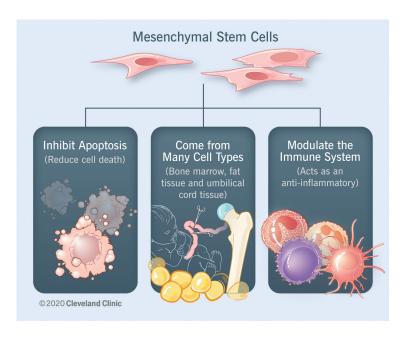


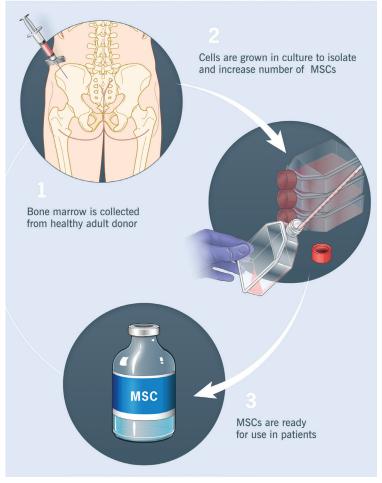
# Mesenchymal Stem Cells for the Treatment of Colitis in the Setting of Crohn's Disease

Principal Investigator: Amy Lightner, MD

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Inflammatory Bowel Disease (IBD) is an idiopathic chronic inflammatory disease of the gastrointestinal tract which affects nearly one million people in the United States and millions more world-wide, and continues to increase in incidence for unknown reasons. Monoclonal antibodies have become the cornerstone of medical therapy for moderate to severe disease. However, their utility is limited by initial lack of response, loss of response over time, and significant side effects. Once monoclonal antibodies are no longer effective. patients may then undergo surgical intervention with risk of morbidity and life altering changes including the need for an ostomy. Therefore, we are passionately invested in developing novel improved therapeutic options for IBD patients.

The use of mesenchymal stem cells (MSCs) has recently emerged as a promising new therapeutic for perianal fistulizing Crohn's disease (CD), a phenotype of CD very difficult to treat. Several clinical trials including more than 400 patients have now demonstrated their safety and improved efficacy as compared to current medical and surgical options. MSCs come from multiple different tissue sources. Most commonly they are isolated from bone marrow aspirates, fat tissue harvest, or umbilical cord tissue. MSCs are able to travel to areas of inflammation and act as an anti-inflammatory and immunomodulating agent where they are most needed. The cells are adult cells, and do not have the ability to change into other cell types or become part of your body. Rather, they can be viewed as a type of strong anti-inflammatory medication that recruits your body's own immune cells to the area to help heal inflammation and repair tissue damage. Our team is working to deliver MSCs from healthy donors as a therapeutic for both Crohn's disease and ulcerative colitis. We have now established several clinical trials using MSCs to treat different types of fistulas and intestinal CD and ulcerative colitis. These clinical trials require a strong team well versed in regenerative medicine and inflammatory bowel disease, and include personnel from surgery, gastroenterology, radiology, pathology, laboratory medicine, cell manufacturing and regulatory medicine departments. This type of team is only available at a limited number of centers.





Amy Lightner MD



Mesenchymal stem cells in syringe

### Mesenchymal Stem Cells

#### What is a mesenchymal stem cell?

Mesenchymal stem cells are adult stem cells that can be harvested from bone marrow or fat tissue. They are adult cells that your body uses to repair tissue that is injured. We are able to isolate these cells and deliver them in large numbers right to where the tissue is inflamed or injured to promote healing.

# Where do the mesenchymal stem cells come from?

Mesenchymal stem cells are for our clinical trials are retrieved from the bone marrow from healthy donors. The donors are screened for several items just as blood donors are screened.

#### How do mesenchymal stem cells work?

Mesenchymal stem cells at as a potent anti-inflammatory by secreting factors called cytokines into the tissue. These cytokines have anti-inflammatory properties. They also recruit immune cells that are normally in low levels that you need to heal these areas of injury. In late phases, they help regenerate, or repair, tissue to return to a healthy state.

# Do mesenchymal stem cells stay in my body after injection?

Mesenchymal stem cells likely in the body only 3-7 days, although we are unable to know for sure since we can't label these cells and see them. We have learned this information from animal studies that have been done. They are in the local area and secrete their cytokines, or signals, which change the local environment in the tissue and then lead to their anti-inflammatory and repair properties.

# Do mesenchymal stem cells turn into something else after injection?

Because mesenchymal stem cells are adult stem cells they don't turn into other cell types or tissues like 'embryonic stem cells'. These mesenchymal stem cells really serve as an anti-inflammatory and repair cell.

#### Will my body react against the cells or be 'rejected'?

Mesenchymal stem cells don't have markers on their surface that would make your body recognize them as 'foreign'. Therefore, your body won't react against them or reject them.

### Are there any risks of these mesenchymal stem cells?

There do not appear to be any significant risks of mesenchymal stem cells. These cells have been used in inflammatory bowel disease since 2003. There have now been hundreds of patients treated without any reactions or infections or complications related to the cells. Thus, we now have several years of safety data of using these cells for inflammatory bowel disease and have strong evidence there are no clinical concerns.

### **Clinical Information**

# What are the steps when I'm interested in learning more about the trial?

Sometimes you will reach out via email (ibdstemcell@ccf. org) or your doctor will reach out to Dr. Lightner directly about your participation in a clinical trial. We then will contact you to register as a Cleveland Clinic patient.

After you have registered, you can chose to 1) be seen in person in clinic with Dr. Lightner, or 2) do a virtual visit with Dr. Lightner from home. Before this visit, Dr. Lightner's clinic nurse, Amy, will reach out to ask you a few questions so we can understand your IBD history and what records we need to get before your clinic visit. Last, we will work on obtaining outside records such as labs, colonoscopy reports, CT and MRI imaging, and any prior operative reports from previous surgery.

# What can I expect when I meet with Dr. Lightner?

Dr. Lightner will review the notes taken by Amy and your outside records. She will then meet with you to discuss your IBD history and current symptoms to understand your IBD story. Then she will talk about treatment options which may or may not include participation in a stem cell trial. Sometimes, there are options that may help you before proceeding with a stem cell trial. Other times, it may be best to proceed right to a stem cell trial.

# What might be some tests I need before enrolling into a clinical trial?

Depending on which clinical trial, and when you last had these tests, you may need to get imaging of your intestine (MR enterography or CT enterography), a surveillance colonoscopy, pelvic MRI to look at fistula tracts, and blood tests done.

### Do I need to stop my IBD medications before a clinical trial?

This depends on which clinical trial you are participating in. If you are participating in a fistula study, you will remain on any IBD medications you are currently on. If you are participating in a trial for intestinal disease, then likely you will be discontinuing current medications for your inflammatory bowel disease prior to receiving any stem cell treatment. However, this will be discussed with

Dr. Lightner and the doctor prescribing your medication for inflammatory bowel disease.

#### Who can I contact with questions?

There will be a team of people taking care of you during this process, and all of us are happy to answer any questions that arise. You will meet Amy, the nurse working with Dr. Lightner, study coordinators in charge of clinical trials, Dr. Lightner's assistant, and Dr. Lightner as well. The best way to reach us is through a MyChart message or by emailing ibdstemcell@ccf.org

### How often will I have to come to Cleveland if I enroll into a clinical trial?

The clinical trials require being seen in person multiple times over the course of the year as these are trial monitored by our institution and by the Food and Drug Administration (FDA) for both safety and how well cell therapy works. Thus, we are responsible for your safety and clinical care. That is why we have to see you in person here in Cleveland. We understand this may be difficult if you are coming from out of town, but we can try to work with your schedule the best we can and schedule visits far in advance.

