

Endoscopic Tools and Techniques for Revision Metabolic Bariatric Surgery

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Disclosures

- **Boston Scientific** – consultant, research support
- **Cook Medical** – consultant, research support
- **EndoSim** – royalty
- **ERBE** – consultant, research support
- **Fractyl** – consultant, research support, advisory board
- **FujiFilm** – consultant, research support
- **Morphic Medical** – research support
- **Olympus** – consultant
- **Spatz Medical** – consultant
- **USGI Medical** – consultant, research support



Outline

- Endoscopic treatment options for recurrent weight gain following RYGB
- Endoscopic treatment options for recurrent weight gain following SG

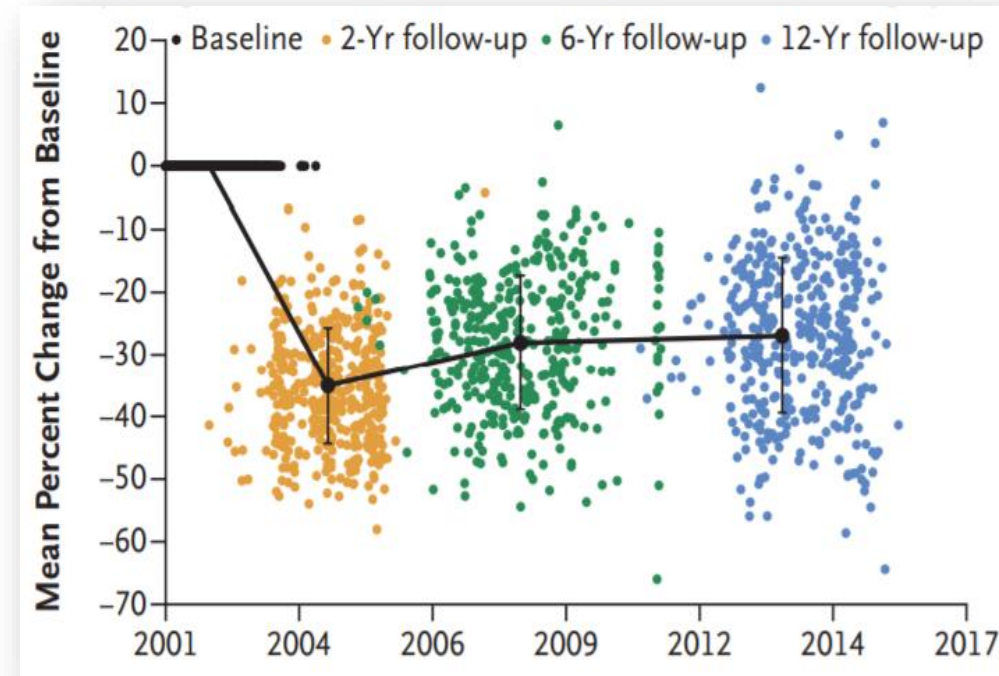




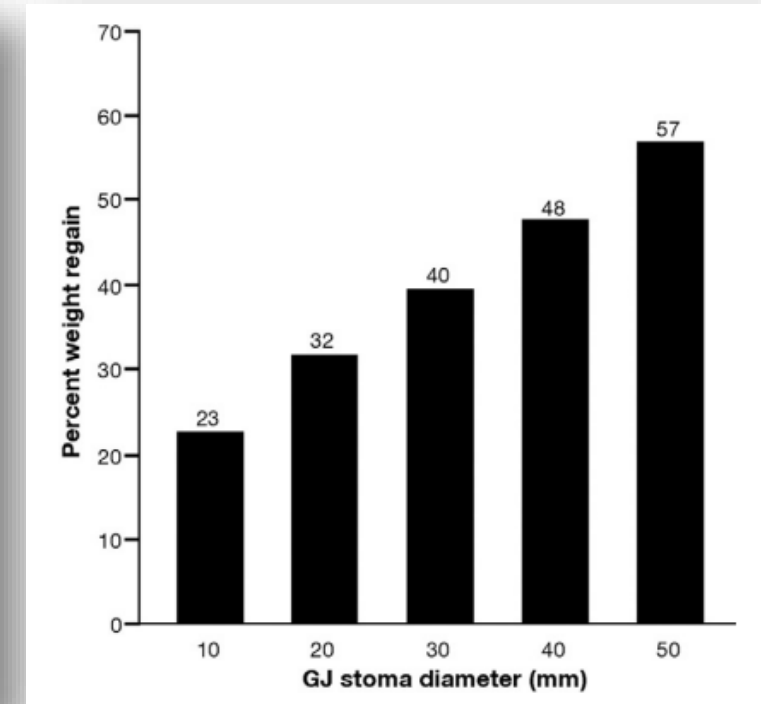
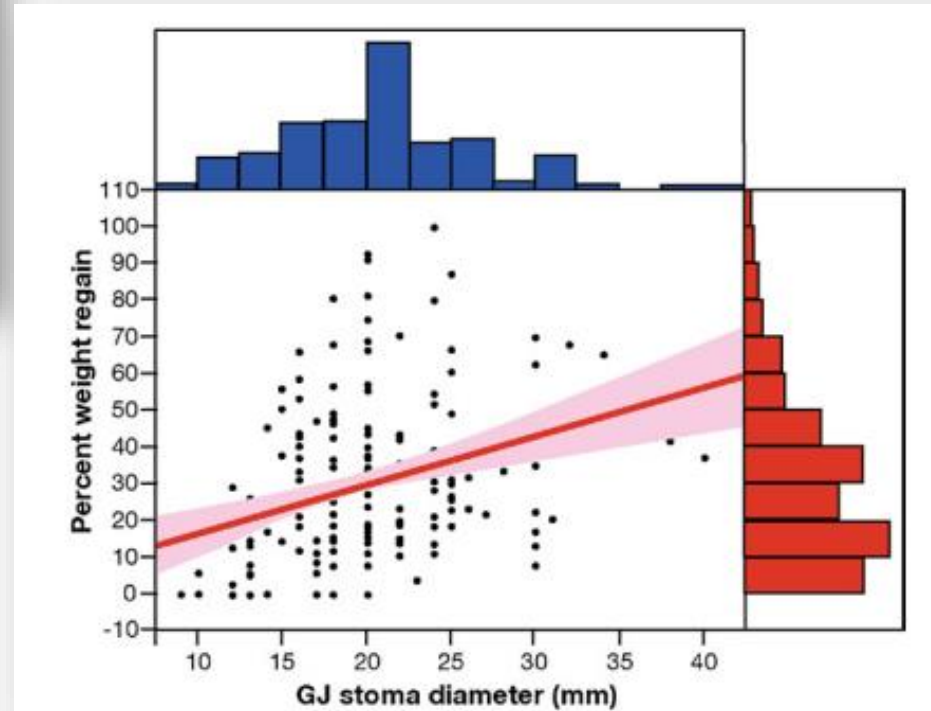
Endoscopic Treatment Options for Recurrent Weight Gain after RYGB

