MAYO CLINIC

IFSO 2024

HYBRID AND SMALL BOWEL ENDOSCOPIC PROCEDURES

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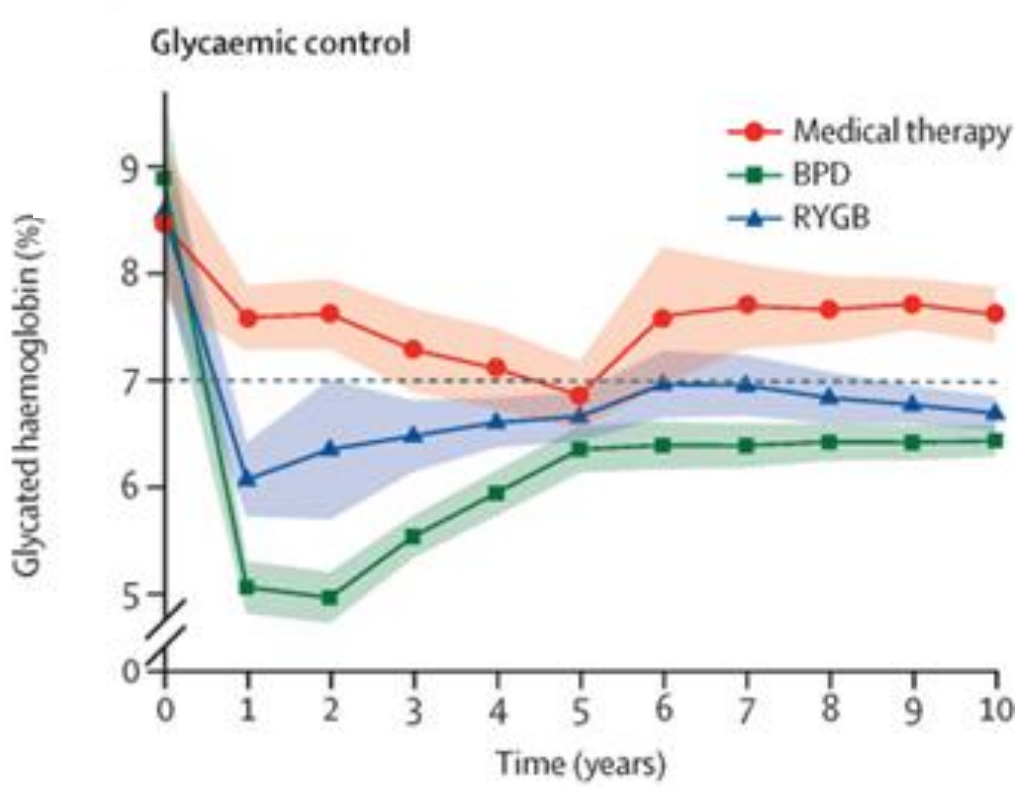
DISCLOSURES

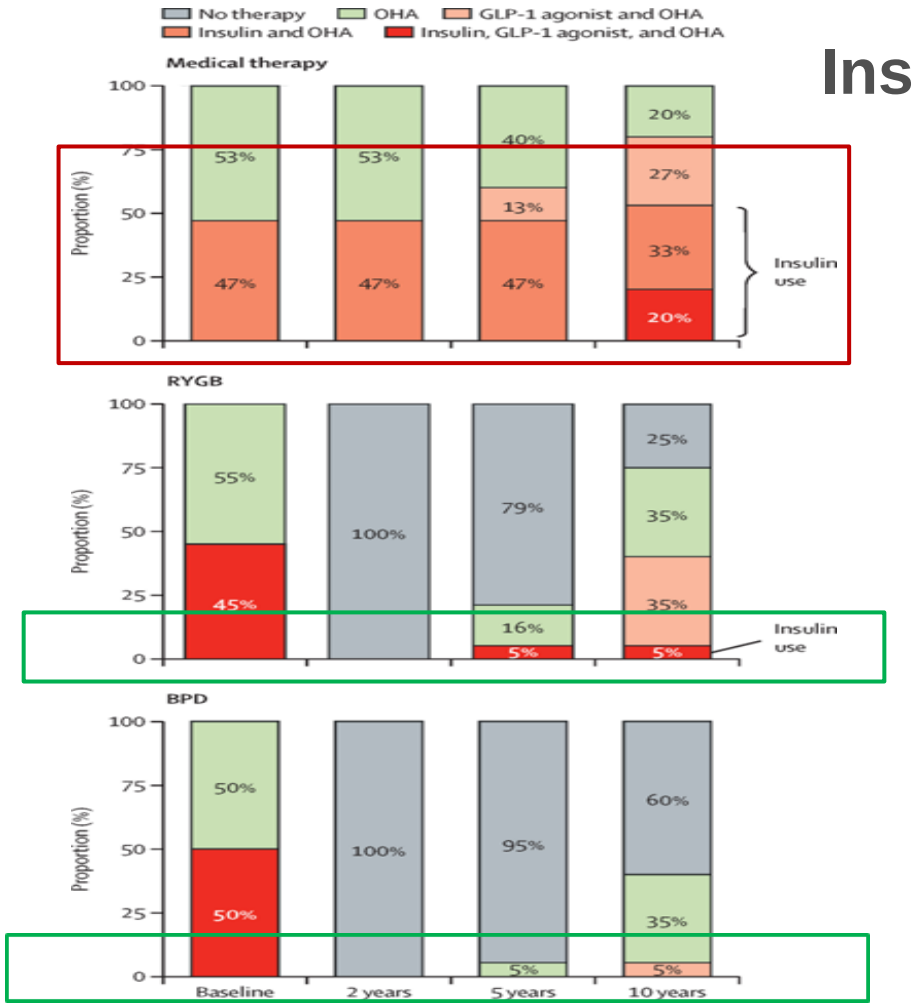
- **Consultant:** Boston Scientific, Olympus, Medtronic, Metamodix, BFKW, Apollo Endosurgery
- **Co-inventor:** Endogenex (licensed technology by Mayo Clinic)
- **Research Support:** Apollo Endosurgery, USGI, Endogastric Solutions, Boston Scientific, Medtronic, Spatz, Cairn.
- **Speaker:** Johnson & Johnson, Olympus, Endogastric Solutions

THE LANCET

Metabolic surgery versus conventional medical therapy in patients with type 2 diabetes: 10-year follow-up of an open-label, single-centre, randomised controlled trial

The Lancet Volume 397 Issue 10271 Pages 293-304 (January 2021)





