



# Laparoscopic Sleeve Gastrectomy & Mini (OAGB) Gastric Bypass- Safety and Long-term Data >3000 cases

IFSO Melbourne; Sept 2024

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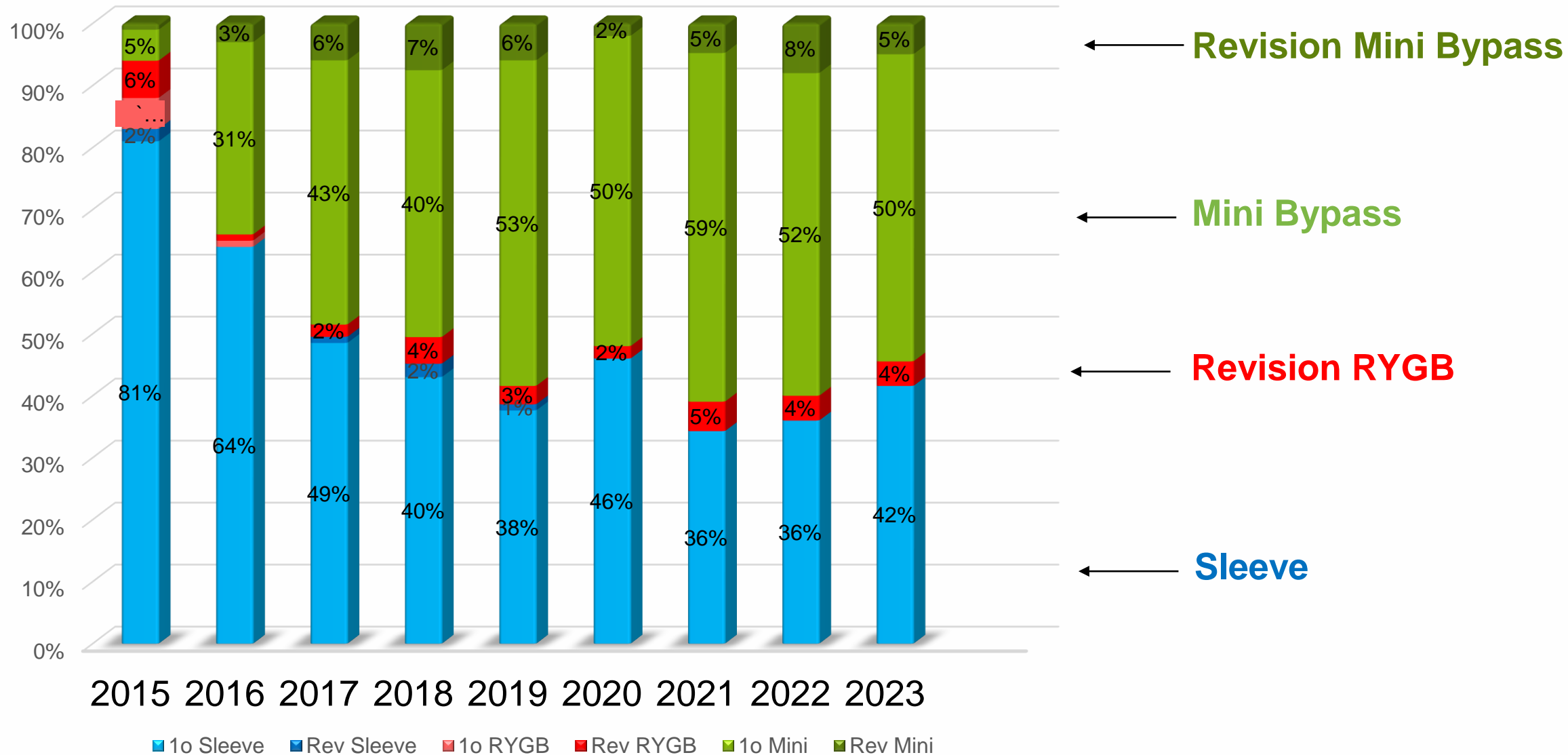
Chair of the Sydney Upper GI Surgical Society

Head of Upper GI and Bariatric Surgery Strathfield Private Hospital

Executive Board. Australian and New Zealand Oesophago-Gastric Surgical Association (2015-2024)



# Bariatric Operation Type DM



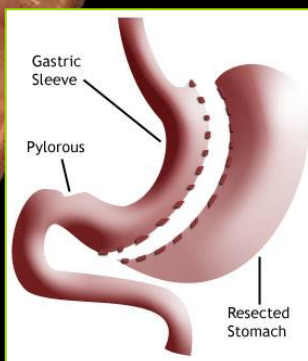
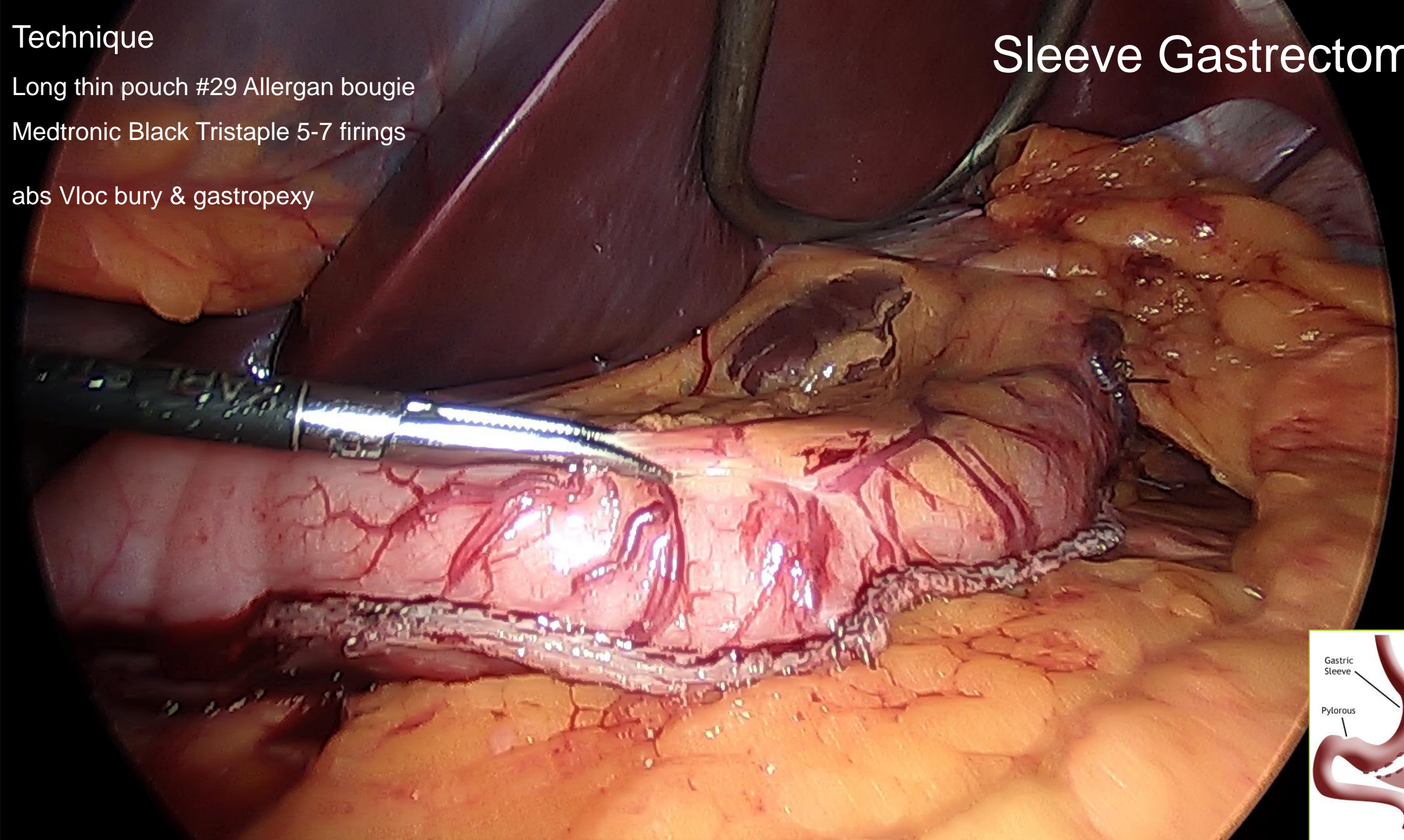
# Technique