Weight Regain or Recurrent Weight Gain (RWG)

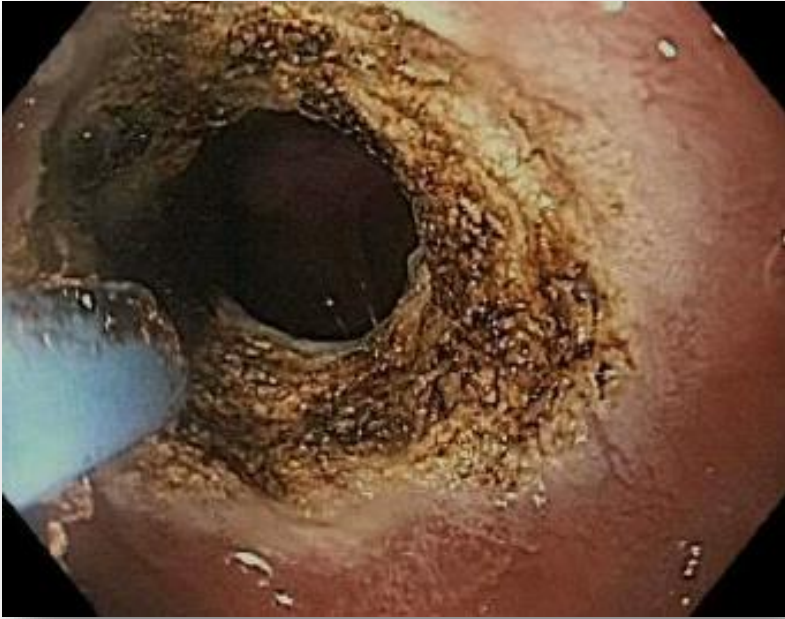
- Recurrent weight gain is common following RYGB
- An observational, prospective study (N = 1156)
 - 418 underwent RYGB
- At 12 years, RYGB patients regained ~20% of the weight initially lost
- About 1/3 regained almost all of the lost weight



