

# Improving Procedure Selection and Surgical Technique in Bariatric Surgery

## Akademisk avhandling

Som för avläggande av medicine doktorsexamen vid Sahlgrenska akademien,  
Göteborgs universitet kommer att offentlig försvaras i Arvid Carlsson,  
Medicinaregatan 3, fredagen den 21 april 2023, klockan 13.00.

av **Suzanne Hedberg**

Fakultetsopponent:

**Professor Michel Suter**

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## Avhandlingen baseras på följande delarbeten:

- I. **Hedberg, S**, Olbers, T, Peltonen M, Österberg, J, Wirén, M, Ottosson, J, Thorell, A. BEST: Bypass Equipoise Sleeve Trial; rationale and design of a randomized, registry-based, multicenter trial comparing Roux-en-Y gastric bypass with sleeve gastrectomy. *Contemp ClinTrials* 2019 Sept; 84:105809.
- II. **Hedberg, S**, Thorell, A, Österberg, J, Peltonen, M, Andersson, E, Näslund, E, Hertel, JK, Svanevik, M, Stenberg, E, Neovius, M, Näslund, I, Wirén, M, Ottosson, J, Olbers, T. On behalf of the BEST study group. Perioperative Outcomes in Sleeve Gastrectomy and Roux-en-Y Gastric Bypass –a Randomized Clinical Trial in Sweden and Norway. In manuscript.
- III. **Hedberg, S**, Xiao, Y, Klasson, A, Maleckas, A, Wirén, M, Thorell, A, Laurenius, A, Engström, M, Olbers, T. The Jejunojejunostomy: an Achilles Heel of the Roux-en-Y Gastric Bypass Construction. *Obes Surg* 2021 Dec; 31(12):5141–5147.
- IV. **Hedberg, S**, Thorell, A, Engström, M, Stenberg, E, Olbers, T. Surgical Technique in Constructing the Jejunojejunostomy and the Risk of Small Bowel Obstruction after Roux-en-Y Gastric Bypass. *Surg Obes Relat Dis.* 2022 Sep;18(9):1151–1159.

**SAHLGRENKA AKADEMIN  
INSTITUTIONEN FÖR KLINISKA VETENSKAPER**



# Improving Procedure Selection and Surgical Technique in Bariatric Surgery

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## Abstract

Bariatric surgery is currently the most effective treatment for obesity and its metabolic comorbidities. There are, however, unexplored differences between surgical methods regarding outcomes and suitability for the individual patient. There are also variations in surgical techniques, where the association between differences in outcomes are not fully explored. The overall aim of this thesis is to improve outcomes in bariatric surgery by optimizing procedure selection and refining surgical technique.

*Paper I* describes the design and rationale of the Bypass Equipoise Sleeve Trial (BEST), a large registry-based randomized multicenter trial comparing sleeve gastrectomy and Roux-en-Y gastric bypass (RYGB). In *Paper II*, the perioperative outcome of BEST is presented. *Paper III* is a retrospective study identifying, describing, and proposing a treatment option for postprandial symptoms due to a dysfunctional jejunojejunostomy after RYGB. *Paper IV* is a large observational registry study comparing surgical variations in the construction of the jejunojejunostomy regarding the association with post-operative small bowel obstruction.

In this thesis it is concluded that:

- 1) Sleeve gastrectomy and RYGB can both be performed safely and with low perioperative risk in adult patients undergoing primary bariatric surgery;
- 2) Many patients having postprandial pain, nausea, and/or vomiting after RYGB, improve or become symptom-free after surgical revision of the jejunojejunostomy;
- 3) The risk of small bowel obstruction varies with the type of surgical technique used for the jejunojejunostomy, both in the short and long term.

**Keywords:** Bariatric Surgery, Roux-en-Y gastric bypass, Sleeve gastrectomy.