Long thin pouch #29 Allergan bougie

Medtronic Black Tristaple 5-7 firings

abs Vloc bury & gastropexy

# Sleeve Gastrectomy



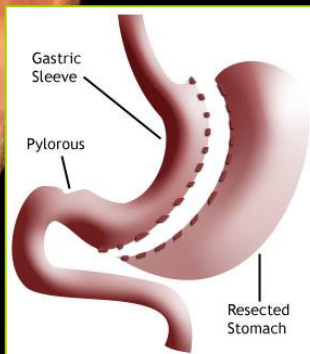
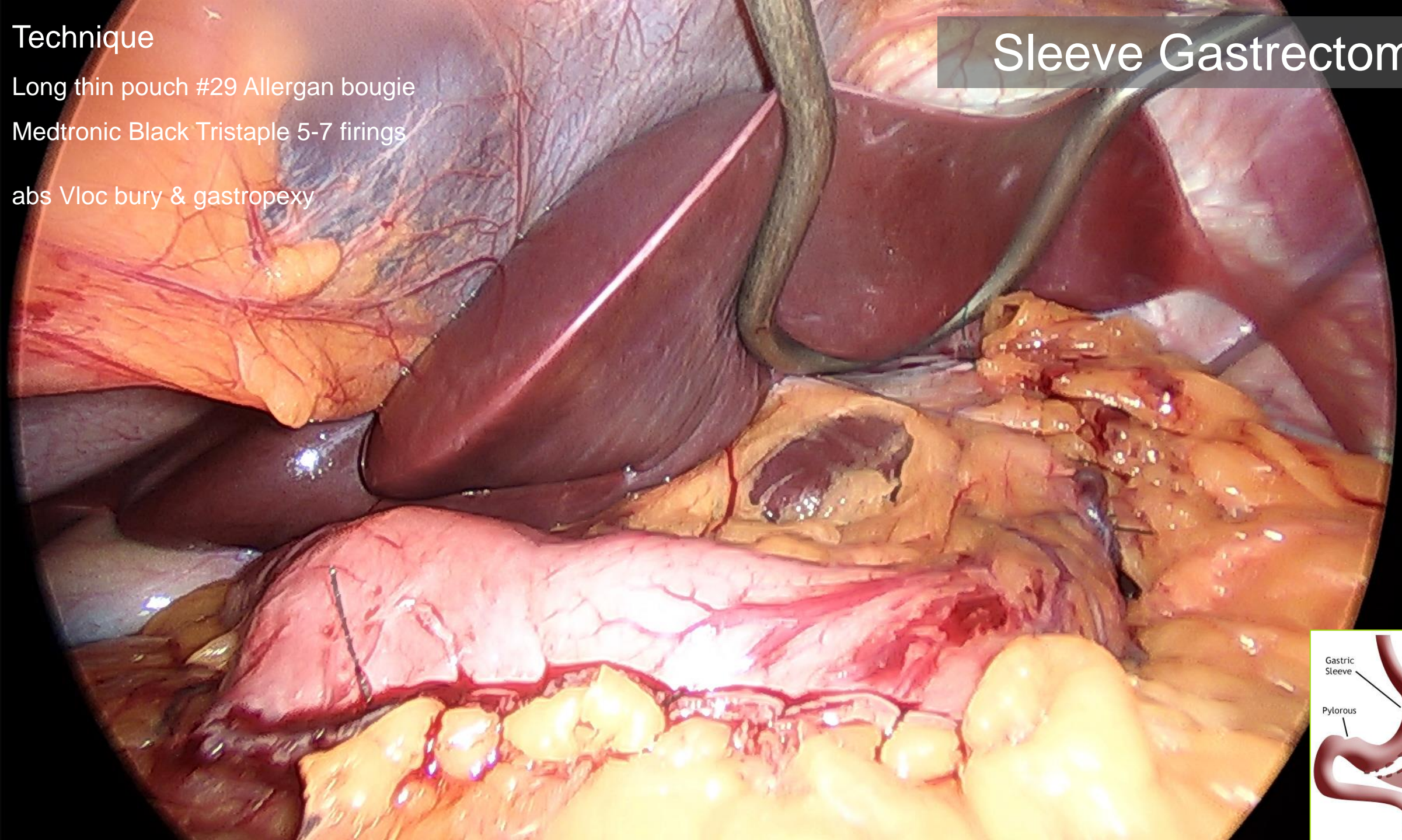
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# Sleeve Gastrectomy



# Mini Gastric Bypass

## Technique

Long thin pouch #29 Alergan. Medtronic

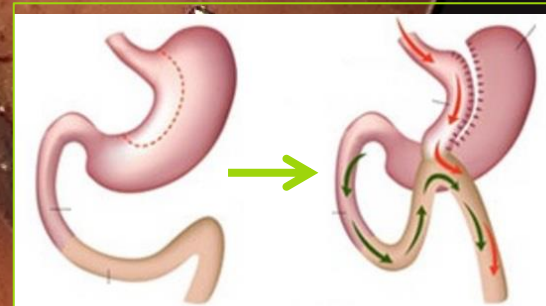
Purple Tristaple (vertical 3-4 \* 60mm)

150cm-240cm BP limb (BMI, Weight, Ht)

Gender, Age, Bowel Ftn)

35mm Vert Stapled Anast

Medtronic Tan Tristaple Vloc closure



# DM – Sleeve and OAGB patients (April 2024)

n > 3100

	Total (n=3,144)	Sleeve (n=2,111)	OAGB (n=1,033)	p-value
Age, years	40.12 ± 11.77	39.40 ± 11.66	41.60 ± 11.87	<0.0001
<b>Sex (n, %)</b>				
Male	909 (28.91%)	594 (28.14%)	315 (30.49%)	0.1802
Female	2,235 (71.09%)	1,517 (71.86%)	718 (69.51%)	
Pre-op BMI	45.02 ± 7.45	<b>44.40 ± 7.04</b>	<b>46.27 ± 8.08</b>	<0.0001
Baseline weight, kg	125.80 ± 26.84	<b>124.25 ± 25.72</b>	<b>128.99 ± 28.74</b>	<0.0001
<b>Co-morbidities (n, %)</b>				
Hypertension	973 (30.95%)	631 (29.89%)	342 (33.11%)	0.0708
Insulin resistance	1802 (57.32%)	1241 (58.79%)	561 (54.31%)	0.0174
Glucose intolerance	492 (15.65%)	373 (17.67%)	119 (11.52%)	<0.0001
Type 2 diabetes	678 (21.56%)	<b>408 (19.33%)</b>	<b>270 (26.14%)</b>	<0.0001
Obstructive sleep apnea	888 (28.24%)	<b>530 (25.11%)</b>	<b>358 (34.66%)</b>	<0.0001

