Educational Handout for Postoperative Constipation Reduces Healthcare Utilization Post Bariatric Surgery

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Introduction

Nearly 280,000 individuals in the United States underwent bariatric surgery in 2022, with over 598,000 procedures performed globally each year.[1,2] The most common surgeries include sleeve gastrectomy, Roux-en-Y gastric bypass (RYGB), and biliopancreatic diversion with duodenal switch (BPD-DS), all of which involve restrictive, malabsorptive, or combined mechanisms.[2] These alterations frequently impact bowel function, leading to postoperative constipation.[3] Contributing factors include surgical interventions, opioid and anesthetic medications, antisecretory drugs, inflammation, and other functional modifications with unclear physiopathology.[4] Postoperative dietary progression plays an important role in gastrointestinal function.

The RUSH Bariatric Surgery Department implements a four-stage diet: (1) a short-term clear liquid phase pre and post-surgery emphasizing hydration, (2) a full liquid diet one week before and two weeks after focusing on protein intake and hydration, (3) a soft diet from two weeks to three months featuring low-fiber foods, and (4) a general diet beyond three months incorporating high-fiber foods while maintaining hydration and protein focus.

Despite preventative measures, postoperative constipation remains common, causing discomfort and patient anxiety, often leading to increased healthcare utilization through office calls, messages, and emergency department (ED) visits.[5] Management strategies typically include hydration, dietary adjustments, and over-the-counter treatments such as stool softeners, laxatives, suppositories, and enemas.

This study aimed to determine if providing educational materials in the form of an informational handout may empower patients to self-manage symptoms, thereby reducing healthcare utilization, including office inquiries and ED visits.

Methodology

To address postoperative constipation following bariatric surgery, an informative patient handout (Figure 1) was developed based on best practices and existing departmental treatment protocols. The handout provided an overview of constipation symptoms, prophylactic strategies, and a stepwise treatment algorithm. It was systematically distributed to all bariatric patients during their preoperative clinic visit.

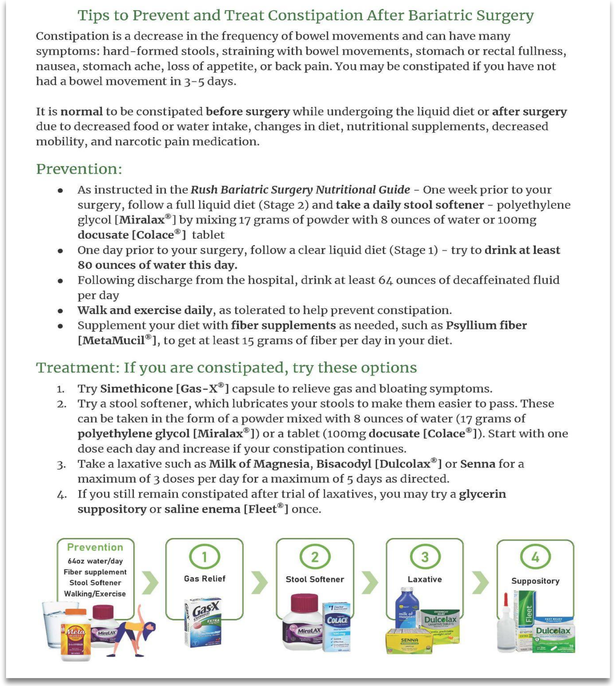
Methodology

A retrospective cohort study was conducted using electronic medical records to compare outcomes before and after handout distribution. The first cohort (October 2022–March 2023) did not receive the handout, while the second cohort (May 2023–October 2023) did. Patient-specific data is summarized in Table 1. Outcomes, in the form of constipation related phone calls, messages, and emergency department visits are summarized in Table 2.

Statistical analyses were conducted using R software. Chi-square tests were applied to categorical variables, and t-tests were used for continuous variables (e.g., mean number of contacts).

Patient Handout

Figure 1 - Constipation Patient Handout



Tips to Prevent and Treat Constipation After Bariatric Surgery

Constipation is a decrease in the frequency of bowel movements and can have many symptoms: hard-formed stools, straining with bowel movements, stomach or rectal fullness, nausea, stomach ache, loss of appetite, or back pain. You may be constipated if you have not had a bowel movement in 3-5 days.

It is **normal** to be constipated **before surgery** while undergoing the liquid diet or **after surgery** due to decreased food or water intake, changes in diet, nutritional supplements, decreased mobility, and narcotic pain medication.