Insulin Use

50%

5%

0%

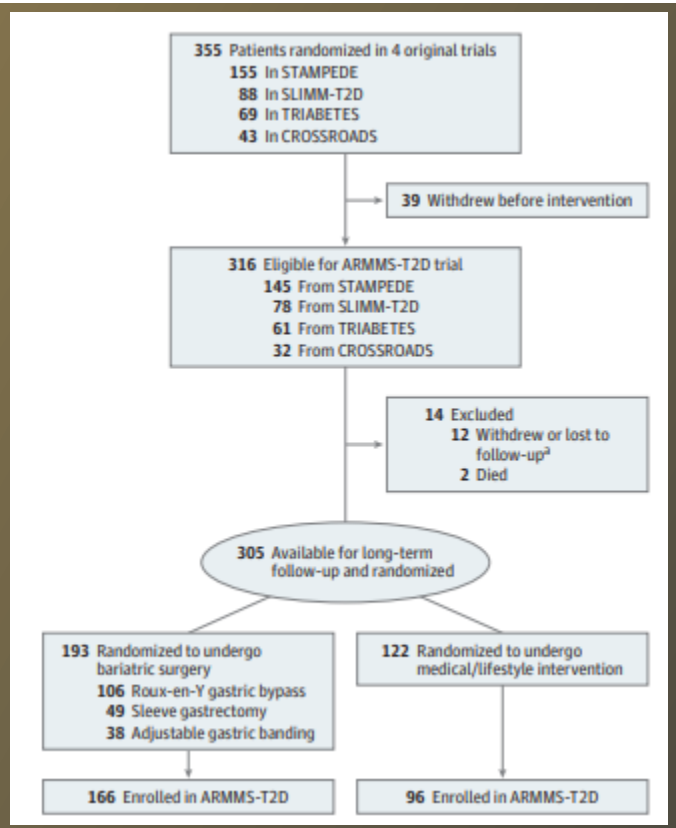
Research

JAMA | Original Investigation

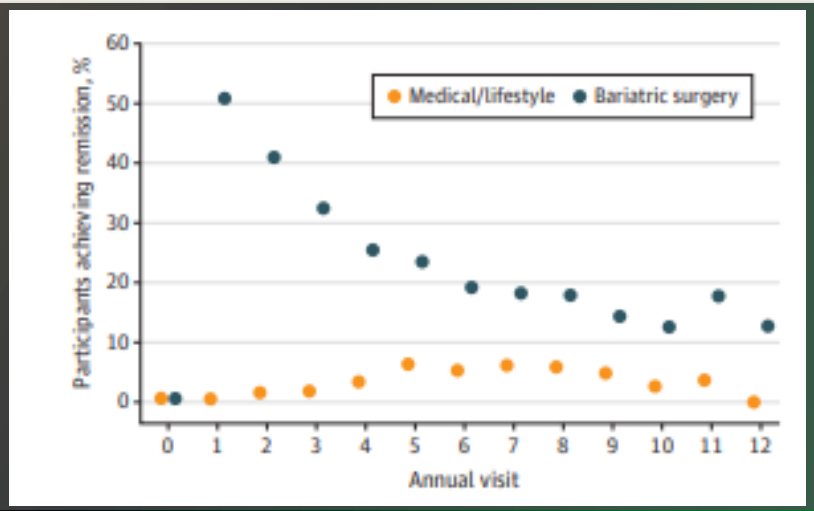
Long-Term Outcomes of Medical Management vs Bariatric Surgery in Type 2 Diabetes

Anita P. Courcoulas, MD; Mary Elizabeth Patti, MD; Bo Hu, PhD; David E. Arterburn, MD; Donald C. Simonson, MD, ScD; William F. Gourash, PhD; John M. Jakicic, PhD; Ashley H. Vernon, MD; Gerald J. Beck, PhD; Philip R. Schauer, MD; Sangeeta R. Kashyap, MD; Ali Aminian, MD; David E. Cummings, MD; John P. Kirwan, PhD

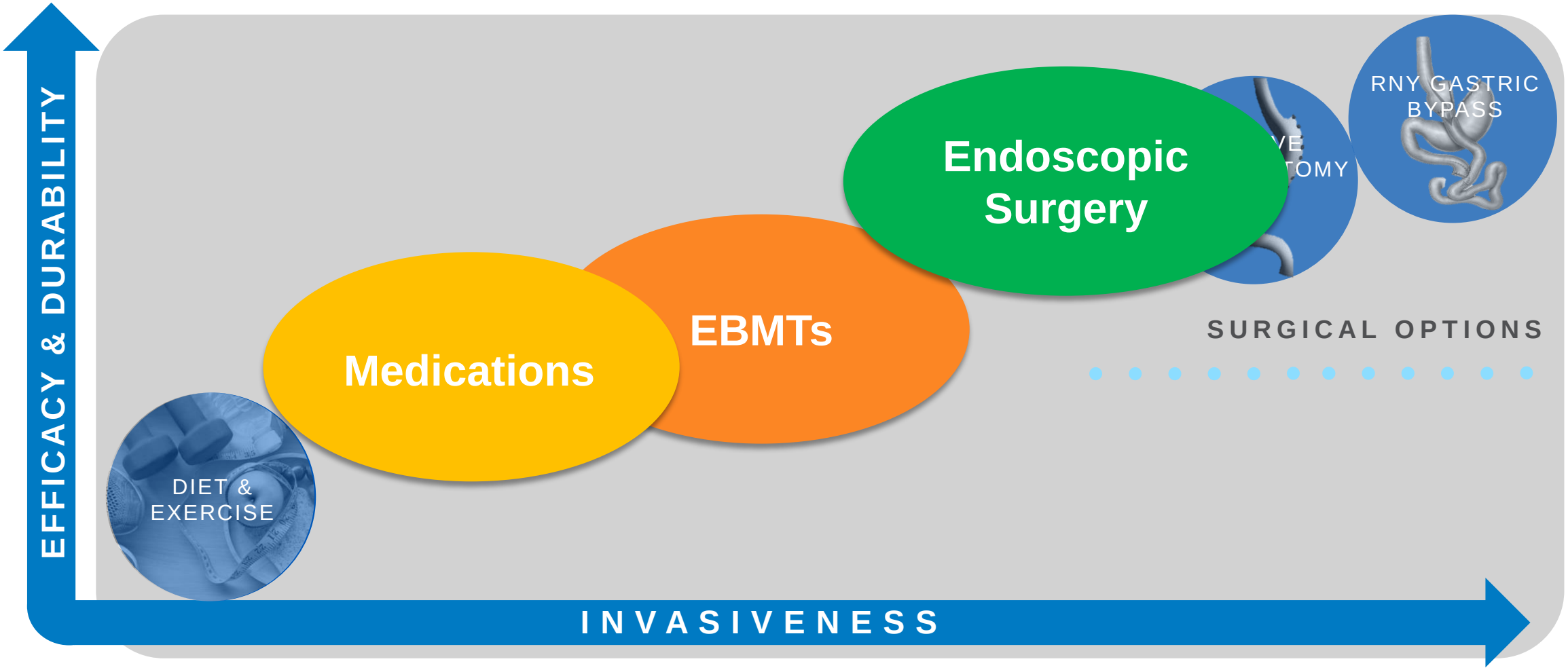
Key Point:
Gut-based therapeutic interventions, particularly metabolic surgery, exhibit a potential disease-modifying effect on Type II diabetes mellitus. This is evidenced by a substantial reduction in insulin usage over a 7-year period (16% versus 56%), alongside improved glycemic control.



Outcome	Medical/lifestyle Baseline (n = 96)	Year 7 (n = 82)	Change (95% CI)[b]	Bariatric surgery Baseline (n = 166)	Year 7 (n = 136)	Change (95% CI)	Group comparison Difference in change[c]	*P* value
Primary outcome								
HbA_{1c}, mean (SD), %	8.2 (1.2)	8.0 (1.8)	−0.2 (−0.5 to 0.2)	8.7 (1.7)	7.2 (1.4)	−1.6 (−1.8 to −1.3)	−1.4 (−1.8 to −1.0)	<.001
HbA_{1c} <7.0%, %	11.7	26.7	2.77 (1.38 to 5.54)	15.5	54.1	6.42 (3.63 to 11.4)	3.22 (1.76 to 5.88)	<.001
Insulin and/or oral/GLP1	41.7	56.0	1.93 (1.07 to 3.46)	50.6	16.0	0.18 (0.11 to 0.31)	0.13 (0.06 to 0.29)	<.001