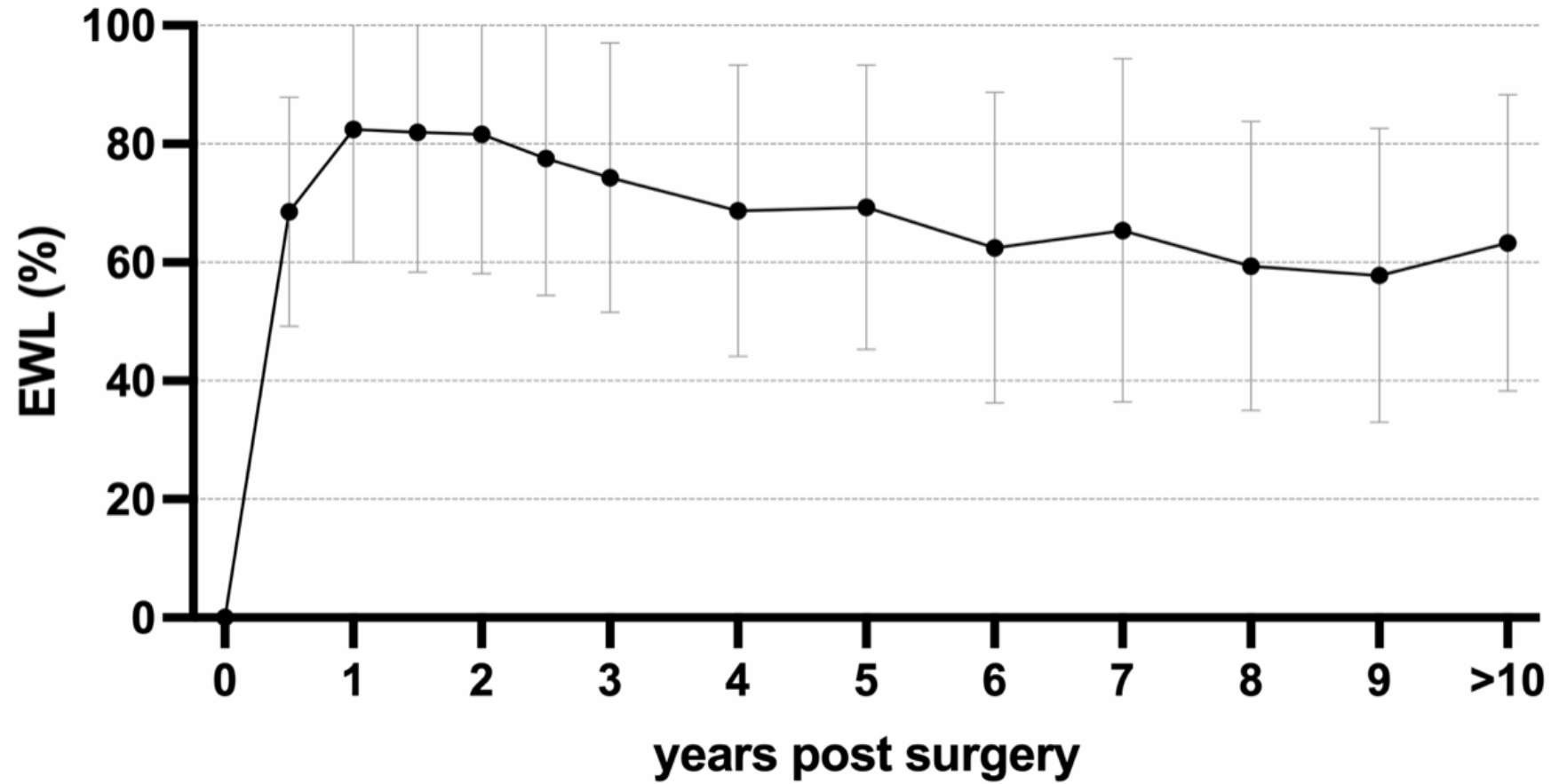
**Table 1 Patient characteristics**  
p-value calculated using t-test or Fisher's exact test

# Sleeve and Gastric Bypass

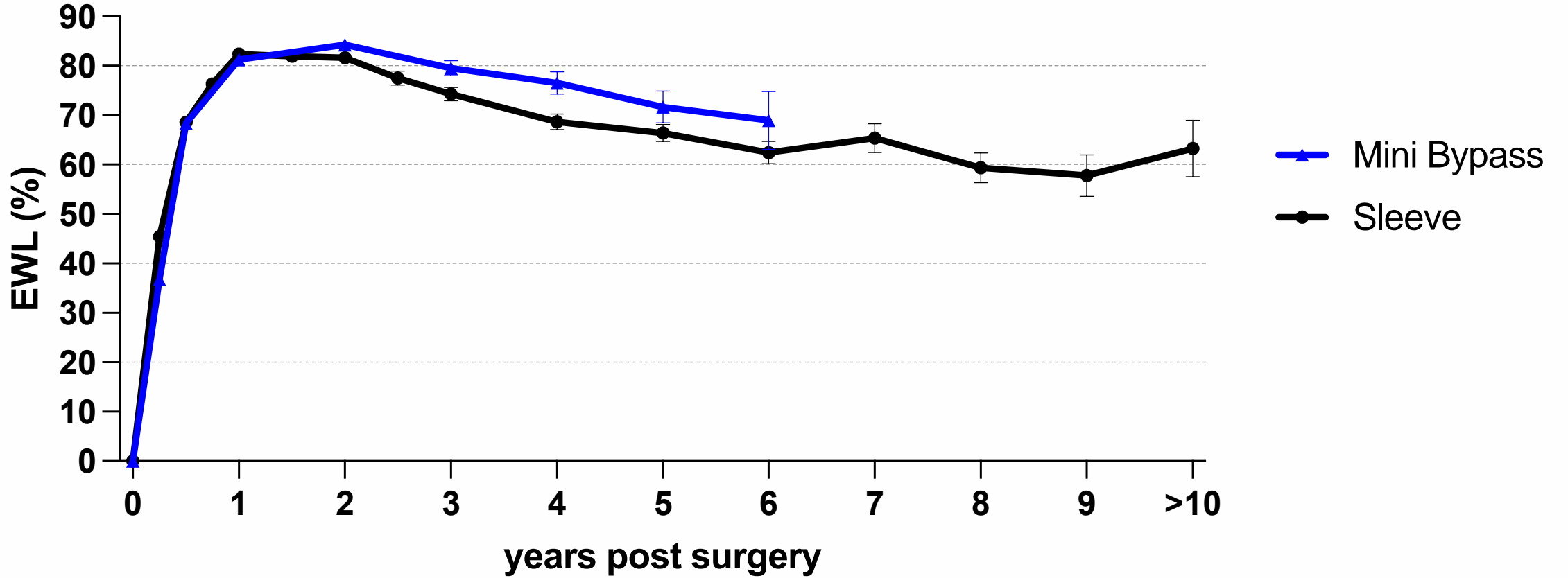
## Weight Loss Outcomes



## Sleeve gastrectomy (StDev)



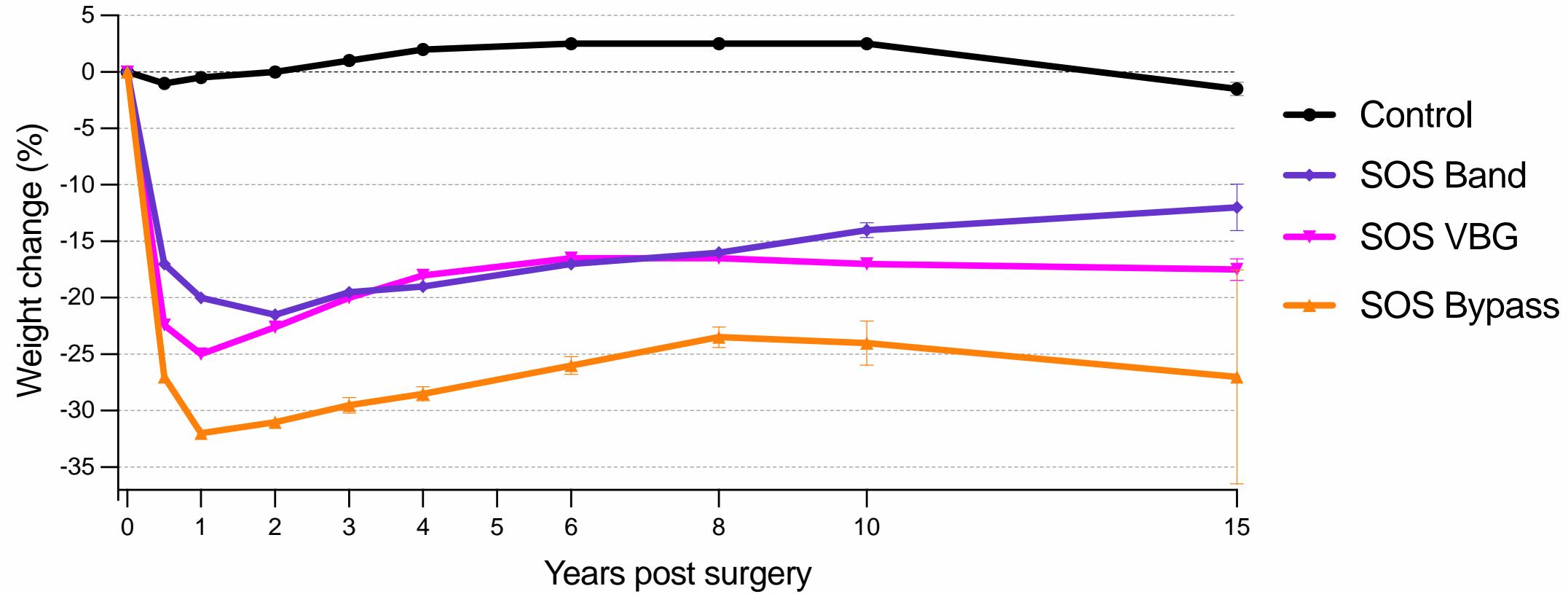
## Sleeve Gastrectomy vs. Primary Mini Bypass