GJA diameter as a predictor of RWG



3 Endoscopic Treatments of RWG



**Argon Plasma Coagulation
(APC)**

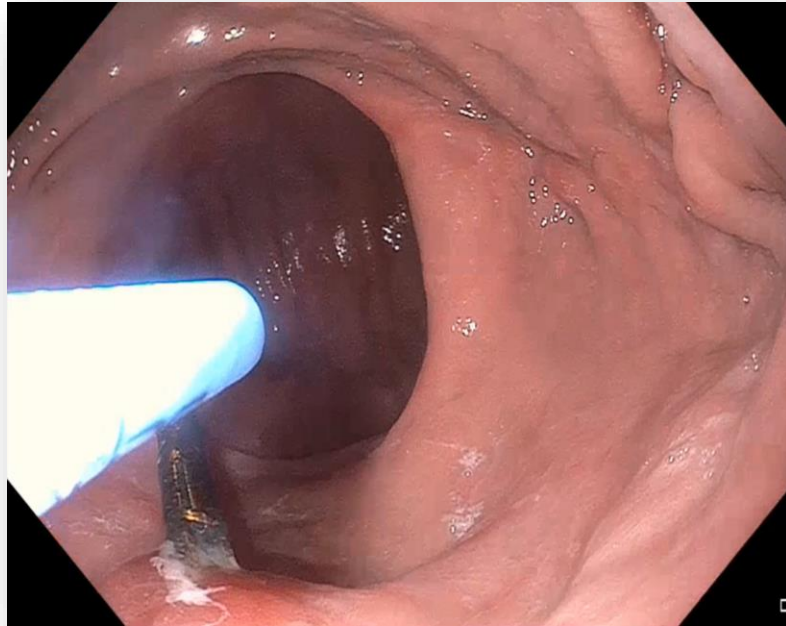


**Suturing Transoral Outlet Reduction
(S-TORe)**

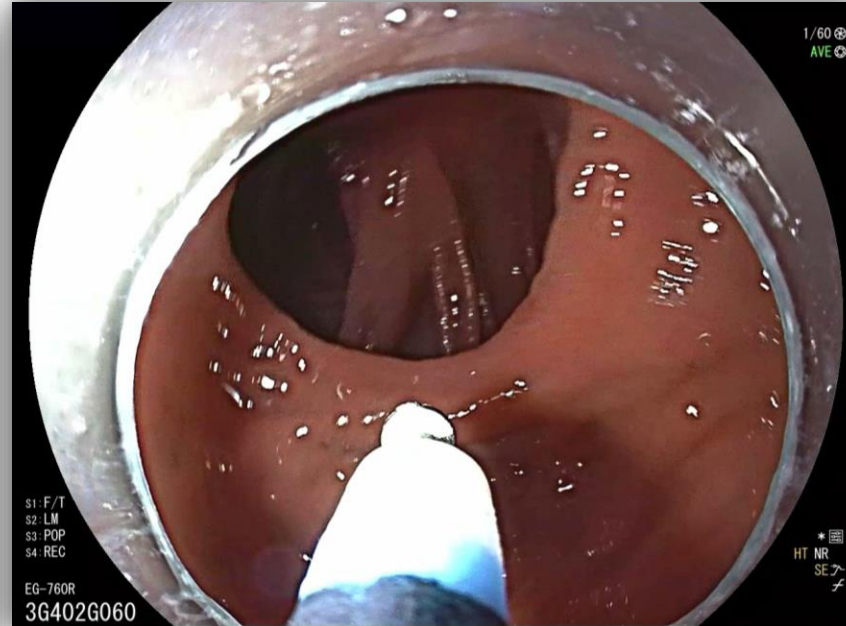


**Plication Transoral Outlet Reduction
(P-TORe or ROSE)**

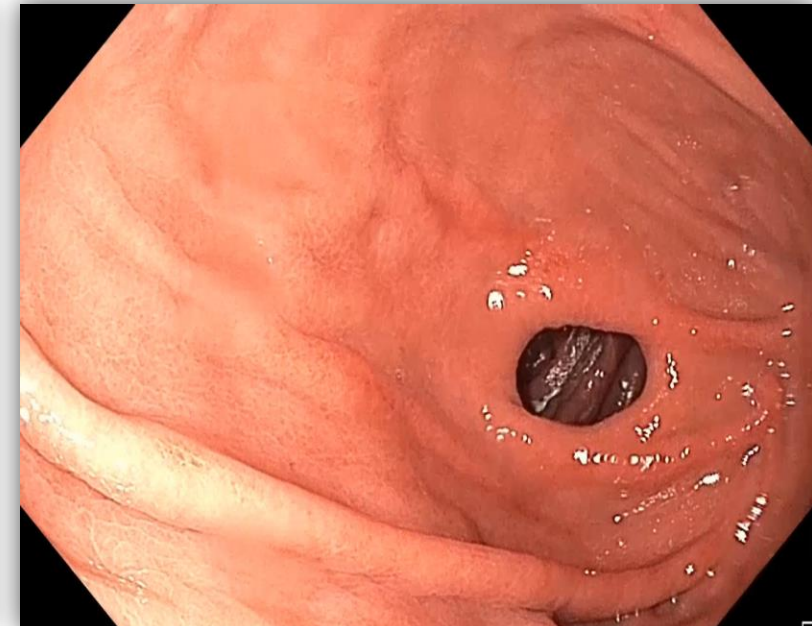
3 Endoscopic Treatments of RWG following RYGB