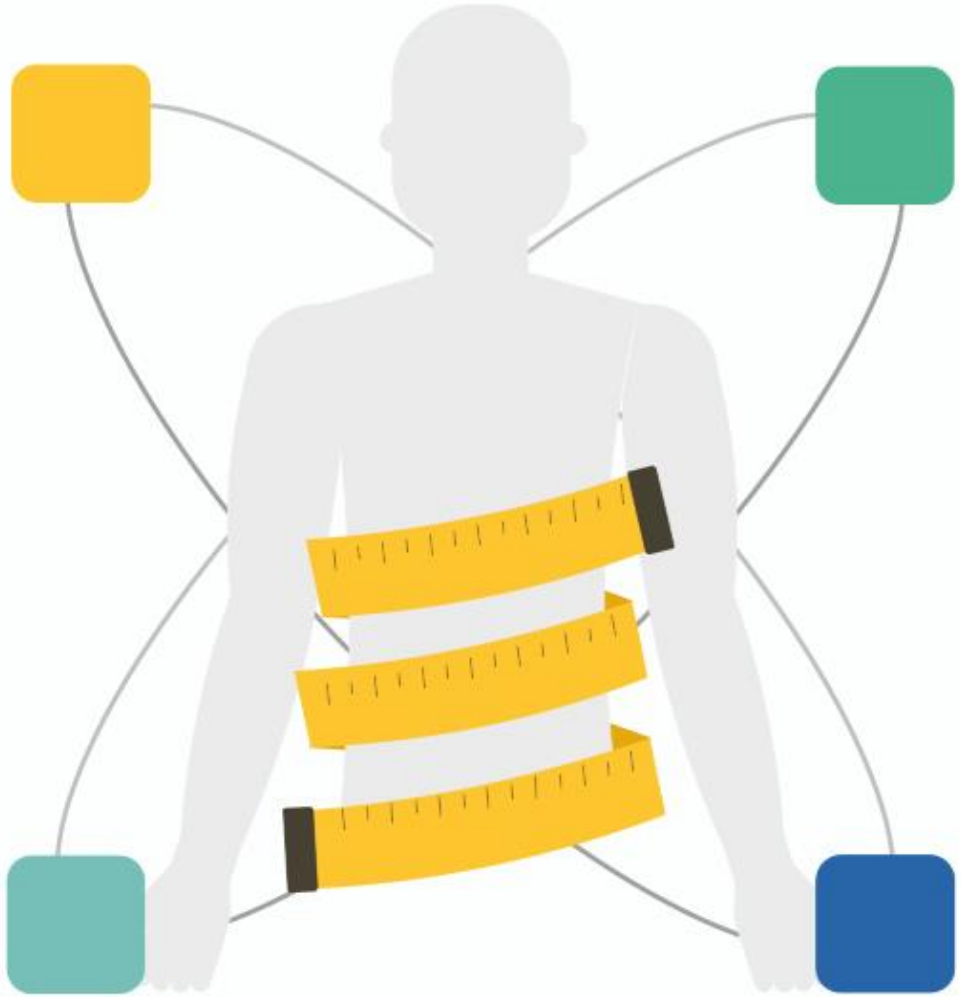


#Pushing the Boundaries (Modular Endoscopic Surgery)