# What can I expect on the day of procedure when I receive mesenchymal stem cells?

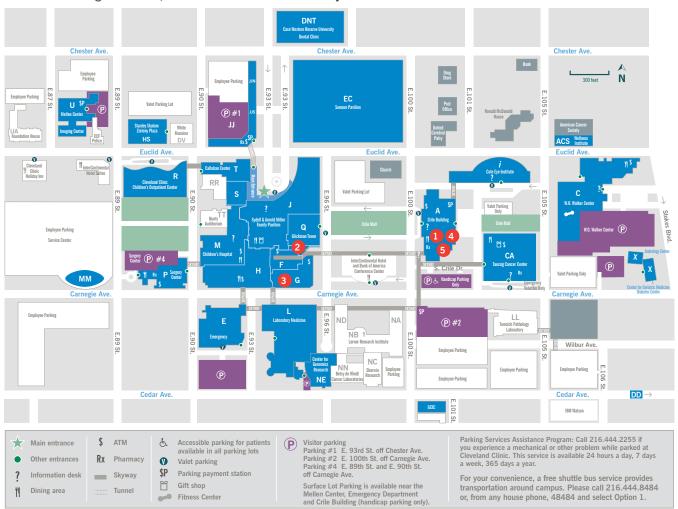
All stem cell deliveries are done in the operating room while you are asleep. You will report to the preoperative area and then when we are ready for your case to start you will be brought to the operating room. Dr. Lightner will see you outside the operating room to answer any questions and perform a team huddle with you, the anesthesiologist, the OR nurse and Dr. Lightner. Then you will go to sleep and the procedure will take about 30 minutes. After the procedure you will go to the recovery area where you will be monitored for a total of 4 hours. The 4 hours is required because you are receiving an investigational product and we have to make sure you don't have any reaction to the product before leaving the hospital. Dr. Lightner will see you and talk to the family member/friend of your choice if you want following the procedure.

### Where to Go – Based on Study Activity

- Physical exams
  Crile A Building: 3rd Floor
  2049 E 100th St., A Building
  Cleveland, OH 44195
- MRI
  Q building: Basement level
  2050 E 96th St., Q Building
  Cleveland, OH 44195
- Exam under anesthesia G building: 2nd floor 9800 Euclid Ave Cleveland, OH 44195

- Labs
  Crile A Building: 1st Floor
  2049 E 100th St., A Building
  Cleveland, OH 44195
- 5 Endoscopy Crile A Building: 3rd Floor 2049 E 100th St., A Building, Cleveland, OH 44195

#### For onsite walking directions, use this link: clevelandclinic.yourdirectroute.com/index.html#home



### Parking, Lodging and Child Care

#### **Parking**

Visit this link for additional details regarding parking: my.clevelandclinic.org/patients/travel/parking

A Building - Crile Building

P2 - Parking garage at E. 100th St. and Carnegie Ave. or Valet

J Building - Sydell & Arnold Miller Family Pavilion P1 - Parking garage at E. 93rd St. and Chester Ave. or Valet

P Building - Surgery Center

P4 - Parking garage at E. 90th St. and Carnegie Ave. (Accessible only from the first floor main entrance on E. 89th St.)

R Building - Cleveland Clinic Children's Outpatient Center P1 - Parking garage at E. 93rd St. and Chester Ave. or Valet

i Building - Cole Eye Institute

Valet or P2 - Parking garage at E. 100th St. and Carnegie Ave. (Please note, using the P2 garage will require you to walk 4 streets blocks, so plan accordingly.)

CA Building - Taussig Cancer Center P2 - Parking garage at E. 100th St. and Carnegie Ave. or Valet

N Building - Education Building & Lerner Research Institute

P2 - Parking garage at E. 100th St. and Carnegie Ave.

X Building - Centers for Geriatric and Diabetes Care Surface parking lot accessible from Carnegie Ave.

#### **Lodging on Cleveland Clinic Main Campus**

Visit this link to review the most updated details regarding lodging: my.clevelandclinic.org/patients/travel/lodging

#### Center-based childcare

These centers offer childcare services operating with approved pandemic licenses

#### Kindercare contact:

Danielle Corbin dcorbin@kindercare.com

YMCA contact: 216.263.6860 or children@ymca.org

**JDN Early Childhood Center contact:** Jill Sadowsky at 216.320.8483 or sadowskyj@bellefairejcb.org

### Bowel Preparation Instructions for: Miralax-Gatorade Preparations

#### IF YOU DO NOT FOLLOW THESE DIRECTIONS, YOUR COLONOSCOPY WILL BE CANCELLED.

#### **Key Instructions:**

- Your bowel must be empty so that your doctor can clearly view your colon. Follow all of the instructions in this handout EXACTLY as they are written.
- Do NOT eat any solid food the ENTIRE day before your colonoscopy.
- Buy your bowel preparation at least 5 days before your colonoscopy.
- Four (4) Dulcolax laxative tablets containing 5mg of bisacodyl each (NOT Dulcolax stool softener)
- One (1) 8.3oz. bottle Miralax (238 grams) or generic equivalent
- 2 x 32oz. Bottles of Gatorade (NOT RED)
- Diabetic Patients: Use G2 (Gatorade 2)

#### TRANSPORTATION on the Day of Your Exam

A responsible adult **MUST** be present with you at Check In prior to your colonoscopy and REMAIN in the endoscopy area until you are discharged. You are **NOT ALLOWED** to drive, take a taxi or bus, or leave the Endoscopy Center **ALONE**. If you do not have a responsible driver (family member or friend) with you to take you home, your exam cannot be done with sedation and will be cancelled.

Please bring a list of all of your current medications, including any over-the-counter medications with you.

#### **Medications**

If you take insulin, diabetic medications or blood thinners such as Coumadin (warfarin), Plavix (clopidogrel), Ticlid (ticlopidine hydrochloride), Agrylin (anagrelide), Xarelto (Rivaroxaban), Pradaxa (Dabigatran), Eliquis (Apixaban), and Effient (Prasugrel). You **MUST** call the doctors who orders those medicines for instructions on altering the dosage before your colonoscopy.

All other medications should be taken the day of the exam with a sip of water including ASPIRIN.

### Five (5) Days Before Your Colonoscopy

- Do NOT take medicines that stop diarrhea such as Imodium, Kaopectate, or Pepto Bismol.
- Do NOT take fiber supplements such as Metamucil, Citrucel, or Perdiem.
- Do **NOT** take products that contain iron such as multivitamins (the label lists what is in the products).

#### Three (3) Days Before Your Colonoscopy

 Do NOT eat high-fiber foods – such as popcorn, beans, seeds (flax, sunflower, quinoa), multigrain bread, nuts, salad/vegetables, or fresh and dried fruit.

#### One (1) Day Before Your Colonoscopy

 Only drink clear liquids the ENTIRE DAY before your colonoscopy. Do NOT eat any solid foods. Drink at least 8 ounces of clear liquids every hour after waking up. The clear liquids you can drink include:

Clear Liquid (NO RED LIQUIDS)	DO NOT DRINK
Gatorade, Pedialyte or Powerade Clear broth or bouillon Coffee or tea (no milk or non-dairy creamer) Carbonated and non-carbonated soft drinks	Alcohol Milk or non-dairy creamers Noodles or vegetables in soup Juice with pulp Liquid you cannot see through
Kool-Aid or other fruit flavored drinks	unough
Strained fruit juices (no pulp)	
Jell-O, popsicles, hard candy	
Water	

Mix 1/2 of Miralax bottle (119 grams) in each 32 ounces of Gatorade bottle until dissolved. Keep cool in the refrigerator. DO NOT ADD ICE.

Between 2-5 p.m., you will begin to drink the Gatorade/ Miralax mixture. It is best to drink 8oz, wait 15 mins then drink another 8oz. Drink the mixture until you have completed all 64oz.

One hour after you are done drinking, take all four dulcolax tablets at once. This will complete your prep.

You can continue drinking clear liquids up until midnight.

### Home Going Instructions After Colonoscopy with Mesenchymal Stem Cell Injection

Thank you for choosing the Cleveland Clinic for your health care needs. As part of the Digestive Disease Center, the Department of Colorectal Surgery is honored to serve you. Thank you again for trusting us with your care and being part of our clinical trials. The following guidelines have been developed to help better assure a successful recovery following surgery.

