

## **PREOPERATIVE INSTRUCTIONS FOR COLON AND RECTAL SURGERY**

Removal of a portion of the small bowel, colon, or rectum is a major operation. After a period of hospitalization that varies depending greatly on emergency or elective circumstances, and the presence or absence of complications, you will be ready for discharge to home or to an alternative care facility. Discharge from the hospital requires adequate nutritional intake (usually orally), adequate demonstration of normalization of bowel action (flatus per anus or stoma), and ability to tolerate oral pain medications (as pertains to wound discomfort). There is a tremendous variability of “normal” in all of these areas. Hospital stays from 2 days, which is very short, to 7-10 days, which is a little on the long side, are in the “range”. The average is about 2 to 5 days.

### **Before Surgery**

You will need to have a preoperative physical exam by your primary or referring doctor, and a consultation exam by Dr. Casillas or Dr. Russ. The type of operation, indications, risks, alternatives, benefits and possible complications will be explained to you and your family by Dr. Casillas or Dr. Russ and mentioned again in this paper. You will then be seen preoperatively by the pre-anesthesia clinic. You will be given a sheet of instructions for cleansing the colon (bowel) by our nurse and be told what time to arrive on the day of surgery (usually 2 hours prior to surgery). You will be told how many days before surgery to stop Coumadin, Plavix, Xarelto, or other anticoagulants.

Aspirin: Hold for 7 days

Coumadin (Warfarin): Hold for 5 days

Plavix (Clopidogrel): Hold for 7 days

Effient (Prasugrel): Hold for 7 days

Xarelto (Rivaroxaban): Hold for 5 days

Pradaxa (Dabigatran): Hold for 5 days

Pletal (Cilostazol): Hold for 2 days

### **To Prepare for Surgery**

- **Do not eat or drink anything after midnight the night before your surgery, this includes water.**
- Continue to take your medication(s) as prescribed but with only a sip of water.
- **Do not smoke several weeks prior to surgery.**
- Do not wear make-up, especially eye make-up.
- Do not bring large sums of money, jewelry, or credit cards.
- If you wear contact lenses, bring the case.
- Do not wear artificial nails or nail polish. Your nails are monitored during surgery to identify oxygen and blood circulation.
- Bring a list with you of all medications and their dosages and give this list to the nurse to be placed in the chart.
- Bring your insurance identification cards.

### **Day of Surgery**

On the day of surgery, report to Patient Registration located on the first floor, main lobby of the hospital. You and your family will be directed to the surgical waiting lounge and you will eventually go to the pre-op holding room (family not allowed). The anesthesiologist will talk with you about options for anesthesia and pain control. An intravenous (IV) line will be started to prevent you from becoming dehydrated. It will remain in place for several days after your surgery until you are able to take liquids by mouth. Before you go to surgery you will be given antibiotics through the IV to decrease the risks of infections after surgery. You will receive medication to relax you.

### **In the Operating Room**

Once you are asleep a catheter is placed in your bladder to collect and record urine output. A naso-gastric tube (NGT) is passed through your nose, down your throat and into your stomach. In most cases the NGT is removed at the end of the case. The length of surgery varies from patient to patient and is determined by the general health of the patient and how complicated the surgery is.

### **After Surgery**

Following surgery you will be taken to the recovery room. Dr. Solla or Dr. Casillas will meet your family in the surgical waiting lounge to discuss your condition and any findings during the operation.

