

Magnetic Technology in MBS

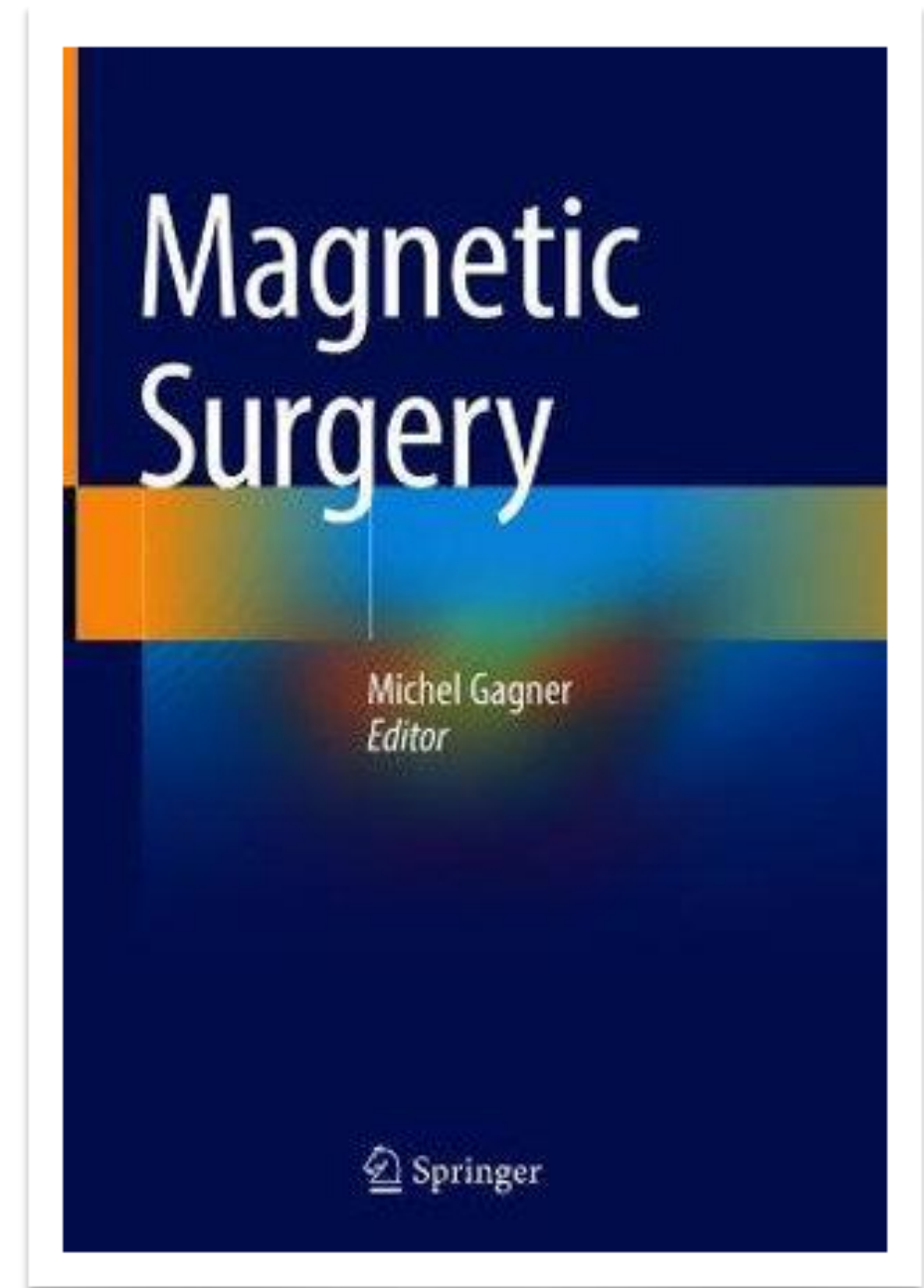
Michel Gagner MD, FRCSC, FACS

Chief of Surgery, Westmount Square Surgical Center

Senior Consultant, Department of Surgery
Hopital du Sacre-Coeur (University of Montreal)
Montreal, Quebec, Canada

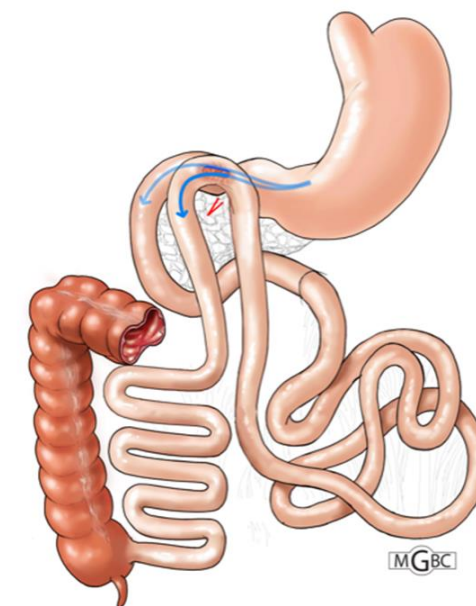
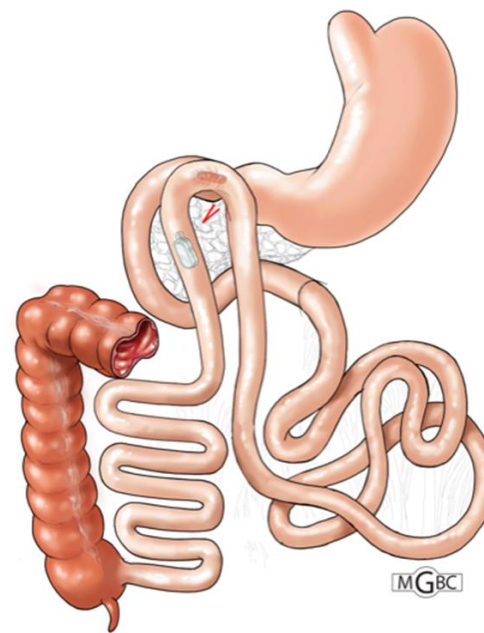
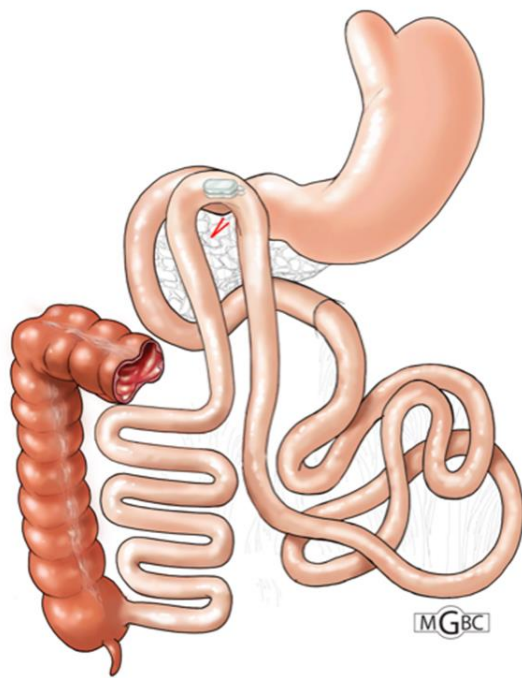
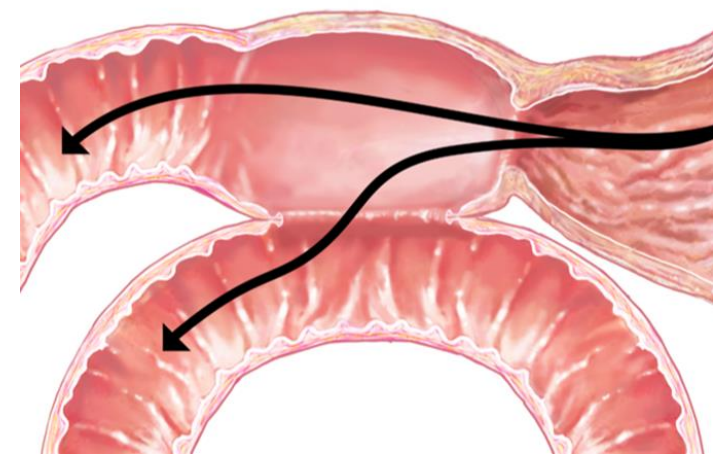
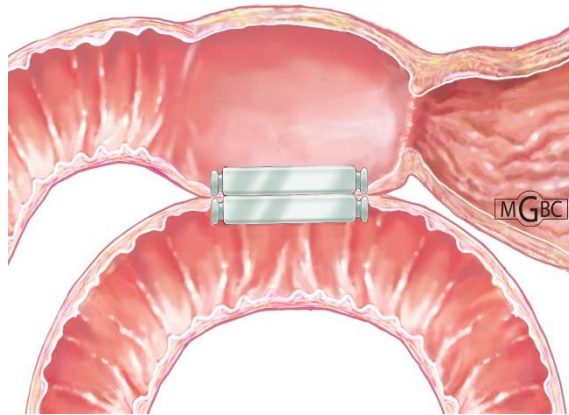
Disclosures

- Stock ownership:
- Lexington medical
- GT Metabolic



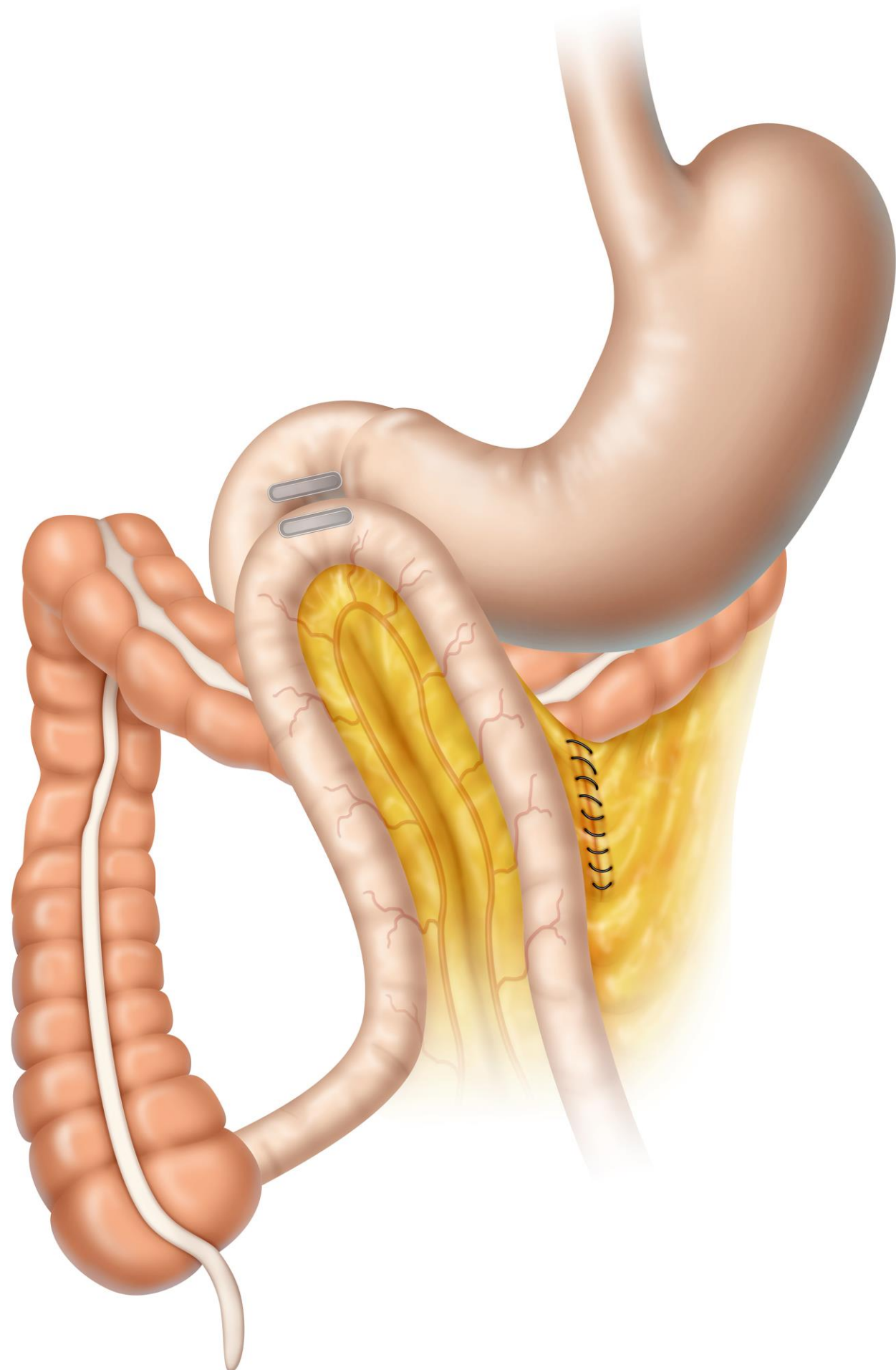
The MAGNET System

Creation of Side-to-Side Compression Anastomosis Duodeno-Ileostomy



Easy to Swallow







The MAGDI Study Overview

- Use of GT Metabolic MagDI System to Achieve Magnetic Duodeno-Ileostomy (MAGDI) in Adults with Obesity with or without Diabetes
 - Two (2) **DI Magnets (32mm or 40mm or 50mm)** for side-to-side duodeno-ileal anastomosis
 - Patients with prior Sleeve Gastrectomy (SG $\geq$ 1 year) or no prior SG and no concurrent SG
 - An open-label, multicenter study – by site and Magnet Cohort:

Study Site (PI)	32mm n	40mm n	50mm n	TOTAL n (%)
Australia , Sydney	0	25	0	25 (17.5%)
Canada , Montreal	24	11	20	55 (38.5%)
Chile , Santiago	0	1	9	10 (7.0%)
Georgia , Tbilisi	0	15	0	15 (10.5%)
Italy , Naples, Zingonia, Cotignola	0	28*	0	28 (19.6%)
Mexico , Mexico City	0	10	0	10 (7.0%)
TOTAL (%)	24 (16.8%)	90 (62.9%)*	29 (20.3%)	143 (100%)

*90 consented, one procedure not completed for enrollment.

Baseline Characteristics

Baseline Characteristics	32mm n=24	40mm n=90*	50mm n=29	TOTAL n=143
Clinical				
Prior Sleeve Gastrectomy (SG) ≥ 12 months: n (%)	24 (100%)	60 (66.7%)	24 (82.8%)	108 (75.5%)
Body Weight: Mean (SEM)	105.3 (4.3) kg	95.9 (1.6) kg	103.3 (3.8) kg	99.0 (1.5) kg
Body Mass Index (BMI): Mean (SEM)	39.4 (1.3) kg/m ²	34.5 (0.4) kg/m ²	36.5 (1.2) kg/m ²	35.7 (0.4) kg/m²
Type 2 Diabetes: n (%)	1 (4.2%)	36 (40.0%)	5 (17.2%)	42 (29.4%)
Baseline HbA1c: Mean (SEM)	5.3 (0.1) %	6.2 (0.2)%	5.7 (0.2)%	6.0 (0.1)%
Age				
Mean (SEM)	44.9 (1.5) years	45.5 (1.0) years	43.9 (1.4) years	45.1 (0.7) years
Min, Max	33, 57 years	21, 65 years	34, 59 years	21, 65 years
Gender				
Female: n (%)	23 (95.8%)	64 (71.1%)	22 (75.9%)	109 (76.2%)
Male: n (%)	1 (4.2%)	26 (28.9%)	7 (24.1%)	34 (23.8%)

*90 consented, one procedure not completed for enrollment.

Natural Device Expulsion Profile

- Device expulsion time was based on subject self-report, though not all are aware of device passage (50%).
- For those aware of passage, time to expulsion was estimated as day of imaging confirmation (worst-case):

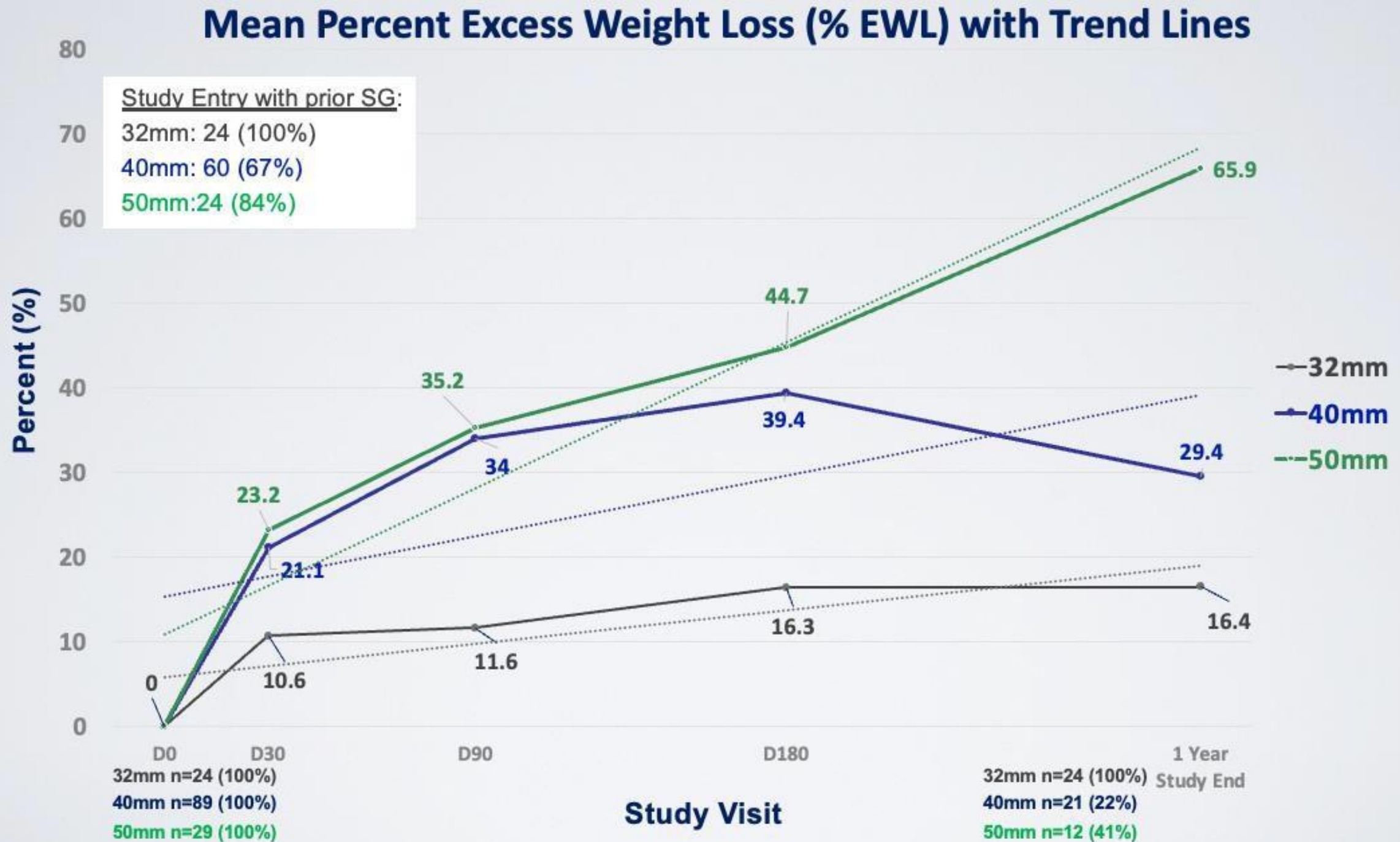
Expulsion Characteristics	32mm n=24	40mm n=88/89 ^a	50mm n=27/29 ^b	TOTAL n=139/142 ^{a,b}
Mean (SEM) (days)	42.2 (4.7)	33.7 (1.6)	34.3 (2.2)	35.3 (1.4)
Median (days)	36.5	30.0	31.0	30.0
Range (days)	14 – 93	11 – 97	17 - 67	11 - 97
Magnet Retrieval (n)	0	0	2 ^b	2 ^b

^a1 subject withdrew consent prior to device expulsion

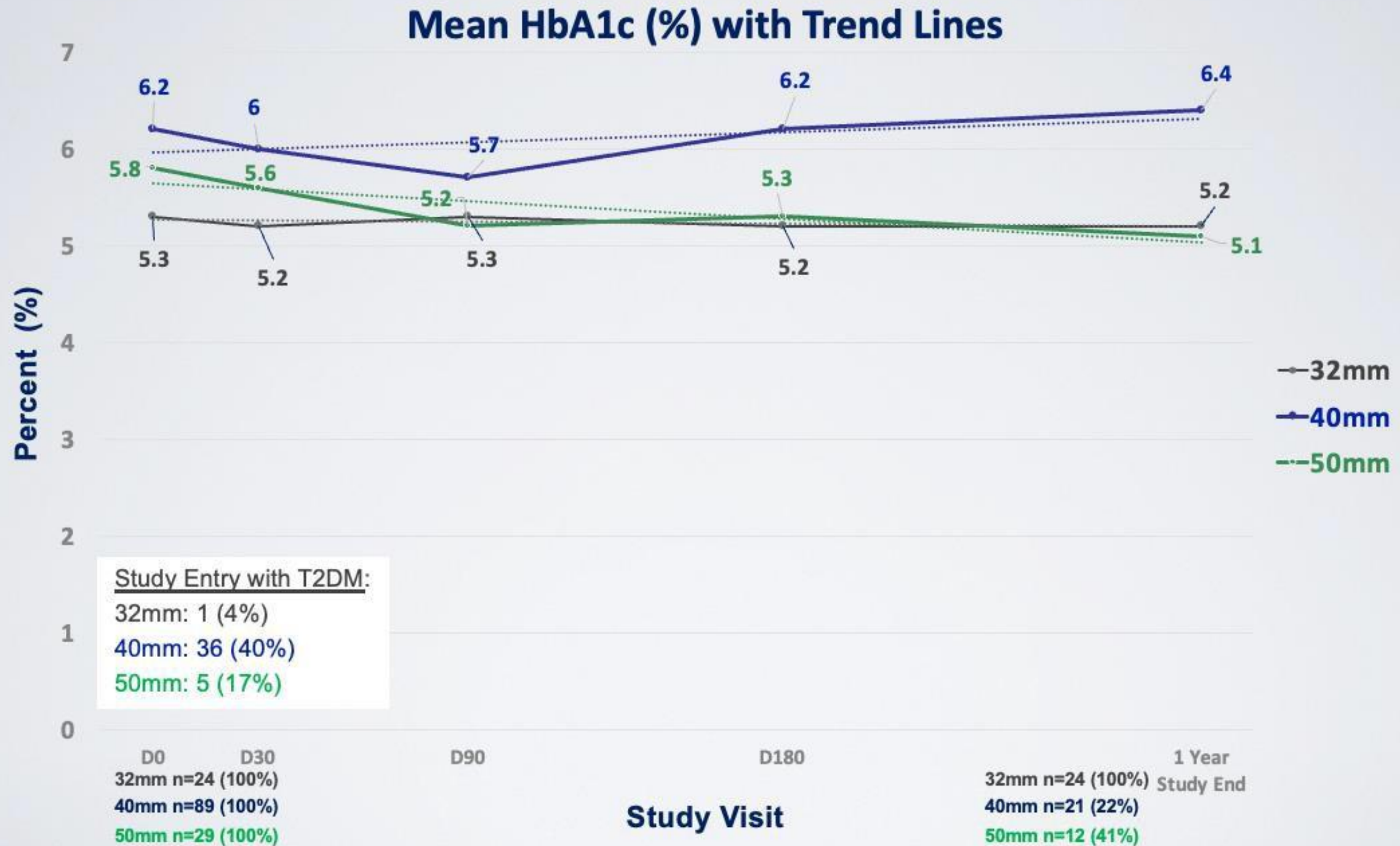
^bIn 2 cases, the Magnets were retrieved (see previous slide).