- **1. Diet:** Your previous diet can be resumed after surgery.
- **2. Alcohol:** Alcoholic beverages should be avoided until the day after surgery, or while using narcotics.
- **3. Activity:** Walking and climbing stairs is acceptable, but strenuous activity (e.g., lifting objects weighing over 30 lbs, sit-ups, press-ups) should be avoided for 2 weeks.
- **4. Driving:** Do not drive a vehicle while still uncomfortable or while taking narcotic pain medications. When you return to driving, do not go alone the first time.
- **5. Wound care:** There should be no wound care involved with this procedure.

#### 6. Medications:

- Pain medications: Tylenol is permitted as instructed
- Prior medications: Prior medications for your inflammatory bowel disease (5-ASAs, steroids, immunodmodulators, biologics, etc): Do not resume your medications for inflammatory bowel disease. If your symptoms return, please contact our office to discuss the next steps with Dr. Lightner. Resume all other medications unless otherwise instructed.
- **7. Bowel function:** Bowel function should return to normal in the week following the procedure. There may be some discomfort with bowel movements, or general abdominal pain, for the first few days.

#### 8. Potential problems:

- Abdominal pain: Mild to moderate abdominal comfort is normal, but severe abdominal pain, inability to tolerate foods, or nausea/vomiting should prompt a call to our study team (contact listed below) or Dr. Lightner.
- Bleeding: A small amount of bleeding may occur and is normal. If you experience large amounts of bleeding or the passing of clots, you must call your surgeon for advice.
- Surgical infections: We don't anticipate any infection occurring, but if you have any difficulty urinating, fever over 101° F, or worsening pain, may indicate a life-threatening infection, and you must immediately call your surgeon for advice.
- 10.Office visits: Follow-up appointments should be made in your MyChart already. If you need to change the time, please call the colorectal surgery appointment line at 216.444.5404 or contact the study team.

#### For other questions or concerns, please

- 1. Send a MyChart Message
- 2. Email: ibdstemcell@ccf.org
- 3. During office hours: call Dr. Amy Lightner's office at 216.445.9715
- 4. After hours/weekends: call the colorectal surgery resident on-call at 216.444.2200.

### Your Visits and Test Schedule

**Table 4: Treatment Cohort** 

	Visit 1	Visit 2 Day 0	Visit 3 Day 1	Visit 4 Week 2	Visit 5 Week 6	Visit 6 Month 3	Visit 7 Month 6	Visit 9 Month 12	Visit 11 Month 24
Visit Window (Days)	-30	0	0	+/-3	+/-3	+/-7	+/-14	+/-14	-14/+104
Eligibility	Х								
Informed Consent	Х								
Washout <sup>a</sup>	Х								
Medical Surgical History	Χ	Х	Х	Х	Х	Х	Х	Х	Х
Exam W/Vital Signs	Χ	Х	Х	Х	Х	Х	Х	Х	Х
CDAI Score	Χ	Х	Х	Х	Х	Х	Х	Х	Х
MRE	ХÞ					Х		Х	
Colonoscopy W/BX	ХÞ	Хс				Х		Х	Х
SES-CD Score	Χ	Х		Х	Х	Х	Х	Х	Х
Flexible Sigmoidoscopy W/BX				Х	Х		Х		
Patient Reported Outcome Surveys	Х			Х	Х	Х	Х	Х	Х
MSC Delivery		Х				Х			
Pregnancy, Urine <sup>d</sup>	Х	Х				Xe			
AST/ALT	Х								
Hepatitis Panel	Х								
HIV	Х								
CBC	Х					Х	Х	Х	Х
CMP	Х					Х	Х	Х	Х
Pre-Albumin	Х					Х	Х	Х	Х
CRP	Х					Х	Х	Х	Х
ESR	Х					Х	Х	Х	Х
Clostridium Diff, Fecal	Х								
CMV colitis, Fecal	Х								
Calprotectin, Fecal	Х					Х		Χf	Χf
Concomitant Medications	Х	Х	Х	Х	Х	Х	Х	Х	Х
Adverse Events	Х	Х	Х	Х	Х	Х	Х	Х	Х

#### Key to table 4 and 5

- **a** = Washout period 2 weeks (5-ASA, corticosteroids, immunomodulator therapy, azathioprine, methotrexate, and 6-mercaptopurine) 4 weeks for biologics (anti TNF, anti-integrin, and interleukin) will be initiated TNF, anti-integrin, and interleukin) will be initiated
- **b** = If not done clinically in last 30days
- c = Used to deliver MSC or Normal saline
- **d** = Obtained only if women of child bearing potential (WOCBP)
- e = Obtained only if patient is going having Colectomy and are WOCBP
- f = Labs only obtained if patient did not have a colectomy performed

	Visit 1	Visit 2 Day 0	Visit 3 Day 1	Visit 4 Week 2	Visit 5 Week 6	Visit 6 Month 3	Visit 7 Month 6	Visit 9 Month 12	Visit 11 Month 24
Visit Window (Days)	-30	0	0	+/-3	+/-3	+/-7	+/-14	+/-14	-14/+104
Eligibility	Χ								
Informed Consent	Χ								
Washout <sup>a</sup>	Χ								
Medical Surgical History	Χ	Х	X	Χ	X	Х	Х	Х	Χ
Exam W/Vital signs	Χ	Х	Х	Χ	Χ	Χ	Х	Х	Х
CDAI Score	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
MRE	Хp					Χ		Χ	
Colonoscopy W/BX	Хp	Хс				Х		Х	Χ
SES-CD Score	Χ	Х		Χ	Χ	Χ	Х	Χ	Χ
Flexible Sigmoidoscopy W/BX				Χ	Х		Χ		
Patient Reported Outcome Surveys	Χ			Χ	Χ	Χ	Х	Χ	Χ
MSC Delivery		Χ							
Pregnancy, Urine <sup>d</sup>	Χ	Χ				Xe			
AST/ALT	Χ								
Hepatitis Panel	Χ								
HIV	Χ								
CBC	Χ					Χ	Χ	Χ	Χ
CMP	Χ					Χ	Χ	Χ	Χ
Pre-Albumin	Χ					Χ	Χ	Χ	Χ
CRP	Χ					Χ	Χ	Χ	Χ
ESR	Χ					Χ	Х	Χ	Χ
Clostridium Diff, Fecal	Χ								
CMV Colitis, Fecal	Х								
Calprotectin, Fecal	Х					Х		Χf	χf
Concomitant Medications	Χ	Х	Х	Х	Х	Х	Х	Х	Х
Adverse Events	Χ	Х	Χ	Х	Х	Χ	Х	Χ	Χ

#### Key to table 4 and 5

- a = Ask your clinical care team about which medications are permitted
- b = If not done clinically in last 90 days
- c = Used to deliver MSC or Normal saline
- d = Obtained only if women of child bearing potential (WOCBP)
- e = Obtained only if patient is going having Colectomy and are WOCBP
- f = Labs only obtained if patient did not have a colectomy performed

**Table 5: Control Cohort** 

	Visit 1	Visit 2 Day 0	Visit 3 Day 1	Visit 4 Week 2	Visit 5 Week 6	Visit 6 Month 3	Visit 6.1 Month 3; Day 1	Visit 6.2 Month 3: Week 2	Visit 6.3 Month 3; Week 6	Visit 7 Month 6	Visit 8 Month 9	Visit 10 Month 15	Visit 11 Month 24
Visit Window (Days)	-30	0	0	+/- 3	+/-3	+/-7	0	+/- 2	+/-3	+/-7	+/-14	+/-14	- 14/+104
Eligibility	Х												
Informed Consent	Х												
Washout <sup>c</sup>	Х												
Medical Surgical History	Х												
Exam W/Vital signs	Χ	Х	Χ	Х	Х	Х	Χ	Х	Χ	Х	Х	Χ	Х
CDAI Score	Х	Х	Χ	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
MRE	ХÞ									Х		Х	
Colonoscopy W/BX	X b	Xc				Xc				Х		Х	Χ
SES-CD Score	Х			Х	Х	Х		Х	Х	Х	Х	Χ	Χ
Flexible Sigmoidoscopy W/BX				Х	Х			Х	Х		Х		
Patient Reported Outcome Surveys	Х			Х	Х	Х		Х	Х	Х	Х	Х	Х
Normal Saline Delivery		Х											
MSC Delivery						Χ				Χ			
Pregnancy, urine <sup>h</sup>	Х	Х				Χ				Xe			
AST/ALT	Х												
Hepatitis Panel	Х												
HIV	Х												
CBC	Х					Χ				Х	Χ	Χ	Χ
CMP	Х					Х				Х	Χ	Χ	Χ
Pre-Albumin	Χ					Χ				Х	Х	Χ	Χ
CRP	Х					Х				Х	Χ	Χ	Χ
ESR	Χ					Χ				Х	Χ	Χ	Х
Clostridium Diff, Fecal	Х												
CMV Colitis, Fecal	Х												
Calprotectin, Fecal	Х					Χ				Χ		Χf	Χf
Concomitant Medications	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
Adverse Events	Х	Х	Χ	Х	Х	Х	Х	Х	Х	Χ	Χ	Χ	Χ

