



XXIX IFSO World Congress

1-4 September 2026 | Toronto, Canada

TORONTO 2026

The Future of Obesity Management:
From Weight Loss to Health Gain



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Disclosure Slide

☒	No, nothing to disclose
☐	Yes, please specify:



BOS-SG: SMALL BOWEL LENGTH SHORTENING AND SLEEVE GASTRECTOMY AS A PRIMARY PROCEDURE FOR SUPER-OBESITY

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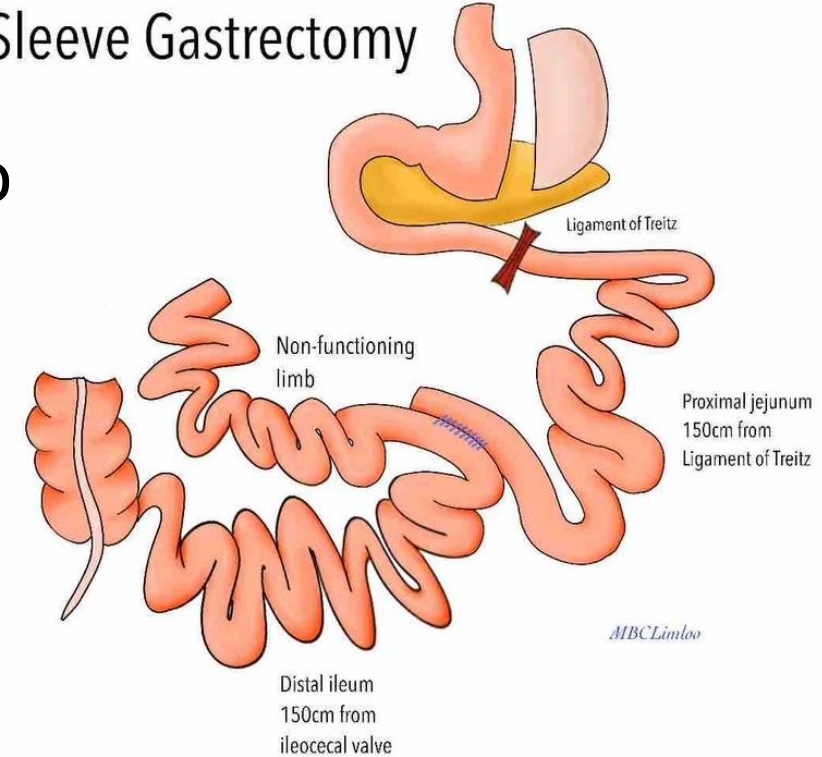
Core design:

- Sleeve Gastrectomy
- Total small bowel measured from DJ flexure to ileocecal junction
- Side-to-side jejunoileal anastomosis between:
 - 150 cm from DJ flexure
 - 150 cm from terminal ileum

Result:

- 300 cm functional nutrient pathway
- Variable excluded mid-intestinal segment

Small Bowel length Shortening
with Sleeve Gastrectomy



Study Design and Cohort

Study design

- Retrospective single-center cohort
- Preoperative BMI ≥ 50 kg/m²
- 2022–2025
- n = 86
- Mean outcome analysis total 2 years

Variable	Value
Age, years	34 $\pm$ 7.9
Female	25 (29.0%)
Male	61 (71.0%)
Baseline body weight, kg	155.6 $\pm$ 17.6
Baseline BMI, kg/m ²	54.59 $\pm$ 4.58
Total bowel length, cm	724.6 $\pm$ 96.7



Operative Details

Variable	Value
Mean operative time	106.1 ± 34.8 min
HUGO-assisted BOS-SG	21, 24.4%
Standard laparoscopic BOS-SG	65, 75.6%
Hiatal hernia repair / cruropexy	All cases 100%



Clinical weight loss outcomes

Variable	Baseline	1 Year	2 Years
Body weight, kg	155.6 ± 17.6	95,53 ± 13.52	93,04 ± 10.50
BMI, kg/m ²	54.78 ± 4.49	33.54 ± 4.44	31.22 ± 3.04
%TWL	—	38.6%	40.2%
%EWL, BMI 24	—	68.8%	72.8%

