

# Weight Loss Utilizing Endoscopic Sleeve Gastroplasty (ESG), Benefit for Ostomy Reversal in Obese Patient with Ulcerative Colitis (UC)

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## On the Scale

- Rate of obesity 2x over 40 years and is a top cause of disability/chronic disease

Body Mass Index (BMI) Categorization	
Underweight	15-19.9
Normal Weight	20-24.9
Overweight	25-29.9
Obesity	
Class I	30-30.49
Class II	35-39.9
Class III	>40

- 1.3 Billion overweight
- 600 million obese

## Management of Ulcerative Colitis

- UC is a chronic inflammatory bowel disorder: mucosal inflammation typically involving the colon and rectum in a continuous pattern
- Selecting Therapeutic Targets in Inflammatory Bowel Disease (STRIDE) goal towards achieving endoscopic and histologic remission mild-moderate UC, moderate-severe UC, and acute severe UC



- Corticosteroids
- 5-aminosalicylic acid (5-ASA)
- Targeted Molecular Therapy against TNFa, calcineurin inhibitors

- Surgical management reserved for medically refractory UC commonly with proctocolectomy with ileal pouch anal anastomosis

- Removal of colon & creation of end ileostomy
- Removal of rectum and construction of pouch anal anastomosis and diverting ileostomy
- Reversal of ileostomy

## Weighing the Risks

- BMI > 30: longer operative time, higher postoperative morbidity, and higher rate of complication
  - Deep wound/organ space infection
- Difficulty of proctocolectomy and delay in ostomy reversal in an obese patient population stems from anatomy such as increased visceral adiposity, thickened abdominal wall, adhesions, and reduced mobility secondary to bulky mesentery.
- ESG is a minimally invasive endobariatric procedure, has demonstrated safe, durable, reproducible weight loss may be a tool for obese patients with IBD requiring surgical management to improve ostomy reversal times.

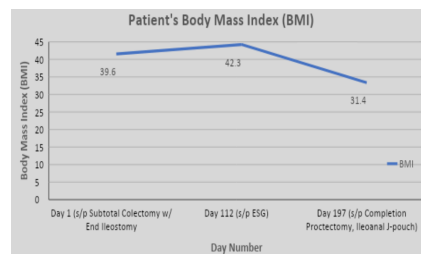
## Case Report

A 39-year-old man with medical history significant for morbid obesity and medically and histologically refractory to Apriso (mesalamine) and Entyvio (vedolizumab) UC became a candidate for elective proctocolectomy with an ileal pouch anal anastomosis. Patient was found to have severe UC activity to the distal margin, ulceration, multiple inflammatory polyps without dysplasia/malignancy, and 30 reactive lymph nodes. However, given the patient's obesity, 268lbs, BMI 39.6, there was concern of the J-pouch-end ileostomy being unable to reach the patient's pelvis. Patient therefore underwent a da Vinci assisted laparoscopic subtotal colectomy with end ileostomy in order to preserve the rectum for a potential J-pouch after his weight loss. At the 109<sup>th</sup> day status post subtotal colectomy and end ileostomy, patient was referred for ESG due to 18.6lb additional weight gain (BMI 42.3) post op due to symptom mediated inactivity, thereby further delaying his ostomy reversal and placement of ileoanal J-pouch. Patient underwent ESG with effective weight loss of 52lbs over 85 days, anatomically allowing successful ostomy reversal, completion proctectomy, and J-tube construction.

## Results

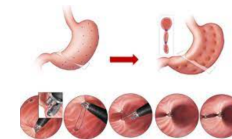
Pathology Report Summary	
187 Days Prior	<b>Distal Esophagus:</b> squamous mucosa w/ reactive changes, patchy intraepithelial eosinophils <b>Stomach:</b> normal mucosa, Giemsa negative for Heliobacter microorganisms <b>Duodenum:</b> preserved duodenal mucosa w/ villous architecture, no increase in intraepithelial lymphocytes <b>Right Colon:</b> large bowel mucosa w/ acute cryptitis, focal eosinophilic crypt abscess, erosion, marked increase in lamina propria chronic inflammation, numerous eosinophils, distorted crypts and reactive epithelial changes. No crypt abscess or granulomas.
Day 1 (Subtotal colectomy w/ end ileostomy)	<b>Small Bowel Resection Margin:</b> not involved w/ inflammation <b>Colon:</b> UC w/ severe activity, ulceration, multiple inflammatory polyps w/o dysplasia/malignancy, UC extends to distal margin, 30 reactive lymph nodes.
Day 197 (Completion proctectomy, ileoanal J-pouch)	<b>Ileostomy:</b> unremarkable small bowel wall <b>Proximal and Distal Donut:</b> large bowel wall has mild chronic colitis <b>Rectosigmoid Colon Resection:</b> marked chronic active colitis w/ pseudopolyps, crypt abscess, and foci of acute cryptitis. Inflammation extends to submucosa w/o dysplasia, 46 reactive lymph nodes.

Pathology reports pre subtotal colectomy and after subtotal colectomy w/ end ileostomy and completion proctectomy, ileoanal J-pouch respectively. Abnormal pathology highlighted.

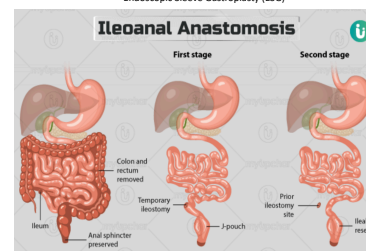


Trend of patient's BMI status post (s/p) procedures.

Patient was not symptomatically or histologically responsive to Apriso (mesalamine) and Entyvio (vedolizumab)



Endoscopic Sleeve Gastroplasty (ESG)



Review of surgical anatomy during proctocolectomy

## Future Direction

- IBD may be linked to obesity: shared environmental risk, intestinal microbiome, or adipokine related pro-inflammatory effect.
- Future studies:
  - ESG weight loss should be an integral initial step of medical management of IBD in obese patients to inevitably avoid surgical intervention
  - ESG utilization in subgroups of patients who may have their proctectomy and ostomy reversal delayed due to surgical risks associated with obesity
  - ESG as an overall weight loss modality for surgical candidates to reduce overall morbidity/complication rate with obesity

## Conclusion

- ESG may be pivotal tool for weight loss in patients with UC and obesity who may encounter delayed proctocolectomy and ostomy reversal