**Argon Plasma Coagulation
(APC)**



**Suturing Transoral Outlet Reduction
(S-TORe)**

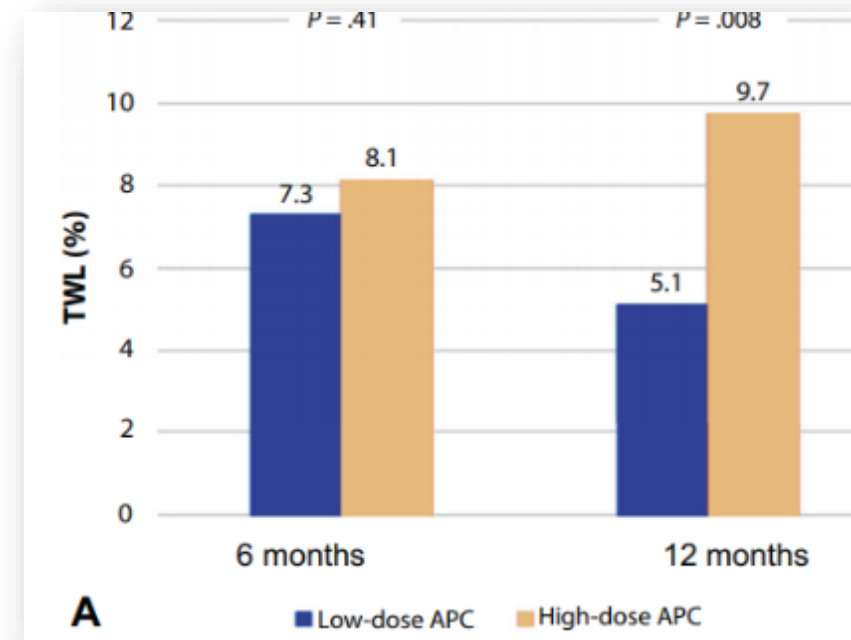


**Plication Transoral Outlet Reduction
(P-TORe or ROSE)**

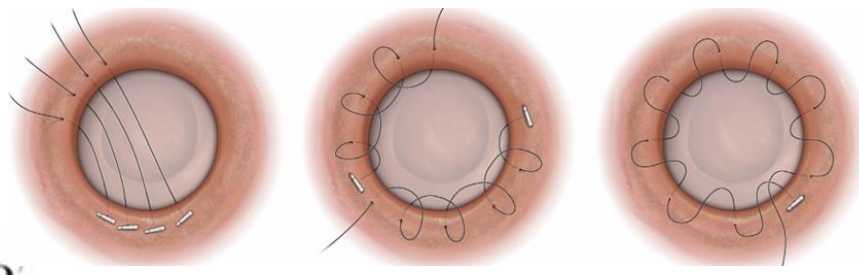
Dose response for argon plasma coagulation in the treatment of weight regain after Roux-en-Y gastric bypass

Pichamol Jirapinyo, MD, MPH,^{1,2} Diogo T. H. de Moura, MD, PhD,^{1,2,3} William Y. Dong,⁴ Galileu Farias,³ Christopher C. Thompson, MD, MSc^{1,2}

- A retrospective study of prospectively collected data
- 217 RYGB patients underwent 411 APC sessions (2.4 ± 1.5 sessions/patient)
- 54% low dose APC (45-55 W) vs 46% high dose APC (70-80 W)
- High dose APC experienced more weight loss at 12 months
 - **9.7% TWL** for high dose vs **5.1% TWL** for low dose, p = 0.008
- GJA stenosis rate was 7.6% vs 3% for high- and low dose APC groups (p=0.06)

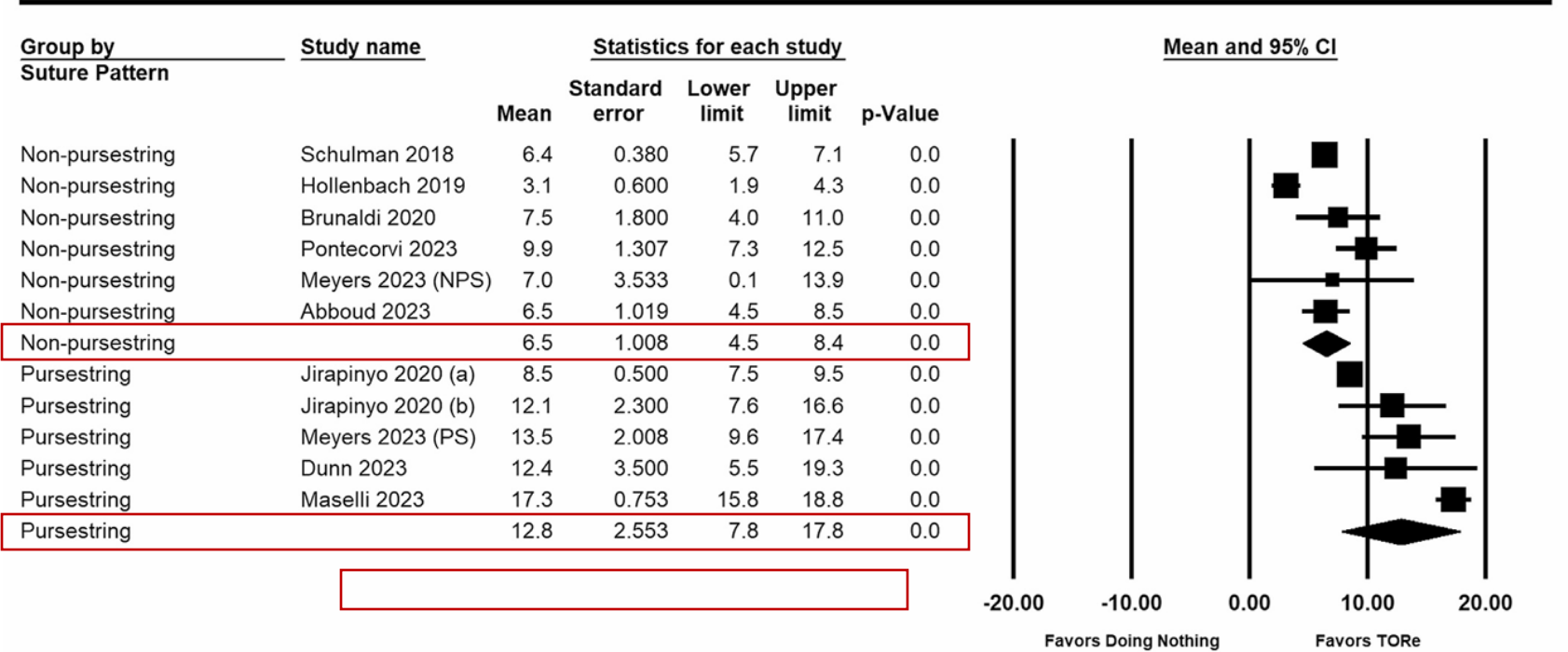


Association for Bariatric Endoscopy systematic review and meta-analysis assessing the American Society for Gastrointestinal Endoscopy preservation and incorporation of valuable endoscopic innovations thresholds for transoral outlet reduction