- Hospitalization time across Magnet sizes: Median 1.0 day; Mean 1.2 days

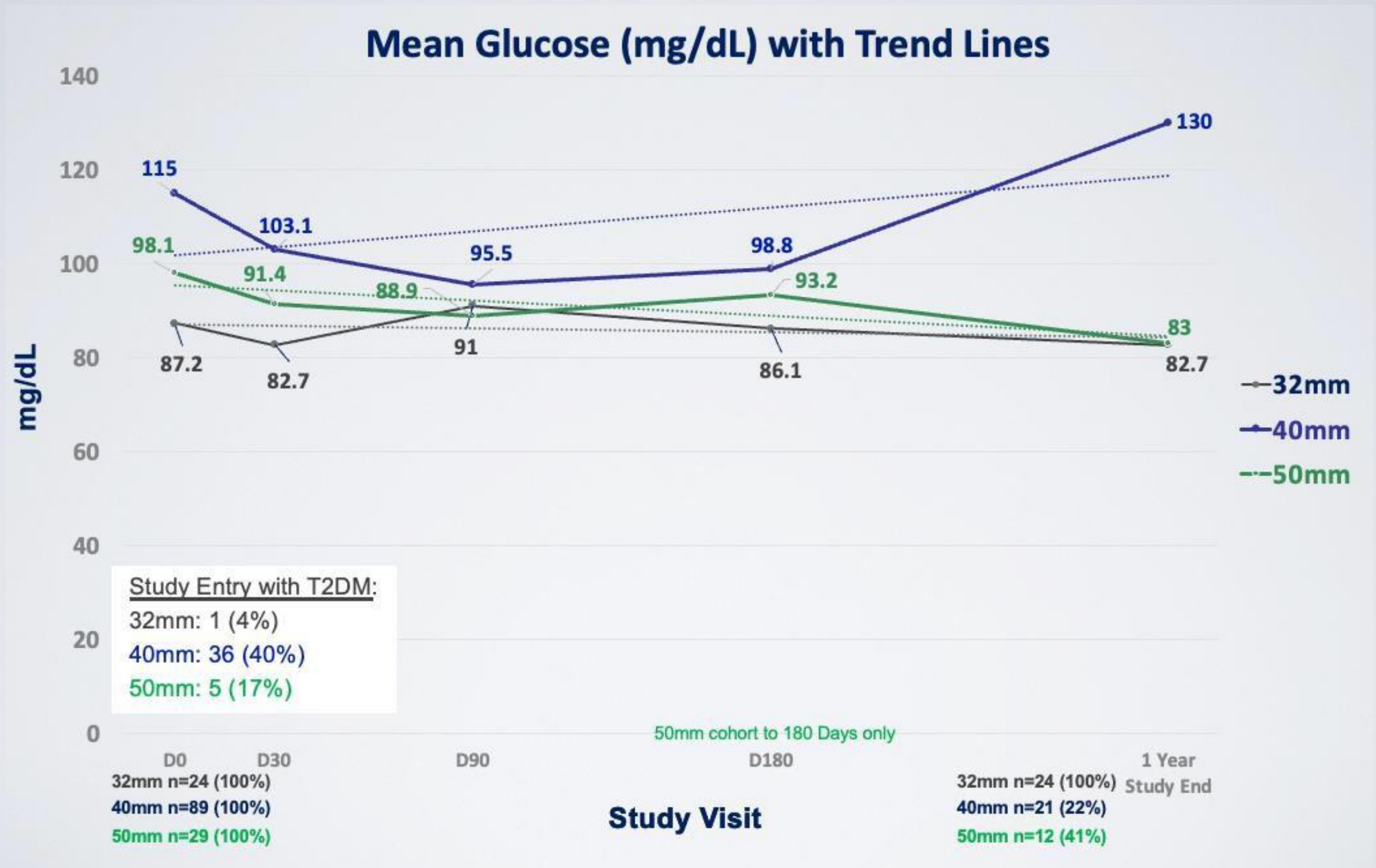
MAGDI for Anastomosis in Duodeno-Ileostomy for Obesity Control



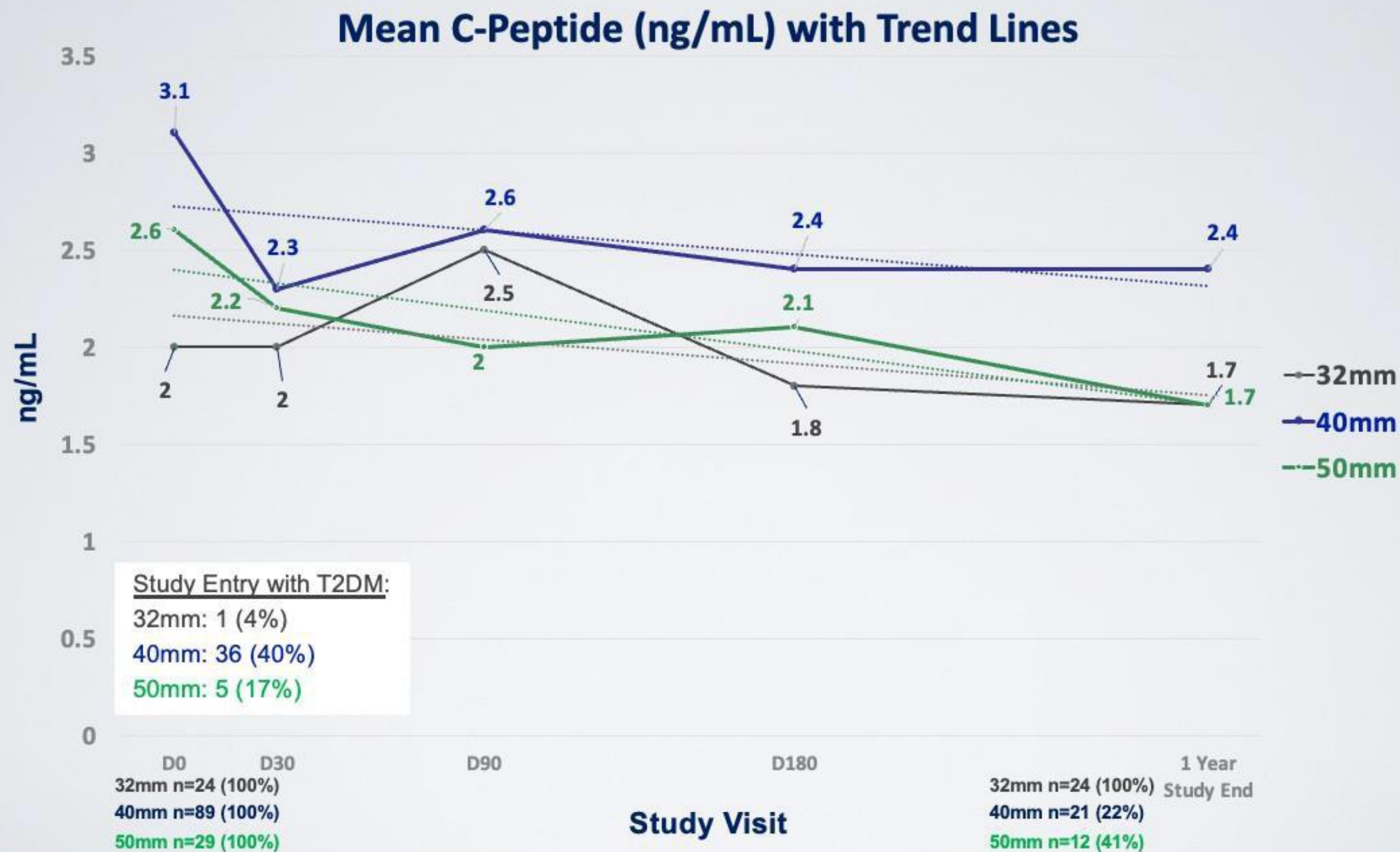
MAGDI for Anastomosis in Duodeno-Ileostomy for Metabolic Control



MAGDI for Anastomosis in Duodeno-Ileostomy for Metabolic Control



MAGDI for Anastomosis in Duodeno-Ileostomy for Metabolic Control



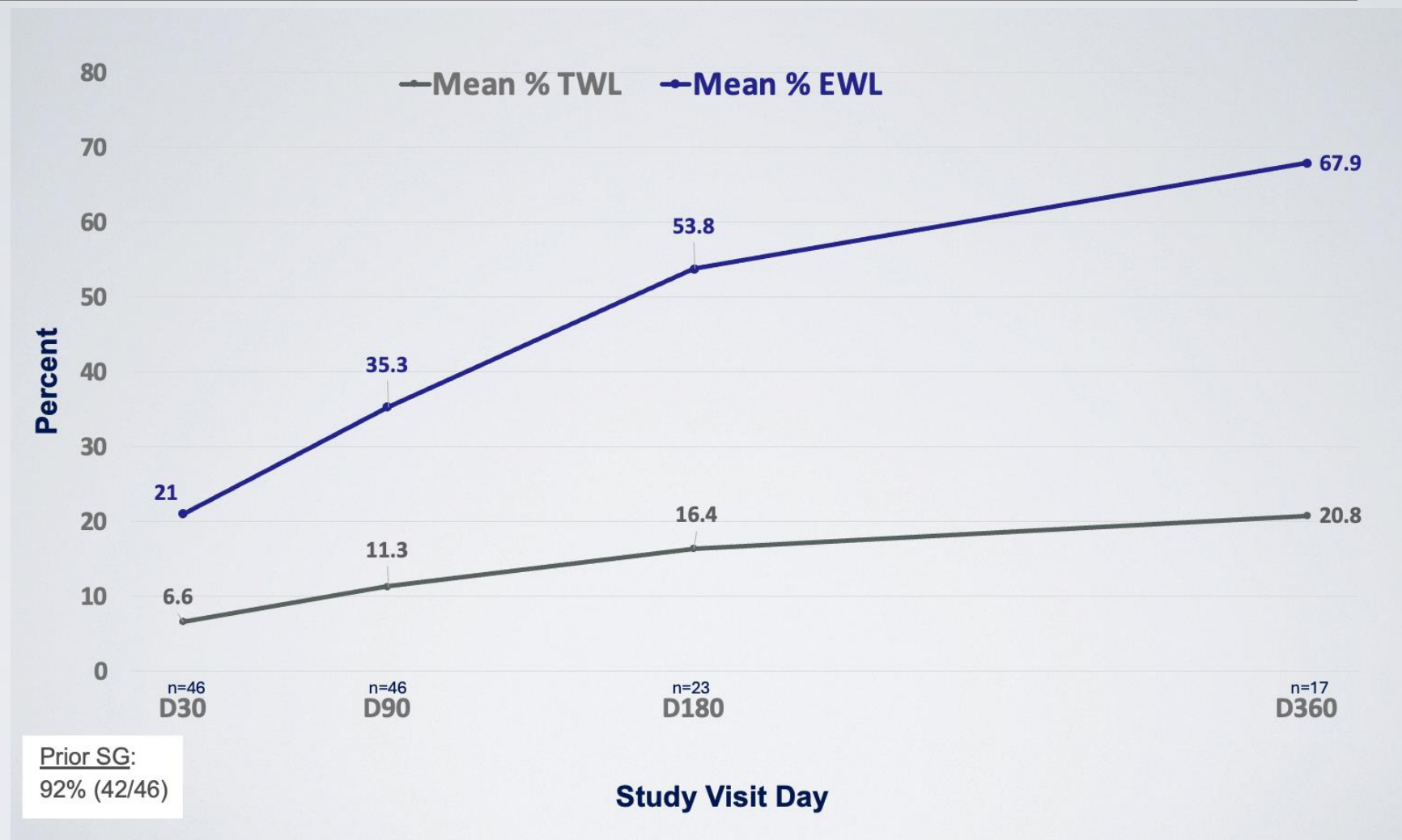
Magnetic Gastro-Ileostomy (MAGGI)