Organ Sparing

Safe Effective



No Long-Term Consequences

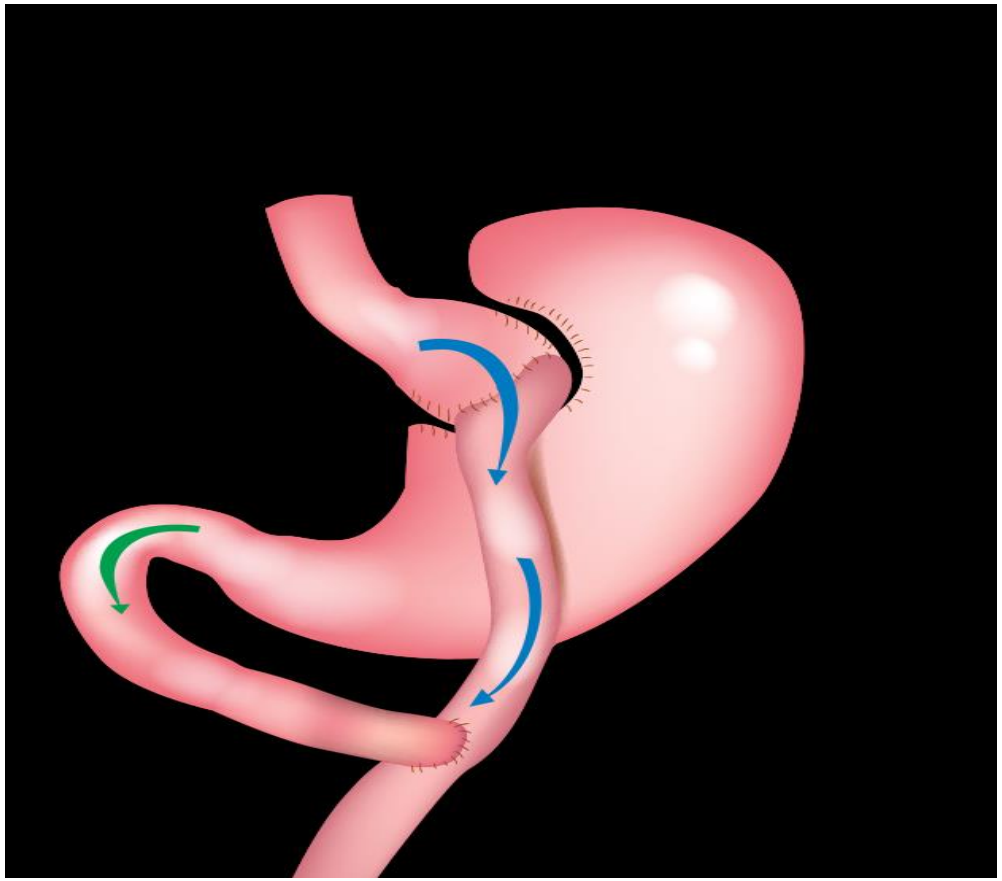
Minimal Disruption

Contents lists available at ScienceDirect

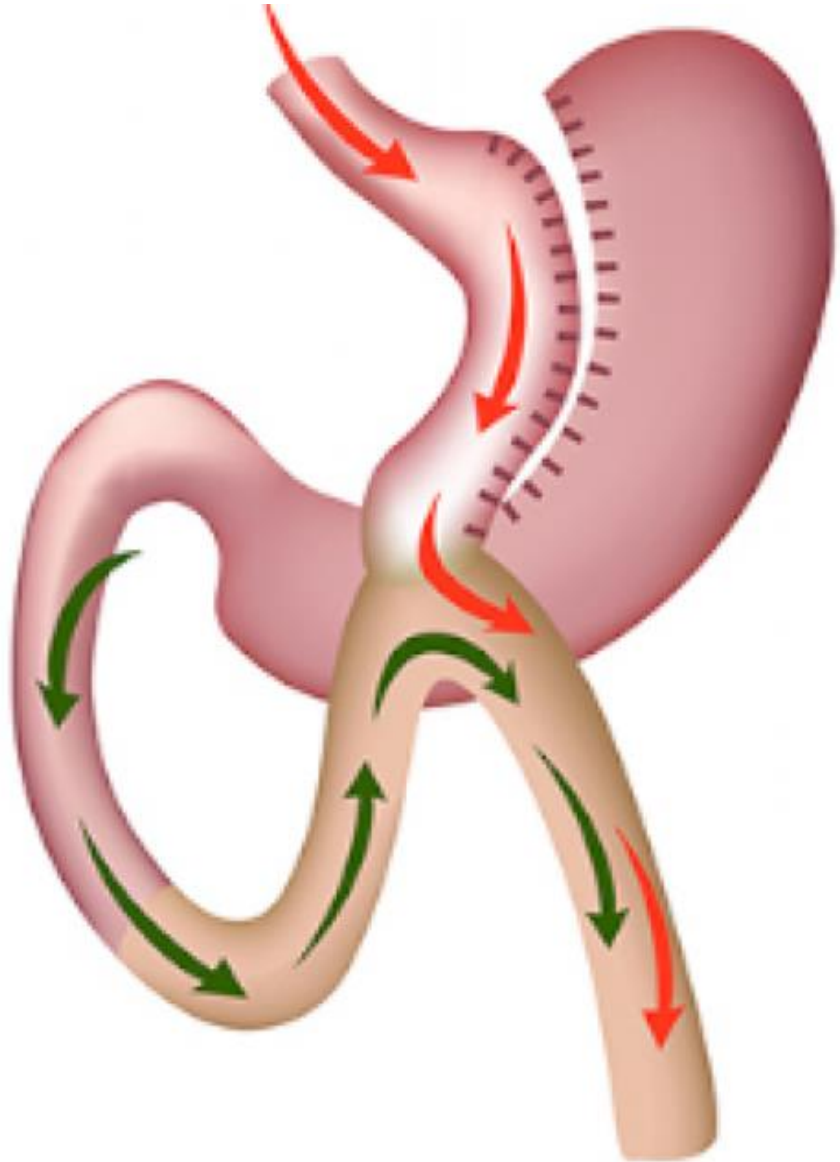
EBioMedicine

journal homepage: www.ebiomedicine.com

EBioMedicine
Published by THE LANCET



J. Casella-Mariolo et al. / EBioMedicine 46 (2019) 452–462



NOTES GASTROINTESTINAL BYPASS