DM Sleeve (2034 pts BMI 44)

DM Mini Bypass (1003 pts BMI 46)

# Effects of weight loss surgery over 20 years in Swedish Obesity Study (2000 patients. BMI 42)

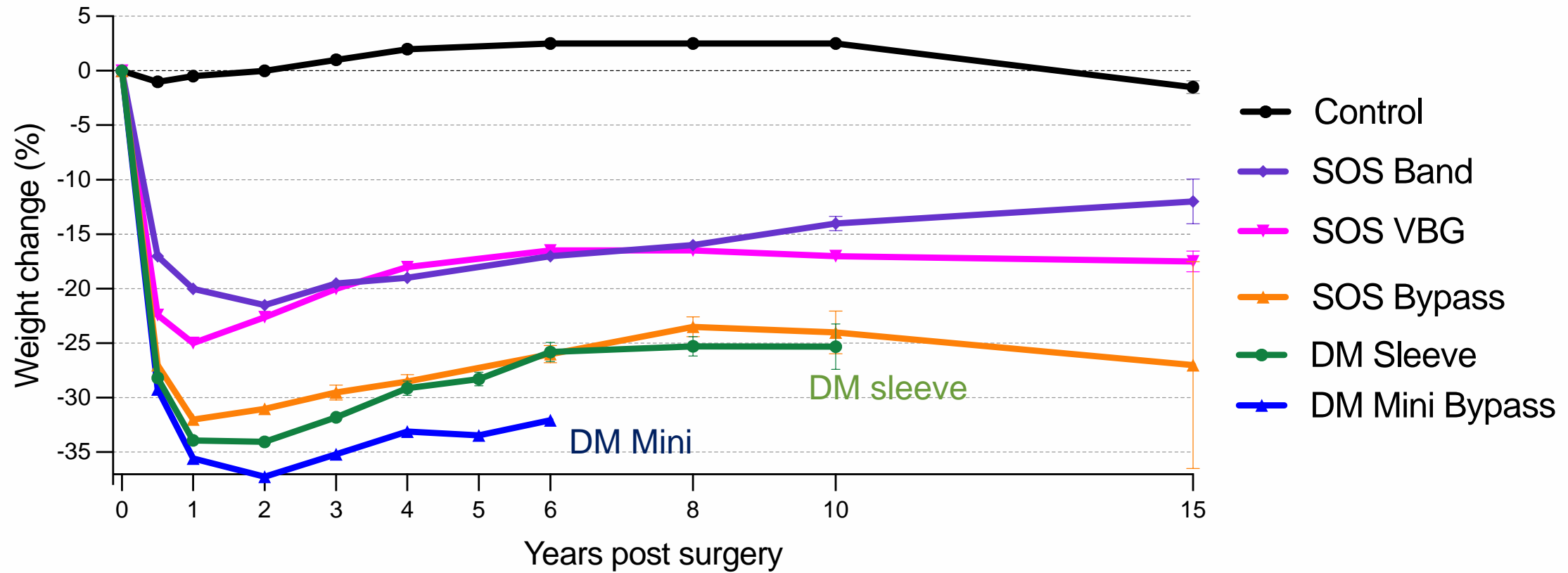


# Effects of weight loss surgery over 20 years in Swedish Obesity Study (2000 patients. BMI 42)

compared with

DM Sleeve Gastrectomy over 10 years (>2000 pts BMI 44) our Series

DM Mini Bypass over 6 years (>1000 pts BMI 46) our Series. (2024)



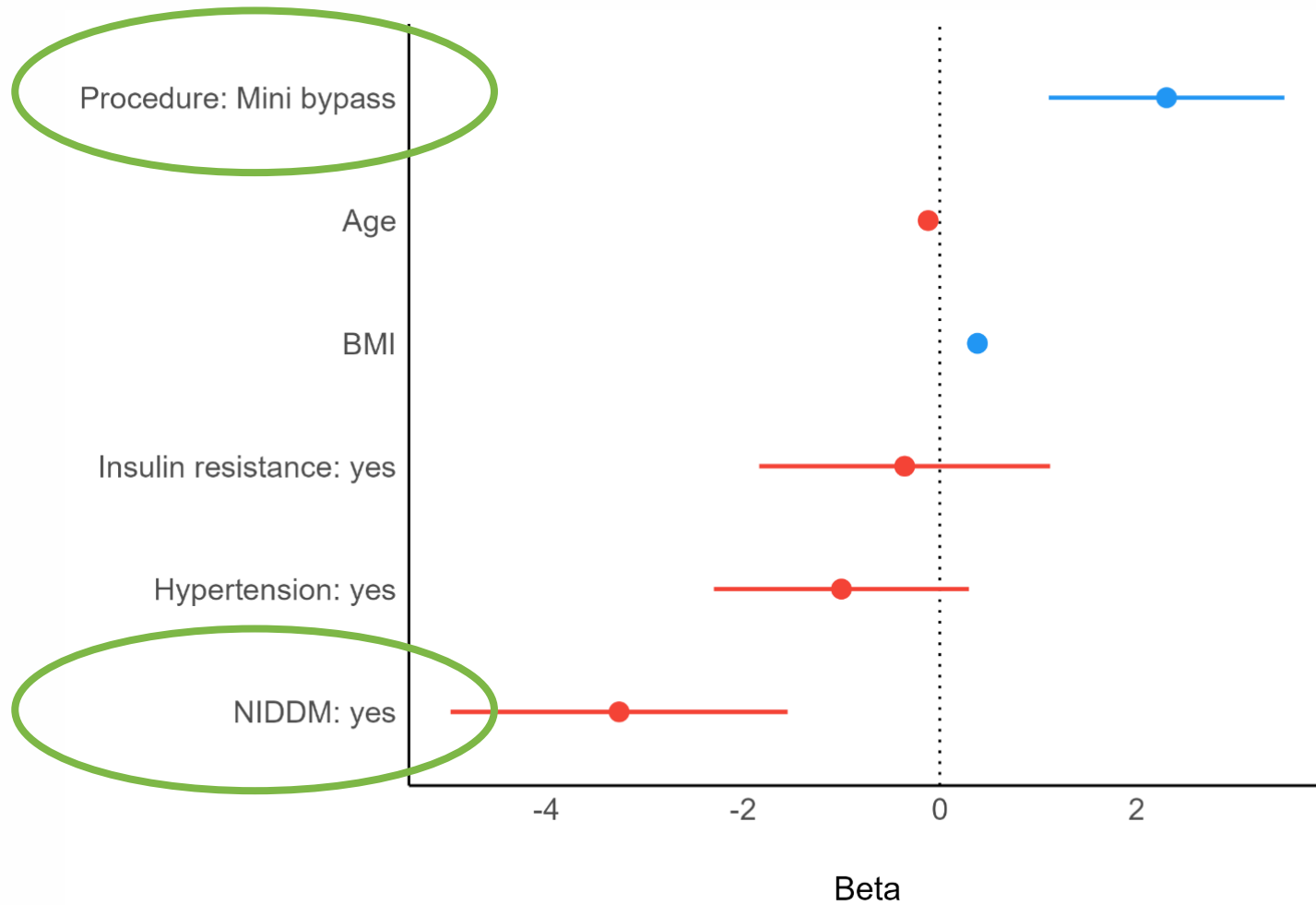
T2 DM Remission;  
 Sleeve 65%  
 Mini Gastric Bypass 90%