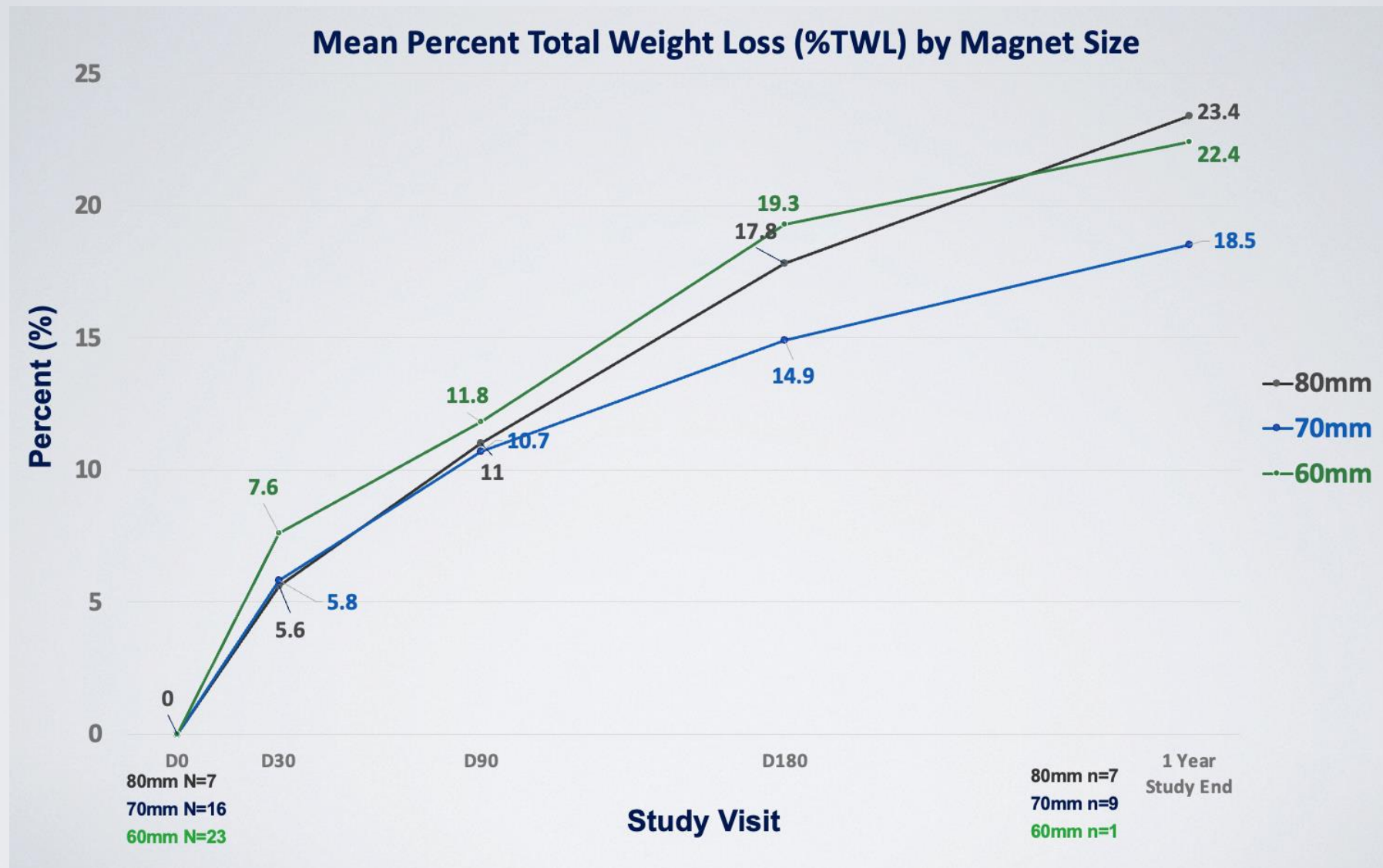
In patients post Sleeve Gastrectomy
weight regain or failure to lose adequate weight
Lower antrum and ileum at 250 cm (SASI)



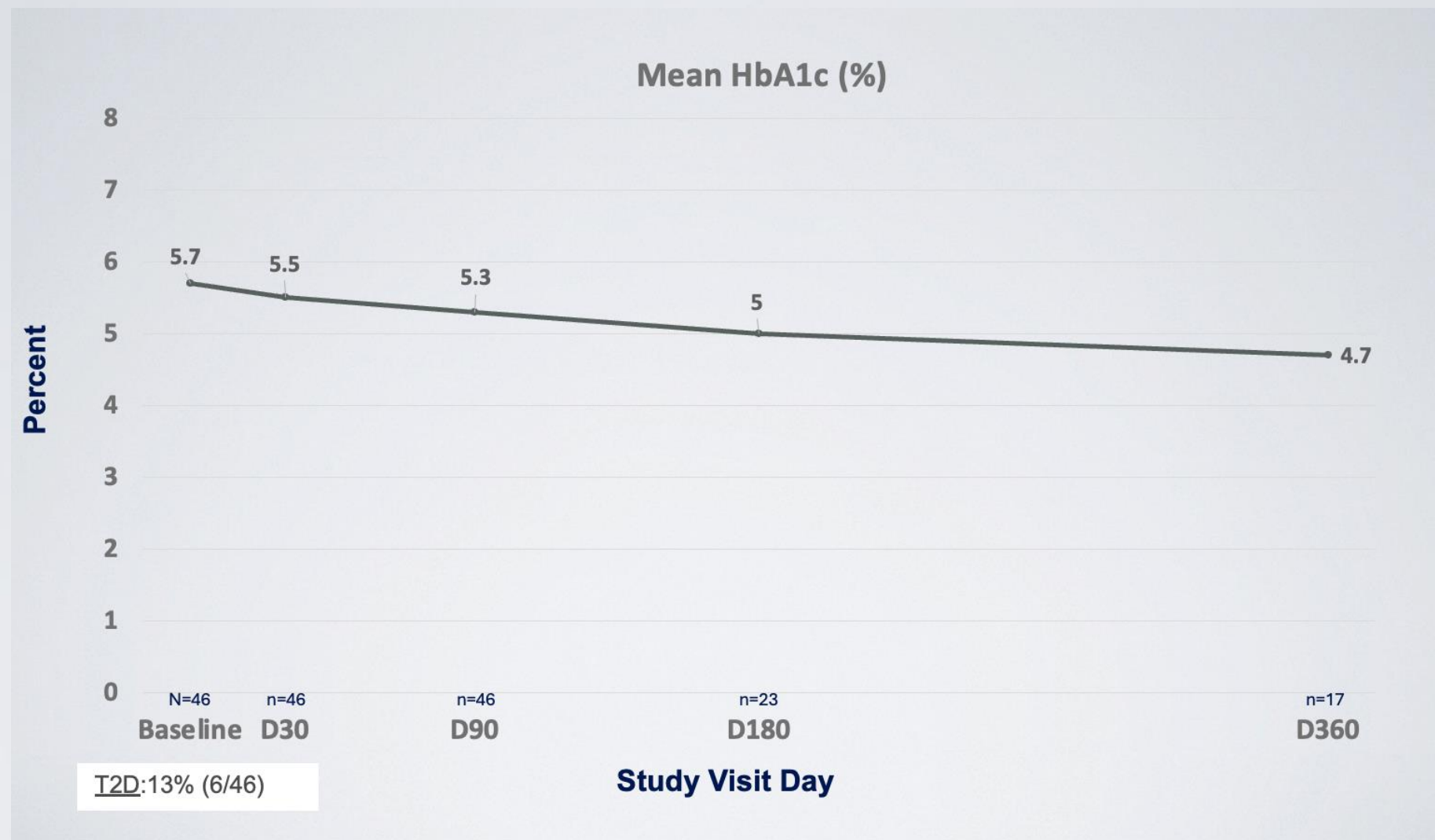
Secondary Endpoints: % Total and Excess Weight Loss



MAGGI for Anastomosis in Gastroileostomy for Obesity Control



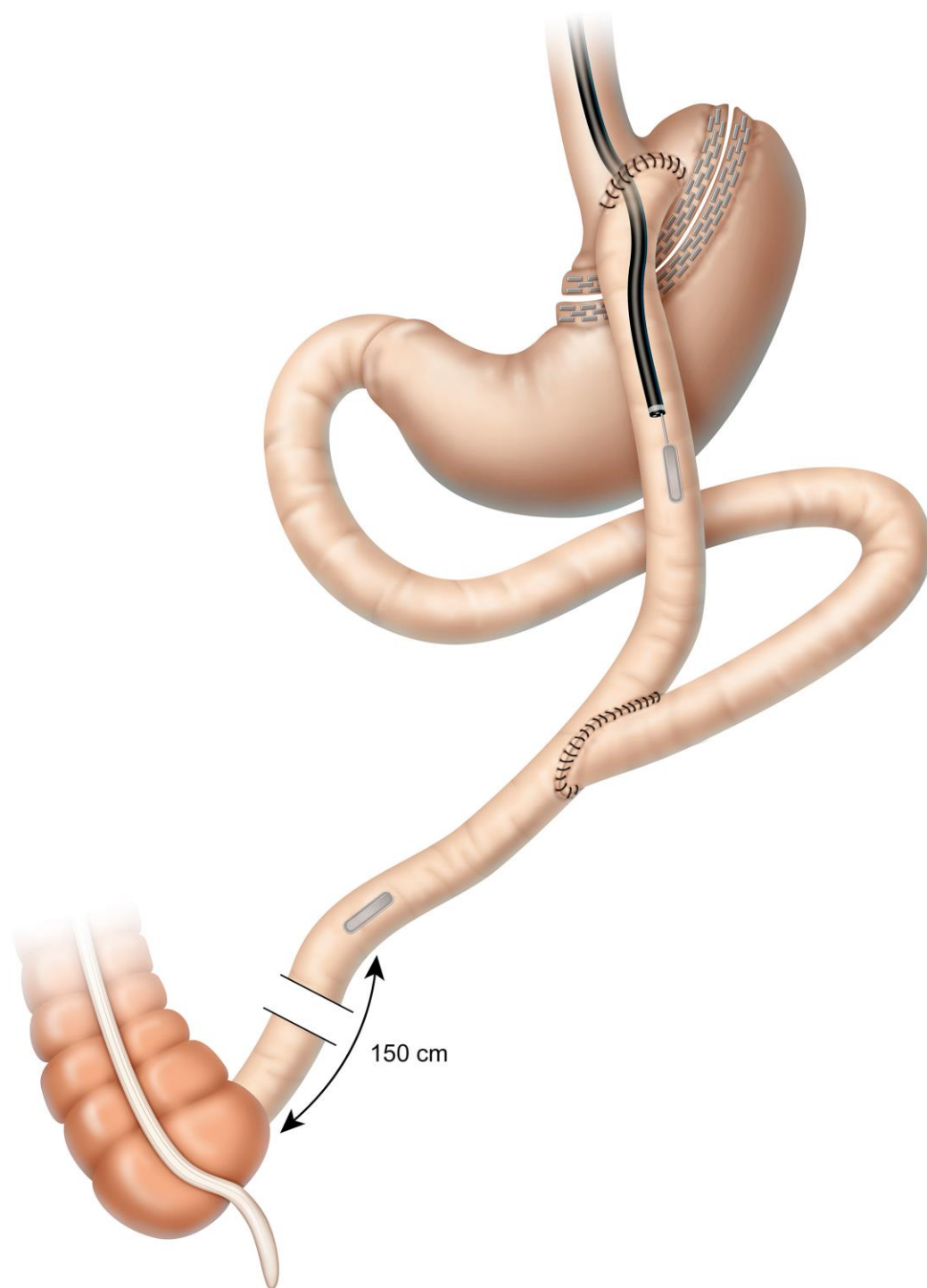
Early Metabolic Indicators (MAGGI)