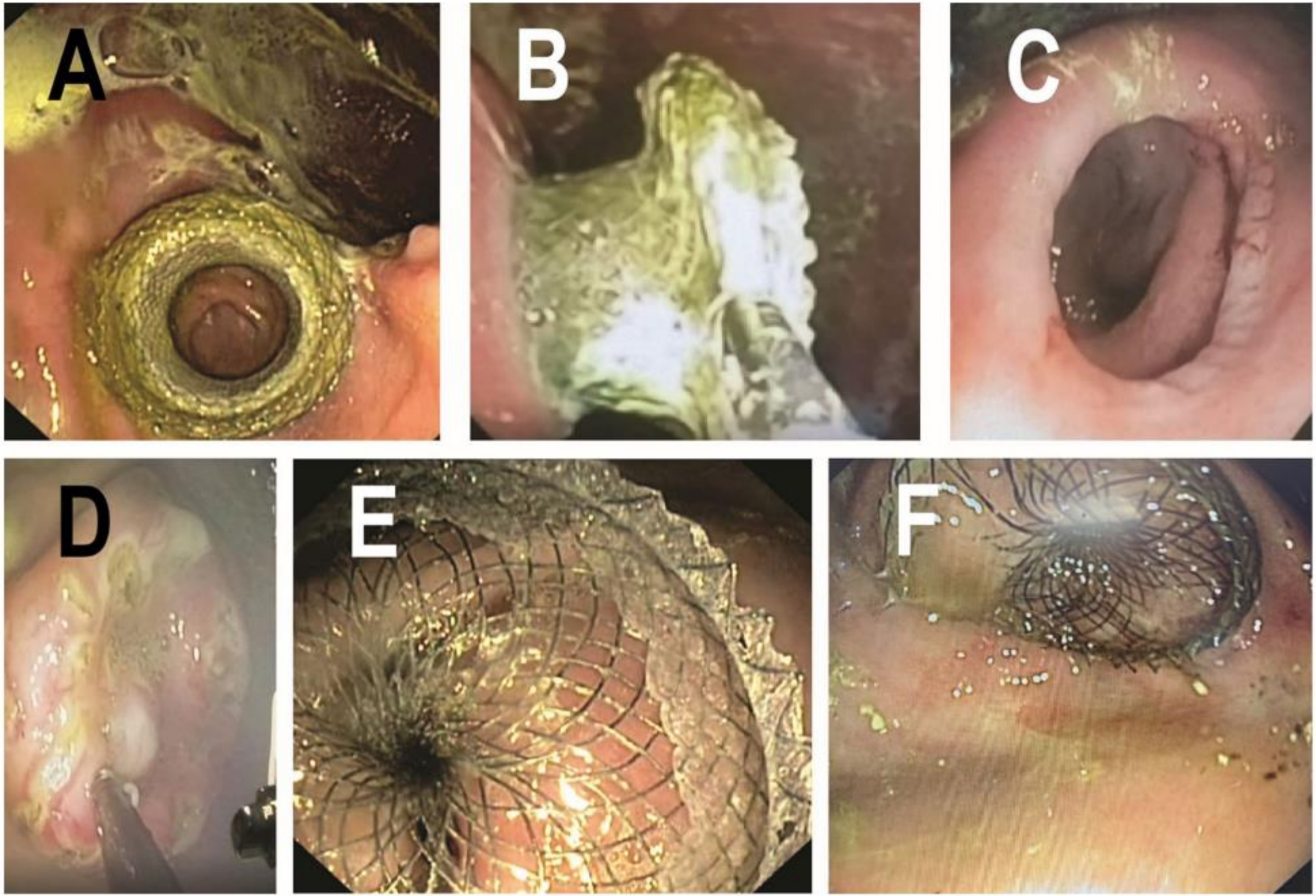
scientific reports

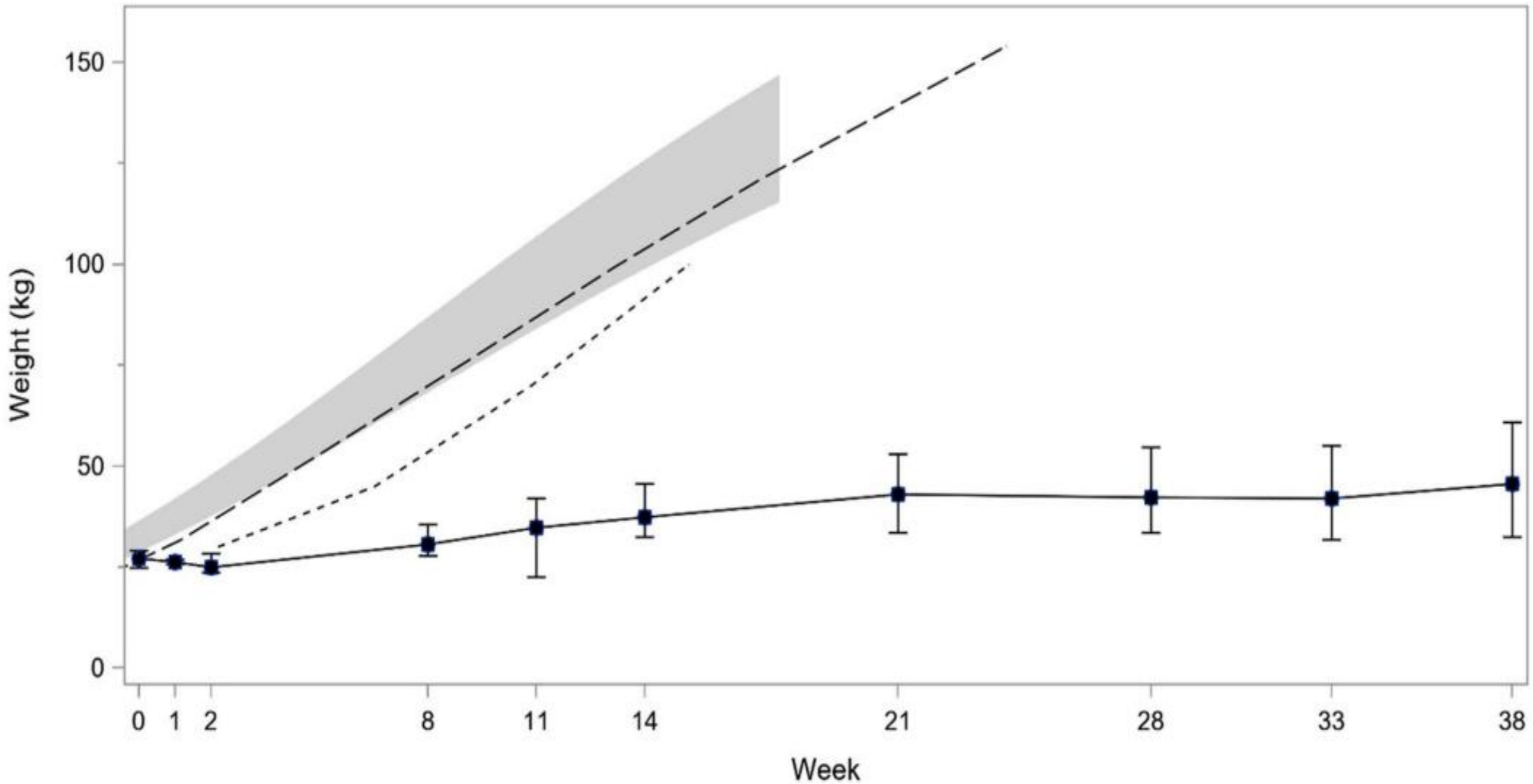
Check for updates

OPEN

First fully endoscopic metabolic procedure with NOTES gastrojejunostomy, controlled bypass length and duodenal exclusion: a 9-month porcine study

Jean-Michel Gonzalez[1]✉, Sohaib Ouazzani[1], Laurent Monino[1], Laura Beyer-Berjot[2,3], Stephane