#### Visit 1 – Screening Visit

After signing this consent form, you will be evaluated for eligibility. This screening visit will consist of:

- A general physical exam which will include measurement of your vital signs (blood pressure, heart rate, and temperature) and an abdominal exam
- Surveys about your Crohn's disease
- Review of your medications, medical history, and surgical histories
- Blood sample taken to measure Complete Blood Count (CBC), liver functions (AST/ALT), Creatinine level, C reactive protein (CRP), Acute Hepatitis Panel, and HIV.
   Approximately 3 tablespoons of blood will be drawn.

If your HIV and/or your Acute Hepatitis Panel tests are positive, you will need to have a second test done to make sure the results are the same. Your doctor will tell you how to find medical help and counseling as needed, and you may not be able to take part in the study.

Your health insurer or you will have to pay for the cost of the repeat test, any follow-up medical care, or counseling.

If the HIV and/or Acute Hepatitis Panel test results are positive, it is state law that they be reported to the Ohio Department of Health. The test results will also be put in your medical record.

- If you are able to become pregnant, a urine pregnancy test will be performed.
- A MR enterography will be performed to assess your intestinal disease
- A colonoscopy to assess the degree of inflammation in your colon will be performed. A colonoscopy is an exam of the colon with a flexible lighted instrument. Tissue samples (biopsies) are usually taken during a colonoscopy. When examined, the tissues can show whether there is inflammation in the lining (mucosa) of the colon. You will be asked to take a bowel cleaner before the colonoscopy

#### **Visit 2 – Treatment Visit (Day 0)**

After being determined eligible for the study, you will come to **Visit 2**. At this visit you will undergo the following:

- Surveys about your Crohn's disease
- A general physical exam including vital signs and an abdominal exam
- Review of your medications, medical history, and surgical history since your last visit
- Blood sample taken to measure your CBC, and CRP
- If you are able to become pregnant, a urine pregnancy test will be performed.
- You will then be randomized to receive either investigational injection of remestemcel-L (Treatment) or injection of placebo normal saline (Control) at the time of a colonoscopy. You will be blinded, meaning you will not know which study treatment you are receiving. The investigator will know what treatment you are receiving, and will unblind you to your treatment at three months following this visit.

Your vital signs, including blood pressure, heart rate, and temperature will be monitored after the procedure at regular intervals for 4 hours in the recovery area. If your vital signs remain stable and you remain free of adverse events, you will be discharged to home. If your vital signs go outside of the acceptable range, it is possible that you could be admitted overnight for observation to the Cleveland Clinic.

#### Visit 3 – Day 1

The day after the delivery of the study drug, you will report to the outpatient Colorectal Surgery clinic for a follow-up visit where a brief physical exam and measurement of your vitals will be performed.

#### Visit 4 (Week 2; +/- 3 days)

Four weeks after the injection of study drug, you will report to the outpatient Colorectal Surgery clinic for a follow-up visit where the following will be performed:

- A general physical exam, a measurement of your vital signs, as well as an abdominal exam
- Review of your medications, medical history and surgical history since your last visit
- Surveys about your perianal disease
- Flexible sigmoidoscopy with biopsy
- Adverse events

A sigmoidoscopy is an exam of the colon with a flexible lighted instrument. Tissue samples (biopsies) are usually taken during the sigmoidoscopy. When examined, the tissues can show whether there is inflammation in the lining (mucosa) of the colon. You may be asked to take a bowel cleaner or enema prior to the sigmoidoscopy. This is not always the case, so be sure to ask your study doctor what he/she recommends.

#### Visit 5 (Week 6; +/- 3 days)

Six weeks after the injection of study drug, you will report to the outpatient Colorectal Surgery clinic for a follow-up visit where the following will be performed:

- A general physical exam including vital signs and an abdominal exam
- Review of your medications, medical history, and surgical history since your last visit
- Surveys about your perianal disease
- Flexible sigmoidoscopy with biopsy
- Adverse events

#### **Visit 6 (Month 3; +/- 7 days)**

Three months after the injection of the study drug, you will report to the outpatient Colorectal Surgery clinic for a follow-up visit where the following will be performed:

- A general physical exam including vital signs and an abdominal exam
- Review of your medications, medical history, and surgical history since your last visit
- Surveys about your perianal disease
- Blood sample taken to measure your CBC, CRP, Creatinine, Pre albumin, ESR
- Stool sample to test fecal calprotectin
- Magnetic Resonance Enterography (MRE) \*for treatment patients only
- Adverse events
- If you are able to become pregnant, a urine pregnancy test will be performed.
- A repeat colonoscopy will be done to check how much the study drug helped heal the colon
- At this visit, you will be unblinded to your study treatment. If you are a treatment patient, you may be eligible to receive a second injection of stem cells, your care team will let you know. After this, you will continue on to visit 7. If you are a control patient and you have not experienced complete healing, you will then crossover to receive the remstemcel-L product at the colonoscopy at this visit

Your vital signs, including blood pressure, heart rate, and temperature will be monitored after the procedure at regular intervals for 6 hours in the recovery area. If your vital signs remain stable and you remain free of adverse events, you will be discharged to home. If your vital signs go outside of the acceptable range, it is possible that you could be admitted overnight for observation to the Cleveland Clinic.

# Visit 6.1 (Month 3; Day 1 following remestemcel-L delivery in control patients)

For control patients, you will be seen the day after the remestemcel-L injection at the outpatient Colorectal Surgery clinic and undergo the following where a brief physical exam and measurement of your vitals will be performed.

#### Visit 6.2 (Month 3, Week 2; +/- 3 days)

**For control patients,** you will be seen four weeks after the injection of remesterncel-L in the outpatient Colorectal Surgery where you will undergo the following:

- A general physical exam, a measurement of your vital signs, as well as an abdominal exam
- Review of your medications, medical history, and surgical history since your last visit
- · Surveys about your perianal disease
- Flexible sigmoidoscopy with biopsy
- Adverse events

#### Visit 6.3 (Month 3, Week 6; +/- 5 days)

**For control patients,** you will be seen six weeks after the remestercel-L injection in the outpatient Colorectal Surgery where you will undergo the following:

- A general physical exam, a measurement of your vital signs, as well as an abdominal exam
- Review of your medications, medical history, and surgical history since your last visit
- Surveys about your perianal disease
- Flexible sigmoidoscopy with biopsy
- Adverse events

#### **Visit 7 (Month 6; +/- 7 days)**

Six months after the enrolling in the study, you will report to the outpatient Colorectal Surgery clinic for a follow-up visit where the following will be performed:

- A general physical exam including vital signs and an abdominal exam
- Review of your medications, medical history, and surgical history since your last visit
- Surveys about your perianal disease
- Blood sample taken to measure your CBC, CRP, Creatinine, Pre albumin, ESR
- Stool sample to test fecal calprotectin
- Magnetic Resonance Enterography (MRE) \*For controlcross over patients only
- · Adverse events
- Control patients only will also undergo a colonoscopy with biopsy; this is three months from the time of control patients receiving remestemcel-L

