IFSO

XXIX IFSO World Congress

1-4 September 2026 | Toronto, Canada

TORONTO2026

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

ifso2026.org

IFSO
XXIX IFSO World Congress
1-4 September 2026
Toronto, Canada

COMPARATIVE EFFECTIVENESS OF THREE ENDOSCOPIC GASTROPLASTY TECHNIQUES BY OBESITY CLASS: RESULTS OF A RANDOMIZED TRIAL WITH 18-MONTH FOLLOW-UP

S. F. Vadalà di Prampero, M. Geraci, G. Carlino, I. Simonelli, M. Fiorani, M. A. Mancini, G. Costamagna, M. Bulajic

Ospedale Isola Tiberina
GEMELLI ISOLA

TORONTO2026 The Future of Obesity Management: From Weight Loss to Health Gain

Conflict of interest statement

I hereby declare anything that may potentially be viewed as a conflict of interest during the past three years such as paid or unpaid consultancies, business interests or sources of honoraria payments:

Company name and extent of co-operation

- Consultant for Apollo Endosurgery
- Consultant for EndoTools Therapeutics
- Consultant for USGI Medical

Why this study matters

- Endoscopic gastroplasty (EG) is an established minimally invasive option for obesity treatment
- Endoscopic Sleeve Gastroplasty (ESG - Apollo), Endoscopic Vertical Gastroplasty (EVG - Endomina) and Primary Obesity Surgical Endoluminal-2 (POSE-2) are widely used, but comparative evidence across obesity classes is limited
- Procedural choice is often driven by local expertise or device availability rather than patient phenotype
- Key question: does baseline obesity severity modify the relative efficacy of each technique?

Clinical goal

Move toward personalized endoscopic therapy

Three endoscopic gastroplasty techniques

IFSO
XXIX IFSO World Congress
1-4 September 2026
Toronto, Canada

ESG

Apollo OverStitch Sx

Full-thickness endoscopic suturing with sleeve-like gastric remodeling

EVG

Endomina

Endoluminal vertical gastroplasty using a triangulation platform and suturing device

POSE-2

Incisionless Operating Platform

Distal primary obesity surgery endoluminal plication strategy

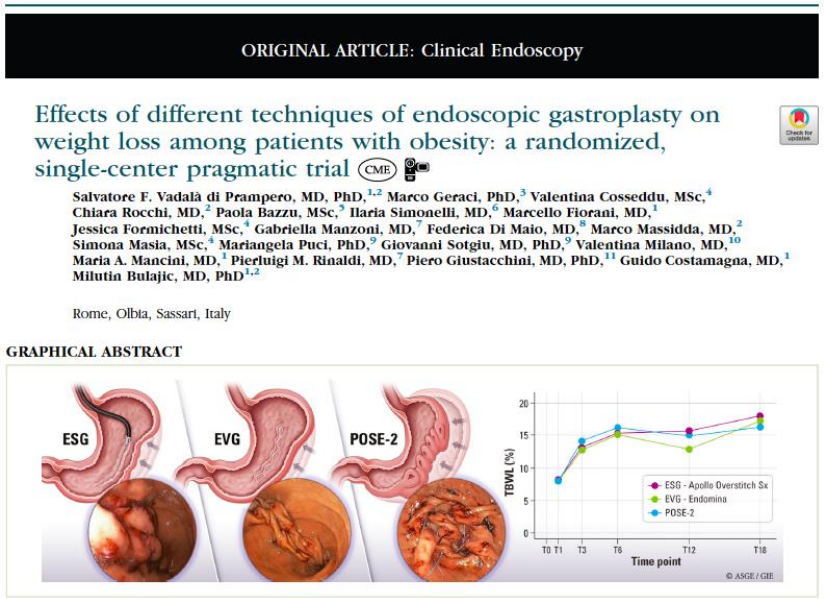
All procedures performed under general anesthesia by experienced endoscopists

Study design

Secondary post hoc subgroup analysis of a single-center randomized trial

1:1:1	184	3	18 mo
Randomization	Patients treated	EG techniques	Maximum follow-up

- Follow-up visits: baseline, 1, 3, 6, 12 and 18 months
- No prior bariatric endoscopic/surgical procedures
- No GLP-1 receptor agonist therapy before and during the study period
- Obesity classes: I (BMI 30–34.99), II (35–39.99), III (≥40 kg/m²)