Predictors of Weight Loss

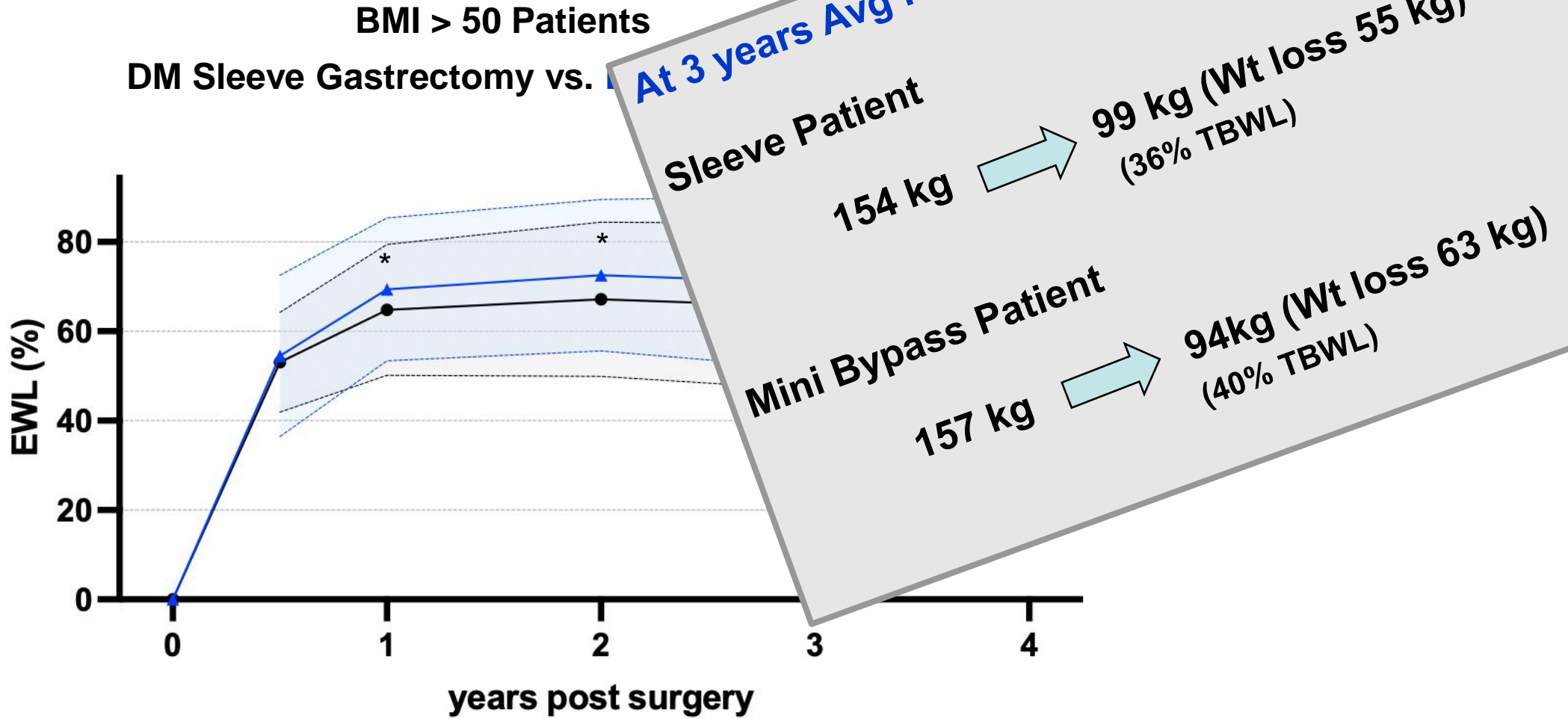
after

Sleeve and Bypass

# Multivariable regression results for total weight loss at 2 years



# Sleeve and Bypass Excess Weight Loss by BMI

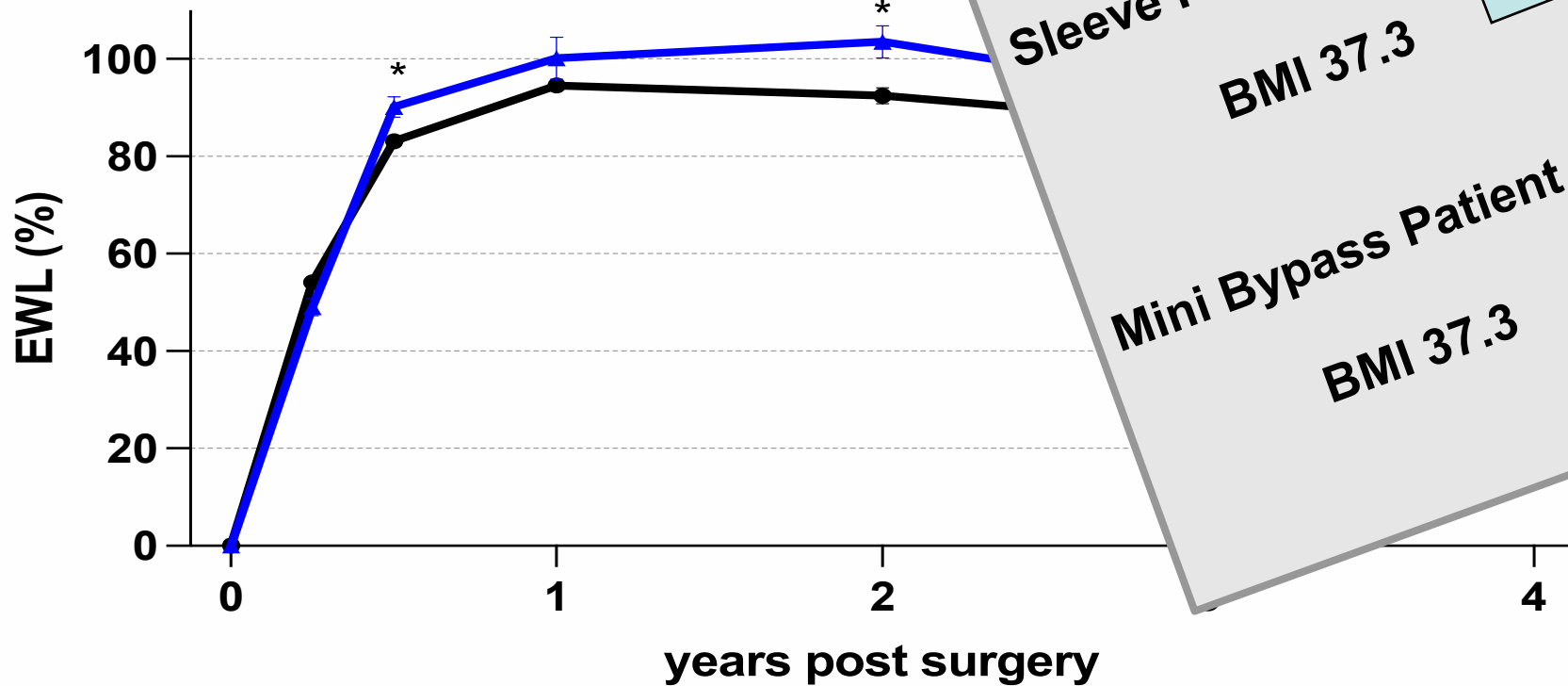


DM Sleeve (408 pts. Avg BMI 55.6 )

DM Mini Bypass (273 pts. Avg BMI 56.9)



### BMI 30 - 40 Patients DM Sleeve Gastrectomy vs. DM Mini Bypass



At 3 years Avg Patient BMI 30 – 39.9

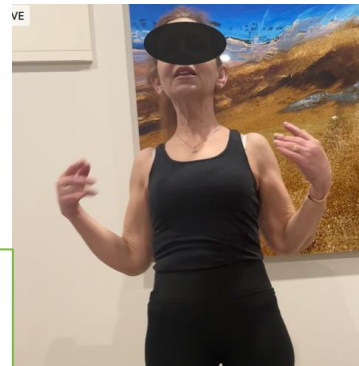
Sleeve Patient BMI 37.3 → BMI 26.2

Mini Bypass Patient BMI 37.3 → BMI 25.9

DM Sleeve (605 pts Avg BMI 37 )

DM Mini Bypass (197 pts Avg BMI 37)