#### **Visit 8 (Month 9: +/- 7 days)**

**If you are a control-crossover patient,** six months after the remestemcel-L injection you will be seen in the outpatient Colorectal Surgery Clinic where the following will be performed:

- A general physical exam including vital signs and an abdominal exam
- Review of your medications, medical history, and surgical history since your last visit
- Surveys about your perianal disease
- Blood sample taken to measure your CBC, CRP, Creatinine, Pre albumin, ESR
- Stool sample to test fecal calprotectin
- Adverse events

#### Visit 9 (Month 12; +/- 14 days)

**All patients** will be seen twelve months after enrolling in the study. You will report to the outpatient Colorectal Surgery Clinic for a follow-up visit where the following will be performed:

- A general physical exam including vital signs and an abdominal exam
- Review of your medications, medical history, and surgical history since your last visit
- Surveys about your perianal disease
- Blood sample taken to measure your CBC, CRP, Creatinine, Pre albumin, ESR
- Stool sample to test fecal calprotectin
- Magnetic Resonance Enterography (MRE) \*For treatment patients only
- Colonoscopy with biopsy \*For treatment patients only
- Adverse events

#### Visit 10 (Month 15; +/- 14 days)

If you are a control-crossover patient, twelve months after the initial injection of remestemcel-L, you will report to the outpatient Colorectal Surgery clinic for a follow-up visit where the following will be performed:

- A general physical exam including vital signs and an abdominal exam
- Review of your medications, medical history, and surgical history since your last visit
- Surveys about your perianal disease
- Blood sample taken to measure your CBC, CRP, Creatinine, Pre-albumin, ESR
- Stool sample to test fecal calprotectin
- Magnetic Resonance Enterography (MRE)
- · Colonoscopy with biopsy
- Adverse events

#### Visit 11 (Month 24; +/- 14 days)

All patients will be seen 24 months after enrolling in the study. You will report to the outpatient Colorectal Surgery clinic for a follow-up visit where the following will be performed:

- A general physical exam including vital signs and an abdominal exam
- Review of your medications, medical history, and surgical history since your last visit
- Surveys about your perianal disease
- Blood sample taken to measure your CBC, CRP, Creatinine, Pre albumin, ESR
- Stool sample to test fecal calprotectin
- Colonoscopy with biopsy
- Adverse events

**All patients:** After **Visit 11**, your participation in this trial will be complete.

### My Visits

VISIT 1 Screening for eligibility visit	VISIT 6 3 months after treatment visit
Date	Date
Notes:	Notes:
VISIT 1.1 (Only for patients with active pelvic sepsis at screening)  Date  Notes:	VISIT 6.1 0-3 days within visit 6 (Retreatment day for patients with incomplete healing at visit 6)  Date Notes:
VISIT 2 Treatment Day visit  Date Notes:	VISIT 6.2 Day after retreatment visit  Date  Notes:
VISIT 3 Day after treatment visit  Date	VISIT 6.3 2 weeks after retreatment (month 3, week 2)  Date
Notes:	Notes:
VISIT 4 2 weeks after treatment visit	VISIT 6.4 6 weeks after retreatment (month 3, week 6)
Date	Date
Notes:	Notes:
VISIT 5 6 weeks after treatment visit	VISIT 7 6 months mark since initial treatment day
Date	Date
Notes:	Notes:

### My Visits, continued

VISIT 7.1 0-3 days within visit 7 (Crossover for controls: Patients who received normal saline will	VISIT 8.2 Day after crossover retreatment visit
crossover to receive investigational MSCs)	Date
Date	Notes:
Notes:	
VISIT 7.2 Day after crossover visit	VISIT 8.3 2 weeks after crossover retreatment visit (month 9, week 2)
Date	Date
Notes:	Notes:
VISIT 7.3 2 weeks after crossover visit (month 6, week 2)	VISIT 8.4 6 weeks after crossover retreatment visit (month 9, week 6)
Date	Date
Notes:	Notes:
VISIT 7.4 6 weeks after crossover visit (month 6, week 6)	VISIT 9 One year from visit 2: All patients will complete
Date	this visit. (month 12) *This is the last visit for treatment patients
Notes:	Date
	Notes:
VISIT 8 3 months after crossover visit (month 9)	VISIT 10 6 months after crossover visit (month 15)
Date	Date
Notes:	Notes:
VISIT 8.1 0-3 days within visit 8	VISIT 11 9 months after crossover visit (month 18)
(Retreatment day for crossover patients with incomplete healing at visit 8)	Date
Date	Notes:
Notes:	

# **JANUARY**

SU	MO	TU	WE	TH	FR	SA
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

### **MARCH**

SU	MO	TU	WE	TH	FR	SA
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

### **MAY**

SU	MO	TU	WE	TH	FR	SA
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

### **FEBRUARY**

SU	MO	TU	WE	TH	FR	SA
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

### **APRIL**

SU	MO	TU	WE	TH	FR	SA
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

# **JUNE**

SU	МО	TU	WE	TH	FR	SA
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

# **JULY**

SU	MO	TU	WE	TH	FR	SA
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

### **SEPTEMBER**

SU	MO	TU	WE	TH	FR	SA
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

### **NOVEMBER**

SU	MO	TU	WE	TH	FR	SA
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

# **AUGUST**

SU	MO	TU	WE	TH	FR	SA
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

### **OCTOBER**

SU	MO	TU	WE	TH	FR	SA
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

### **DECEMBER**

SU	MO	TU	WE	TH	FR	SA
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

### Survey: Wexner Incontinence Score

Patient Study ID Number:		_		
Visit Number:		_		
Visit Date:	///	(mm	n/dd/yyyy)	
				☐ Not Done

		Frequency				
Type of incontinence	Never	Rarely	Sometimes	Usually	Always	
Solid	0	1	2	3	4	
Liquid	0	1	2	3	4	
Gas	0	1	2	3	4	
Wears pad	0	1	2	3	4	
Lifestyle alteration	0	1	2	3	4	

• Never: 0

• Rarely: < 1/month

• Sometimes: < 1/week or ≥ 1/month

• Usually:  $< 1/day \text{ or } \ge 1/week$ 

• Always:  $\geq 1/day$ 

### Survey: EuroQol Five Dimensions Questionnaire (EQ-5D-5L)

Patient Study ID Number:	
Visit Number:	
Visit Date: / /	(mm/dd/yyyy)
	☐ Not Done
Mobility	
☐ 1 - I have no problems in walking about	Anxiety/depression
<ul> <li>2 - I have slight problems in walking about</li> <li>3 - I have moderate problems walking about</li> <li>4 - I have severe problems walking about</li> <li>5 - I am unable to walk about</li> </ul>	<ul> <li>1 - I am not anxious or depressed</li> <li>2 - I am slightly anxious or depressed</li> <li>3 - I am moderately anxious or depressed</li> <li>4 - I am severely anxious or depressed</li> </ul>
Self-Care	5 - I am extremely anxious or depressed
<ul> <li>□ 1 - I have no problems with washing or dressing myself</li> <li>□ 2 - I have slight with washing or dressing myself</li> <li>□ 3 - I have moderate with washing or dressing myself</li> <li>□ 4 - I have severe with washing or dressing myself</li> </ul>	Score Visual Analog Scale (VAS) Your own health state today
<ul><li>□ 5 - I am unable to wash or dress myself</li><li>Usual Activities</li></ul>	We have drawn a scale (rather like a thermometer) on which the best state you can imagine is marked 100 and the worst scale you can imagine mark 0.
(e.g. work, study, house work, family or leisure activities)  1 - I have no problems performing my usual activities  2 - I have slight problems with my usual activities  3 - I have moderate problems with my usual activities  4 - I have severe problems with my usual activities  5 - I am unable to perform my usual activities	We would like you to indicate on this scale how good or bad your own health is today, in your option. Please do this by drawing a line from the box below to whichever point on the scale indicates how good or bad your health state is today.  100 Best of health state (100) 90 80 70 60 50
☐ 1 - I have no pain or discomfort	40
2 - I have slight pain or discomfort  3 - I have moderate pain or discomfort  4 - 1 have severe pain or discomfort  5 - I have extreme pain or discomfort	30 20 10 0 Worst of health state (0)
	Vas Score

