Ring-Aumented Bypasses
When to use in primary LRYGB and Revisional surgery?

Jan Willem Greve, MD PhD
Emeritus professor of Metabolic and Bariatric Surgery, Maastricht University, Maastricht, the Netherlands
Medical Director Weight Doctors Netherlands
Visiting professor, Can Tho University of Medicine and Pharmacy, Can Tho, Vietnam

- Morphic medical:
  - Consultant, Member SAB
- Bariatric Solutions
  - Travel Costs
  - Research Grant

Ring Augmented Procedures

Clarifying Terminology in Bariatric Metabolic Surgery: The Need for Distinction Between "Band" and "Ring"

Bart Torensma, Mohamed Hany, Frits Berends, Edo Aarts, Jodok Fink, Evert-Jan G. Boerma
Obesity Surgery (2024) 34:1958–1959

Banded procedures

- Large band
- Restriction
- Adjustable

Ring augmented procedures (RYGB, Sleeve, OAGB)

- Non-adjustable
- Small size ring
- NO restriction -> increased satiety, prevent dilatation

Why ring augmented procedures?

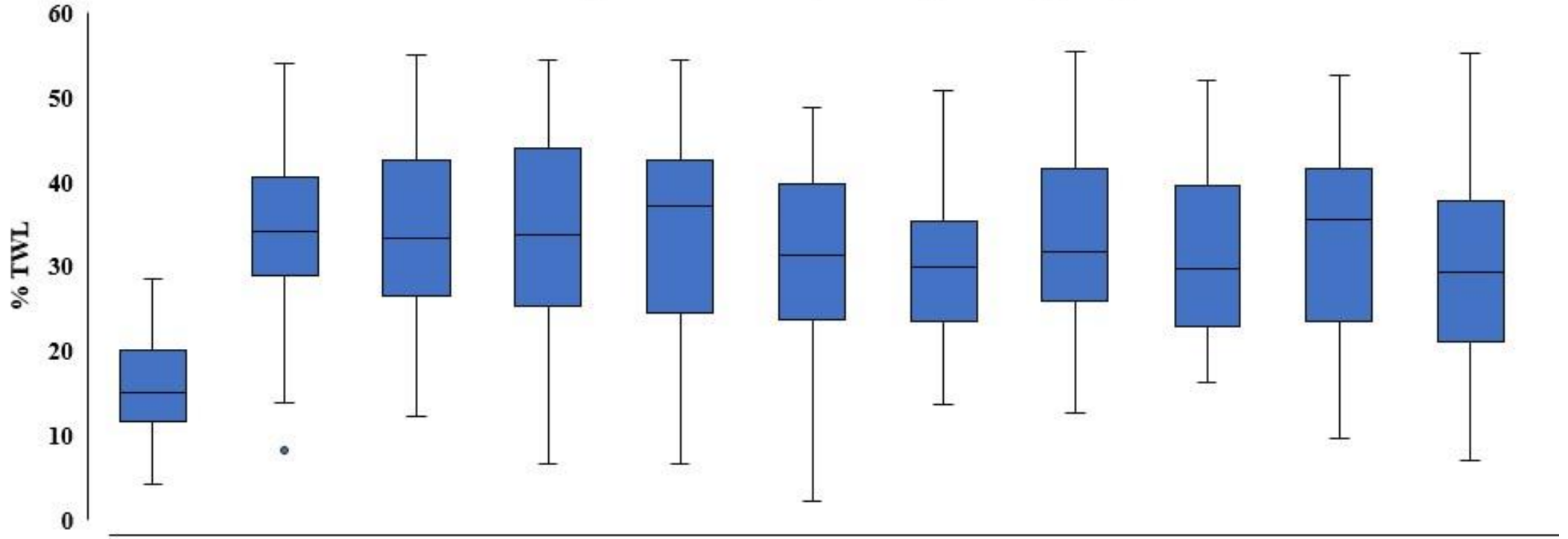
Convincing Ten-Year Follow-up Results of the Banded Roux-en-Y Gastric Bypass

M. T. F. Jense, N. Meuwissen, A. M. Galal, E. De Witte, S. Fransen, P. Broos, et al.
Obes Surg 2024 Vol. 34 Issue 4 Pages 1286-1294