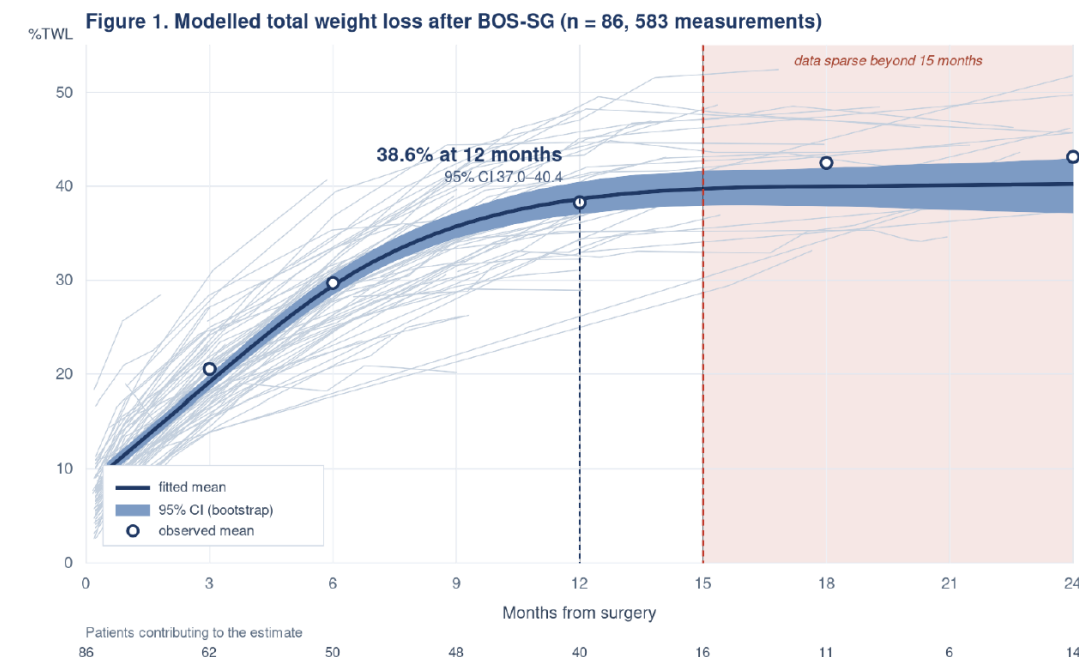
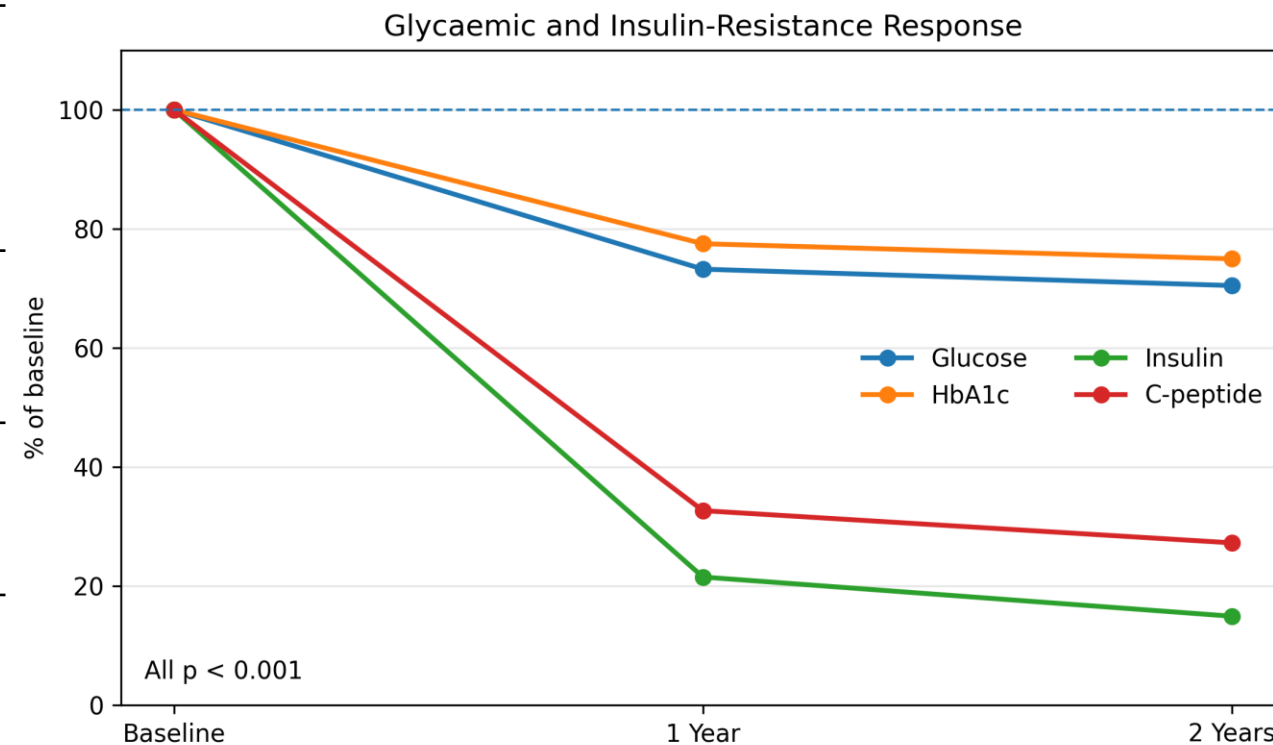


