moving around as much after surgery, we tend to take smaller breaths, which may cause the alveoli to close. Doing deep breathing and coughing exercises after surgery will help keep your lungs healthy by keeping the alveoli open, and getting rid of extra secretions.

Deep breathing exercises work best when you are sitting up in a chair or on the side of the bed. Follow these instructions:

- Support your incision with a small blanket or pillow.
- Take a deep breath in through your nose. Hold for five (5) seconds.
- Breath out through your mouth.
- Repeat this exercise ten (10) times each hour while you are awake and until your activity level increases.

Coughing exercises help to loosen any secretion that may be in your lungs and should be done after your first five (5) deep breaths. To produce an effective cough:

- Support your incision with a small blanket or pillow.
- Take a deep breath and cough.

Ankle Exercises

These exercises help the blood circulate in your legs while you are less mobile. Do these ten (10) times each hour, while you are awake and until your activity level increases.

With your legs flat on the bed:

- Point your feet toward your body.
- Point your feet away from your body.
- Move your ankles in a circle clockwise and counter-clockwise.

Moving and Positioning

While in bed, it is important to move and reposition yourself. Do not worry about the tubes you have in place. You should reposition yourself every 2 hours while awake.

- Support your abdomen with a pillow or small blanket
- Bend your knees and roll from your side to your back
**Getting out of bed**

The correct way to get out of bed following surgery is described below with diagrams to illustrate the process.

- Roll onto your side and bring your knees up towards your abdomen.
- Place your upper hand on the bed below your elbow.
- Raise your upper body off the bed by pushing down on the bed with your hand.
- Swing your feet and legs over the edge of the bed and bring your body to a sitting position.
- Once in the sitting position, take a few breaths and ensure your balance is good before you attempt to stand.
- Slide your bottom to the edge of the bed.
- Stand up keeping your back as straight as possible.
- When getting back into the bed, reverse the process.
- Refer to the following diagram.
Incision

You will have several small incisions on your abdomen. You may have a small dressing over one or several of the incisions if they are draining. The dressing(s) can be removed within a day or two. The incisions will be closed with tapes (steri-strips) or surgical glue. The tapes will last approximately 5-7 days before they fall off or can be removed easily. The staples, if in place, will be remove approximately 7 to 14 days past surgery.

Drain (if needed)

The small drainage tube inserted at the time of surgery is used to drain excess discharge that sometimes collects around the area of the incision. It will be in place for a couple of days before being removed by the nurse.

Indwelling Urinary Catheter

You will have a urinary catheter (tube) to drain urine from your bladder. The catheter can be cleaned by using a wet face cloth and soap. The catheter will be removed by the nurse after a couple of days.

Diet

After your surgery you will gradually progress from drinking just fluids to a soft, easy to digest, “surgery” diet. The purpose of this surgery diet is to allow for a certain degree of bowel rest until the swelling around the surgical site has resolved. Unless you have been given specific diet instructions you should be able to resume a regular diet with no restrictions in a few weeks. The following are suggestions for the early days after your surgery.

- Until your appetite is back to normal, aim to eat 3 small meals plus 2-3 snacks daily.
- Eat slowly, chew your food well.
- It is important to drink plenty of fluids. Choose nutritious liquids to provide energy, vitamins, minerals:
  - milk, fruit juice, vegetable juice, milkshakes or yogurt shakes
  - liquid meal substitutes (i.e. Ensure®, Boost®, Resource®, Instant Breakfast® shakes)
  - LIMIT tea, coffee, pop – these will fill you up without the benefit of extra nutrients.
- Your body needs more energy and protein when recovering from surgery and during illness:
  - Try to eat a protein rich food at each meal and snack (milk, yogurt, cheese, tofu, eggs, meat, fish or poultry)
  - Add extras *(such as butter, cream, honey, cheese, syrup, sauces/gravies) to meals for more calories.* Do not add these if you need to lose weight or have had gallbladder surgery/problems.
  - Consider drinking a liquid meal substitute between meals.
Activity While in Hospital

- On the day of surgery, once you return to the ward, you will be assisted to sit on the side of the bed. If you are feeling strong, you may get out of bed for a short time.
- On Post-op Day 1 you will be assisted out of bed and sitting in a chair at least twice.
- On Post-op Day 2, you will be assisted to walk in the hall at least three times. You should sit up in the chair as well several times throughout the day and evening.
- On Post-op Day 3, you will be ready to go home.
- If you have a STOMA, you will continue to increase your strength by walking in the corridor a few times. You should plan to be active for 8 hours in total.