**18 Risk Factors for Complications During and Following Colorectal Surgery**

- Cardiovascular Disease (MI, CHF)
- Lung Disease
- Kidney Disease
- Liver Disease (cirrhosis)
- Diabetes
- Clotting Disorders
- Malnutrition/Low Protein
- Obesity (BMI > 30)
- Anemia/ Blood Transfusion
- Previous abdominal or pelvic surgery
- Alcohol Abuse (> 35 drinks/week)
- Radiation to abdomen/pelvis
- Immunosuppression (steroids, chemotherapy)
- Bowel Perforation/Abscess/Peritonitis
- Male Gender
- Low rectal cancer
- Tobacco Use
- Significant, unexplained weight loss

**Possible Complications Associated with Colon and Rectal Surgery (increased by a number of risk factors)**

- Infection –wound infections, abdominal and pelvic abscess, **anastomotic leaks**, enterocutaneous fistula.
- Accidental injury to the intestine, neighboring organs, or surrounding structures (ureter, bladder, and spleen).
- Bleeding.
- Stoma (ileostomy/colostomy) complications: prolapse, retraction, stenosis, skin excoriation, and parastomal hernia.
- Hernia developing in the incision (early and late)
- Intestinal obstruction due to development of scar tissue (early and late)
- Injury to nerves controlling the bladder evacuation & sexual function.
- Pneumonia and other risks of general anesthesia, which you should discuss with your anesthesiologist before surgery.
- Blood clots in the legs, which may lead to pulmonary emboli (blood clot in lung)
- Myocardial infarction, Cerebrovascular accident, and others.
- Death.

Informed Consent: I _____ and/or my significant other understand the planned procedure, risks, alternatives, benefits and		
Print Patient's Name		
possible complications as explained by Dr. Casillas or Dr. Russ and listed above. _____		
Patient's Signature		Date

**Postoperative Care: After your operation the following may be necessary:**

- You may require antibiotics, anti-nausea and pain medications
- Postoperative pain control will be administered through a combination of injection into your wound, IV and oral pain medication. The goal is to minimize the amount of narcotics given to reduce the risk of post-operative ileus (delay in bowel function).
- Your intestine will require some time to heal before it will function properly again. Initially, you'll receive nutrition through an IV. As your tolerance of liquids improves, you'll slowly be advanced from a clear liquid diet to a regular diet. This varies depending on how soon bowel functions returns.
- You may be given special compression stockings to wear after surgery or be given subcutaneous Heparin injections to decrease the possibility of blood clots forming in your legs. You will be asked to walk in the hall outside your room starting on post-operative day #1 to improve your blood circulation, prevent constipation and to help your breathing (see **CREAD** postoperative pathway-page #4)
- You will be asked to use an incentive spirometer, to breathe deeply, and to cough frequently, in order to improve lung function after general anesthesia. You may be asked to deep breathe and cough (while supporting your incision line) to keep your breathing passages clear from secretions.
- A few patients may eventually require an NGT be placed in your nose down to your stomach to remove excess gas and secretions usually during your third day after surgery. This decrease in the movement of the gut is called a "**postoperative ileus**" and in a small group of patients (25%) does not resolve before the abdomen becomes distended and the patient becomes nauseated and may even vomit. The NG tube placed at surgery is not routinely left since 75% of the patients resolve their ileus before vomiting.

**If you have a colostomy or ileostomy created:**

- An enterostomal nurse (ETN) will teach you how to care for the ostomy site.
- This surgery will change the aspect of the way your intestines function.
- In the first weeks after your operation, avoid high fiber foods, including corn, celery, apples, nuts, popcorn, grapes and other food with hulls, peels, and seeds. When your doctor says you may eat these foods again, begin with small amounts, so you can see how your intestine adjusts to digesting them.
- Alert your physicians and pharmacists that you cannot take medications that are considered long acting or sustained release.
- Do not use laxatives, because post-colostomy stools are usually quite liquid.
- Drink eight 8-ounce glasses of liquid a day (not including caffeinated beverages), because extra fluids will be lost in your stool.

**Frequently Asked Questions**

**How long will I be in the hospital?** You will be in the hospital for approximately 2 to 5 days on average.

**How much pain will I have and how is it managed?** The incision does cause pain. There are several alternatives to manage the pain: A PCA (patient controlled analgesic, where the patient controls his/hers own pain through the IV); and Epidural catheter (analgesic is administered through a catheter placed into the epidural space of the spinal column).