BMI 23.7  
11 years post surg



Surgical Weight Loss  
vs  
Pharmaceuticals

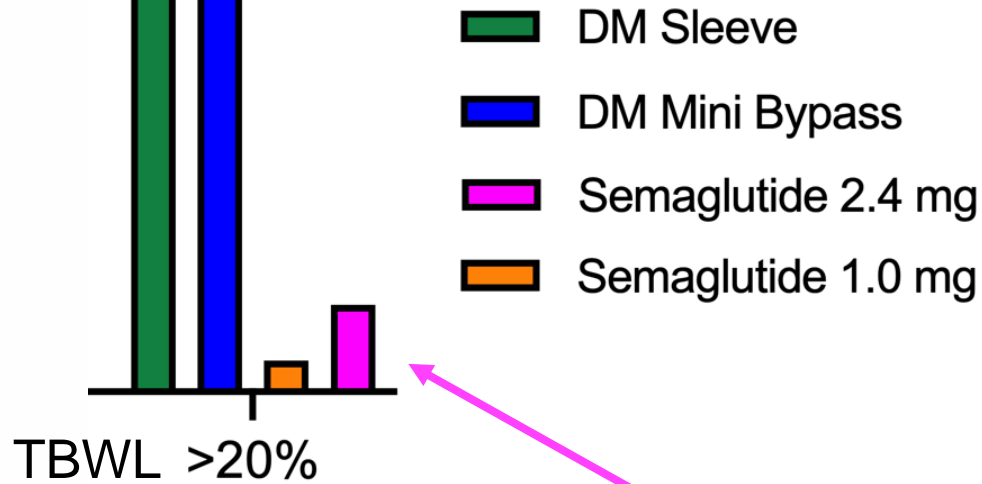
# DM Surgery vs STEP 2: Diabetic

**Ozempic**

91%  
DM Sleeve

96%  
DM Mini Bypass

Amount of Patients  
achieving >20% TBWL  
at 62 weeks



13%  
Ozempic

DM Sleeve (388 pts BMI 45.6)  
DM Mini Bypass (261 pts BMI 46.2)  
(Diabetic Patients)

18 months



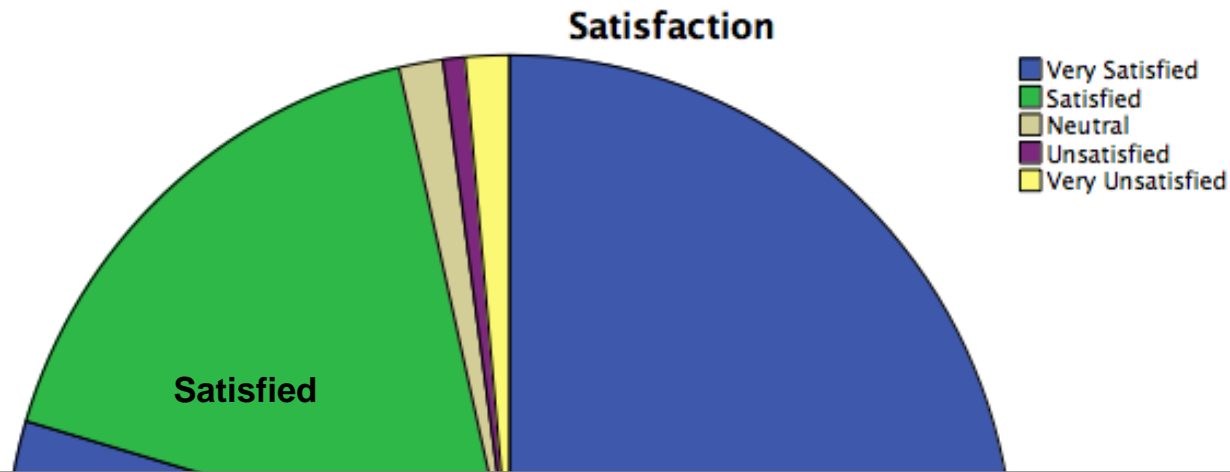
Quality of Life

Patient Satisfaction

Bowel Function

# Satisfaction with surgery (DM)

N = 208. median 14 months



**Satisfaction**  
98% Bypass  
94% Sleeve

p=0.138

**Is your Health better since surgery?**

Same hunger, uncontrolled eating, emotional eating and swallow scores

p=0.365

p=0.219

p=0.12

p=0.330

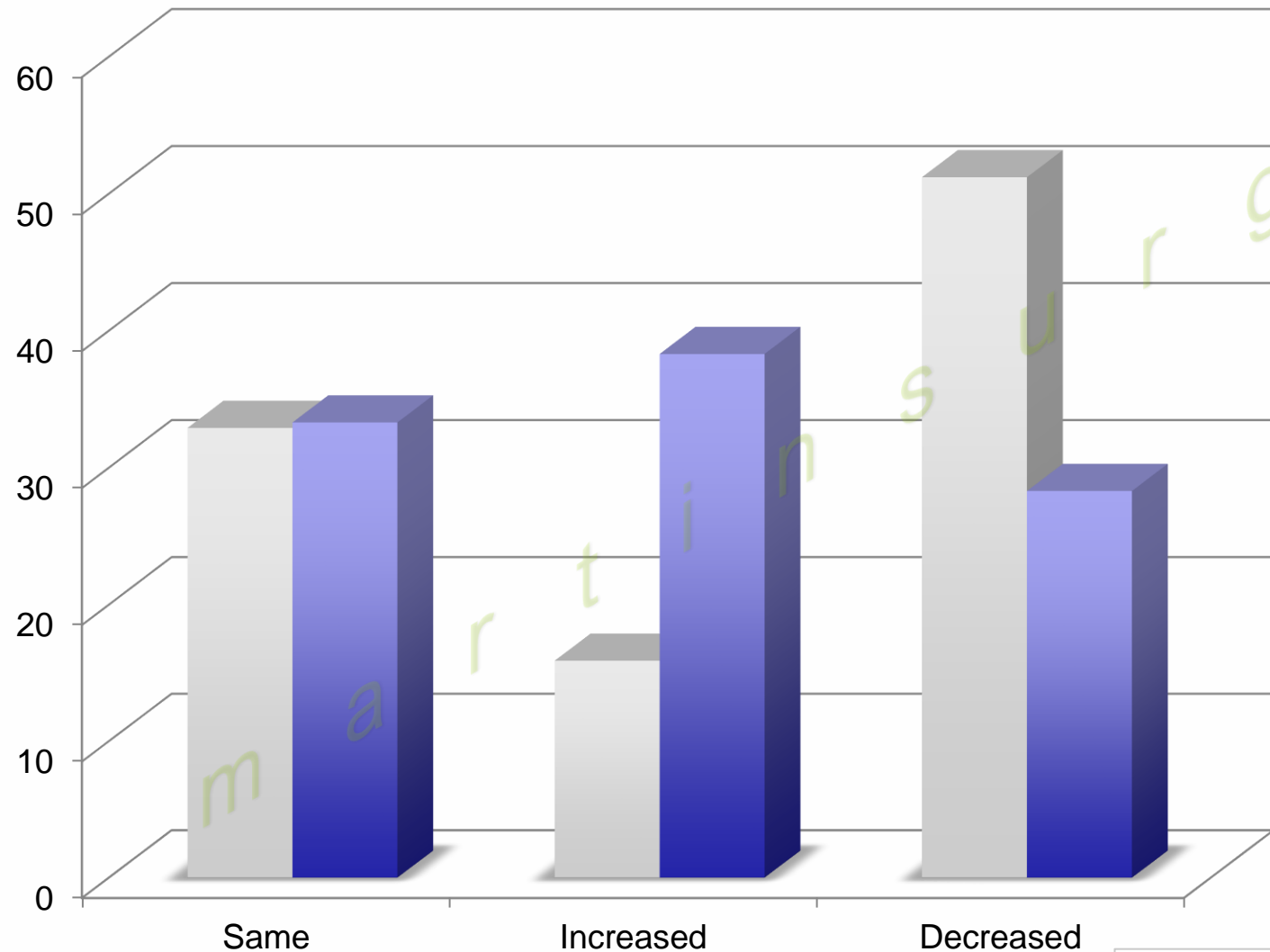
86



**Would you recommend Surgery?**  
99% Bypass (yes)  
100% Sleeve (yes)

p=0.505

# Stool (Bowel Motion) Frequency



\*On average; Stool frequency is decreased after Sleeve & slightly increased after Bypass

■ Sleeve  
■ Bypass

(p=0.004)

# Safety of Weight Loss Surgery

Sleeve & Bypass (DM)

n = 3608

1300 Mini Bypass

1168 Primary

132 Revision

149 RYGB

41 Primary

108 Revision

2159 Sleeve Gastrectomy

2112 Primary

47 Revision

0% mortality (3 month)

Peri-op Morbidity; Sleeve 2% Mini Bypass 0.9%



(DM) Mini Bypass

## Mini-bypass - Acute Complications (<90 days)

1168 primary cases  
132 revision cases

No Anastomotic Leaks (>1500 cases Mini, RYGB, Lap Gastric Ca)

Primary Cases OAGB 0.9%

**Re-operation 0.5% (6 / 1168)** (none for last 886 cases)

2 pouch leakages. 3 obstructed jejunal limbs (fat wrap, suture, torsion).