Discharge Planning

When you are discharged from hospital, you may need help at home. It is best to make arrangements for housekeeping before being admitted to hospital. Discuss your discharge plans with your nurse. You may also need a nurse to visit you at home.

You may have a number of concerns related to how you will manage once you return home. These might include such issues as:
- “I live alone. How will I manage?”
- “I'm worried and scared. Who can I talk to?”
- “I have young children and I'm told I cannot lift anything heavy. What do I do?”
- “My wife is ill. Who will take care of her while I'm in hospital?”

If you have such concerns, or any others, you may request to see a social worker as part of your discharge plan. Please let the nurse know.

Arrange for someone to pick you up by 10:00 am on the day of discharge. You will receive a prescription for medication and a follow-up appointment to see your surgeon in about 2 to 3 weeks.

Be sure you understand about:
- Activity restrictions
- Medications you are to take
- Wound care
- Diet
- When to call the doctor
- Follow-up appointment
Going Home

Activity

- Take frequent rest periods as necessary. Let your body be your guide.
- Do light activities for 2 weeks. Avoid strenuous exercise including heavy lifting, lifting grocery bags, snow shovelling, or pushing a lawn mower until after you have been seen by your doctor on your follow-up visit.
- Increase your walking distance each day.
- Resume your usual activities gradually over 3 to 6 weeks. Discuss any specific concerns with your doctor including when to resume sexual activity.
- Do not drive a vehicle for at least 2 weeks. You may resume driving after two weeks if you are comfortable with this.

Medications

- Take your pain medication as required e.g. before going to bed, or prior to activity. It is normal to experience some wound discomfort for a period of time after discharge.
- Add water-soluble fibre to your diet to avoid constipation from pain medication e.g. bran, whole grains, fruit. If constipation is a problem, you may take a mild laxative e.g Metamucil®.
- Do not drive a vehicle if you are taking narcotics. (e.g. Tylenol #3, Hydromorphone, Percocet).

Wound Care

- Take a shower or tub bath as you prefer. Soaking in tub for long periods may delay the healing process of your incision. Clean your incision with mild soapy water. Gently pat dry.
- Swelling or bruising may appear around the wound. This may continue for several weeks.

Diet

- If you are cooking for yourself look for quick and convenient meals (frozen dinners, canned soups/stews). Ask about meal services available in your community, such as Meals on Wheels.
- Eat a soft diet. This is a diet which is easy to chew, with foods that are easy to mash with a fork. By cooking foods till they are soft, chewing well and eating slowly you can provide some bowel rest while still meeting your nutrition needs.
The following table includes suggestions of foods to choose for your diet and foods to avoid or limit.

<table>
<thead>
<tr>
<th></th>
<th>Foods to Choose</th>
<th>Foods to Avoid / Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fruits</strong></td>
<td>▪ Soft, peeled or canned fruits. Ex: banana, melon, applesauce, oranges, peaches, cooked berries</td>
<td>▪ Dried fruits (raisins), pineapple, grapes (unless peeled), cranberries, fruit skins</td>
</tr>
<tr>
<td><strong>Vegetables</strong></td>
<td>▪ Cooked and soft vegetables that are easily mashed with a fork: potatoes, squash, carrots, green beans, turnips, vegetable soup</td>
<td>▪ Raw and stringy vegetables: celery, cabbage, spinach, lettuce, raw onions</td>
</tr>
</tbody>
</table>
| **Meats & other proteins** | ▪ All meat, fish and poultry, casseroles (Shepherds Pie, macaroni and cheese), smooth peanut butter | ▪ Tough cuts of meat, skin of chicken or turkey  
  ▪ Nuts and seeds**          |
| **Dairy Products**   | ▪ ALL: milk, milk drinks, cheese, puddings, ice cream (without nuts or dried fruit) | ▪ Avoid breads and cereals with added nuts, dried fruits ** (i.e. raisin bran, granola, banana nut loaf, raisin muffins) |
| **Breads & cereals** | ▪ ALL as tolerated (* see FIBRE below)                                             |                                                                                        |

* FIBRE – Whole wheat breads and cereals provide fibre, which helps with bowel regularity. **Fibre should be added/increased gradually** to avoid bloating, cramping, gas and/or diarrhea.