**Will I need to have a tube in my nose?** Routinely no, but abdominal surgery with manipulation of the intestines, general anesthesia and narcotics cause a decrease of normal activity or movement of the gut. This is called “**postoperative ileus**” and normally resolves in 72 hours. Normal ileus leads to slight abdominal distention and absent bowel sounds. If your ileus takes longer to resolve, your distention will become worse and you may vomit. An NG tube may be placed to help to keep your abdomen soft, free of excess gas and to prevent further vomiting that may hurt your incision.

**What can I eat?** The afternoon or evening following surgery you may have non-carbonated clear liquids. You will start taking a clear liquid diet the day following surgery if all is well and an NG tube was not left in your stomach. If you tolerate liquids for one day, you will be offered solid food. You can elect to stay on the liquid diet another day if you want.

**When will I know the results of the pathology report?** It usually takes 4 to 5 days depending on the size of the specimen and complexity of the diagnosis.

**What kind of diet will I be at home?** You will be on a fairly regular diet.

**Will it hurt to move my bowels?** There should be no pain.

**How soon can I exercise?** You can walk and climb stairs as soon as you want as long as it is not painful to do so, but there should be no upper body exertion for one month. (Average 3 to 6 weeks)

**What medications will I need at home?** You may require pain medication. You should resume your usual medications if directed to do so by your doctor.

**How soon can I drive?** You can usually drive 2 weeks or 14-16 days after you leave the hospital (3 weeks or 21 days after the day of surgery).

**When can I go back to work?** You can usually go back to work two to six weeks after surgery. Full recovery may take as long as two to six months and may include pronounced fatigue.

**What will I have to do at home?** You will be able to care for yourself, but you may need some assistance with cooking, housekeeping, and grocery shopping.

**Do I need someone to stay with me at home?** It would be preferable to have someone stay with you. A few stairs and short walks are okay during the first 3 weeks.

**When can I have sex?** In most cases you can resume sex after a few weeks as long as you do not have pain.

**Can I swim in a pool or lake?** Yes you can swim in either one usually by 3 weeks, as long as it does not cause pain and your wound is not open.

If you have any questions or concerns about preoperative instructions or post-operative complications (see below) please call the office and speak to our nurse (865) 305-5335. If you leave a message for the nurse before 4 p.m., she will return your call that day. Calls made after 4 p.m. that are not emergencies or urgent concerns will be returned the next business day. Emergency or urgent calls after 4:30 p.m. and on weekends will be answered by Dr. Casillas, Dr. Russ, or a surgeon covering for them.

If Dr. Casillas or Dr. Russ is not available, a doctor on call is available 24 hours a day, every day of the year, including holidays. After hours, call our office and the answering service will locate one of our doctors on call. In an emergency try to contact us for advice before you go to the hospital. A telephone call may save you a lot of time, money and discomfort. This is recommended unless you are having chest pain, shortness of breath or difficulty breathing. If any of these occur, go immediately to the Emergency Room nearest your home and do not take time to call.

### **Outcome**

The outcome varies depending on why you had the colorectal resection. If you have colon cancer, a good outcome includes a pathology report showing that the entire cancerous area has been removed, with clean margins on either side. If you have a pre-cancerous condition such as certain types of polyps, familial polyposis or ulcerative colitis, then you may have prevented the eventual development of cancer. If you had surgery due to other conditions, a successful operation will alleviate or improve your symptoms.

If you've had an ileostomy/colostomy created, your daily waste (feces) will collect in a pouch attached to your ostomy site. Consideration for living with a ileostomy/colostomy include:

Your stool is likely to be looser (more liquid) than it was before your ostomy.

You'll need to practice meticulous skin care of the area around the stoma in order to prevent inflammation and infection

### **Call our office if any of the following occur:**

- Incisional redness, increasing pain, excessive bleeding, drainage or bulging at the incision site.
- Nausea and/or vomiting that you can't control with the medications you were given after surgery, or which persist for more than two days after discharge from the hospital (especially if associated with abdominal distention and bowels not moving).
- Signs of infection, including fever greater than 101.5°F and chills.
- Pain and/or swelling in your feet, calves, or legs.
- Pain, burning, urgency, frequency of urination, or persistent bleeding in the urine.
- Excessive blood in your stool, or black, tarry stools.