Figure 1. Grey lines are individual patient trajectories. The model and the raw data agree closely to 12 months. Beyond 15 months the observed means exceed the fitted curve because only the better-responding patients continued attending.



Glycaemic and Insulin-Resistance Response

Marker	Baseline	1 Year	2 Years	p value
Fasting Glucose, mg/dL	114.4	83.6	80.57	<0.001
HbA1c, %	6.68	5.20	5.03	<0.001
Insulin	33.1	6.9	4.82	<0.001
C-peptide	5.28	1.75	1.46	<0.001

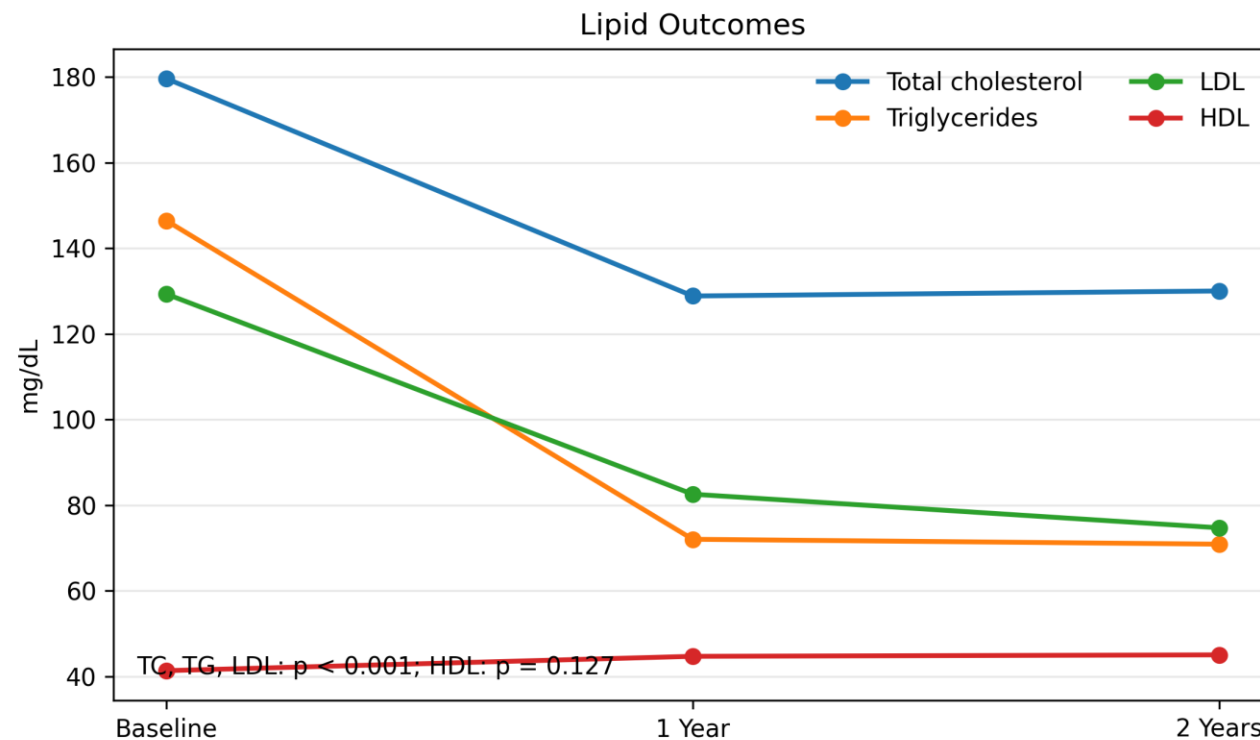


Marked reduction in glycaemic burden and insulin demand.