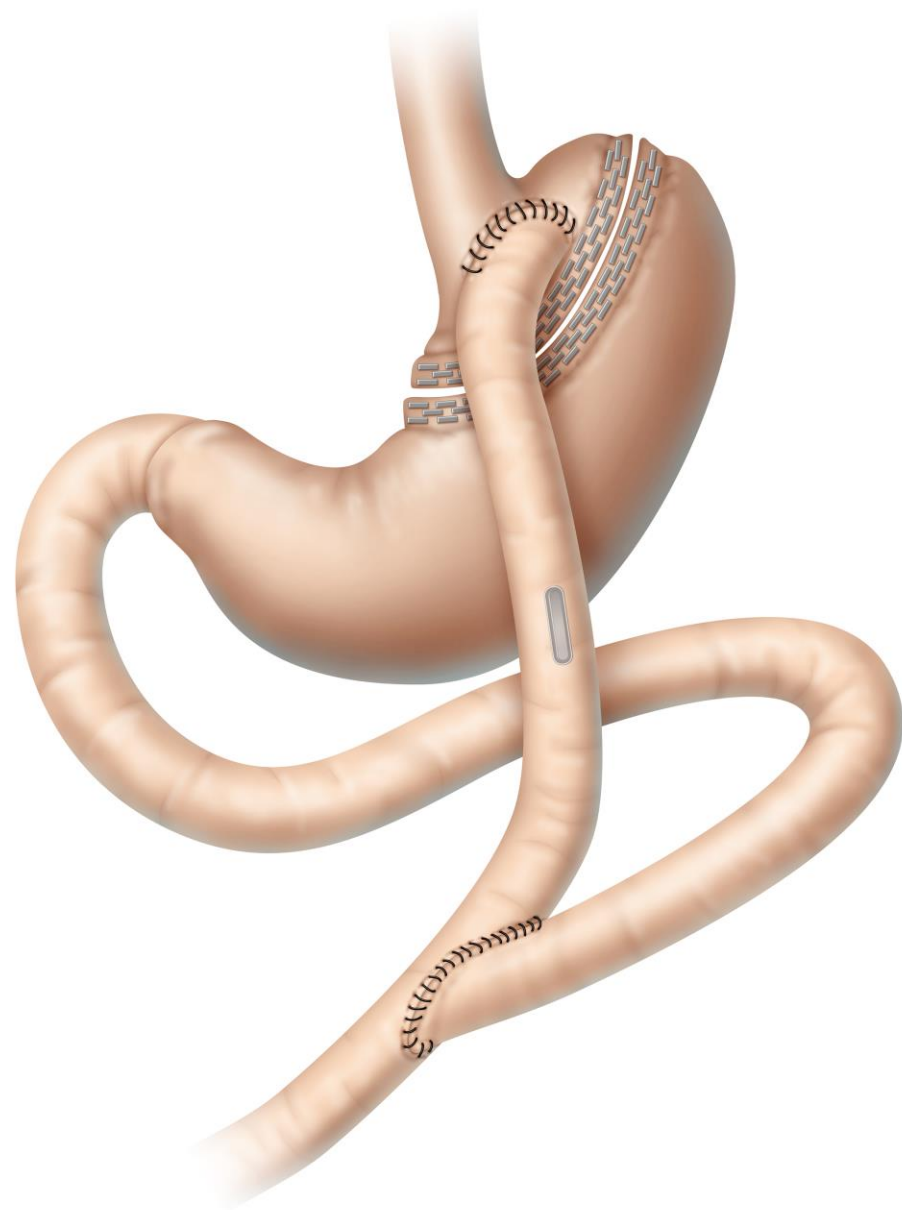


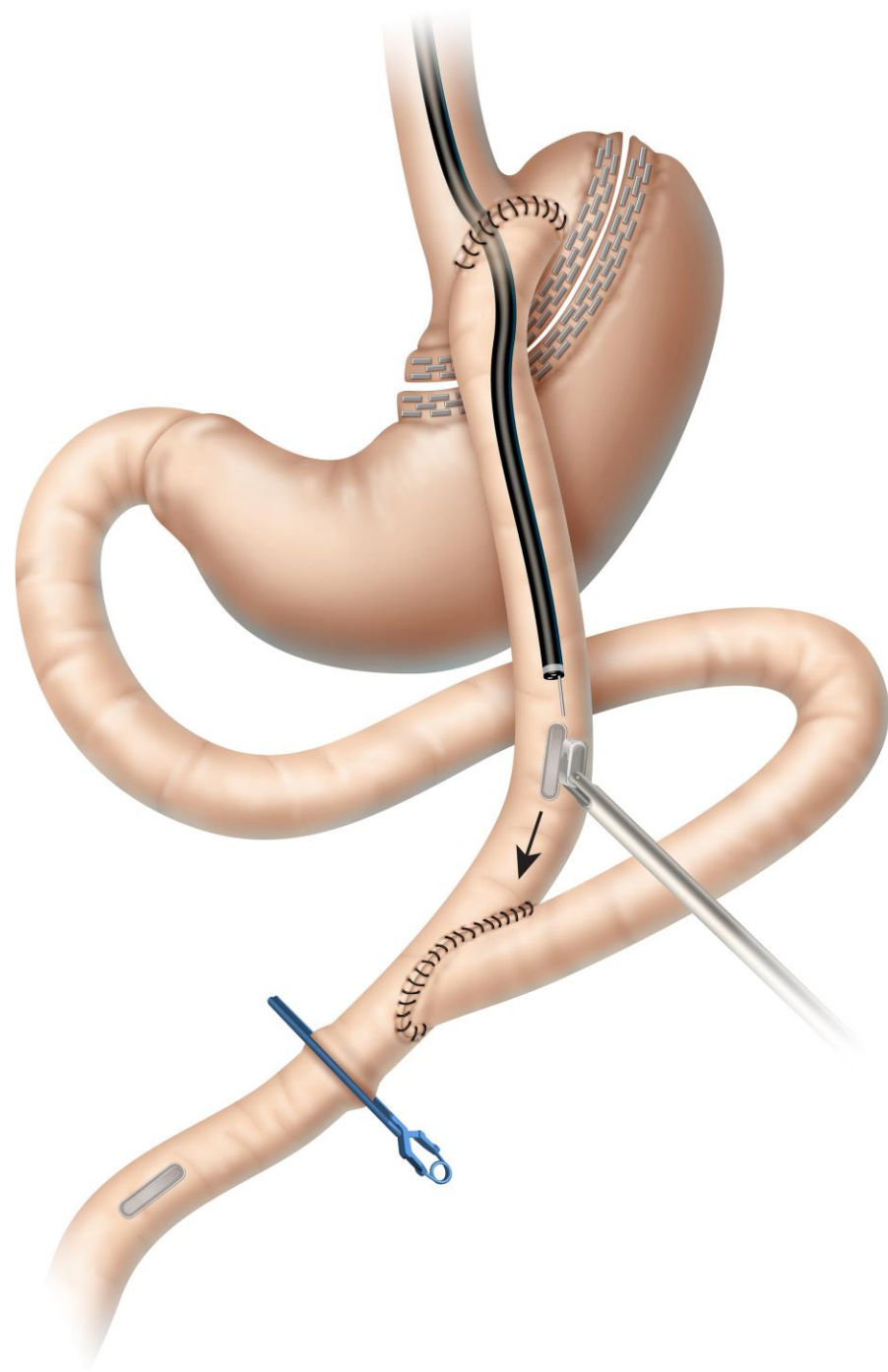
Magnetic Jejunio-ileal (MagJI)

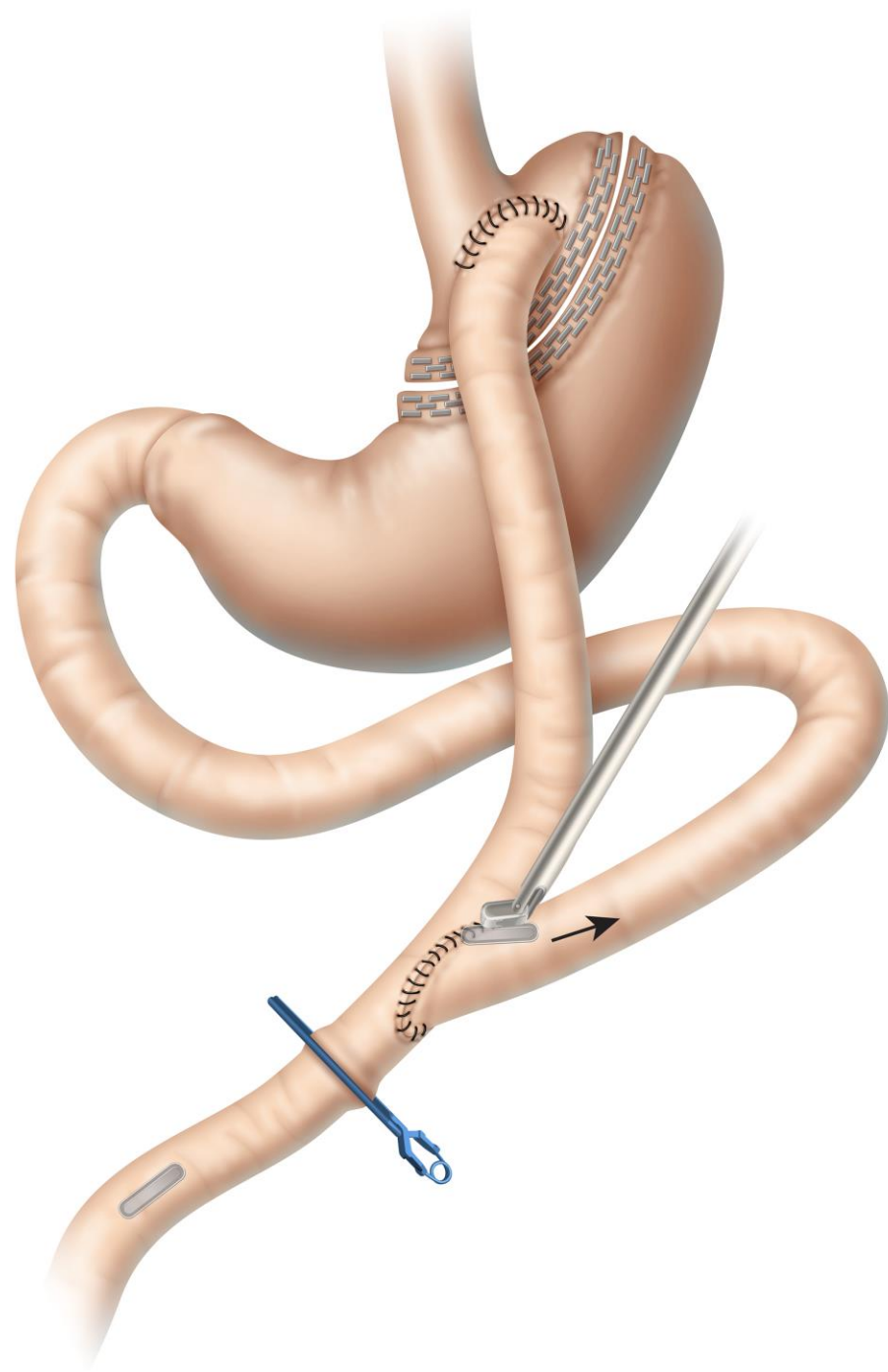
Biliopancreatic limb to the common channel