Results: 10 years follow up raRYGB

Baseline characteristics		N=110
Sex	Female (%)	75 (68.2)
Mean age on day of operation in years (SD)		46 (12)
Mean weight screening in kg (SD)		127.5 (23.0)
Mean BMI screening in kg/m^2 (SD)		44.5 (6.9)
Diabetes (%)		68 (61.8)
Hypertension (%)		55 (50)
OSAS (%)		32 (29.1)
Dyslipidemia (%)		37 (33.6)

% Total Weight Loss over 10 years in primary group



	3 months	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
Median	15.1	34.1	33.3	33.6	37.0	31.3	29.9	31.6	29.6	35.4	29.2
Mean (SD)	15.5 (5.5)	33.9 (8.6)	34.1 (10.3)	34.0 (11.1)	33.9 (10.2)	31.6 (10.3)	30.0 (8.24)	33.3 (10.6)	31.3 (10.2)	33.5 (11.7)	30.0 (11.0)
N (%)	102 (92.7)	95 (86.4)	79 (71.8)	70 (63.6)	61 (55.5)	75 (68.2)	28 (25.5)	28 (25.5)	28 (25.5)	32 (29.1)	79 (71.8)

Recurrent weight gain after raRYGB

After 5 years	N=75
> 5% weight recurrence*	45.9 %
> 10% weight recurrence*	21.6 %
> 20% weight recurrence*	1.4%

After 10 years	N=79
> 5% weight recurrence*	65.8 %
> 10% weight recurrence*	29.1 %
> 20% weight recurrence*	5.1 %

*based on lowest weight between surgery and 5 and 10 years postoperative

Comparison to literature

Article	N at start	FU rate at 10 years	%TWL at 10 years	Complications
Current study	**110**	**71.8%**	**30 (SD 11.0)**	**22.7%**
Salminen, JAMA Surg (2022)[1]	119	79.8%	26.9 (95% CI 25.6 – 28.2)	18.5%
Liagre, SOARD (2022)[2]	535	74.6%	27.3 (SD 12.3)	32.9%*
Gorecki, SAGES Oral (2020)[3]	576	25.2%	28.2 (SD 11.6)	NA
Higa, SOARD (2011)[4]	242	26.9%	28.8 (SD 11.3)	27.3%

Safety and Effectiveness of Conversion after Sleeve Gastrectomy with Suboptimal Clinical Response or Recurrent Weight Gain to Ring augmented Roux-en-Y Gastric Bypass (raRYGB)

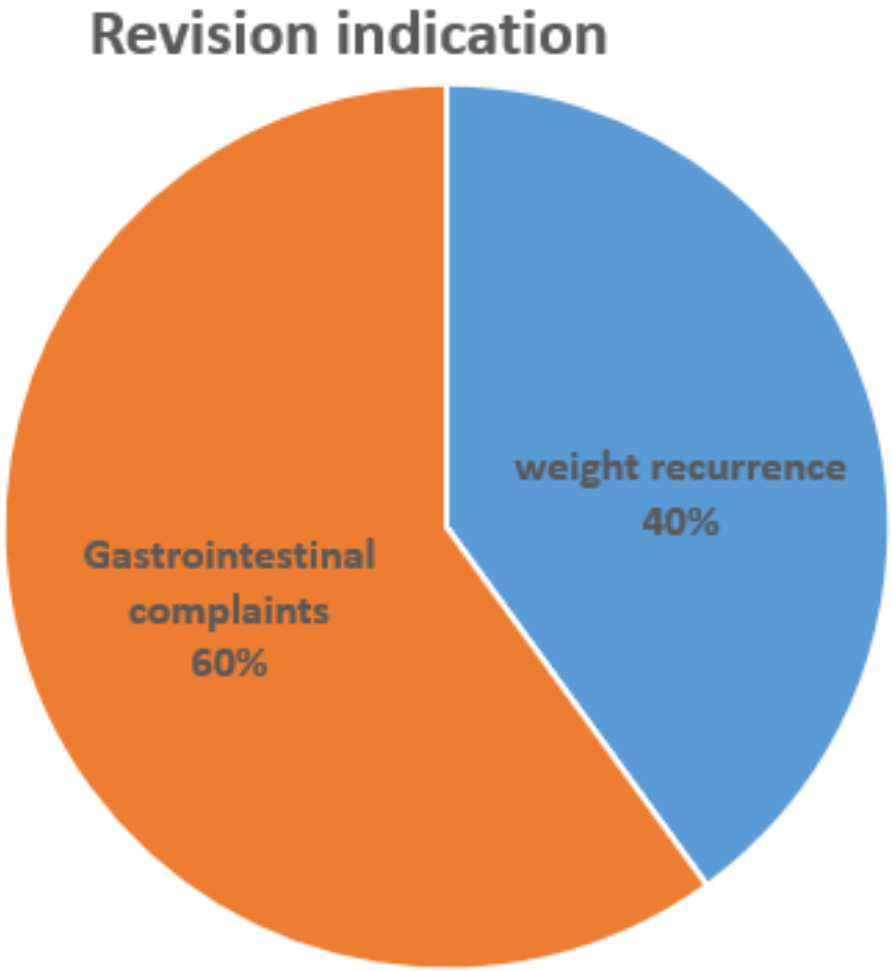
Study population (Sleeve to raRYGB)