Lipid Outcomes

Marker	Baseline	1 Year	2 Years	p value
Total cholesterol	178.8	128.4	130.00	<0.001
Triglycerides	150.1	72.00	70.86	<0.001
LDL-cholesterol	127.9	82.0	74.68	<0.001
HDL - cholesterol	41.5	44.6	45.00	0.127



Strong reduction in total cholesterol, triglycerides, and LDL
HDL showed a non-significant upward trend.



Micronutrient Follow-up

Marker	Timepoint	n	Value	Below reference
Haemoglobin, g/dL	Baseline	83	14.48 ± 1.22	9
	1 year	29	14.07 ± 1.18	7
	2 years	6	14.37 ± 1.30	2
Serum iron, µg/dL	Postoperative *	38	103.8 ± 34.9	3
Total iron-binding capacity, µg/dL	Postoperative *	38	326.7 ± 52.7	0
Iron saturation, %	Postoperative *	38	32.6 ± 11.7	6
Vitamin B12, pg/mL	Postoperative *	34	343.5 ± 237.4	5
Folate, ng/mL	Postoperative *	25	8.46 ± 3.43	1

Micronutrient values were generally preserved within reference range at cohort level.

- ** a single opportunistic sample per patient, median 12.4 months after surgery.*
- *Reference ranges: iron 50–212 µg/dL, total iron-binding capacity 205–567 µg/dL, iron saturation 20–50%, vitamin B12 180–914 pg/mL, folate >4 ng/mL, haemoglobin 13.5–17.5 g/dL (men) and 12.0–15.5 g/dL (women). Vitamin D, calcium and parathyroid hormone were not available.*



Bioimpedance Derived Body Composition Outcomes after 12 months

Variable	Pre-operative	12 months	Change	Percentage of Change	95% CI
Percent body fat, %	51.8	33.1	-18.75	36,19%	-22.07 to -15.66
Skeletal muscle mass, kg	43.1	35.9	-7.26	16,84%	-8.11 to -6.52
ECW ratio	0.386	0.392	+0.007	1,81%	+0.004 to +0.009

Bioimpedance confirmed substantial fat loss with measurable skeletal muscle mass reduction



Clinical Problem: The balance



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Procedure	Weight-loss outcome in super-obesity	Main strengths	Main limitations	Nutrition issues
SG	Lower early WL (25-30%) than RYGB in pooled BMI ≥ 50 data	Simpler, preserves continuity, widely used	May underperform in some BMI ≥ 50 patients; may need conversion	B12 (5%), iron (10-18%) usually milder than bypass procedures and usually if exist pre-op
RYGB	Better early WL than SG at 6–12 months (32-33%)	Strong WL and metabolic effect	More complex: dumping (20-50%), ulcer (1-15%), internal hernia (1-5%)	Iron (20-35%) , B12 (20-35%) deficiency risk
OAGB (MGB)	Strong WL (32-37%)/ metabolic effect in high BMI	Simpler than RYGB	Bile reflux concern (2-8%)	Iron (35-55%), folate (5-15%) deficiency risk
BPD/DS	Highest WL potency in many super-obese series (40-48%)	Strongest efficacy in very high BMI	Highest nutritional burden, more complex	Iron (40-60%), folate (5-15%), B12 (10-30%), protein/albumin risk (7-20%)
SADI-S	High-potency option with durable WL (35-40%)	Strong effect with single-anastomosis design	Still malabsorptive	Iron (25-40%) and protein (4-8%) surveillance needed



Conclusion

- **BOS-SG showed after 2 years in super-obese patients:**

1. Strong weight-loss efficacy with more than 40% TWL
2. Marked metabolic improvement
3. Preserved micronutrient profile



Thank You

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