### Survey: Inflammatory Bowel Disease Patient-Reported Treatment Impact

Patient Study ID Number:	
Visit Number:	
Visit Date: / / / /	(mm/dd/yyyy)
	☐ Not Done
1. Overall, how satisfied are you with the drug that you receiv	red since you entered this trial?
1. Overall, flow satisfied are you with the drug that you receiv	ed since you entered this that:
1 - Extremely satisfied	
2 - Satisfied	Preface question for question number 3;
3 - Neither satisfied nor dissatisfied	Overall, do you prefer the drug that you received
4 - Dissatisfied	since you entered this trial to the treatment you received before this clinical trial?
5 - Extremely dissatisfied	
2. Before enrolling in this clinical trial, what treatment	Yes, I definitely prefer the drug that I am receiving now
were you receiving for your bowel condition?	☐ I have a slight preference for the drug that
☐ 1 - Injectable prescription medicines	I am receiving now
2 - Prescription medicines taken by mouth	☐ I have no preference either way
3 - Surgery	☐ I have a slight preference for my previous
4 - Prescription medicines and surgery	treatment
5 - No treatment	☐ No, I definitely prefer my previous treatment
	3. In the future, would you be willing to use the same drug that you have received since you entered this trial
	for your bowel condition?
	☐ 1 - Yes, I would definitely want to use
	the same drug again
	<ul><li>2 - I might want to use the same drug again</li></ul>
	3 - I am not sure
	4 - I might not want to use the same drug again
	5 - No, I definitely would not want to use
	the same drug again

### Survey: Quality of Life in the Inflammatory Bowel Disease Questionnaire (IBDQ)

Patient Study ID Number:	
Visit Number:	
Visit Date://	(mm/dd/yyyy)
	☐ Not Done
1. How frequently have your bowel movements been during the last two weeks?	3. How often during the last two weeks have you felt frustrated, impatient, or restless?
<ul> <li>1 - Bowel movements as or more frequent than they have ever been</li> <li>2 - Extremely frequent</li> <li>3 - Very frequent</li> <li>4 - Moderate increase in frequency of bowel movements</li> <li>5 - Some increase in frequency of bowel movements</li> <li>6 - Slight increase in frequency of bowel movements</li> <li>7 - Normal, no increase in frequency of bowel movements</li> <li>2. How often has the feeling of fatigue or of being tired and worn out been a problem for you during the last two weeks?</li> </ul>	☐ 1 - All of the time ☐ 2 - Most of the time ☐ 3 - A good bit of the time ☐ 4 - Some of the time ☐ 5 - A little of the time ☐ 6 - Hardly any of the time ☐ 7 - None of the time ☐ 4. How often during the last two weeks have you been unable to attend school or do to your work because of your bowel problem? ☐ 1 - All of the time ☐ 2 - Most of the time ☐ 3 - A good bit of the time
<ul> <li>□ 1 - All of the time</li> <li>□ 2 - Most of the time</li> <li>□ 3 - A good bit of the time</li> <li>□ 4 - Some of the time</li> <li>□ 5 - A little of the time</li> <li>□ 6 - Hardly any of the time</li> <li>□ 7 - None of the time</li> </ul>	<ul> <li>□ 4 - Some of the time</li> <li>□ 5 - A little of the time</li> <li>□ 6 - Hardly any of the time</li> <li>□ 7 - None of the time</li> <li><b>5. How much of the time during the last two weeks have your bowel movements been loose?</b></li> <li>□ 1 - All of the time</li> <li>□ 2 - Most of the time</li> <li>□ 3 - A good bit of the time</li> <li>□ 4 - Some of the time</li> <li>□ 5 - A little of the time</li> <li>□ 6 - Hardly any of the time</li> <li>□ 7 - None of the time</li> </ul>

6. How much energy have you had during the last two weeks?	10. How often during the last two weeks have you felt generally unwell?
☐ 1 - No energy at all	☐ 1 - All of the time
2 - Very little energy	☐ 2 - Most of the time
□ 3 - A little energy	☐ 3 - A good bit of the time
4 - Some energy	4 - Some of the time
☐ 5 - A moderate amount of energy	☐ 5 - A little of the time
□ 6 - A lot of energy	☐ 6 - Hardly any of the time
☐ 7 - Full of energy	☐ 7 - None of the time
7. How often during the last two weeks did you feel worries about the possibility if needing to have surgery because of your bowel problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time	11. How often during the last two week have you been troubled because of fear of not finding washroom?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time
☐ 6 - Hardly any of the time	7 - None of the time
☐ 7 - None of the time	12. How much difficulty have you had, as a result of
8. How often during the last two weeks have you had	your bowel problems, doing leisure or sports activities you would have liked to have done during the last two wooks?
a delay or cancel a social engagement because of your	you would have liked to have done during the last two weeks?
	you would have liked to have done during the last two weeks?  1 - A great deal of difficulty; activities made impossible
a delay or cancel a social engagement because of your bowel problems?	you would have liked to have done during the last two weeks?  1 - A great deal of difficulty; activities made impossible 2 - A lot of difficulty
a delay or cancel a social engagement because of your bowel problems?  1 - All of the time 2 - Most of the time	you would have liked to have done during the last two weeks?  1 - A great deal of difficulty; activities made impossible 2 - A lot of difficulty 3 - A fair bit of difficulty
<ul> <li>a delay or cancel a social engagement because of your bowel problems?</li> <li>1 - All of the time</li> </ul>	you would have liked to have done during the last two weeks?  1 - A great deal of difficulty; activities made impossible 2 - A lot of difficulty 3 - A fair bit of difficulty 4 - Some difficulty
<ul> <li>a delay or cancel a social engagement because of your bowel problems?</li> <li>1 - All of the time</li> <li>2 - Most of the time</li> <li>3 - A good bit of the time</li> </ul>	you would have liked to have done during the last two weeks?  1 - A great deal of difficulty; activities made impossible 2 - A lot of difficulty 3 - A fair bit of difficulty 4 - Some difficulty 5 - A little difficulty
a delay or cancel a social engagement because of your bowel problems?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time	you would have liked to have done during the last two weeks?  1 - A great deal of difficulty; activities made impossible 2 - A lot of difficulty 3 - A fair bit of difficulty 4 - Some difficulty
a delay or cancel a social engagement because of your bowel problems?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time	you would have liked to have done during the last two weeks?  1 - A great deal of difficulty; activities made impossible 2 - A lot of difficulty 3 - A fair bit of difficulty 4 - Some difficulty 5 - A little difficulty 6 - Hardly any difficulty
a delay or cancel a social engagement because of your bowel problems?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time	you would have liked to have done during the last two weeks?  1 - A great deal of difficulty; activities made impossible 2 - A lot of difficulty 3 - A fair bit of difficulty 4 - Some difficulty 5 - A little difficulty 6 - Hardly any difficulty 7 - No difficulty; the bowel problems did not limit sports or leisure activities  13. How often during the last two weeks have you been troubled by pain in the abdomen?
a delay or cancel a social engagement because of your bowel problems?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time	you would have liked to have done during the last two weeks?  1 - A great deal of difficulty; activities made impossible 2 - A lot of difficulty 3 - A fair bit of difficulty 4 - Some difficulty 5 - A little difficulty 6 - Hardly any difficulty 7 - No difficulty; the bowel problems did not limit sports or leisure activities  13. How often during the last two weeks have you been troubled by pain in the abdomen?  1 - All of the time
a delay or cancel a social engagement because of your bowel problems?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time  9. How often during the last two weeks have you been troubled by cramps in your abdomen?	you would have liked to have done during the last two weeks?  1 - A great deal of difficulty; activities made impossible 2 - A lot of difficulty 3 - A fair bit of difficulty 4 - Some difficulty 5 - A little difficulty 6 - Hardly any difficulty 7 - No difficulty; the bowel problems did not limit sports or leisure activities  13. How often during the last two weeks have you been troubled by pain in the abdomen?  1 - All of the time 2 - Most of the time
a delay or cancel a social engagement because of your bowel problems?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time 7 - None of the time 1 - All of the time 1 - All of the time	you would have liked to have done during the last two weeks?  1 - A great deal of difficulty; activities made impossible 2 - A lot of difficulty 3 - A fair bit of difficulty 4 - Some difficulty 5 - A little difficulty 6 - Hardly any difficulty 7 - No difficulty; the bowel problems did not limit sports or leisure activities  13. How often during the last two weeks have you been troubled by pain in the abdomen?  1 - All of the time 2 - Most of the time 3 - A good bit of the time
a delay or cancel a social engagement because of your bowel problems?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time 1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 4 - Some of the time	you would have liked to have done during the last two weeks?  1 - A great deal of difficulty; activities made impossible 2 - A lot of difficulty 3 - A fair bit of difficulty 4 - Some difficulty 5 - A little difficulty 6 - Hardly any difficulty 7 - No difficulty; the bowel problems did not limit sports or leisure activities  13. How often during the last two weeks have you been troubled by pain in the abdomen?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time
a delay or cancel a social engagement because of your bowel problems?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time 7 - None of the time 2 - Most of the time 2 - Most of the time 3 - A good bit of the time 3 - A good bit of the time	you would have liked to have done during the last two weeks?  1 - A great deal of difficulty; activities made impossible 2 - A lot of difficulty 3 - A fair bit of difficulty 4 - Some difficulty 5 - A little difficulty 6 - Hardly any difficulty 7 - No difficulty; the bowel problems did not limit sports or leisure activities  13. How often during the last two weeks have you been troubled by pain in the abdomen?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time
a delay or cancel a social engagement because of your bowel problems?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time 1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 4 - Some of the time	you would have liked to have done during the last two weeks?  1 - A great deal of difficulty; activities made impossible 2 - A lot of difficulty 3 - A fair bit of difficulty 4 - Some difficulty 5 - A little difficulty 6 - Hardly any difficulty 7 - No difficulty; the bowel problems did not limit sports or leisure activities  13. How often during the last two weeks have you been troubled by pain in the abdomen?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time