Berdah[2,3], Nicolas Cauche[4], Cecilia Delattre[4], Joyce A. Peetermans[5], Peter Dayton[5], Ornela Gjata[5], Darren Curran[5] & Marc Barthet[1]





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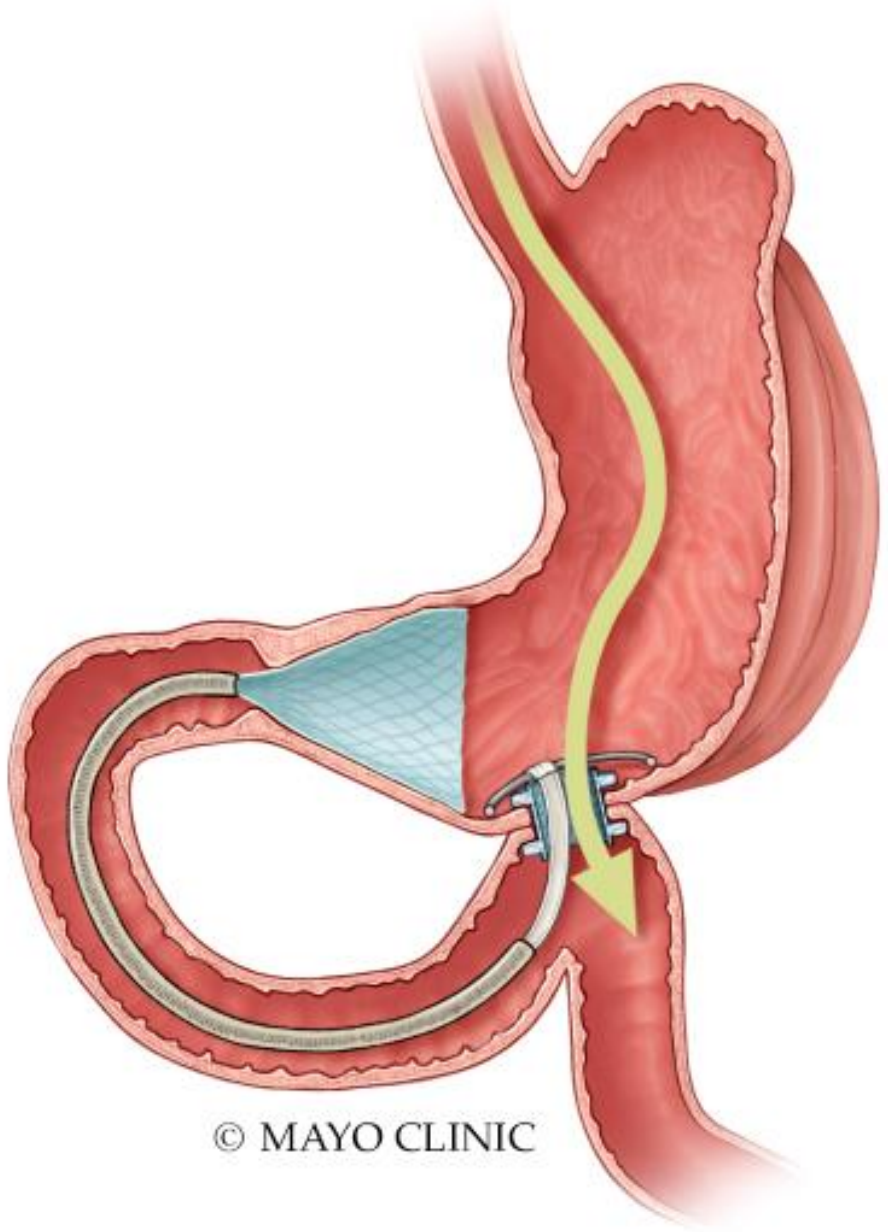
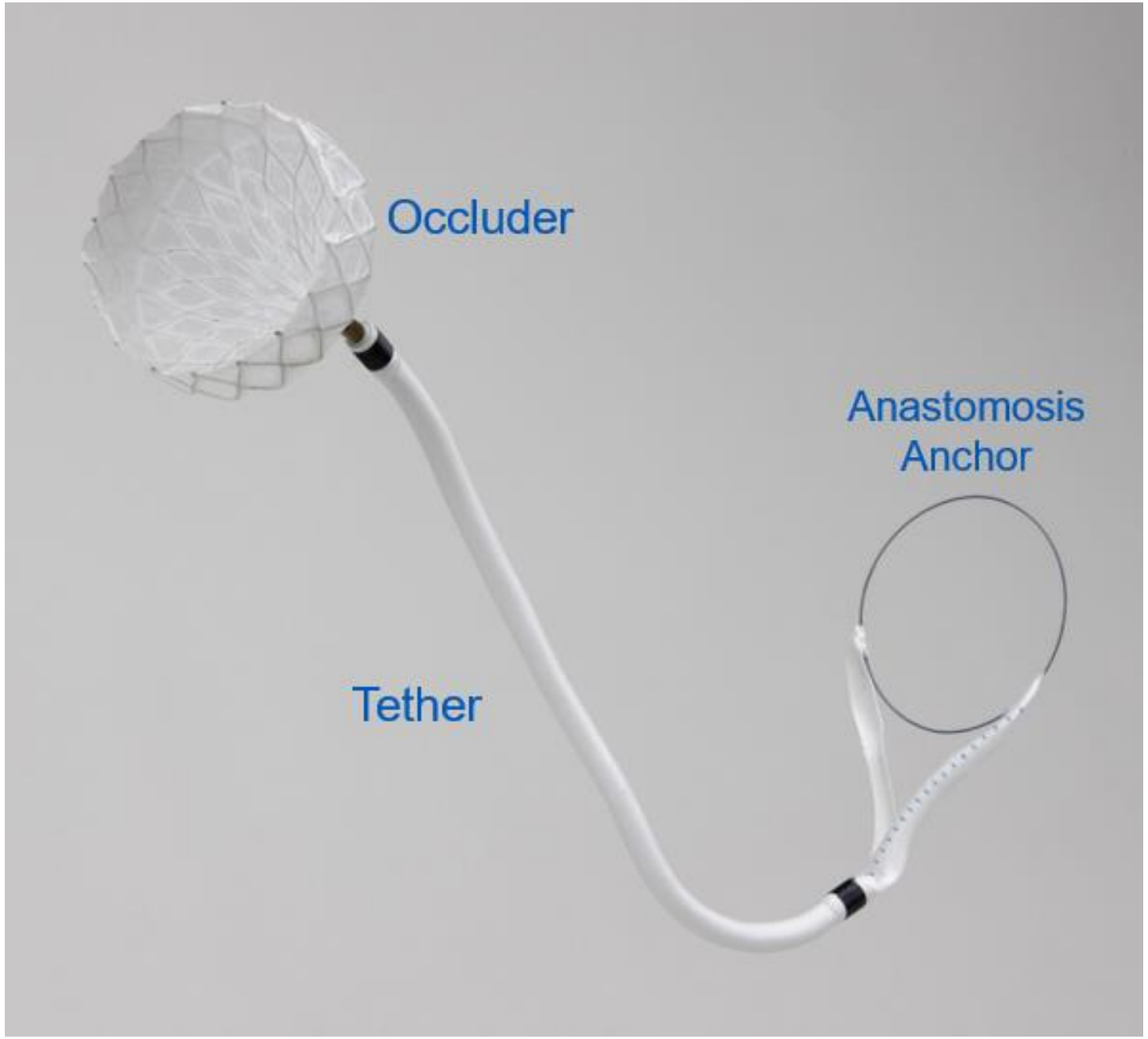
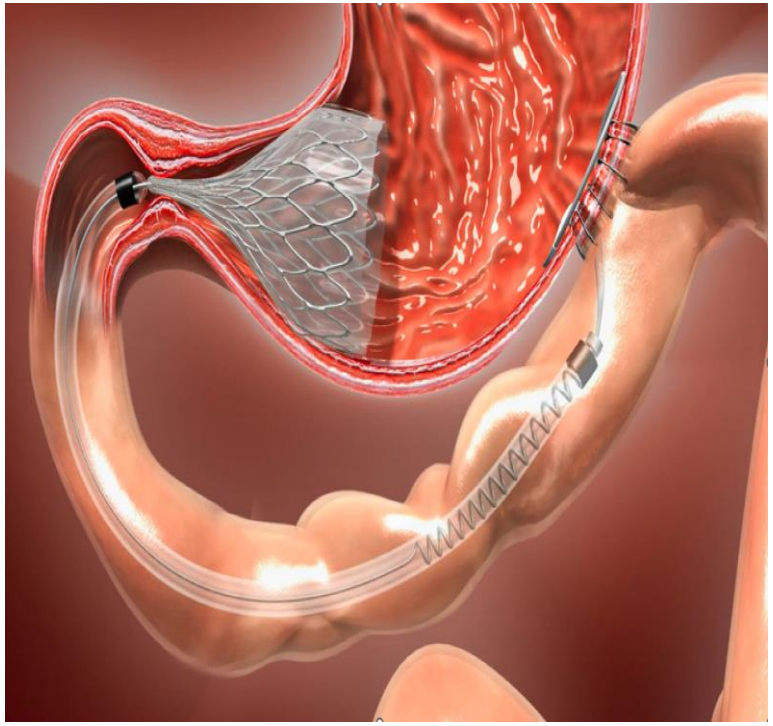
Boston Scientific
Advancing science for life™