N = 50 patients

N = 44 (88%)

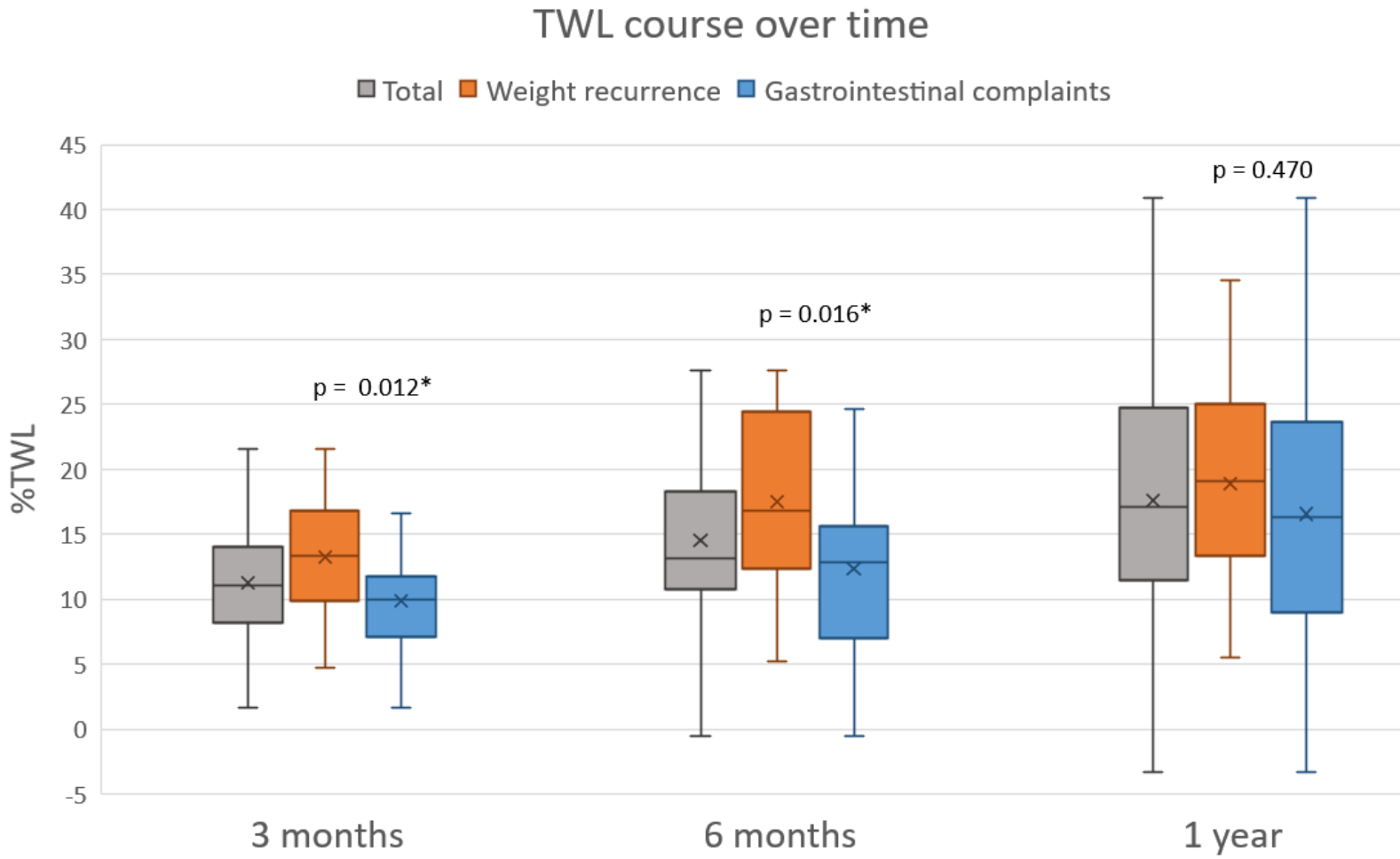
44 year (± 10.3)