Pichamol Jirapinyo, MD, MPH,^{1,2} Nitin Kumar, MD,³ Christopher C. Thompson, MD, MSc,^{1,2} Ryan J. Law, DO,⁴ V. Raman Muthusamy, MD, MAS,⁵ Allison R. Schulman, MD, MPH,⁶ Shelby Sullivan, MD

%TWL at 12 Months Following TORe (Subgroup Analysis by Suture Pattern)



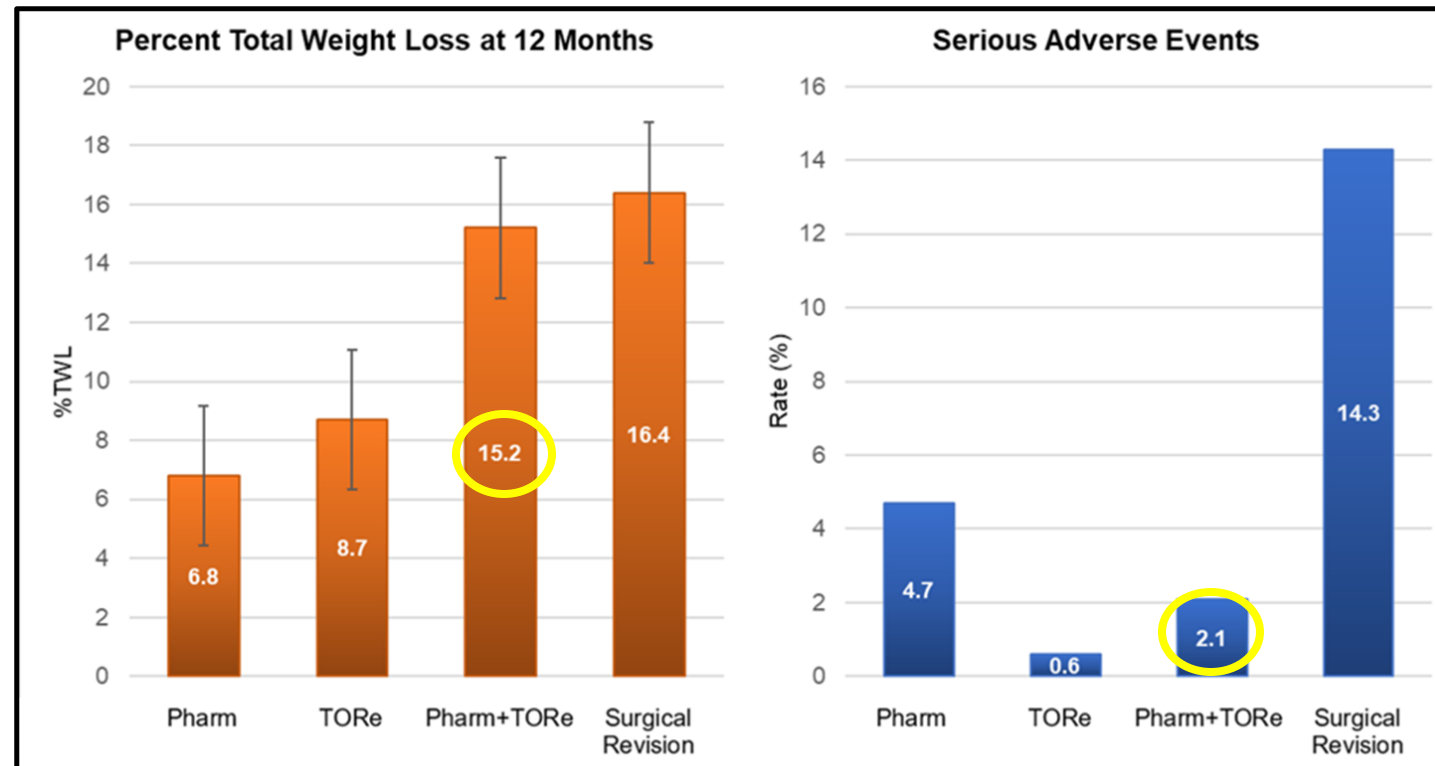
12 studies with 1,154 patients
Pooled SAE of 1.5%



Combining Transoral Outlet Reduction with Pharmacotherapy Yields Similar One-year Efficacy with Improved Safety Compared to Surgical Revision for Weight Regain Following Roux-en-Y Gastric Bypass

