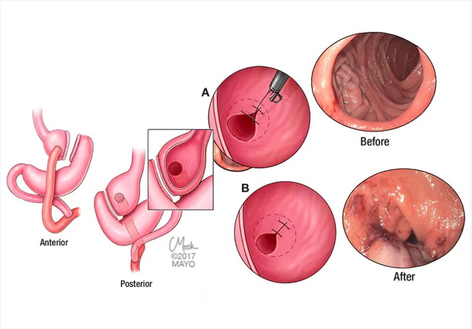
Endoscopic Trans-oral Outlet Reduction With Overstich As An Elective Alternative To Surgical Revision Of Gastric Bypass

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INTRODUCTION

- Morbid obesity is one of the largest public health problems of our generation, and bariatric surgery has been shown to be a safe and effective treatment.
- Roux-en-Y gastric bypass is the gold standard procedure with sucessful long term weight loss.
- Some patients experience weight regain due gastrojeunal anastomosis (GJA) dilation.
- Endoscopic trans-oral outlet reduction (TORe) is a safe, technically feasible, and durable treatment for revision of GJA enlargement.



HYPOTHESES

Hypothesis 1: TORe is a revision of GJA dilation that is associated with increased weight loss following Roux-en-Y gastric bypass.

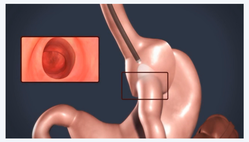
Hypothesis 2: TORe is not associated the the types of serious adverse events that may be seen after radical surgical correction

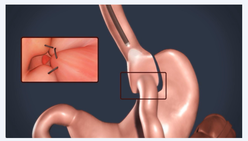
STUDY OBJECTIVE

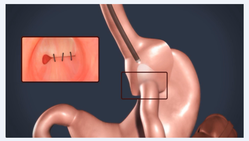
To demonstrate that TORe is a potential effective alternative to surgical correction of GJA dilation, with fewer adverse events (AEs) than other surgical options.

PROCEDURE

- Enlarged pouch(>150cc) is visualized with a large, dilated gastrojejunostomy measuring approximately 4-5 cm.
- The edges of the approx. 40-50 mm GJ are cauterized circumferentially.





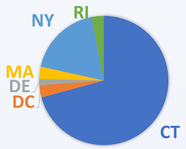


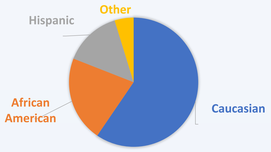
- 3 stitches are placed, interrupted first to narrow the stoma to approximately 3-5 mm, overlapping stitches next which help to reduce pouch volume.
- The GJ measures at 3mm at the end of the procedure.
- The overtube is removed, and the scope is carefully reintroduced and the pharynx esophagus and pouch is examined.

REVIEW OF LITERATURE

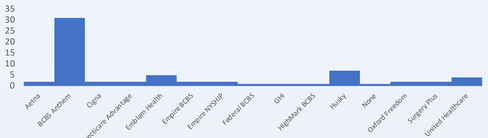
- Six prospective and retrospective studies and one systematic review were included, involving 1778 patients undergoing TORe.
- TORe was correlated with weight loss as early as 3 months and for as long as 7 years post procedure.
- Endoscopic suturing was superior to sclerotherapy for weight loss, and there was no significant difference in weight loss between endoscopic and surgical correction of GJA dilation.
- The technical success rate was 99.89-100% with no serious AEs and an overall AE rate of 6.5-11.4%.

DEMOGRAPHICS





Age		52.14 +/- 8.43
Gender		
	Female	56 (86.1%)
	Male	9 (13.8%)
BMI		40.46 +/- 7.36



MATERIALS AND METHODS

- Retrospective chart review of 65 patients who underwent TORe in NY and CT
- Primary outcomes of total weight loss (TWL) at 1, 3 and 5 months as well as adverse events.
- IBM SPSS v. 27 was used for all data analyses.

RESULTS

- In our 65 patient sample, the average starting weight was 255.84+/-52.73 lbs with TWL at 1, 3 and 5 months post TORe of 16.06+/-9.17, 25.34+/-12.79, and 30.22+/-12.91 respectively.
- There were no serious AEs reported, with the most common AE being the need for a second TORe procedure (4 patients, 6.06%).

CONCLUSIONS

- TORe is a safe and technically practical option for GJA outlet reduction after gastric bypass.
- TORe may offer weight loss without the significant risks associated with more invasive surgical revisions.

LIMITATIONS AND FUTURE DIRECTIONS

- This study was limited by a relatively small sample size as well as only five months of follow-up.
- Future studies may benefit from a larger and more diverse study population with a longer follow up.
- Future directions may include a covariate analysis to analyze predictors of poor/good weight loss outcomes following TORe.