14. How often during the last two weeks have you had problems getting a good night's sleep, or been troubled by waking up during the night?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time	18. Overall, in the last two weeks, how much of a problem have you had maintaining or getting to the weight you would like to be at?  1 - A major problem 2 - A big problem 3 - A significant problem 4 - Some trouble 5 - A little trouble 6 - Hardly any trouble 7 - No trouble
15. How often during the last two weeks have you felt depressed or discouraged?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time	19. Many patients with bowel problems often have worries and anxieties related to their illness. These include worries about getting cancer, worries about never feeling better, and worries about having a relapse In general, how often during the last two weeks have you felt worries or anxious?  1 - All of the time 2 - Most of the time 3 - A good bit of the time
16. How often during the last two weeks have you had to avoid attending events where there was no washroom close at hand?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time	<ul> <li>□ 4 - Some of the time</li> <li>□ 5 - A little of the time</li> <li>□ 6 - Hardly any of the time</li> <li>□ 7 - None of the time</li> <li>20. How much of the time during the last two weeks have you been troubles by the feeling in abdominal bloating?</li> <li>□ 1 - All of the time</li> <li>□ 2 - Most of the time</li> <li>□ 3 - A good bit of the time</li> <li>□ 4 - Some of the time</li> </ul>
<ul> <li>17. Overall, in the last two weeks, how much of a problem have you had with passing large amounts of gas?</li> <li>1 - A major problem</li> <li>2 - A big problem</li> <li>3 - A significant problem</li> <li>4 - Some trouble</li> <li>5 - A little trouble</li> <li>6 - Hardly any trouble</li> <li>7 - No trouble</li> </ul>	□ 5 - A little of the time □ 6 - Hardly any of the time □ 7 - None of the time

21. How often during the last two weeks have you felt relaxed and free of tension?	25. How much of the time during the last two weeks have you felt fearful or upset?
■ 1 - None of the time	☐ 1 - All of the time
2 - A little of the time	2 - Most of the time
☐ 3 - Some of the time	☐ 3 - A good bit of the time
4 - A good bit of the time	4 - Some of the time
5 - Most of the time	☐ 5 - A little of the time
☐ 6 - Almost all of the time	☐ 6 - Hardly any of the time
☐ 7 – All of the time	7 - None of the time
22. How much of the time during the last two weeks have you had problem with the rectal bleeding with your bowel movements?	26. How much of the time during the last two weeks have you had trouble by accidental soiling of your underpants?
□ 1 - All of the time	$\square$ 1 - All of the time
2 - Most of the time	2 - Most of the time
3 - A good bit of the time	☐ 3 - A good bit of the time
4 - Some of the time	4 - Some of the time
5 - A little of the time	☐ 5 - A little of the time
☐ 6 - Hardly any of the time	☐ 6 - Hardly any of the time
7 - None of the time	7 - None of the time
23. How much of the time during the last two weeks you felt embarrasses as a result of your bowel problem?	27. How much of the time during the last two weeks have you felt anger as a result of your bowel movement problem?
you felt embarrasses as a result of your bowel problem?  1 - All of the time	have you felt anger as a result of your bowel movement problem?
you felt embarrasses as a result of your bowel problem?  1 - All of the time 2 - Most of the time	have you felt anger as a result of your bowel movement problem?  1 - All of the time
you felt embarrasses as a result of your bowel problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time	have you felt anger as a result of your bowel movement problem?  1 - All of the time 2 - Most of the time
you felt embarrasses as a result of your bowel problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time	have you felt anger as a result of your bowel movement problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time
you felt embarrasses as a result of your bowel problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time	have you felt anger as a result of your bowel movement problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time
you felt embarrasses as a result of your bowel problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time	have you felt anger as a result of your bowel movement problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time
you felt embarrasses as a result of your bowel problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time	have you felt anger as a result of your bowel movement problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time
you felt embarrasses as a result of your bowel problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time	have you felt anger as a result of your bowel movement problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time
you felt embarrasses as a result of your bowel problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time	have you felt anger as a result of your bowel movement problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time
you felt embarrasses as a result of your bowel problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time  24. How much of the time during the last two weeks have you been troubled by a feeling of having to go to the	have you felt anger as a result of your bowel movement problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time
you felt embarrasses as a result of your bowel problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time  24. How much of the time during the last two weeks have you been troubled by a feeling of having to go to the bathroom even though your bowels were empty?	have you felt anger as a result of your bowel movement problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time 28. To what extent has your bowel problem limited sexual activity during the last two weeks?
you felt embarrasses as a result of your bowel problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time  24. How much of the time during the last two weeks have you been troubled by a feeling of having to go to the bathroom even though your bowels were empty?  1 - All of the time	have you felt anger as a result of your bowel movement problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time 28. To what extent has your bowel problem limited sexual activity during the last two weeks?  1 - No sex as a result of bowel disease
you felt embarrasses as a result of your bowel problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time  24. How much of the time during the last two weeks have you been troubled by a feeling of having to go to the bathroom even though your bowels were empty?  1 - All of the time 2 - Most of the time	have you felt anger as a result of your bowel movement problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time 28. To what extent has your bowel problem limited sexual activity during the last two weeks?  1 - No sex as a result of bowel disease 2 - Major limitation as a result of bowel disease
you felt embarrasses as a result of your bowel problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time  24. How much of the time during the last two weeks have you been troubled by a feeling of having to go to the bathroom even though your bowels were empty?  1 - All of the time 2 - Most of the time 3 - A good bit of the time	have you felt anger as a result of your bowel movement problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time 1 - No sex as a result of bowel disease 2 - Major limitation as a result of bowel disease 3 - Moderate limitation as a result of bowel disease
you felt embarrasses as a result of your bowel problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time  24. How much of the time during the last two weeks have you been troubled by a feeling of having to go to the bathroom even though your bowels were empty?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time	have you felt anger as a result of your bowel movement problem?  1 - All of the time 2 - Most of the time 3 - A good bit of the time 4 - Some of the time 5 - A little of the time 6 - Hardly any of the time 7 - None of the time 28. To what extent has your bowel problem limited sexual activity during the last two weeks?  1 - No sex as a result of bowel disease 2 - Major limitation as a result of bowel disease 3 - Moderate limitation as a result of bowel disease 4 - Some limitation as a result of bowel disease