Pichamol Jirapinyo, MD MPH • Christopher C. Thompson, MD, MSc

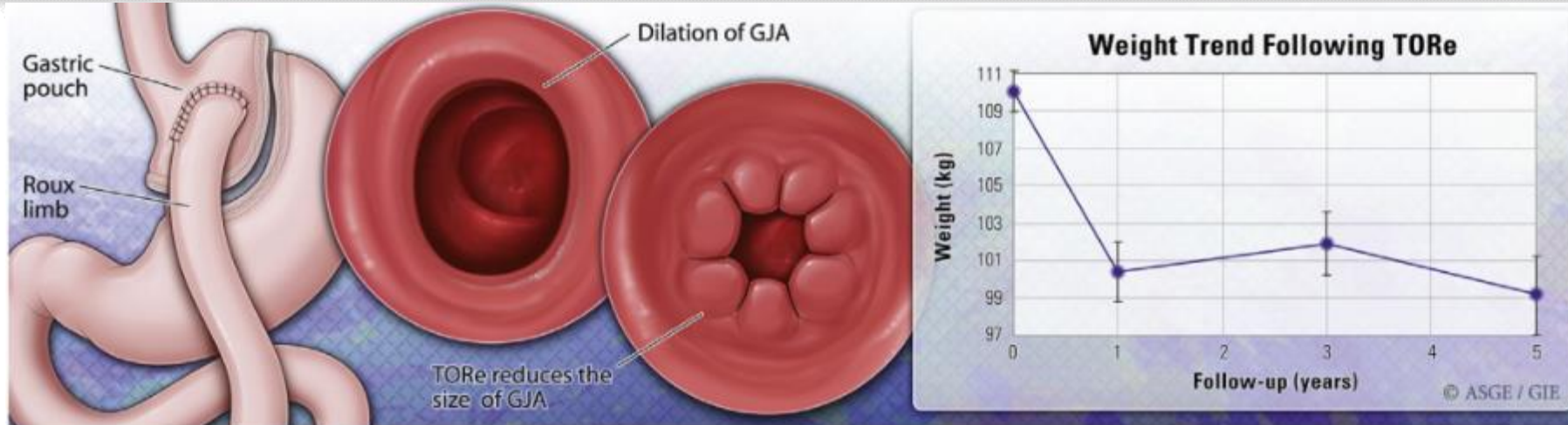
- A single-center study of RYGB patients who underwent combination therapy (n=145)
- Combination therapy: initiation of an anti-obesity medication within 6 months prior to or after TORe



Five-year outcomes of transoral outlet reduction for the treatment of weight regain after Roux-en-Y gastric bypass

CME

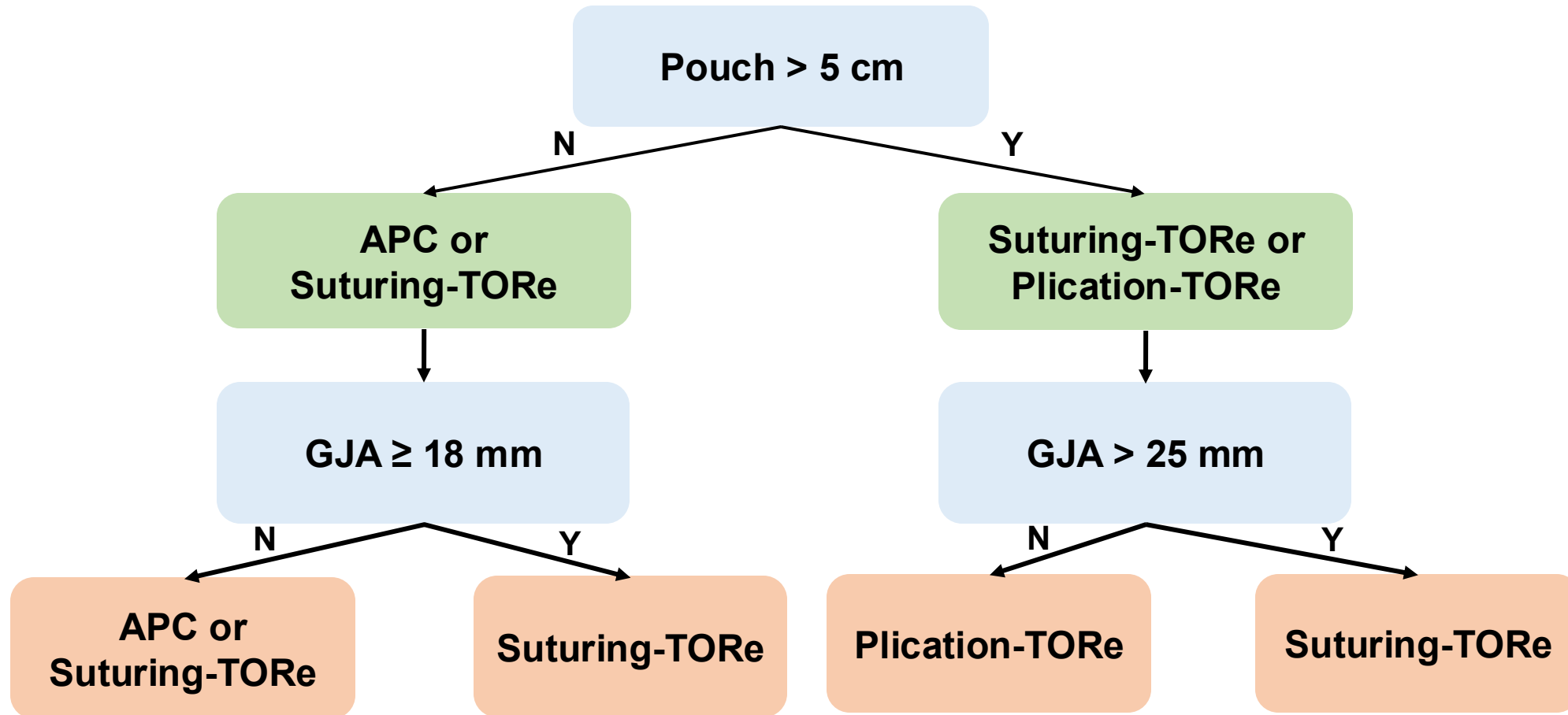
Pichamol Jirapinyo, MD, MPH,¹ Nitin Kumar, MD,² Mohd Amer AlSamman, MD,³
Christopher C. Thompson, MD, MSc¹