Prevention:

- As instructed in the ***Rush Bariatric Surgery Nutritional Guide*** - One week prior to your surgery, follow a full liquid diet (Stage 2) and **take a daily stool softener** - polyethylene glycol **[Miralax®]** by mixing 17 grams of powder with 8 ounces of water or 100mg **docusate [Colace®]** tablet
- One day prior to your surgery, follow a clear liquid diet (Stage 1) - try to **drink at least 80 ounces of water this day.**
- Following discharge from the hospital, drink at least 64 ounces of decaffeinated fluid per day
- **Walk and exercise daily**, as tolerated to help prevent constipation.
- Supplement your diet with **fiber supplements** as needed, such as **Psyllium fiber [MetaMucil®]**, to get at least 15 grams of fiber per day in your diet.

Treatment: If you are constipated, try these options

1. Try **Simethicone [Gas-X®]** capsule to relieve gas and bloating symptoms.
2. Try a stool softener, which lubricates your stools to make them easier to pass. These can be taken in the form of a powder mixed with 8 ounces of water (17 grams of **polyethylene glycol [Miralax®]**) or a tablet (100mg **docusate [Colace®]**). Start with one dose each day and increase if your constipation continues.
3. Take a laxative such as **Milk of Magnesia**, **Bisacodyl [Dulcolax®]** or **Senna** for a maximum of 3 doses per day for a maximum of 5 days as directed.
4. If you still remain constipated after trial of laxatives, you may try a **glycerin suppository** or **saline enema [Fleet®]** once.

Results

Table 1 - Patient Characteristics

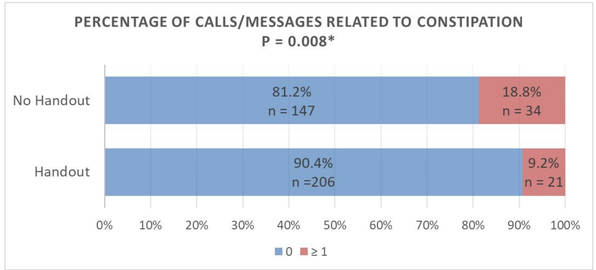
Patient Characteristics	No Handout N = 181	Received Handout N = 228	p-value
Sex			0.51
Female	154 (85%)	193 (85%)	
Male	26 (14%)	35 (15%)	
Non-Binary	1 (0.6%)	0 (0%)	
Age	43.00 (34.00, 51.00)	41.50 (35.00, 50.00)	0.49
BMI	45.07 (40.55, 50.23)	43.84 (40.14, 49.58)	0.22
Procedure Type			0.056
RYGB	95 (52%)	108 (47%)	
Sleeve Gastrectomy	82 (45%)	116 (51%)	
BPD-DS	4 (2.2%)	4 (1.8%)	
History of constipation			0.55
No	166 (92%)	204 (89%)	
Yes	15 (8.3%)	24 (11%)	

Table 2 - Study Outcomes

Study Characteristics	No Handout N = 181	Received Handout N = 228	p-value
Number of calls/messages related to			0.008*
0	147 (81.2%)	206 (90.4%)	
≥ 1	34 (18.8%)	21 (9.2%)	
Mean number of calls/messages	0.31 (0.74)	0.11 (0.35)	<0.001*
ED visits relating to constipation			0.041*
No (0)	170 (93.8%)	224 (98.2%)	
Yes (≥ 1)	11 (6.1%)	4 (1.8%)	

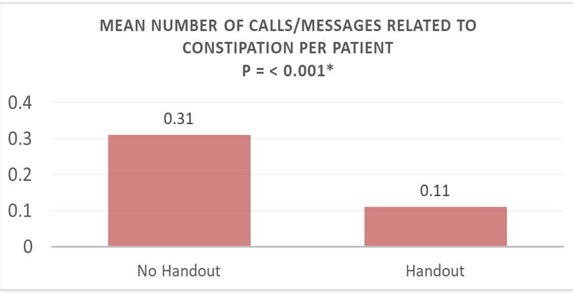
* Statistically significant p-value <0.05

Chart 1: Patients who received the handout sent and made significantly fewer messages and calls related to constipation compared to those who did not receive the handout (9.2% vs. 18.8%, p = 0.008).



Results

Chart 2: The mean number of calls and messages related to constipation was also significantly lower in the handout group (0.11 vs. 0.33, p < 0.001).



Conclusion

Postoperative constipation is a common challenge after bariatric surgery, often increasing patient inquiries and healthcare resource use. This study demonstrates that implementing an educational handout significantly reduced postoperative clinic calls, messages, and emergency department visits related to constipation. By providing patients with targeted self-management strategies, this intervention improved patient autonomy while reducing healthcare utilization. Such proactive measures can alleviate the burden on clinic staff, emergency physicians, and bariatric surgeons, ultimately optimizing healthcare efficiency and resource allocation.

References

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