37.7 kg/m^2 (± 7.6)



Weight loss (sleeve to raRYGB)

- %TWL after 1 year
  - After conversion: 17.8%
  - ***Cumulative: 32%***
  - Recurrent Weight Gain: 18.9%
  - Reflux-related: 16.6%



Weight loss (Sleeve to raRYGB)

	Follow-up	BMI (kg/m²)	%TWL from revision	(cumulative) %TWL from primary surgery
Primary surgery (SG)	50 (100)	45.9 ± 8.4	-	-
Pre-conversion	50 (100)	37.3 ± 7.2	-	17.9 ± 13.4
3 month follow-up	46 (92)	33.5 ± 6.3	11.3 ± 4.6	26.5 ± 12.2
6 month follow-up	40 (80)	31.8 ± 6.4	14.5 ± 6.9	30.3 ± 12.4
12 month follow-up	40 (80)	31.1 ± 6.7	17.8 ± 10	32 ± 12.9

Comorbidity resolution (Sleeve to raRYGB)

		Evolution after 1 year		
	Comorbidity prevalence	Unchanged	Improved	Remission
Hypertension	9 (18)	3 (33.3)	1 (11.1)	5 (55.6)
Diabetes	1 (2)	-	-	1 (100)
OSAS	4 (8)	-	3 (75)	1 (25)
GERD	18 (36)	1 (5.6)	10 (55.6)	7 (38.8)
Dyslipidemia	3 (6)	1 (33.3)	1 (33.3)	1 (33.3)

Complications (Sleeve to raRYGB)

Short-term complication rate = 16%

- 8 patients with 10 complications
  - 6 ≤ CD3a
  - 4 ≥ CD3b

Variables	Conversion (N = 50)
MiniMizer in situ	47 (94)
MiniMizer related complications	
Band slippage	2 (4)
Band erosion	0
Small bowel obstruction	0
Other (dysphagia)	1 (2)
Patients with short-term complications	8 (16)
Short-term (≤ 30 days) complications according to Clavien Dindo	
1	1 (2)
2	3 (6)
3a	2 (4)
3b	4 (8)
Short-term complication related hospital admission	
No admission	1 (2)
Prolonged admission	2 (4)
Readmission	7 (14)

Results of Sleeve to standard RYGB (literature)

- SG to RYGB conversion: %TWL ranging from 10.1 – 22.8%
- Other conversional procedures
  - SG – BPD/DS = 14%
  - SG – SADI = 21.5%

Matar, R., Monzer, N., Jaruvongvanich, V. *et al.* Indications and Outcomes of Conversion of Sleeve Gastrectomy to Roux-en-Y Gastric Bypass: a Systematic Review and a Meta-analysis. *OBES SURG* **31,** 3936–3946 (2021).