### **If you have a colostomy or ileostomy created:**

- Bleeding from within the stoma (not a small amount of bright red bleeding from outside stoma)
- Stoma is not functioning (you aren't collecting any stool in the pouch)
- The skin around the stoma appears irritated, moist, red, swollen, or develops sores (you will be referred to an enterostomal nurse).

## **CREAD Postoperative Care Pathway**

Postoperative hospital stay and complications can be reduced with a multimodal postoperative care regimen, which accelerates recovery after major abdominal and pelvic colorectal surgery. The postoperative care pathway protocol I follow uses **Controlled Rehabilitation with Early Ambulation and Diet (CREAD)**.

Unlike traditional postoperative care pathways, the CREAD protocol permits patients to walk and drink non carbonated fluids on the evening of surgery if an NG tube was not placed during surgery. On postoperative day 1, patients are encouraged to walk at least one circuit of the nursing floor (approximately 50 yards) up to five times, to sit out of bed between walks, and to do regular incentive spirometry. This walking protocol is repeated or increased each day. Patients are allowed to start a clear non-carbonated liquid diet on the day of surgery. On postoperative day 1 patients are offered solid regular food if clear liquids are tolerated.

**Before discharge, all patients must pass flatus, be comfortable with oral pain medications, stand and walk independently, and have tolerated enough liquid to not become dehydrated at home.**



## Overview of Strong for Surgery

Strong for Surgery is a public health campaign that engages patients and their surgeons to improve overall health and increase the likelihood of a positive surgical outcome. The pre-surgical checklists are a communication strategy for patients and clinicians to consider four common risk factors.



### NUTRITION



Nutritional status is currently the single most important independent predictor of outcomes in any type of surgery.

Assessment for unintentional weight loss, change in dietary intake, and gastrointestinal symptoms can indicate that a patient may be at risk and should be referred to a registered dietitian for nutritional counseling. To prevent immune suppression in surgery patients, which increases infection rates, use of a specialized nutrition formula can reduce infectious complications by 40-60%.

### SMOKING CESSATION



Smoking correlates with 40% higher prevalence of post-operative complications and is an independent risk factor for infections and cardiovascular events after surgery. Smokers who undergo spine surgery have a 2-3 times higher rate of non union for spine fusion, are less likely to return to work after surgery, and have more pain and less satisfaction after surgery for spinal stenosis. To improve outcomes in patients currently smoking, providers will advise patients to stop smoking, to choose a quit date, and refer them to available resources.

### MEDICATION USE



A thorough review of all medications, over the counter drugs, supplements, and herbal remedies is important so that the patient can be advised of which medicines to keep taking and which to discontinue before surgery. Evidence shows that aspirin

and beta blockers can be safely continued throughout the perioperative period for cardiac protection with most surgeries. Some medications increase bleeding risks and should be stopped before surgery. Specific herbal medications (e.g. Echinacea, Garlic, Ginkgo, Ginseng, Kava, Saw Palmetto,, St. John's Wort, Valerian) can also increase risks.

### GLYCEMIC CONTROL



Proper blood glucose control in diabetic patients having surgery can help lower the risk of surgical site infections, support healing, and lower the length of stay. Establishing control of blood glucose prior to surgery reduces the chance of high blood glucose (hyperglycemia) or low blood glucose (hypoglycemia) during the perioperative period; studies have shown hyperglycemia to double the risk of surgical site infections. Checking blood glucose prior to surgery may identify patients that have undiagnosed diabetes, a reported one-third of all patients having surgery, and let clinicians start treatment before hospitalization.

Strong for Surgery is a program of the CERTAIN Learning Healthcare Network, based in Washington State.



[strongforsurgery.org](http://strongforsurgery.org)