1 SBO pre-existing umbilical hernia

Revision Cases OAGB

**Acute Re-operation 2% (3 / 136)**

2 pouch leakages. 1 torsion distal pouch

**All revision operations last 5 years ;  
(RYGB OAGB, HH repairs)**

1 take back day 10 – SBO stuck to jej staple line  
Lap – peeled off (home in 1 day)

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# Primary Mini-bypass – Late Revision

18 patients 1.5%

(DM) Mini Bypass

1168 primary cases

## 0.3% (4) Reversals

Mod Malnutrition - 14 months (1.4m BP 4.5m Comm Ch) Sev DM / CCF

F20s – 3yrs - appearance BMI 46 to 21 then 27

F60s – 6 months swallowing issues. M50s alcoholism (Narciss / BPD)

## 1% (11) Reflux / Dyspepsia 1% RYGB & 1 HH

10 for reflux. 2 w/ shortening gastric pouch (ulcer / dyspepsia)

## 0.2% (2) Wt regain 1 Trim & RYGB & 1 Trim Pouch & fixed Ring

\*\*\* No Internal Hernias (several Petersen's windows closed at time of lap chole for abdo pain)

# Mini-bypass – Anastomotic Ulcers

(DM) Mini Bypass

1168 primary cases

**Multiple;** usually symptomatic. bleeds

smokers & passive smokers. NSAIDS

non-compliance w/ post-op PPIs

(20mg od \*2 years or if smoking, NSAIDS, aspirin, DMARDs, anticoagulant)

**7 ulcer perforations (0.6%)**

4 smokers, 1 NSAIDS /decongestants, 2 no risk factors (none on regular PPI)

**1 Fistula** (incidental – distal pouch – smoker. No surgery)

(DM) Sleeve

## Sleeve – Acute Complications

2112 primary cases

47 revision cases

### **2% Complications**

Leaks (0.9%), PE, PVT

No Leaks for >1000 primary cases

Bypass and Sleeve  
0% acute re-operation for complication (within 3 months)  
for  
1422 consecutive primary cases

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## Sleeve – Late Revision to Bypass Surgery

(DM) Sleeve

2112 primary cases

47 revision cases

**Primary Sleeve** n = 2112

3.3% (n = 70); 37 RYGB, 33 Mini

**Revision Sleeve** n = 47 (43 prev band, fundoplication, sleeve)

23% (n = 11) 7 RYGB, 4 Mini.

# Summary: Obesity Surgery

(modern (long) sleeve & OAGB (tailored BP))

University of Sydney



Powerful & durable weight loss

Associated with high patient satisfaction

Mini Bypass - more powerful metabolic effect (DM / Cholesterol)

- more weight loss (much overlap)

- less constipation

Low revision rates

Advances in Techniques, Technology & Experience\*

Facilitating Safer & More Effective Surgery

# Acknowledgements

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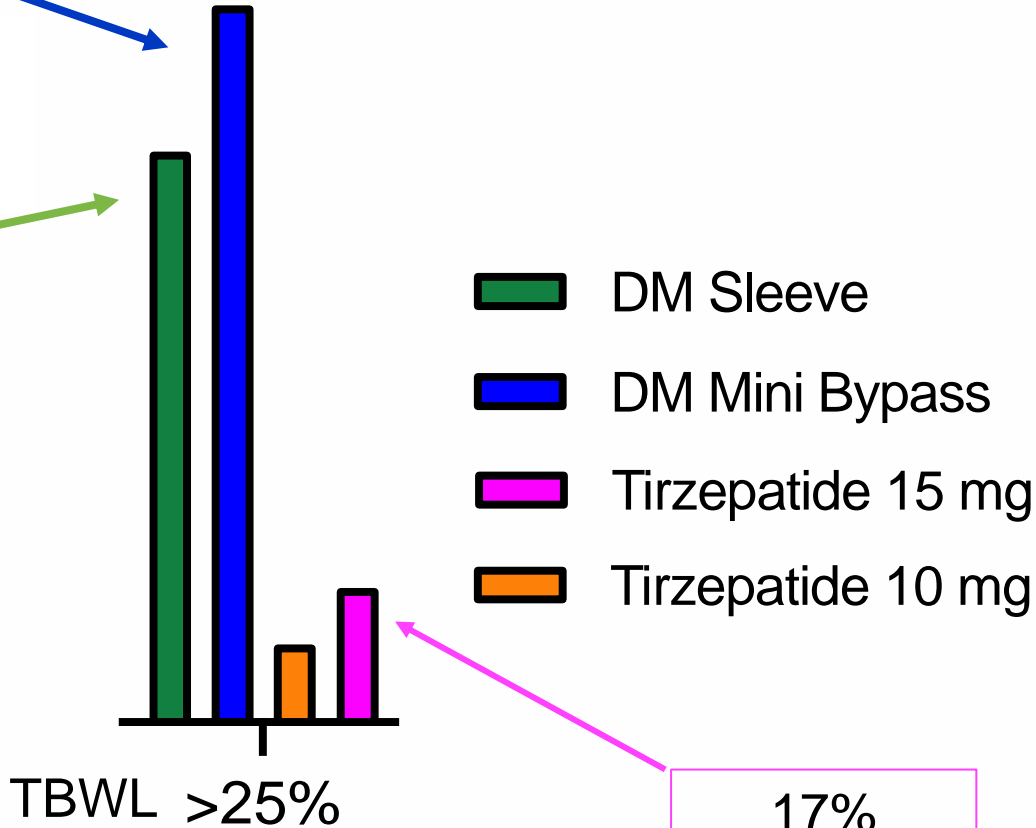




92%  
DM Mini Bypass

DM Surgery vs Surmount2: Diabetic Mounjaro

73%  
DM Sleeve



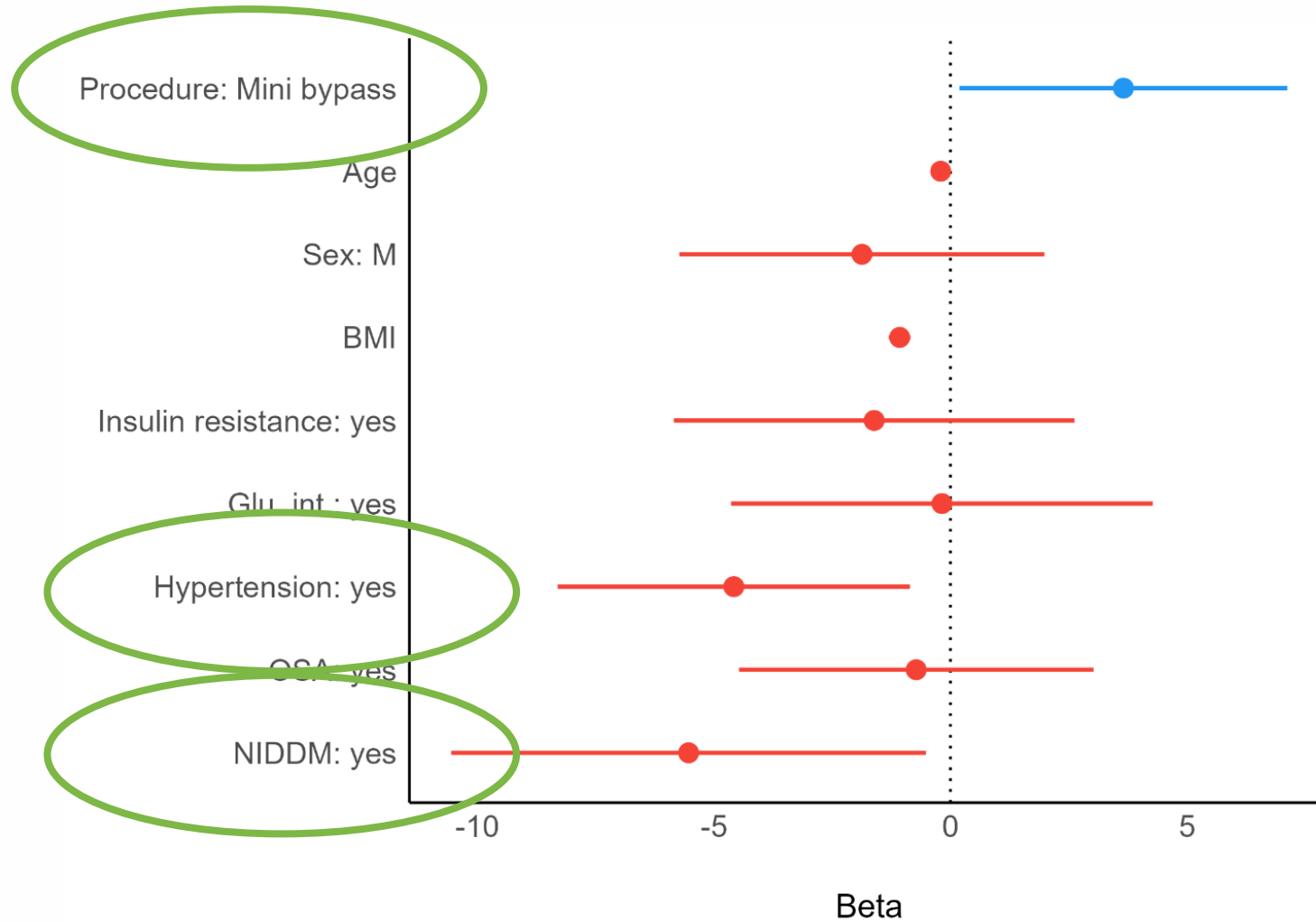
Amount of Patients  
achieving >25% TBWL  
at 62 weeks

