

Advancing Health

A CASE STUDY from MedStar Colorectal Surgery Program

Left Colon Resection with Ideal Recovery After Surgery Protocol

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Abstract

The Ideal Recovery After Surgery (IRAS) protocol is a new multi-disciplinary effort used by the MedStar Colorectal Surgery Program that focuses on shortening hospital length of stay and reducing surgical morbidity through the combined application of evidence-based practices by anesthesia, surgery and nursing. The primary goals are optimization of pain control, surgical stress reduction using minimally invasive techniques, and early nutrition and fluid management initiated through ambitious perioperative coordination of care. In this case study, a 55-year-old patient underwent a laparoscopic left colon resection with IRAS protocol, resulting in safe recovery in a much shorter period of time, with simultaneous reduction in surgical complications.



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CASE STUDY

Ideal Recovery After Surgery Protocol

Patient Presentation

- A 55-year-old female was referred for colon resection after recent diagnosis of adenocarcinoma.
- She presented to her gastroenterologist with lower abdominal pain, a change in bowel habits and weight loss.
- Past medical history: Hyperthyroidism and Raynaud's disease. Past surgical history: Hysterectomy.

Assessment

- Colonoscopy: Near circumferential mass measuring 4 x 6 cm in the proximal descending colon.
- CT scan of the chest, abdomen and pelvis showed a 4.4 cm descending colonic mass without metastases.
- Pathology: Moderately differentiated adenocarcinoma.
- A laparoscopic left colon resection using the IRAS protocol was recommended.

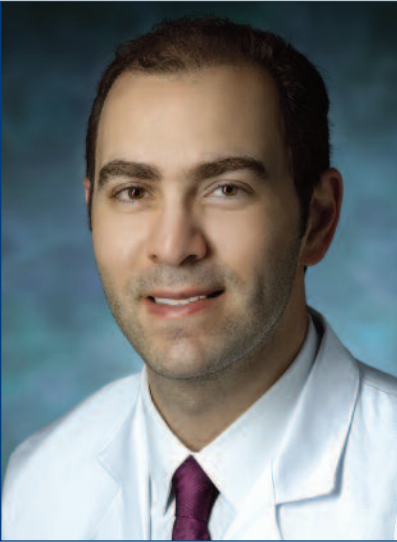
Treatment

- A laparoscopic left colon resection was performed, using the following elements of IRAS protocol:
 - Standard pre-operative chemical and mechanical bowel cleansing with IV antibiotics. Carbohydrate loading: The patient drinks a clear high carbohydrate drink (such as a sport drink) 2 hours prior to surgery. A shorter fast and pre-operative carbohydrate loading is safe and maintains nitrogen balance and reduces post-operative insulin resistance.

- Minimal intravenous fluids during the surgery, safely accomplished with non-invasive monitoring during surgery.
- Minimal narcotic administration throughout. IRAS pain management protocol includes:
 - Motrin 600mg by mouth three times a day or if NPO then Toradol 15 - 30 mg IV every 6 hours as needed for pain.
 - Neurotin 300mg by mouth three times a day.
 - If the patient fails Motrin, Toradol, and Neurotin, then begin on Vicoden/Norco. Morphine PCA discontinued POD #1 for laparoscopic and discontinued on POD #2 for open surgery.
- Initiation of chewing gum three times a day for 60 minutes on POD#0, and progress to a full diet on POD#1. If full liquid is tolerated, then advance diet as tolerated to a regular diet.
- Early and frequent ambulation, up to 5 times a day, beginning on POD#1.

Outcomes

- Pathology: T3NO adenocarcinoma Stage II with negative margins.
- The patient had an uncomplicated recovery and was discharged on POD#2.
- Two weeks after surgery the patient was tolerating a normal diet with return of her normal energy level.



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“The treatment of colorectal cancer is a multidisciplinary approach. The implementation of IRAS for the surgical portion of the treatment benefits the patient: reduced pain, a shorter hospital stay, and potentially less complications. IRAS allows the patient to start adjuvant treatment sooner, and when adjuvant treatment is not indicated, a patient will return to their families and resume usual activities faster than conventional surgical approach.”

Conclusion

- In our experience, application of the IRAS protocol results in shorter length of stay and decreased complications, for the following reasons:
 - Appropriate intra-operative antibiotic dosing significantly reduces surgical site infection rates.
 - Restricting intra-operative intravenous fluids results in a faster recovery of GI function secondary to reduced bowel edema. In patients with known co-morbid diseases (e.g., heart, pulmonary disease, diabetes), fluid restriction obviates cardiopulmonary overload, and promotes tissue healing.
 - Early enteric nutrition hastens return of bowel function, but also
- has been shown to reduce the risks of anastomotic dehiscence and infection.
 - Early and frequent ambulation is critical to promoting bowel motility and for avoiding thromboembolism, loss of muscle strength, and pulmonary atelectasis.
 - Reducing opioid use and utilizing narcotic-sparing analgesics which facilitate early ambulation, and early return of GI function.
- The combined measures described in the IRAS protocol have allowed us to accomplish a safe recovery in a much shorter period of time, with simultaneous reduction in surgical complications.

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Specializing in minimally invasive surgery when possible, MedStar Health's colorectal surgeons use state-of-the-art techniques that have reduced post-operative pain and post-operative recovery time.

For more information and locations throughout Maryland, Virginia and Washington, DC, please visit MedStarWashington.org/Colorectal.

For personal assistance referring a patient, please call Donna Sloper, RN, MSN at **202-444-0748** or **202-713-8778**

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