- 331 patients with baseline BMI of $40 \pm 9 \text{ kg/m}^2$
- Of 331 patients, 331, 258 and 123 patients were eligible for 1-, 3- and 5-year follow-up
- Follow-up rates were 83%, 82% and 83% at 1, 3 and 5 years
- Efficacy at 5 years: **8.8% TWL (62% maintained 5% TWL)**



Which procedure to offer?



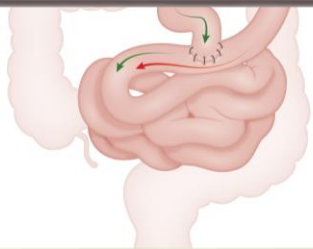
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Endoscopic Treatment Options for Recurrent Weight Gain after SG

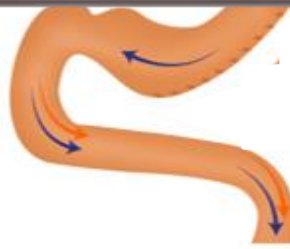
Recurrent weight gain after sleeve gastrectomy (SG)

- 75% of SG patients experience recurrent weight gain at 6 years
- 20% of SG patients undergo surgical revision at 7 years
- Traditional treatment includes surgical revision

The risks associated with revision or conversion surgery are higher than those of the index surgery