17%  
Tirzepatide

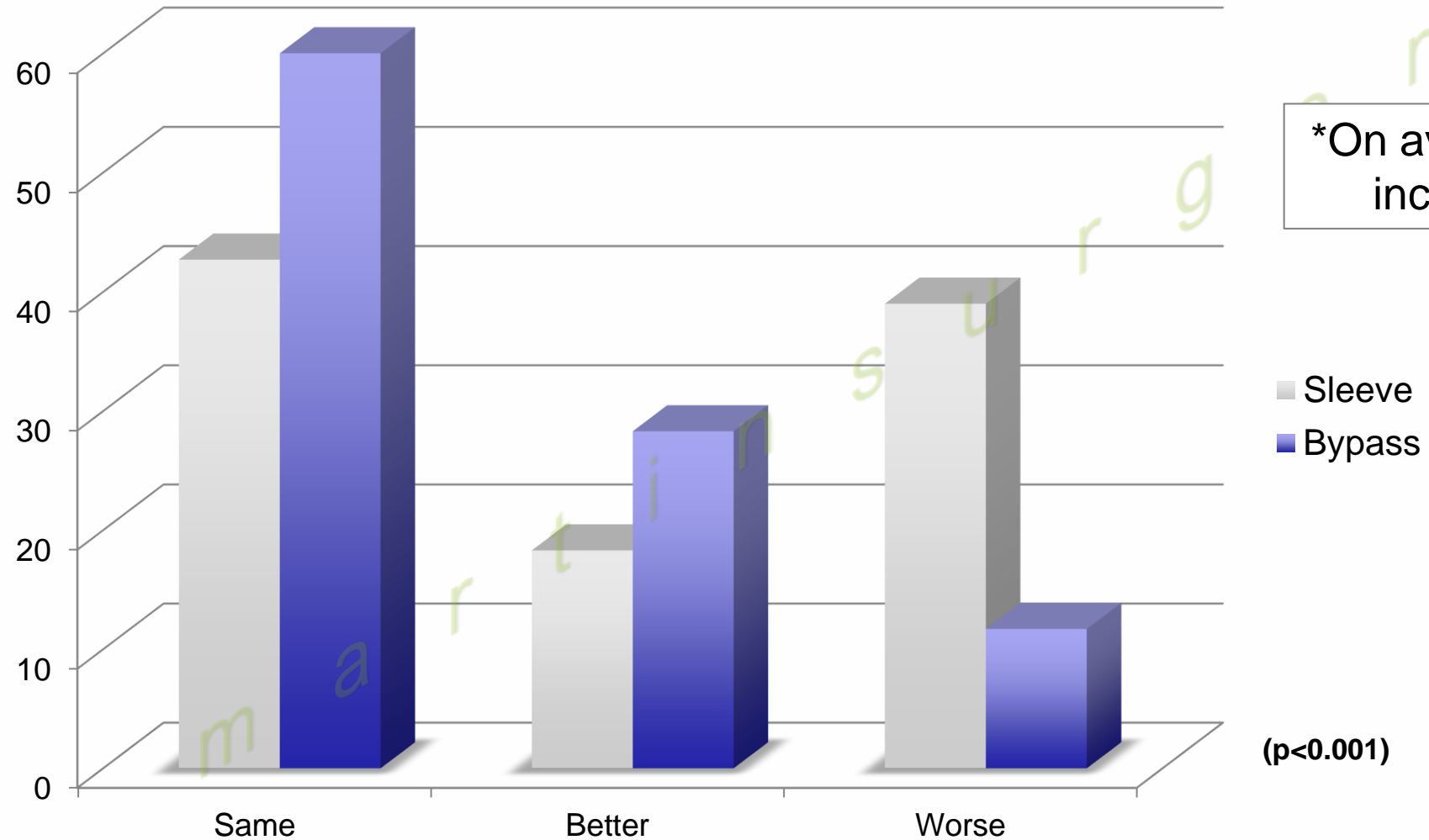
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# Constipation

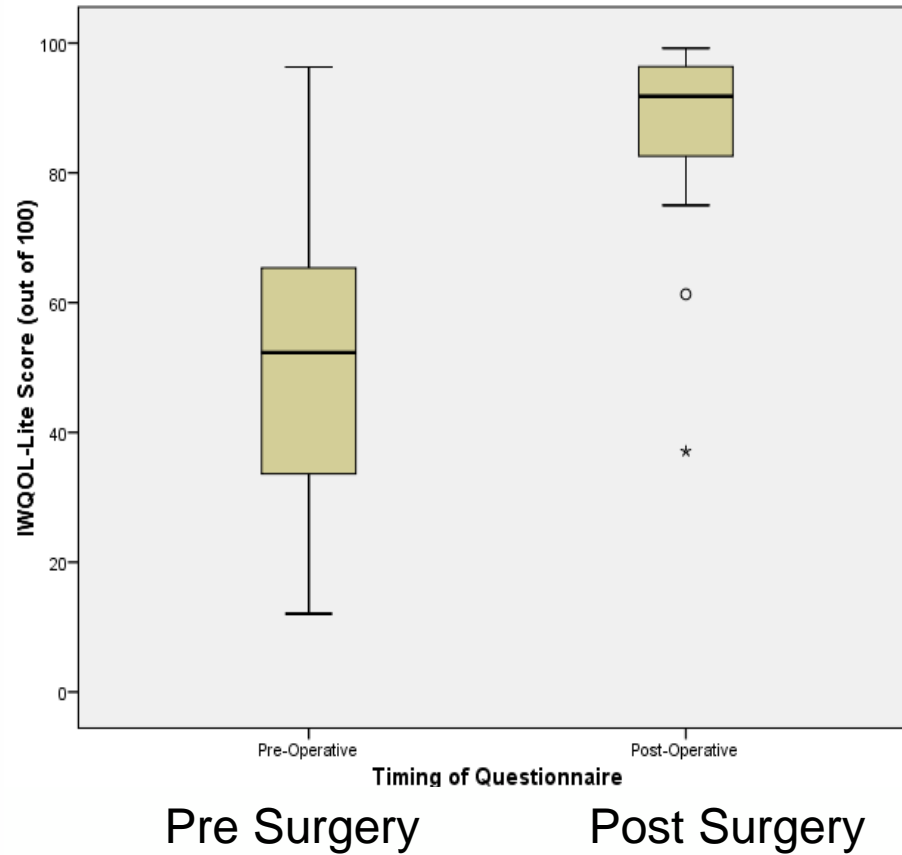


\*On average; Constipation is increased after Sleeve

# Sleeve Gastrectomy in older patients (60-70years)

## Quality of Life

(mean 21.2 months post surgery)  $p < 0.001$



(higher score represents better QAL)

n = 40