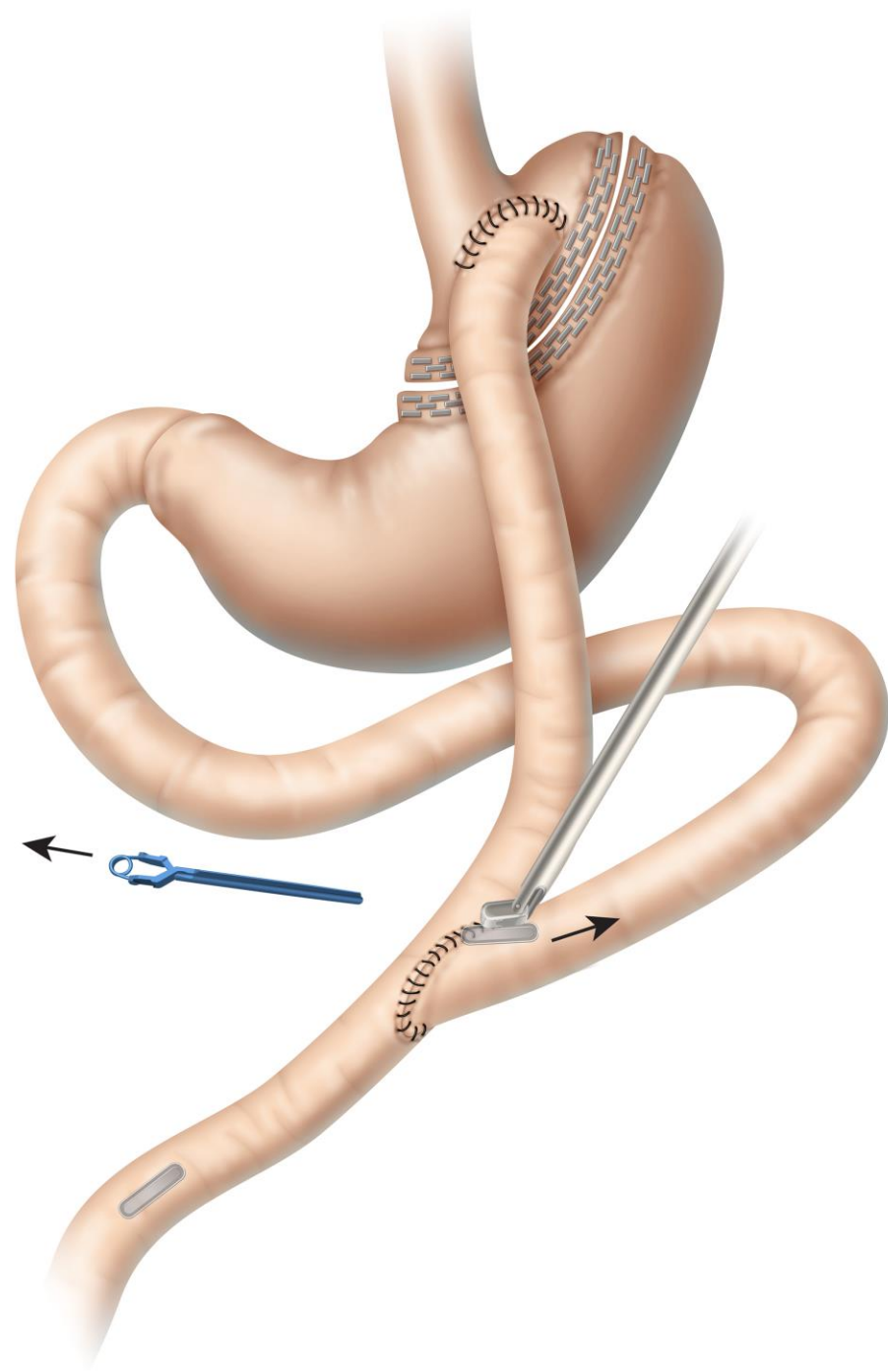
Side-to-Side

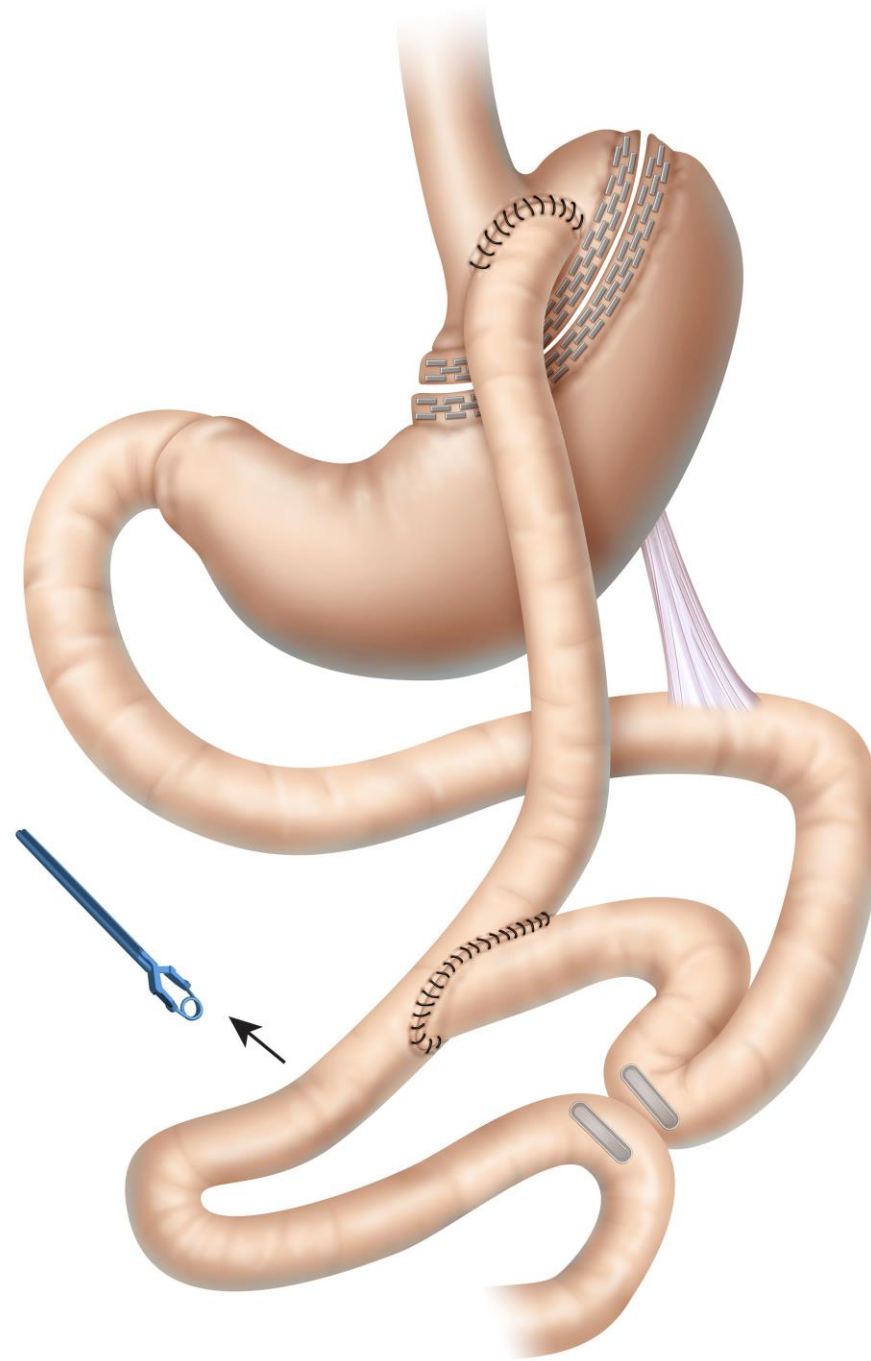


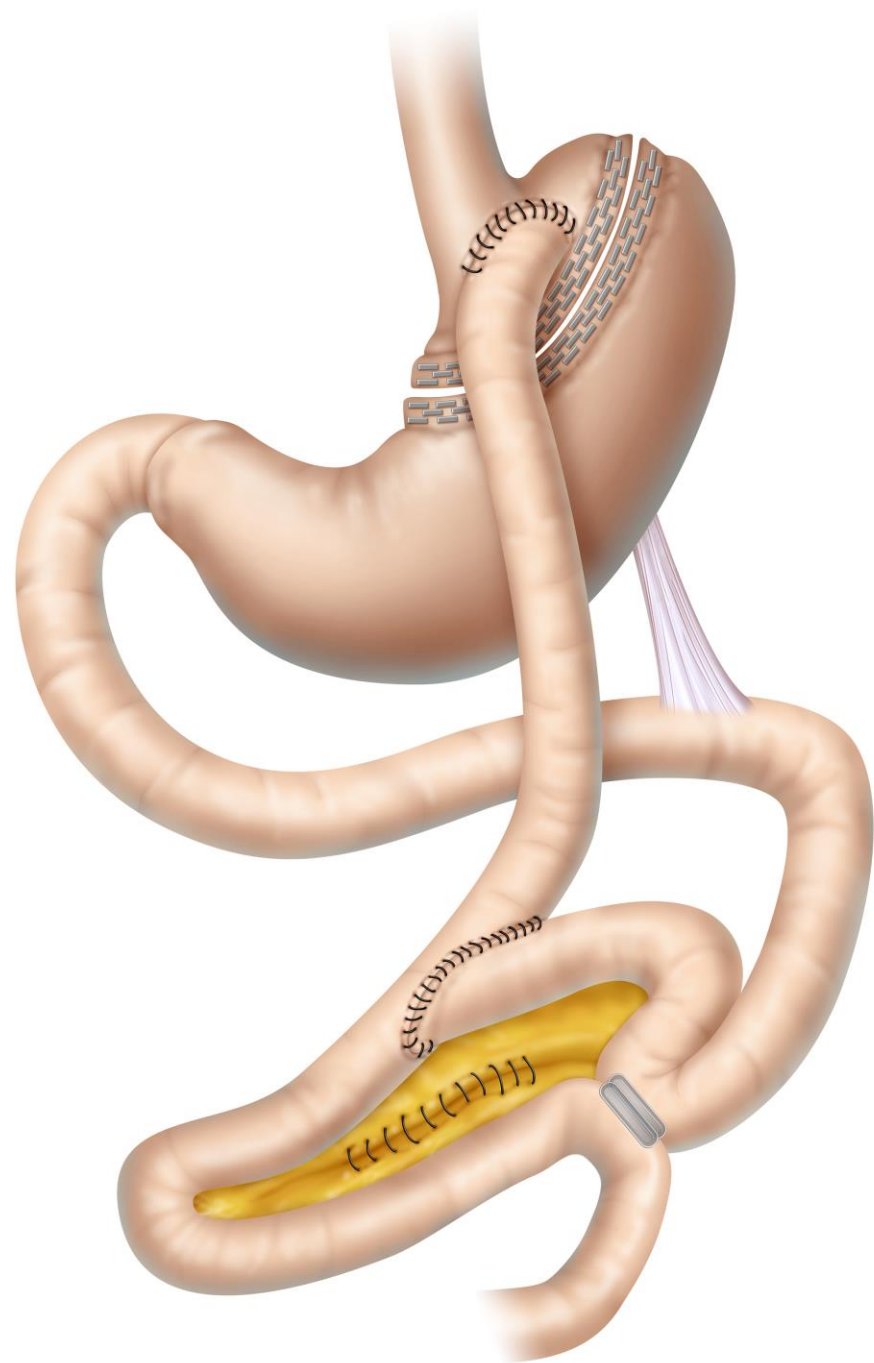


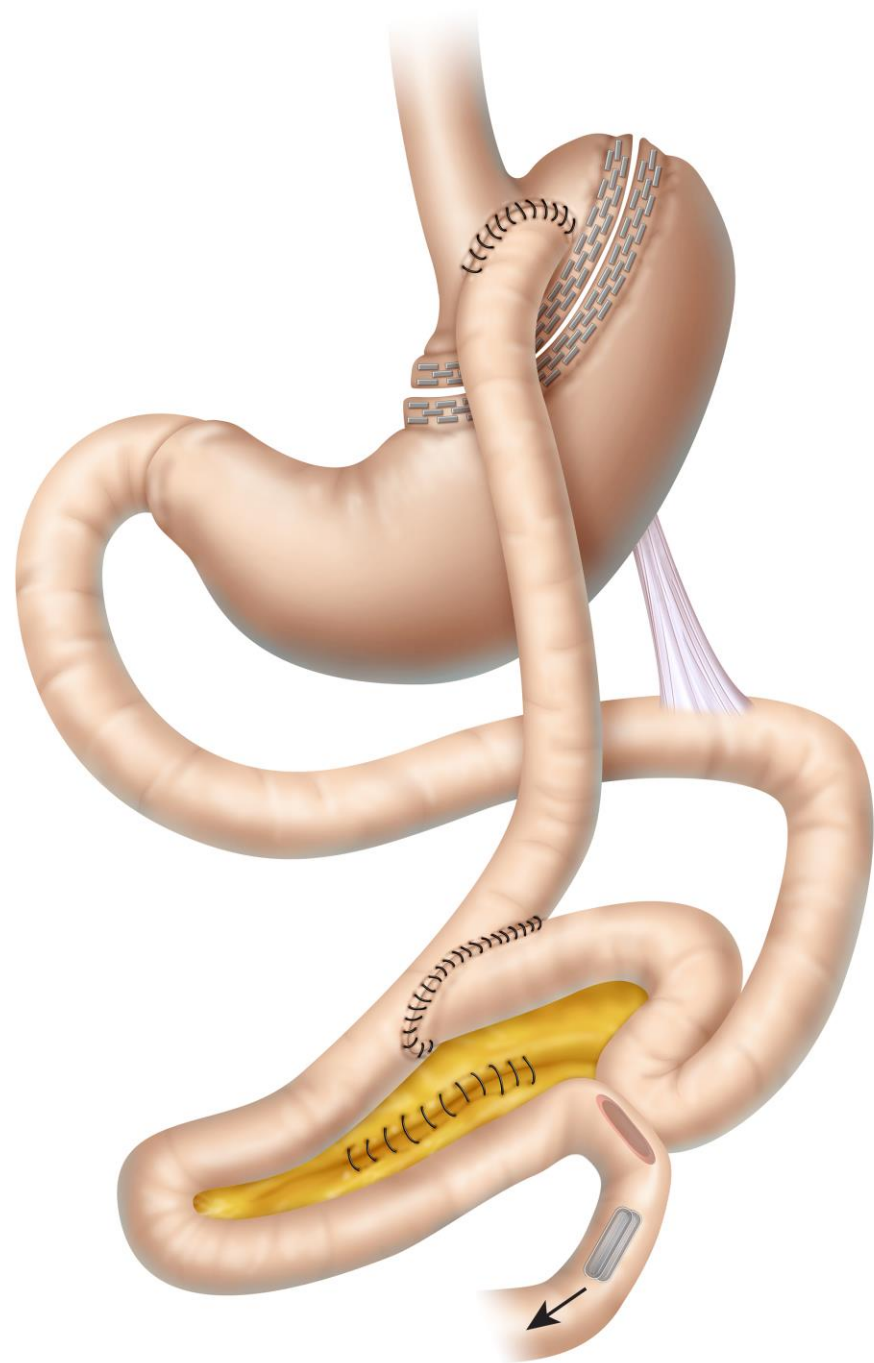










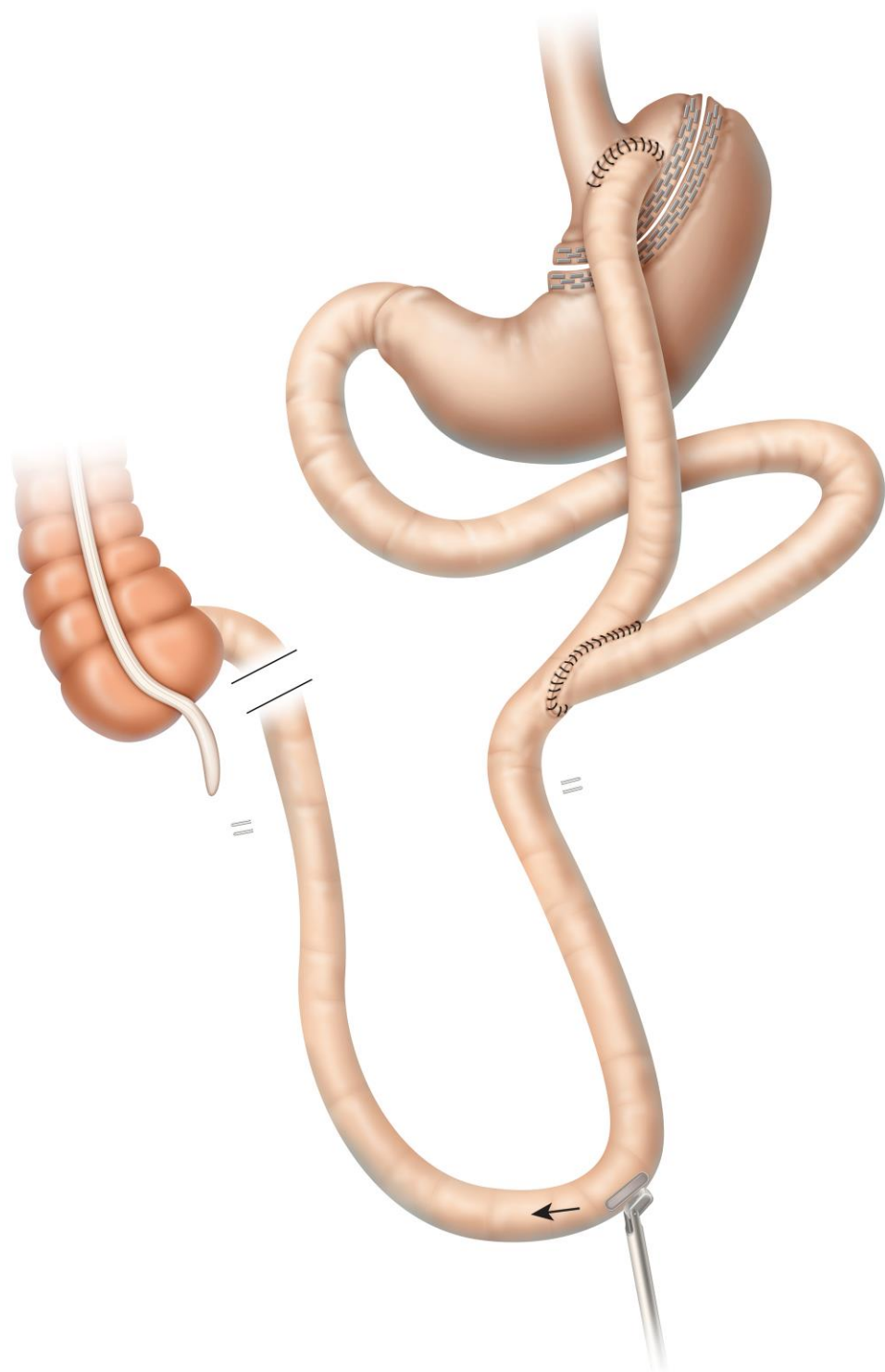


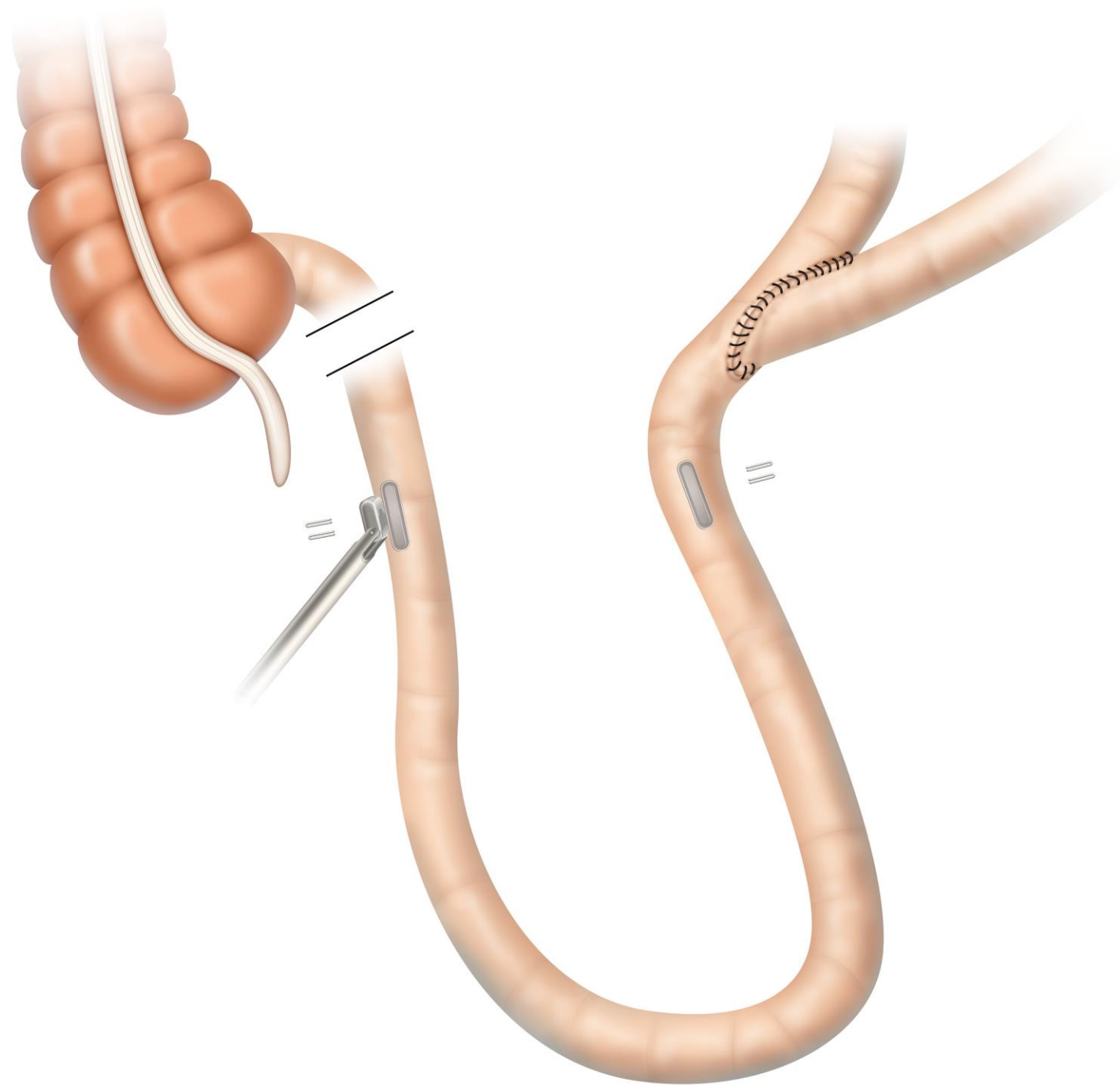