ORIGINAL ARTICLE: Clinical Endoscopy

Effects of different techniques of endoscopic gastroplasty on weight loss among patients with obesity: a randomized, single-center pragmatic trial CME

Salvatore F. Vadalà di Prampero, MD, PhD,[1,2] Marco Geraci, PhD,[3] Valentina Cosseddu, MSc,[4] Chiara Rocchi, MD,[2] Paola Bazzu, MSc,[5] Ilaria Simonelli, MD,[6] Marcello Fiorani, MD,[1] Jessica Formichetti, MSc,[4] Gabriella Manzoni, MD,[7] Federica Di Maio, MD,[8] Marco Massidda, MD,[2] Simona Masia, MSc,[4] Mariangela Puci, PhD,[9] Giovanni Sotgiu, MD, PhD,[9] Valentina Milano, MD,[10] Maria A. Mancini, MD,[1] Pierluigi M. Rinaldi, MD,[7] Piero Giustacchini, MD, PhD,[11] Guido Costamagna, MD,[1] Milutia Bulajic, MD, PhD[1,2]

Rome, Olbia, Sassari, Italy

GRAPHICAL ABSTRACT

Vadalà di Prampero SF, Geraci M, Cosseddu V, et al. Effects of different techniques of endoscopic gastroplasty on weight loss among patients with obesity: a randomized, single-center pragmatic trial. Gastrointest Endosc. 2026 Jul;104(1):45-56.

Baseline population

44.7	89.1%	36.3	93.3
Mean age, years	Female	Mean BMI, kg/m²	Mean weight, kg

Class I	Class II	Class III
62 patients 33.7%	105 patients 57.1%	16 patients 8.7%

Treatment groups: ESG n=64 · EVG n=65 · POSE-2 n=55

Endpoints and statistical approach

Primary efficacy outcomes

Total body weight loss (TBWL, %)
Excess weight loss (EWL, %)

Cross-sectional analysis

Weighted least-squares regression at 12 months to account for heteroscedasticity

Longitudinal analysis

Linear mixed-effects models using all available follow-up observations and a patient-level random intercept

Effect modification

Treatment × baseline BMI interaction tested by likelihood-ratio tests; obesity-class summaries used for clinical interpretation

