Roux-En-Y Gastric Bypass Reversal: An Updated Systematic Review Assessing Indications, Techniques, Outcomes and Complications

Sukhdeep Jatana[1], Melissa Ackerman[1], Daniel Meyer[2], Kyoo Yoon Choi[2], Kassondra Pedenko[2], Madeleine Kruth[3], Janice Y Kung[4], Valentin Mocanu[5], Daniel Birch[1,6], Shahzeer Karmali[1,6], Noah Switzer[1,6]

[1] Department of Surgery, University of Alberta, Alberta, Canada; [2] Department of Surgery, University of Calgary, Alberta, Canada; [3] Faculty of Medicine and Dentistry, University of Alberta, Alberta, Canada; [4] Geoffrey and Robyn Sperber Health Sciences Library, University of Alberta, Alberta, Canada; [5] Digestive Disease & Surgery Institute, Cleveland Clinic, Ohio, USA.; [6] Centre for Advancement of Surgical Education and Simulation (CASES), Royal Alexandra Hospital , Alberta, Canada

BACKGROUND

- **Roux-en-Y Gastric Bypass (RYGB)** is an effective treatment option for chronic obesity
- Like other procedures, it carries its own risk for complications
- In rare instances, these complications may require **reversal**
- Various approaches to reversal exist

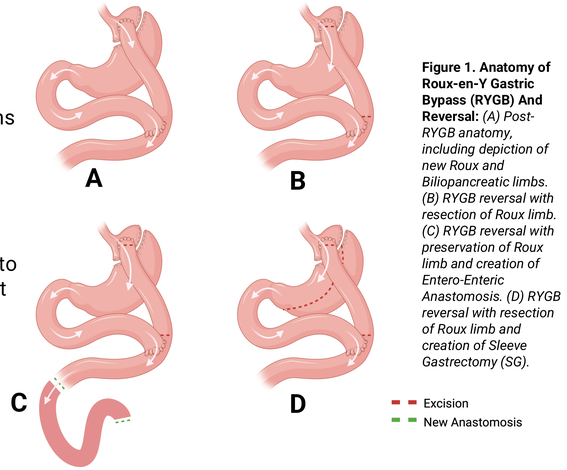


Figure 1. Anatomy of Roux-en-Y Gastric Bypass (RYGB) And Reversal: *(A) Post-RYGB anatomy, including depiction of new Roux and Biliopancreatic limbs. (B) RYGB reversal with resection of Roux limb. (C) RYGB reversal with preservation of Roux limb and creation of Entero-Enteric Anastomosis. (D) RYGB reversal with resection of Roux limb and creation of Sleeve Gastrectomy (SG).*

OBJECTIVE

- Conduct a contemporary review of the current literature, focusing on **indications, techniques, and postoperative outcomes** for **RYGB reversal**

METHODS

- A **systematic review** was conducted using **Ovid MEDLINE, Ovid Embase, Scopus, Web of Science Core Collection,** and the **Cochrane Library (via Wiley**) from 2000 to July 18, 2025
- Eligible Studies: Reversal with ≥5 patients **OR** studies including both reversal to Sleeve Gastrectomy (SG) and native anatomy with >50% of cases involving reversal to normal anatomy

RESULTS

- Initial database search identified **7,914 studies**, **14 met inclusion criteria**
- Most were case series (n=12) and single-center (n=10)

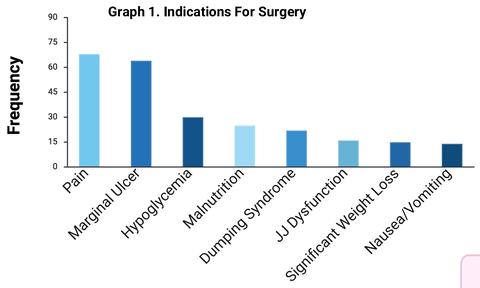
DEMOGRAPHICS

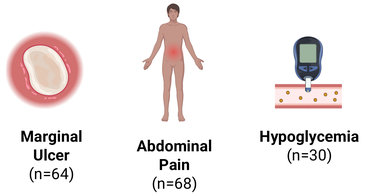
- There was a total of **328** patients included

	Total Patients (n=328)
Sex, No. (%) Female Male	 292 (89.3) 36 (10.7)
Age, Mean, Years	44.7±12.2 years
Pre-RYGB BMI, Mean, kg/m^2	44.1±6.6
Pre-Reversal BMI, Mean, kg/m^2	27.4±7.5
Time to Reversal, Mean, Months	104.1±78.0

Table 1. Patient Demographics

INDICATIONS FOR SURGERY





- Some patients had multiple indications
- Many underwent prior interventions before proceeding

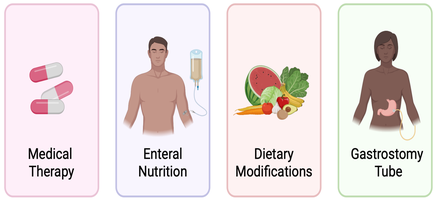
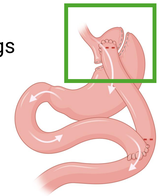


Figure 2. Prior Interventions

RESULTS CONTINUED

SURGICAL TECHNIQUE

- Most procedures were performed laparoscopically (87.7%)
- Commonly, the Gastrogastrostomy was re-created with a hand-sewn anastomosis, linear stapler, or circular stapler anastomosis
- Roux limb management (resection vs preservation) varied based on diagnosis and intraoperative findings
- Greater than 50% of causes for reversal resolved



COMPLICATIONS

- Overall complication rate of 35.6%
- Two most reported complications were anastomotic leak (6.9%) and bleeding (4.0%)
- Other: Abdominal pain, nausea, vomiting, ileus, temporary food intolerance, gastroparesis, gastro-esophageal reflux disease, wound infection, and sepsis

CONCLUSIONS & FUTURE DIRECTIONS

RYGB reversal is performed for a variety of indications, with symptom resolution occurring in more than 50%. It carries a substantial risk of morbidity.

Future Study:

- Compare reversal to native anatomy versus conversion to SG
- Assess timing of reversal in relation to indication