REFERENCES

- Bulajic, M., Prampero, S. F. V. di, Boškoski, I. & Costamagna, G. Endoscopic therapy of weight regain after bariatric surgery. *World J Gastrointest Surg* **13**, 1584–1596 (2021).
- Dhindsa, B. *et al.* Efficacy of transoral outlet reduction in Roux-en-Y gastric bypass patients to promote weight loss: a systematic review and meta-analysis. *Endosc Int Open* **08**, E1332–E1340 (2020).
- Dolan, R. D., Jirapinyo, P. & Thompson, C. C. Endoscopic versus surgical gastrojejunal revision for weight regain in Roux-en-Y gastric bypass patients: 5-year safety and efficacy comparison. *Gastrointest Endosc* **94**, 945–950 (2021).
- Ghazi, R. *et al.* ID: 3526666 TUBULAR POUCHPLASTY TRANSORAL OUTLET REDUCTION (TTORE) IS SUPERIOR TO AND MORE DURABLE THAN TRADITIONAL TORE IN A LARGE COHORT STUDY. *Gastrointest Endosc* **93**, AB1 (2021).
- Jirapinyo, P., Dayyeh, B. K. & Thompson, C. C. Gastrojejunal anastomotic reduction for weight regain in roux-en-y gastric bypass patients: physiological, behavioral, and anatomical effects of endoscopic suturing and sclerotherapy. *Surgery for Obesity and Related Diseases* **12**, 1810–1816 (2016).
- Jirapinyo, P., Kröner, P. & Thompson, C. Purse-string transoral outlet reduction (TORe) is effective at inducing weight loss and improvement in metabolic comorbidities after Roux-en-Y gastric bypass. *Endoscopy* (2017) doi:10.1055/s-0043-122380.
- Jirapinyo, P., Maahs, E. D. & Thompson, C. C. Sa1938 SEVEN YEAR OUTCOMES OF TRANSORAL OUTLET REDUCTION (TORE) FOR THE TREATMENT OF WEIGHT REGAIN FOLLOWING ROUX-EN-Y GASTRIC BYPASS. *Gastrointest Endosc* **91**, AB212 (2020).
- McCarty, T. R., Dolan, R. D., Jirapinyo, P. & Thompson, C. C. ID: 3526579 MODIFIED ENDOSCOPIC SUBMUCOSAL DISSECTION – TRANSORAL OUTLET REDUCTION (ESD-TORE) FOR WEIGHT REGAIN. *Gastrointest Endosc* **93**, AB8 (2021).
- Patel, L. Y. *et al.* Outcomes following 50 consecutive endoscopic gastrojejunal revisions for weight gain following Roux-en-Y gastric bypass: a comparison of endoscopic suturing techniques for stoma reduction. *Surg Endosc* **31**, 2667–2677 (2016).
- Relly, R., Mati, S., Aviv, C. N. & Fishman, S. Endoscopic trans-oral outlet reduction after bariatric surgery is safe and effective for dumping syndrome. *Surg Endosc* 1–7 (2021) doi:10.1007/s00464-020-08190-3.
- Riva, P., Perretta, S. & Swanstrom, L. Weight regain following RYGB can be effectively treated using a combination of endoscopic suturing and sclerotherapy. *Surg Endosc* **31**, 1891–1895 (2016).
- Stier, C. & Chiappetta, S. Endoluminal Revision (OverStitch TM , Apollo Endosurgery) of the Dilated Gastroenterostomy in Patients with Late Dumping Syndrome After Proximal Roux-en-Y Gastric Bypass. *Obes Surg* **26**, 1978–1984 (2016).
- Storm, A. C. & Thompson, C. C. Endoscopic Treatments Following Bariatric Surgery. *Gastrointest Endosc Clin North Am* **27**, 233–244 (2017).
- Vargas, E. J. *et al.* Endoscopic management of dumping syndrome after Roux-en-Y gastric bypass: a large international series and proposed management strategy. *Gastrointest Endosc* **92**, 91–96 (2020).
- Vargas, E. J. *et al.* Mo2042 Transoral Oulet Reduction (TORe) With Full Thickness Endoscopic Suturing for Weight Regain After Gastric Bypass: Single Center Experience With Systematic Review of the Literature. *Gastrointest Endosc* **83**, AB505–AB506 (2016).
- Watson, R. R. *et al.* Sa2003 Comparison of Transoral Outlet Reduction (TORE) Alone Versus Tore With Gastroplasty (Tore-G): A Matched Cohort Analysis. *Gastrointest Endosc* **85**, AB271–AB272 (2017).
- ZORRON, R. *et al.* FROM COMPLEX EVOLVING TO SIMPLE: CURRENT REVISIONAL AND ENDOSCOPIC PROCEDURES FOLLOWING BARIATRIC SURGERY. *Abcd Arquivos Brasileiros De Cirurgia Dig São Paulo* **29**, 128–133 (2016).

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