29. How much of the time during the last two weeks have you been troubles by nausea or feeling sick to the	31. How often during the past two weeks have you felt a lack of understanding from others?
stomach?	☐ 1 - All of the time
□ 1 - All of the time	2 - Most of the time
2 - Most of the time	☐ 3 - A good bit of the time
3 - A good bit of the time	4 - Some of the time
4 - Some of the time	☐ 5 - A little of the time
5 - A little of the time	☐ 6 - Hardly any of the time
☐ 6 - Hardly any of the time	7 - None of the time
7 - None of the time	
	32. How satisfied, happy, or pleases have you been with
30. How much of the time during the last two weeks	your personal life during the past two weeks?
have you felt irritable?	□ 1 - Vary dissatisfied, unhappy most of the time
□ 1 - All of the time	☐ 2 - Generally dissatisfies, unhappy
2 - Most of the time	■ 3 - Somewhat dissatisfied, unhappy
☐ 3 - A good bit of the time	☐ 4 - Generally satisfied, pleased
4 - Some of the time	☐ 5 - Satisfied most of the time, happy
5 - A little of the time	☐ 6 - Very satisfied most of the time, happy
☐ 6 - Hardly any of the time	☐ 7 – Extremely satisfied, could not have been
☐ 7 - None of the time	more happy or pleased
	Score

### Survey: The Short Form 36 Health Survey (SF-36)

Patient Study ID Number:	
Visit Number:	
Visit Date: / /	(mm/dd/yyyy)
	☐ Not Done
Choose one option for each questionnaire item	
1. In general, would you say your health is  Excellent (100)  Very good (75)  Good (50)	<ul> <li>5. Lifting or carrying groceries</li> <li>Yes, limited a lot (0)</li> <li>Yes, limited a little (50)</li> <li>No, not limited at all (100)</li> </ul>
☐ Fair (25) ☐ Poor (0)  2. Compared to one year ago, how would you rate your health in general now?	6. Climbing several flights of stairs  Yes, limited a lot (0)  Yes, limited a little (50)  No, not limited at all (100)
<ul> <li>Much better now than one year ago (100)</li> <li>Somewhat better now than one year ago (75)</li> <li>About the same (50)</li> <li>Somewhat worse now than one year ago (25)</li> <li>Much worse now than one year ago (0)</li> </ul>	7. Climbing one flight of stairs  Yes, limited a lot (0)  Yes, limited a little (50)  No, not limited at all (100)
The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?	<ul><li>8. Bending, kneeling, or stooping</li><li>Yes, limited a lot (0)</li><li>Yes, limited a little (50)</li></ul>
<ul> <li>3. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports</li> <li>Yes, limited a lot (0)</li> <li>Yes, limited a little (50)</li> <li>No, not limited at all (100)</li> </ul>	<ul> <li>No, not limited at all (100)</li> <li>9. Walking more than a mile</li> <li>☐ Yes, limited a lot (0950))</li> <li>☐ Yes, limited a little (50)</li> <li>☐ No, not limited at all (100)</li> </ul>
<ul> <li>4. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, playing golf</li> <li>Yes, limited a lot (0)</li> <li>Yes, limited a little (50)</li> <li>No, not limited at all (100)</li> </ul>	<ul> <li>10. Walking several blocks</li> <li>☐ Yes, limited a lot (0)</li> <li>☐ Yes, limited a little (50)</li> <li>☐ No, not limited at all (100)</li> </ul>
	<ul> <li>11. Walking one block</li> <li>☐ Yes, limited a lot (0)</li> <li>☐ Yes, limited a little (50)</li> <li>☐ No, not limited at all (100)</li> </ul>

### Survey: SF-36, continued

12. Bathing or dressing yourself  Yes, limited a lot (0)  Yes, limited a little (50)  No, not limited at all (100)  During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?	20. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?  Not at all (100) Slightly (75) Moderately (50) Quite a bit (25)
13. Cut down the amount of time you spent on work or other activities	Extremely (0)
☐ Yes (0) ☐ No (100)	<ul><li>21. How much bodily pain have you had during the past 4 weeks?</li><li>None (100)</li></ul>
14. Accomplished less than you would like  Yes (0)  No (100)	<ul><li>□ Very mild (80)</li><li>□ Mild (60)</li><li>□ Moderate (40)</li></ul>
15. Were limited in the kind of work or other activities  ☐ Yes (0)  ☐ No (100)	☐ Severe (20) ☐ Very severe (0)
<ul> <li>No (100)</li> <li>16. Had difficulty performing the work or other activities (for example, it took extra effort)</li> <li>☐ Yes (0)</li> <li>☐ No (100)</li> </ul>	22. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?  Not at all (100)  A little bit (75)  Moderately (50)
During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?	<ul><li>☐ Quite a bit (25)</li><li>☐ Extremely (0)</li><li>These questions are about how you feel and how things</li></ul>
17. Cut down the amount of time you spent on work or other activities  Yes (0) No (100)	have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks  23. Did you feel full of pep?
18. Accomplished less than you would like  ☐ Yes (0) ☐ No (100)	☐ All of the time (100) ☐ Most of the time (80) ☐ A good bit of the time (60)
19. Didn't do work or other activities as carefully as usual  Yes (0)  No (100)	<ul><li>Some of the time (40)</li><li>☐ A little of the time (20)</li><li>☐ None of the time (0)</li></ul>

### Survey: SF-36, continued

24. Have you been a very nervous person?  All of the time (0)  Most of the time (20)  A good bit of the time (40)  Some of the time (60)  A little of the time (80)  None of the time (100)	29. Did you feel worn out?  All of the time (0)  Most of the time (20)  A good bit of the time (40)  Some of the time (60)  A little of the time (80)  None of the time (100)
25. Have you felt so down in the dumps that nothing could cheer you up?  All of the time (0)  Most of the time (20)  A good bit of the time (40)  Some of the time (60)  A little of the time (80)  None of the time (100)	30. Have you been a happy person?  All of the time (100)  Most of the time (80)  A good bit of the time (60)  Some of the time (40)  A little of the time (20)  None of the time (0)
26. Have you felt calm and peaceful?  All of the time (100)  Most of the time (80)  A good bit of the time (60)  Some of the time (20)  None of the time (0)  27. Did you have a lot of energy?  All of the time (100)  Most of the time (80)  A good bit of the time (60)  Some of the time (40)  A little of the time (20)  None of the time (20)  None of the time (20)	31. Did you feel tired?  All of the time (0)  Most of the time (20)  A good bit of the time (40)  Some of the time (60)  A little of the time (80)  None of the time (100)  32. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?  All of the time (0)  Most of the time (25)  Some of the time (50)  A little of the time (75)  None of the time (100)
28. Have you felt downhearted and blue?  All of the time (0)  Most of the time (20)  A good bit of the time (40)  Some of the time (60)  A little of the time (80)  None of the time? (100)	E None of the time (100)

### Surveys: SF-36, continued

# How TRUE or FALSE is each of the following statements for you.

33. I seem to get sick a little easier than other people	35. I expect my health to get worse
Definitely true (0)	☐ Definitely true (0)
☐ Mostly true (25)	☐ Mostly true (25)
☐ Don't know (50)	☐ Don't know (50)
☐ Mostly false (75)	☐ Mostly false (75)
☐ Definitely false (100)	☐ Definitely false (100)
34. I am as healthy as anybody I know	36. My health is excellent
☐ Definitely true (100)	☐ Definitely true (100)
☐ Mostly true (75)	☐ Mostly true (75)
☐ Don't know (50)	☐ Don't know (50)
☐ Mostly false (25)	☐ Mostly false (25)
☐ Definitely false (0)	☐ Definitely false (0)

### Clinical Team Contact Information



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216.444.2200
Ask to page Colorectal Surgery Resident on call

\*If you are having a medical emergency, dial 911.

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