** Smooth peanut butter is a good source of protein and can be eaten soon after surgery. Whole nuts and seeds can generally be introduced after the surgical site has healed (3-5 weeks). However, for some medical conditions (i.e. Diverticular disease) and following some surgical procedures (i.e. colostomy/ileostomy), whole nuts, large seeds, popcorn should be avoided completely. Talk to your doctor or dietitian about this.
Suggested Meal Plan:

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>Lunch</th>
<th>Supper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit Juice</td>
<td>Vegetable juice</td>
<td>Roast chicken</td>
</tr>
<tr>
<td>Oatmeal, cream of wheat, cheerios or Special K cereal</td>
<td>Tuna or ham sandwich</td>
<td>Mashed potatoes</td>
</tr>
<tr>
<td>Scrambled eggs</td>
<td>Chicken noodle soup with crackers</td>
<td>Cooked vegetables</td>
</tr>
<tr>
<td>Toast with margarine and jelly</td>
<td>Yogurt with soft fruit</td>
<td>Soft fruit – applesauce, canned peaches, banana, melon</td>
</tr>
</tbody>
</table>

Other ideas for meals:
- muffin, bagel or toast with margarine/cream cheese/cheese/jelly
- pancakes or French toast with syrup
- cheese omelette, white toast, margarine and jelly
- macaroni and cheese or other pasta with sauce and well cooked vegetables
- spaghetti with meat sauce and parmesan cheese
- plain hamburger with mustard/ketchup

Ideas for between meal snacks:
- yogurt
- cheese and crackers
- hummus and crackers
- fruit
- peanut butter or oatmeal cookies
- commercial supplement (ENSURE®/RESOURCE®/Instant Breakfast® shake)
- homemade milkshake

There are some diet changes you can make if you are experiencing:

Gas:
- Avoid legumes (dried beans, peas, lentils etc.)
- Avoid gassy vegetables (or cook very well) such as broccoli, brussels sprouts, cabbage, cauliflower, and onion.
- Avoid carbonated drinks.
- Don’t drink with a straw.
- Avoid chewing gum.
- Chew food well, eat smaller meals more often.

Constipation:
- Drink at least 6-8 cups of fluid per day
- limit caffeinated drinks
- gradually increase your intake of soft fruits (applesauce, stewed prunes, canned fruit), and fibre rich breads and cereals (brown bread, bran cereals)
- Increase your activity levels – walking/gentle exercise
Please go to the Emergency department if you have any of the following:
- Chills or fever (temperature greater than 38.5° C. or 101° F)
- Increased or new discomfort,
- Redness, swelling or drainage around the incision or incision separation
- Nausea, vomiting, constipation, abdominal swelling, or bloody stools
- New or unexplained symptoms develop

Follow-up Appointment

After discharge from hospital, expect to see your surgeon in 2-3 weeks. The office phone numbers for the Division of General Surgery are listed below.

Dr B. St-Jean ................................................................. 613-241-3013
Dr J. Pires ................................................................. 613-241-3013
Dr Z. Dervish ............................................................ 613-741-1134
Dr G. Dervish ............................................................ 613-745-8633
Dr C. Beaulieu ........................................................... 613-241-3013

We would like to recommend the Colorectal Cancer Association of Canada web site which you may wish visit www.ccac-acc.ca.

This booklet was prepared by the ET nurses of The Ottawa Hospital.
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and adapted for the Montfort Hospital Montfort
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We hope this booklet has helped in providing you with important information regarding your minimally invasive bowel resection surgery