Collaboration

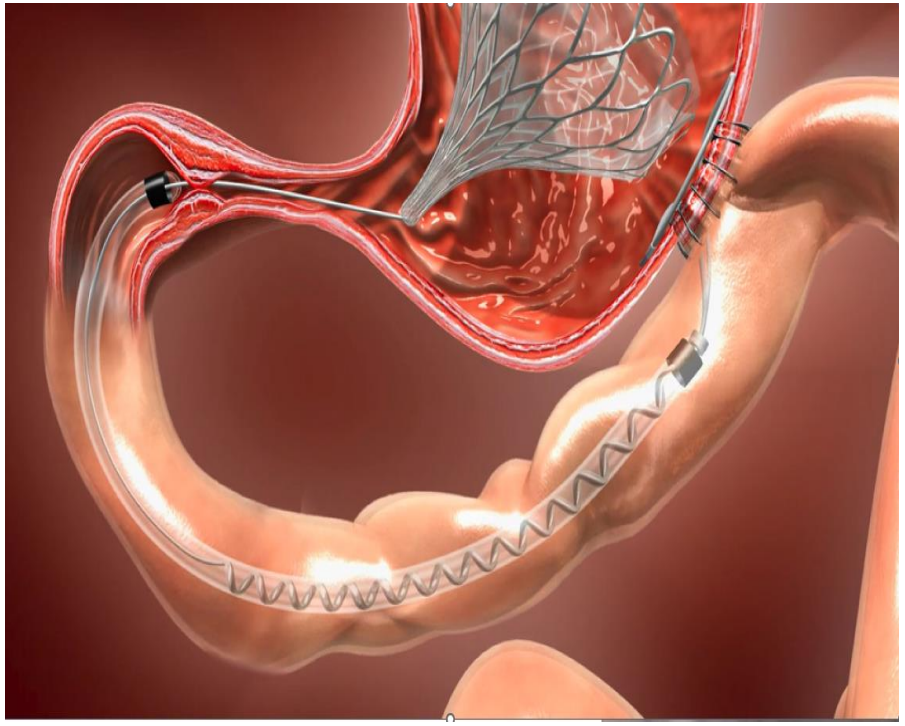




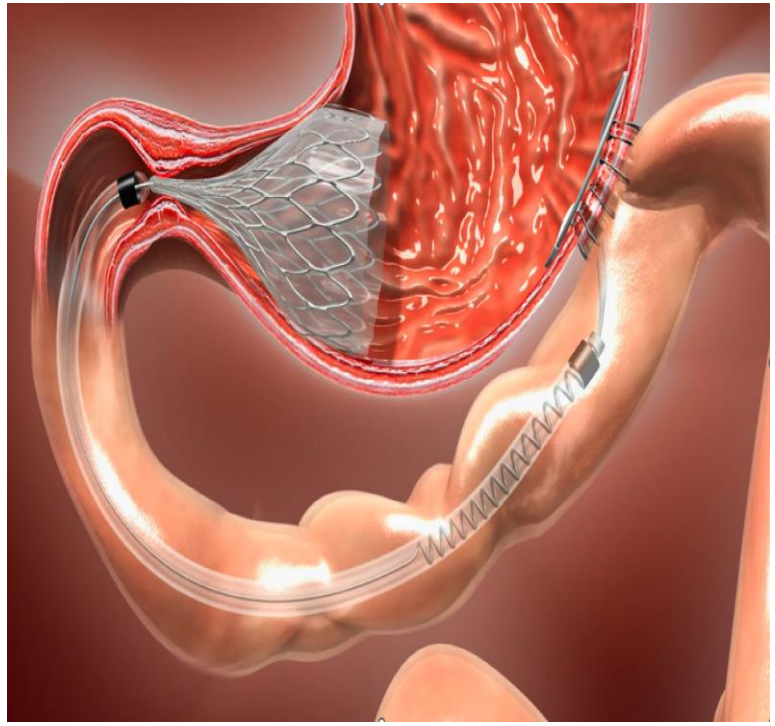
DYNAMIC NON-TRAUMATIC ANCHORING



Neutral

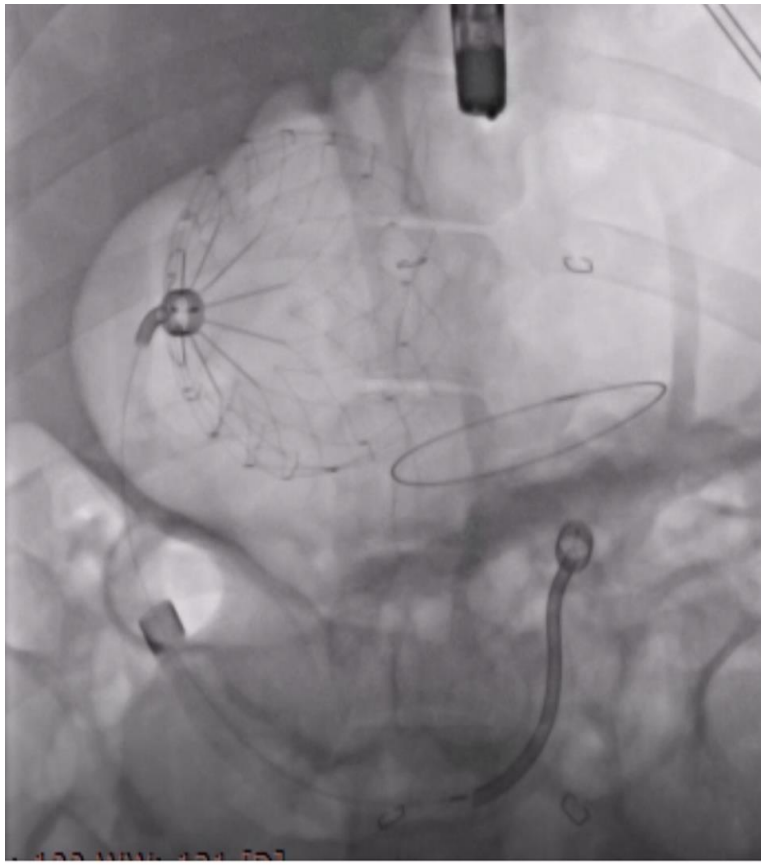


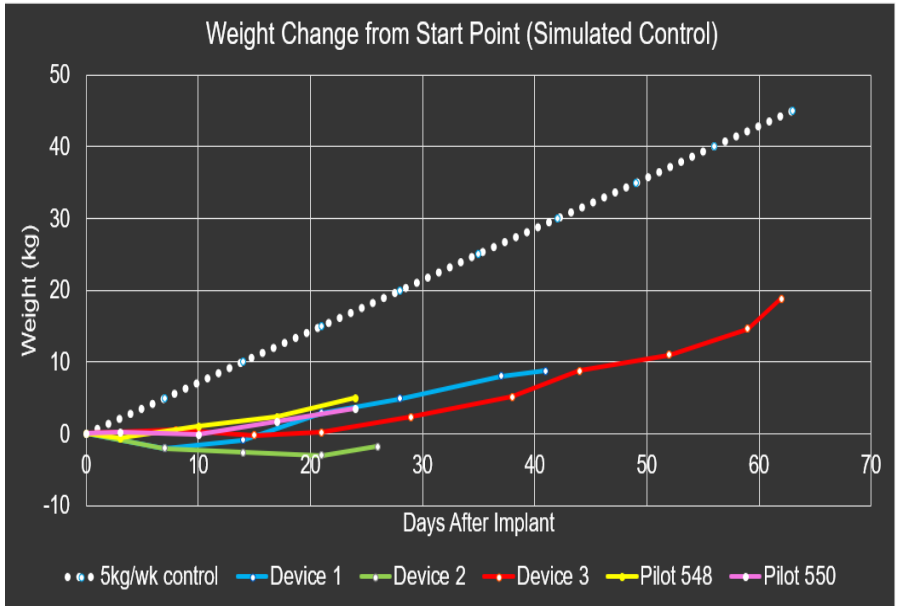
Contraction / Dynamic Spring Adjustment



Neutral

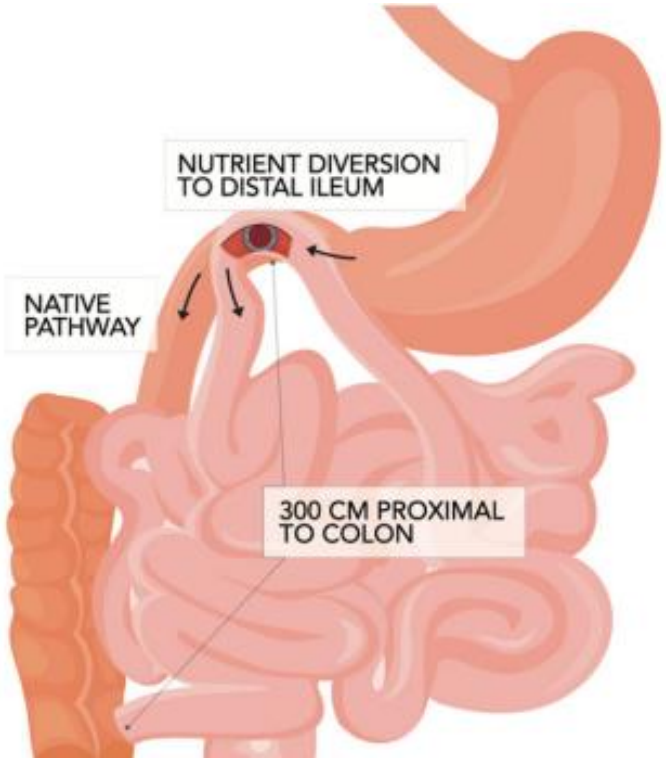
EFFECTIVE BYPASS ON-DEMAND + STABILITY

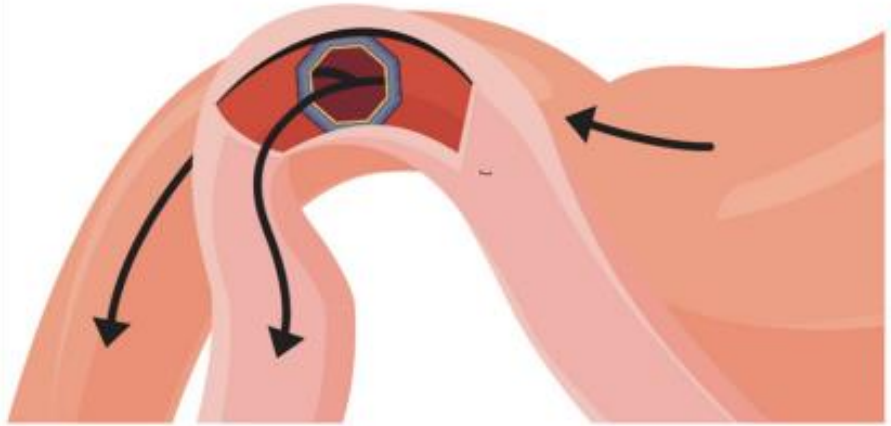




*Stability demonstrated up to 12 weeks in pigs

MAGNETS





Sutureless Duodeno-Ileal Anastomosis with Self Assembling Magnets: Safety and Feasibility of a Novel Metabolic Procedure

METHODS

Open-label, prospective, single-arm study including obese patients (BMI 30-50 kg/m^2) with Type II Diabetes.