Missing data assumed MAR; multiple imputation used as sensitivity analysis

Overall efficacy and safety

17.1 ± 10.2%
TBWL at 12 months

43.0 ± 26.6%
EWL at 12 months

100%
Technical success

No significant overall difference among ESG, EVG and POSE-2 for TBWL or EWL

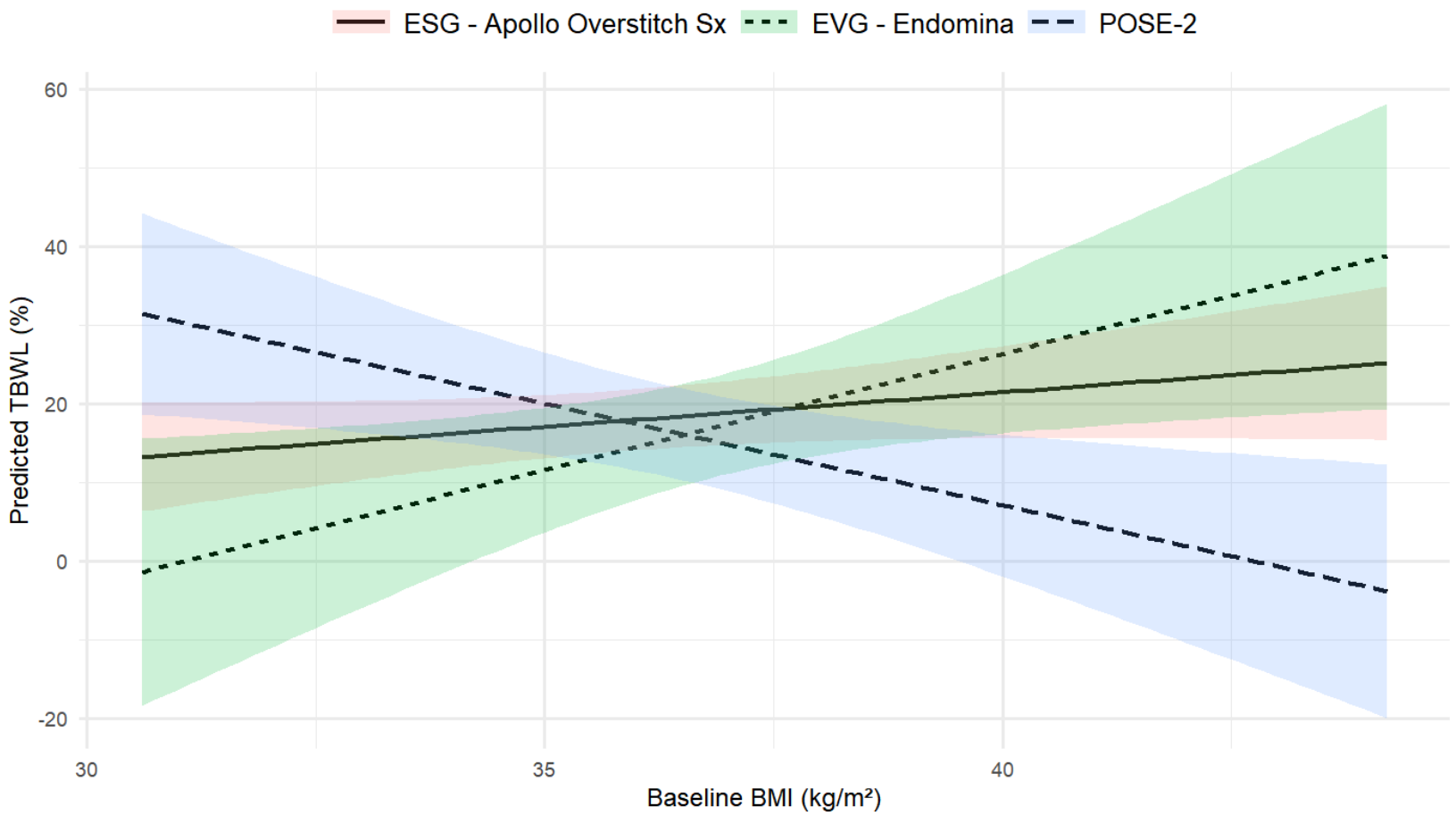
Two serious adverse events occurred (1.1%)

Within 24 hours, 89.1% reported pain, nausea or vomiting, without significant differences among techniques

Follow-up attendance declined over time: 56.0% at 6 months, 32.6% at 12 months, 15.8% at 18 months