Conclusion Sleeve to raRYGB

- Cumulative %TWL of 32% after sleeve conversion is comparable to primary ring-augmented RYGB
- 85.9% of obesity related diseases improved or in remission
- Complication rate of 16% is comparable to the literature

Ring augmented Roux-en-Y gastric bypass is a safe and effective conversion method after a non-responding Sleeve Gastrectomy

Pouch revision in combination with Minimizer placement as a revisional procedure in patients with Suboptimal Clinical Response or Recurrent Weight Gain post-RYGB

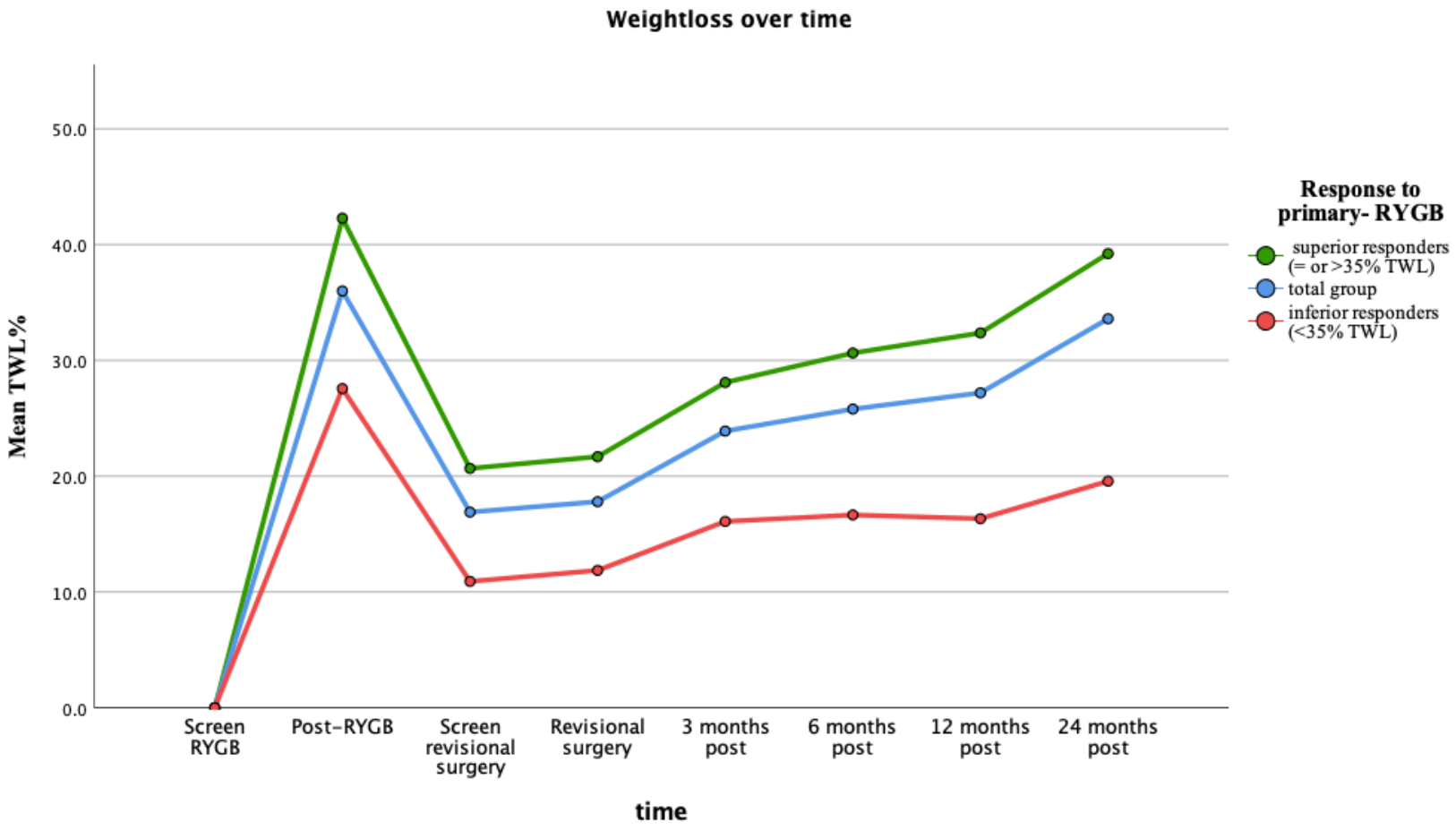
(REPOBA)

Patient population

Descriptives	
Number of patients	36
Indication revisional surgery	Recurrent Weight Gain 91.7% Suboptimal Clinical Response 2.8% Both 5.6%
Gender	80.6% female, 19.4% male
Mean age at revision	49 years [23-63]
Mean BMI at revision screening	39.37 [27.90-56.58]