The ileal magnet was deployed laparoscopically and the duodenal magnet was deployed endoscopically. Both magnets were coupled under laparoscopic and fluoroscopic guidance.
Magnets were expelled at a median of 29.5 days after the procedure with no associated complications

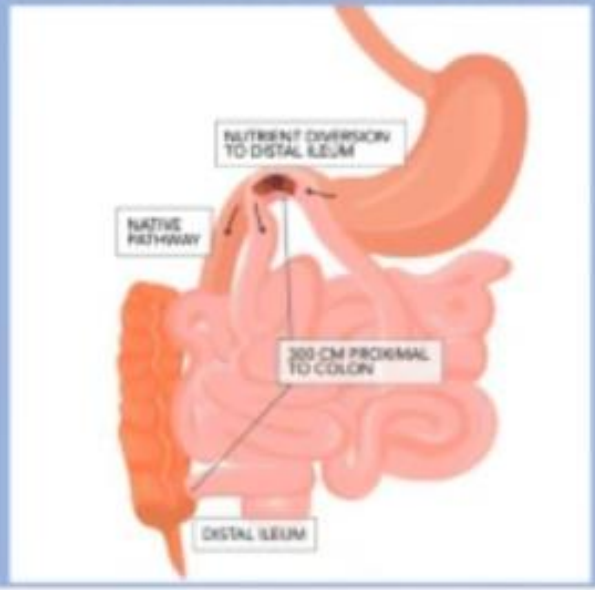
RESULTS

Upper endoscopy at 12 months confirmed patent anastomoses with healthy-appearing mucosa in all patients

HbA1c reduced below 7.0% in 6 out of 8 (75%) patients and greater than 5% total body weight loss was observed in 7 out of 8 (87.5%) patients at 12 months

CONCLUSIONS

Sutureless duodeno-ileal side to side anastomosis using self-assembling magnets is feasible and safe in obese patients, and a dual-path enteral diversion with large-caliber and durable anastomosis can be achieved



IFSO

Schlottmann F, Ryou M, Lautz D, Thompson CC, Buxhoeveden R. Sutureless Duodeno-Ileal Anastomosis with Self Assembling Magnets: Safety and Feasibility of a Novel Metabolic Procedure. Obesity Surgery 2021

OBESITY SURGERY
The Journal of Metabolic Surgery and Allied Care

WITH SLEEVE GASTRECTOMY

Surgical Endoscopy (2023) 37:6452–6463
https://doi.org/10.1007/s00464-023-10134-6

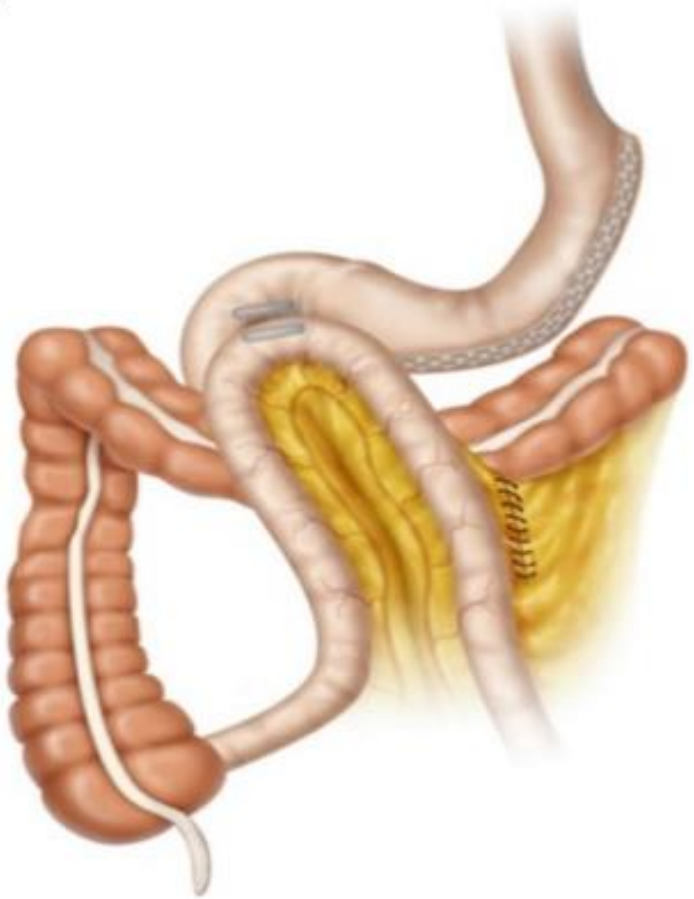
2023 SAGES ORAL

Side-to-side magnet anastomosis system duodeno-ileostomy with sleeve gastrectomy: early multi-center results

Michel Gagner[1,8] · Guy-Bernard Cadiere[2] · Andres Sanchez-Pernaute[3] · David Abuladze[4] · Todd Krinke[5] · J. N. Buchwald[6] · Nathalie Van Sante[7] · Marc Van Gossum[2] · Jana Dziakova[3] · Levan Koiava[4] · Maja Odovic[3] · Mathilde Poras[2] · Lamees Almutlaq[1] · Antonio J. Torres[3]

Received: 1 April 2023 / Accepted: 8 May 2023 / Published online: 22 May 2023

c.



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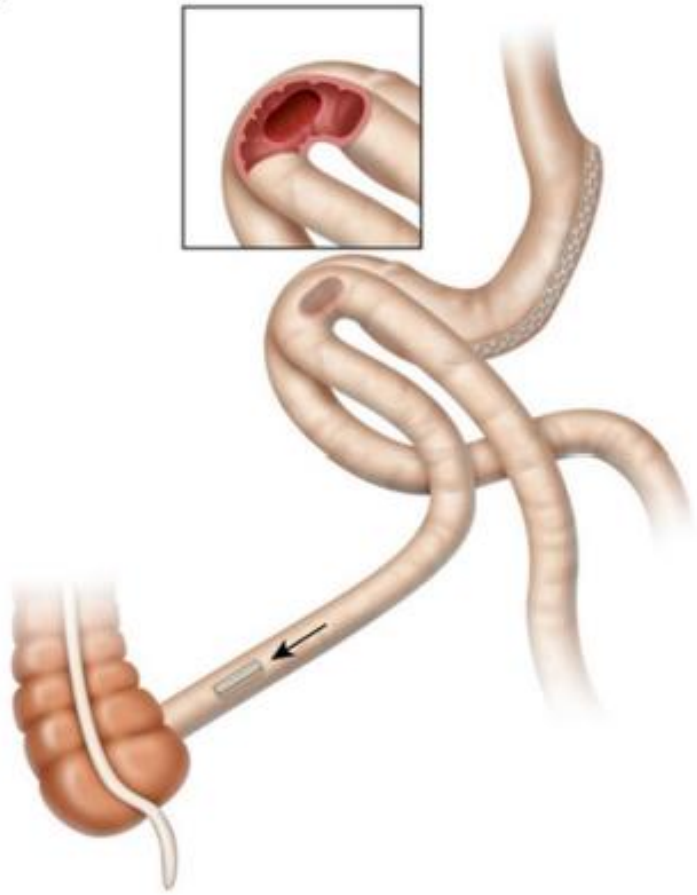

CONCLUSION

- Therapies targeting the GUT for correcting metabolic maladaptation in T2D represent a new frontier in Type 2 Diabetes management
- Potential for disease modification and decreasing the burden of disease
- Leveraging these interventions in an organ sparing fashion it the wave of the future

QUESTIONS

THANK YOU