Baseline BMI modifies TBWL response

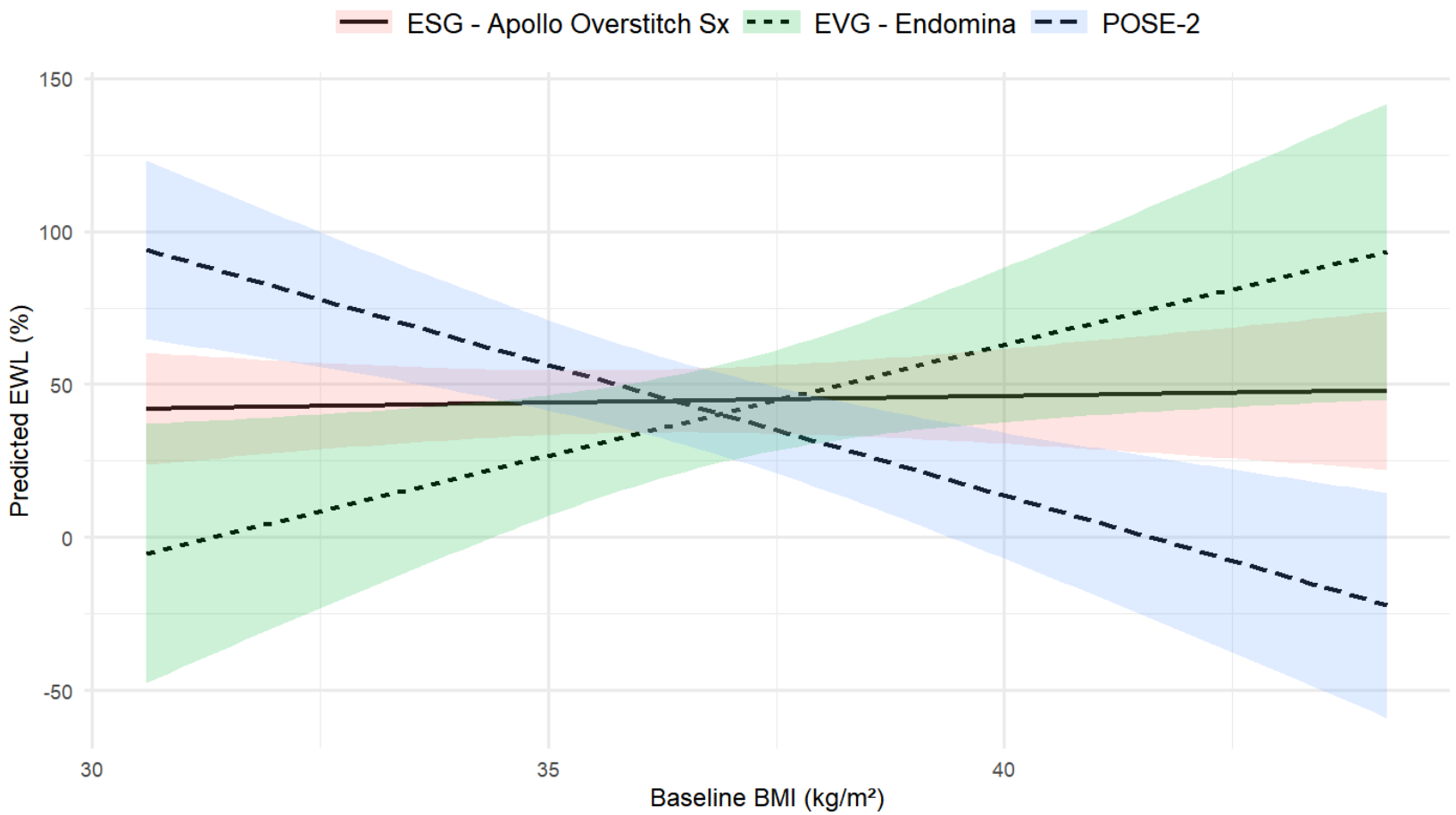
IFSO
XXIX IFSO World Congress
1-4 September 2026
Toronto, Canada



Treatment × BMI interaction: p = 0.0403

Predicted TBWL by baseline BMI; shaded areas represent 95% confidence intervals.

Baseline BMI modifies EWL response



Treatment × BMI interaction: p = 0.0201

Predicted EWL by baseline BMI; shaded areas represent 95% confidence intervals.

Class I obesity: POSE-2 shows the strongest signal

ESG

TBWL 14.9%
EWL 40.5%
(at 12 months)

EVG

TBWL 8.3%
EWL 23.8%
(at 12 months)

POSE-2

TBWL 19.0%
EWL 56.6%
(at 12 months)

POSE-2 was associated with greater TBWL and EWL than ESG and EVG

Longitudinal models also showed a faster average monthly rate of weight-loss accumulation with POSE-2

POSE-2 as potential preferred option in lower degrees of obesity

Class II obesity: no meaningful separation

ESG

TBWL 14.9%
EWL 36.7%
(at 12 months)

EVG

TBWL 14.3%
EWL 34.6%
(at 12 months)

POSE-2

TBWL 13.9%
EWL 32.8%
(at 12 months)

No clinically or statistically significant differences among procedures

In this class, technique selection may reasonably depend more on anatomy, comorbidity, patient preference, expertise and device availability

Class III obesity: ESG and EVG outperform POSE-2

ESG

TBWL 19.1%
EWL 39.7%
(at 12 months)

EVG

TBWL 15.5%
EWL 34.8%
(at 12 months)

POSE-2

TBWL 0.1%
EWL 0.2%
(at 12 months)