Total Weight Loss ring augmented pouch revison

Post-RYGB		TWL [%]	*p-value*
P12 months	Superior Inferior Total	32.4 16.3 27.2	*<0.001*
P24 months	Superior Inferior Total	39.2 19.6 33.4	*0.002*
Post-Revision		**TWL [%]**	*p-value*
P12 months	Superior Inferior Total	14.8 9.0 12.9	*0.262*
P24 months	Superior Inferior Total	19.5 6.7 15.9	*0.014*



Complications ring augmented pouch revision

		Number of complications	Number of patients
Complications	Clavien-Dindo 1	2	2
	Dysphagia without findings on barium swallow	2	
	Clavien-Dindo 2	3	3
	Wound infection	1	
	Subcutaneous infusion	1	
	Urinary tract infection	1	
	Clavien-Dindo 3a	0	0
	Clavien-Dindo 3b	1	1
	Reposition of minimizer due to slippage	1	

Conclusion conversion RYGB to raRYGB

- Pouch revision in combination with minimizer placement in SCR/ RWG post-RYGB results in significant additional weight loss up to 2 years of follow-up
  - cumulative %TWL of 33.4 (15.9% after revision)

- Superior responders post - primary RYGB (TWL≥ 35%) achieve significantly higher %TWL at 2 years after revisional surgery
  - 39.2% in superior versus 19.6% in inferior responders

- Low complication rate.

CONCLUSION OVERALL

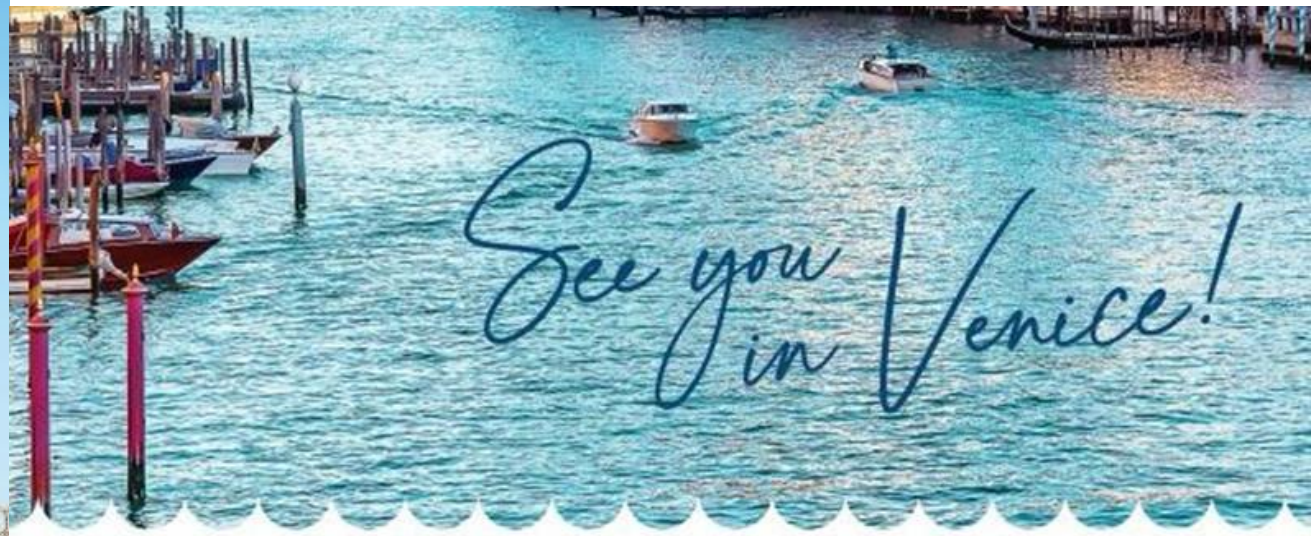
Ring Augmented procedures

- Good long term results in primary procedures
- Effective in conversion sleeve to raRYGB
- Good option for Recurrent Weight Gain after standard RYGB (in particular in good responders)
  - Pouch revision required!
- Safe

IFSO

13th Congress of the International Federation for the Surgery of Obesity (IFSO) European Chapter

15-17 May 2025 | Venice, Italy



IFSO-EC2025.COM