**Roux-en-Y
gastric bypass**

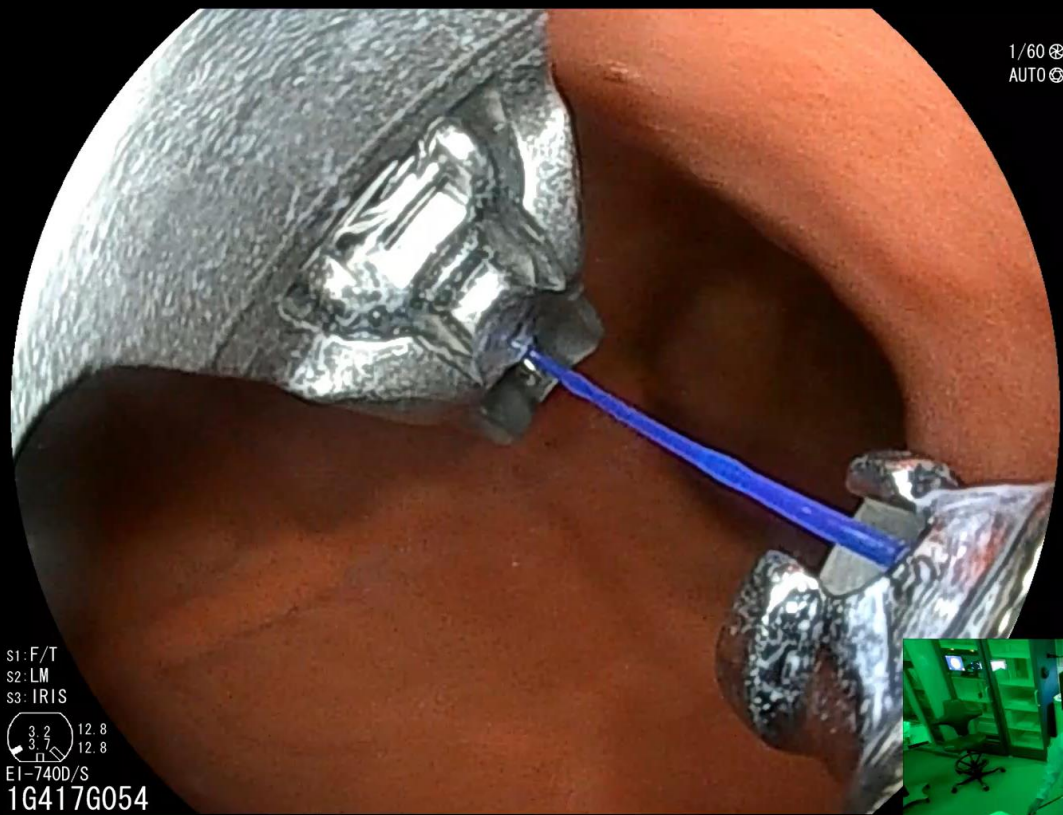


Re-sleeve



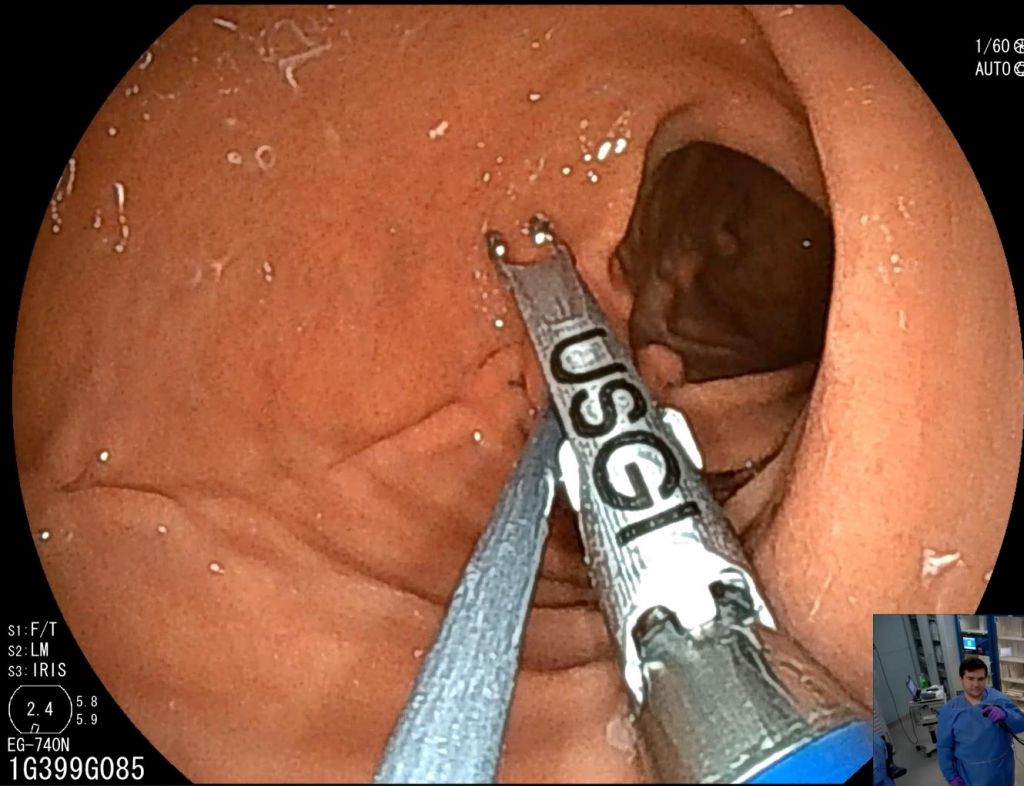
**Biliopancreatic diversion
with duodenal switch**





1/60 ⊕
AUTO ⊕

S1: F/T
S2: LM
S3: IRIS
3.2 12.8
3.7 12.8
E1-740D/S
1G417G054



1/60 ⊕
AUTO ⊕

S1: F/T
S2: LM
S3: IRIS
2.4 5.8
EG-740N
1G399G085



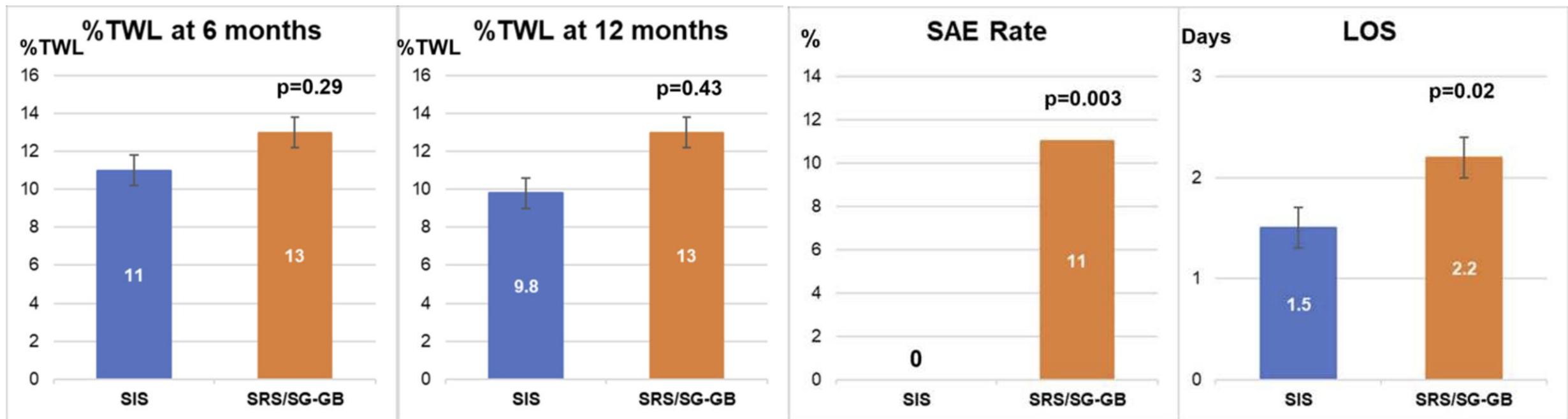
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Endoscopic versus surgical management of recurrent weight gain following sleeve gastrectomy



Pichamol Jirapinyo¹, Noppachai Siranart², Christopher C Thompson³

- A propensity-matched cohort study of patients who underwent revision of SG (82 ENDO vs 82 SURG)
- Matching parameters were based on age, sex, BMI at revision, and amount of weight regain



Conclusion

- Recurrent weight gain following RYGB and SG is common
- TORe meets the PIVI threshold criteria for adoption in clinical practice and can be performed using suturing or plication technique
- SIS has similar efficacy to surgical revision or conversion of SG to RYGB, but with a better safety profile
- Future directions for endoscopic management of recurrent weight gain include combination therapy and personalized therapy



Thank you

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X @SighPichamol

 @DoctorSigh