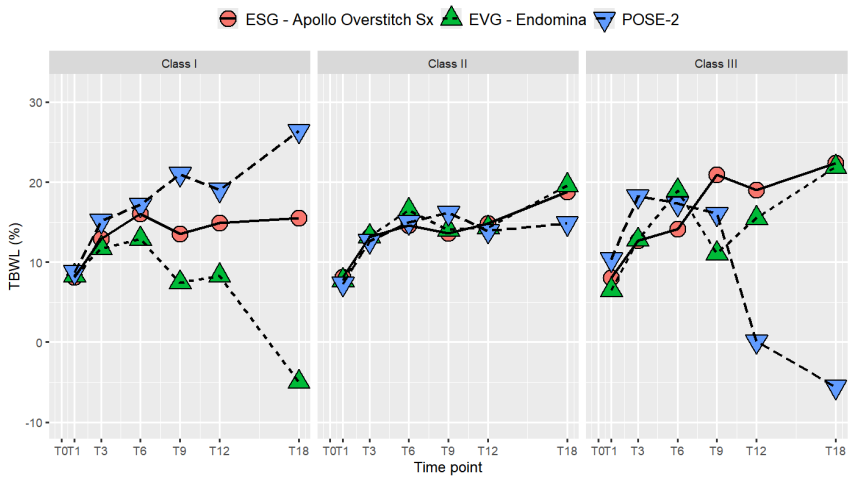
ESG and EVG showed more favorable outcomes than POSE-2

Longitudinal analyses similarly favored ESG/EVG in class III obesity

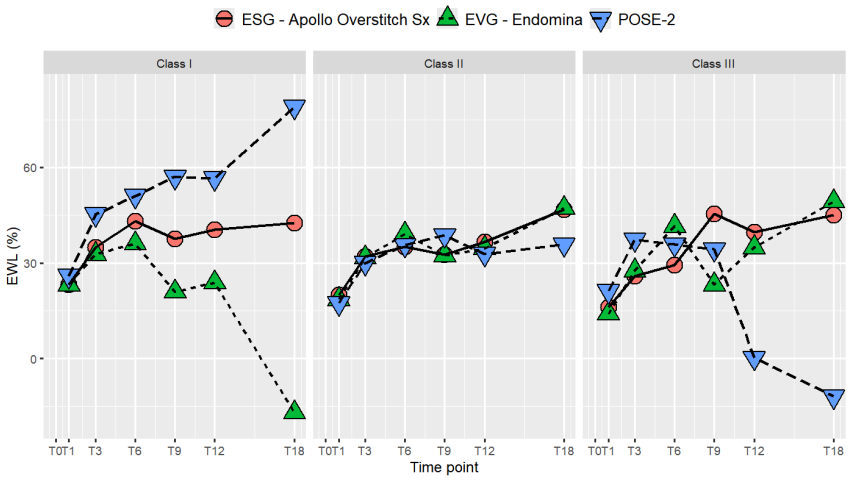
ESG and EVG as potential preferred option in higher degrees of obesity

Weight-loss trajectories across obesity classes

IFSO
XXIX IFSO World Congress
1-4 September 2026
Toronto, Canada



TBWL over time



EWL over time

Important: later time points include very small procedure-by-class samples (sometimes n=1–3)

Sensitivity analysis and limitations

Sensitivity analysis

Patients with and without 12-month data were broadly comparable for treatment group, age, baseline weight/BMI, obesity class and 6-month outcomes. Multiple imputation was generally consistent, but the group-by-obesity interaction lost statistical significance.

Attrition

Only 60/184 had 12-month weight data and 29/184 attended 18-month follow-up. Long-term estimates therefore have substantial uncertainty.

- Post hoc subgroup analysis: hypothesis-generating, not definitive
- Randomization was not stratified by obesity class
- Small class III subgroups and very small samples at later follow-up
- Single linear slope may obscure non-linear phases of weight loss
- Anthropometric outcomes only; metabolic/comorbidity outcomes were not assessed

Take-home message: toward class-driven personalization

IFSO
XXIX IFSO World Congress
1-4 September 2026
Toronto, Canada

Class I

POSE-2
strongest weight-loss signal

Class II

ESG ≈ EVG ≈ POSE-2
no meaningful difference

Class III

ESG / EVG
more favorable than POSE-2

Endoscopic gastroplasty techniques may not be uniformly interchangeable

Baseline obesity class could become a practical criterion for procedural selection - but prospective, adequately powered validation is required

Personalized endoscopic obesity therapy

IFSO

XXIX IFSO World Congress

1-4 September 2026
Toronto, Canada

THANK YOU FOR YOUR ATTENTION

- ClinicalTrials.gov NCT04854317
- salvatorefrancesco.vadaladiprampero@fbf-isola.it

Ospedale Isola Tiberina

GEMELLI ISOLA

XXX IFSO WORLD CONGRESS

"Advancing Multimodal Obesity Care"

24-27 August 2027

ifso2027.org

IFSO PARIS 2027

See you in

PARIS