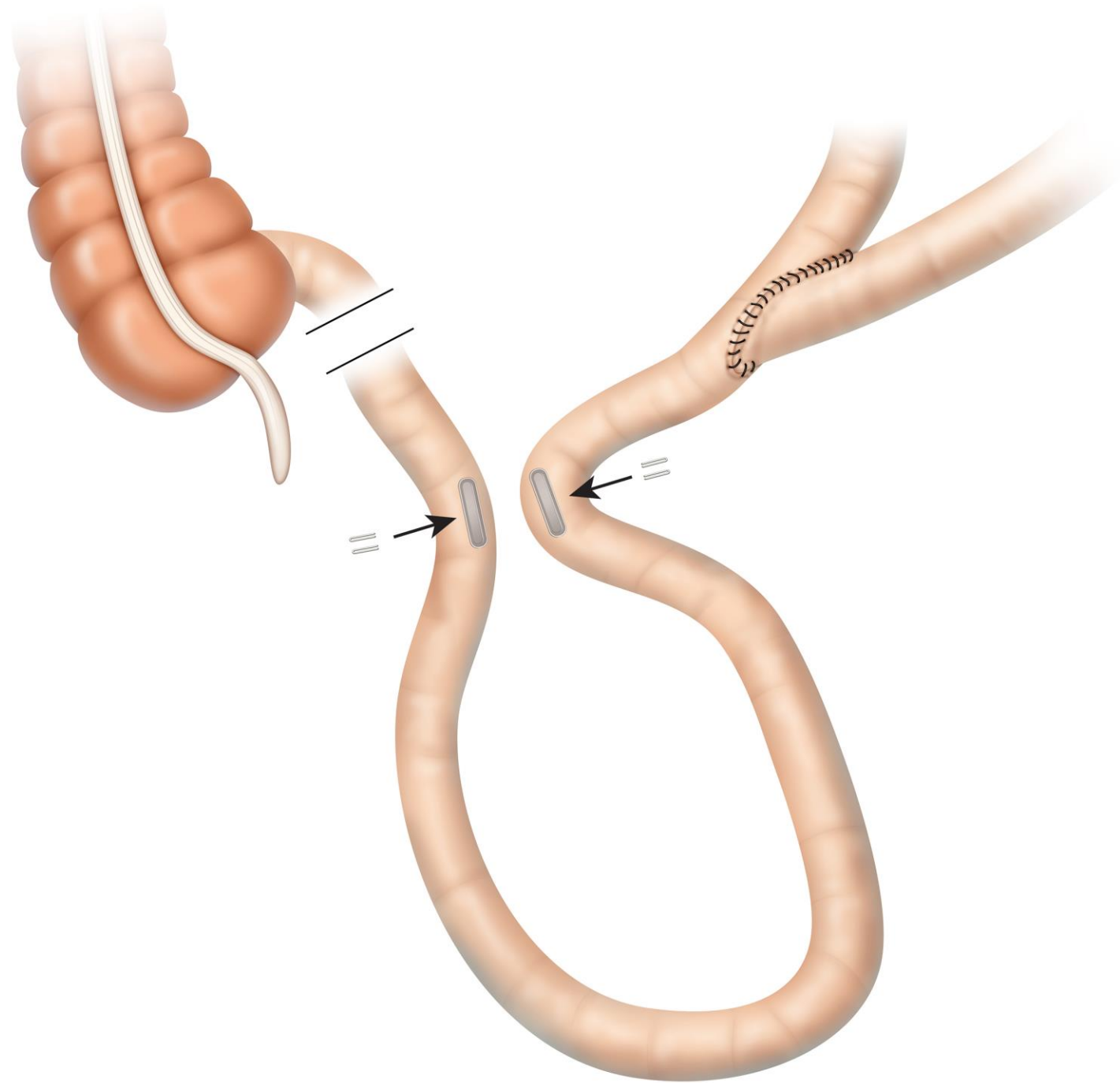
Magnetic Jejunio-ileal (MagJI)

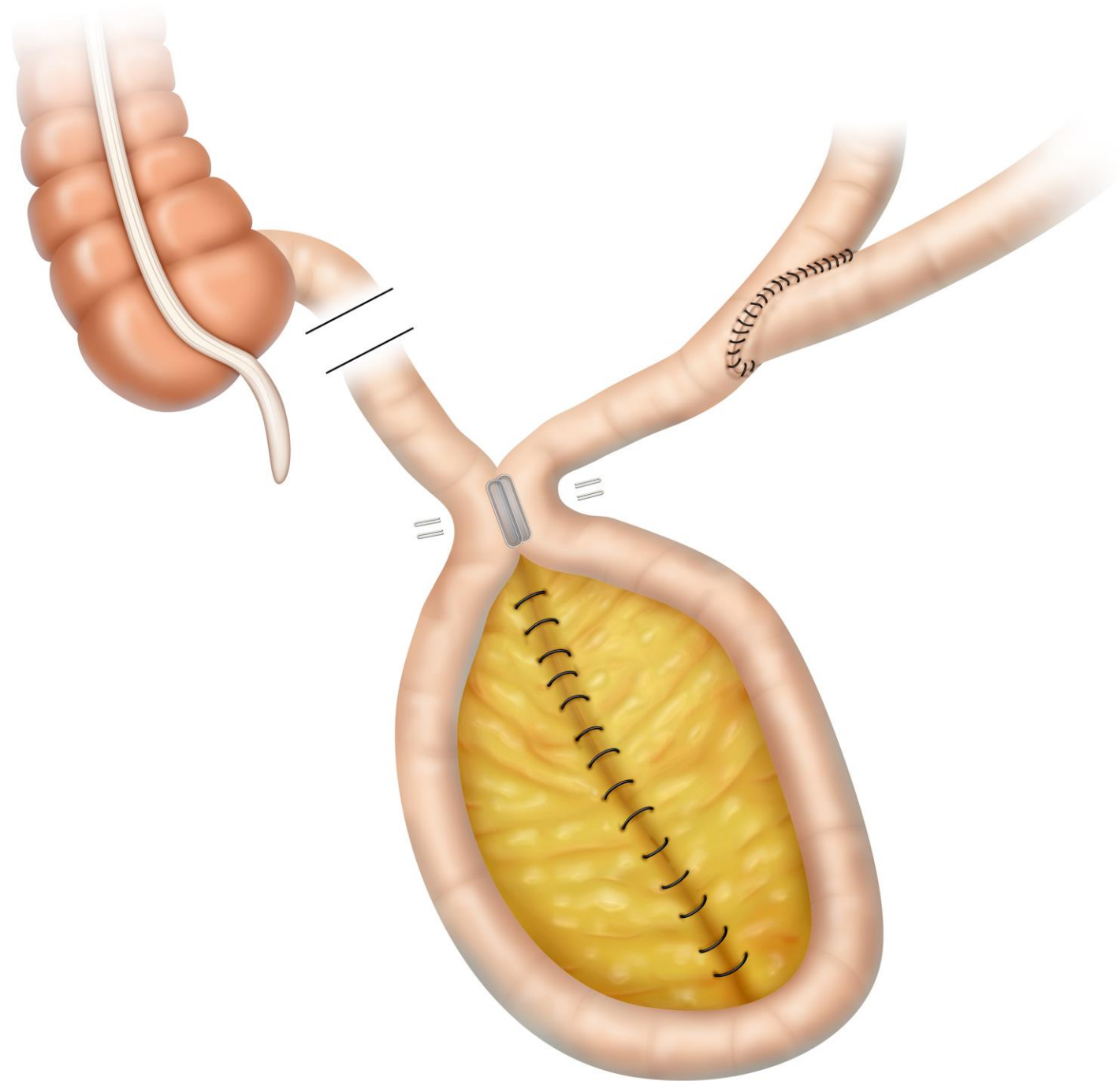
Alimentary limb to the common channel

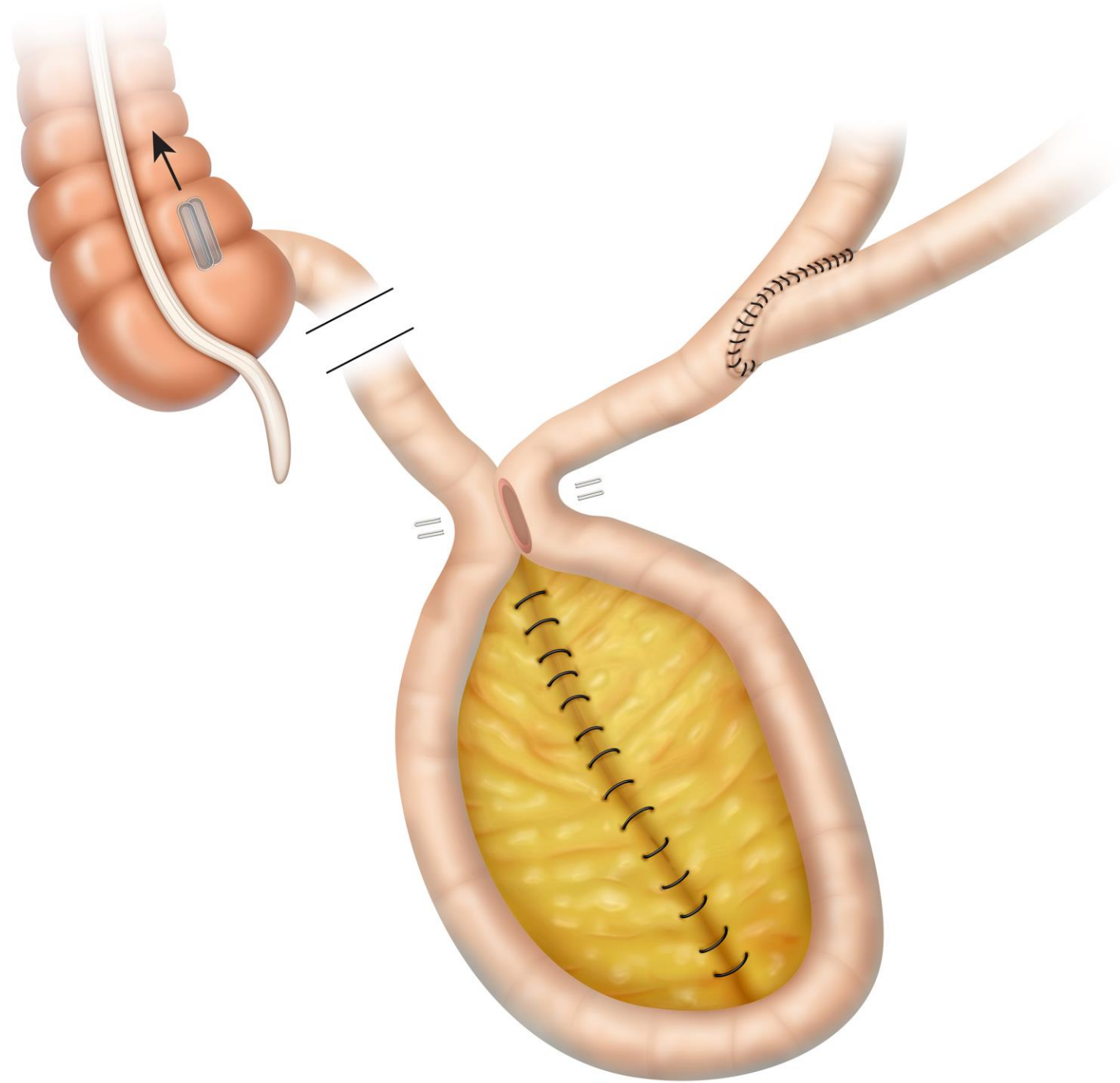
Side-to-Side











MagJI

Side-to-Side Magnetic distalization

- Hypoabsorption of calories and fat
- Bipartition permits some normal flow for mineral and vitamins absorption
- No enterotomies, decreasing the risk of leaks, abcess, peritonitis and infection
- Mesenteric defect must be closed to avoid internal hernia
- Outpatient procedure
- Is easily reversible in case of malnutrition (simple stapling)

