



XXIX IFSO World Congress

1-4 September 2026 | Toronto, Canada

**TEN-YEAR ANATOMICAL AND CLINICAL
DURABILITY OF CONCURRENT SLEEVE
GASTRECTOMY AND HIATAL HERNIA REPAIR:
A MULTICENTER RETROSPECTIVE COHORT
STUDY**

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TORONTO2026

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



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Disclosure Slide

Nothing to disclose



The Obesity – Hiatal Hernia Correlation

High Pre-op Prevalence

- 37% – 40% baseline Hiatal Hernia (HH) prevalence in bariatric surgery candidates, primarily due to chronic abdominal pressure.
- Laparoscopic Sleeve Gastrectomy (LSG) is globally dominant, accounting for 61%–67% of primary bariatric procedures.

Sleeve-Induced Reflux Dynamics

Anatomical Alteration: LSG blunts the Angle of His, severs LES sling fibers, and decreases gastric compliance.

Elevated Pressure: High intragastric pressure inside the narrow sleeve promotes de novo GERD (24%–59% incidence).

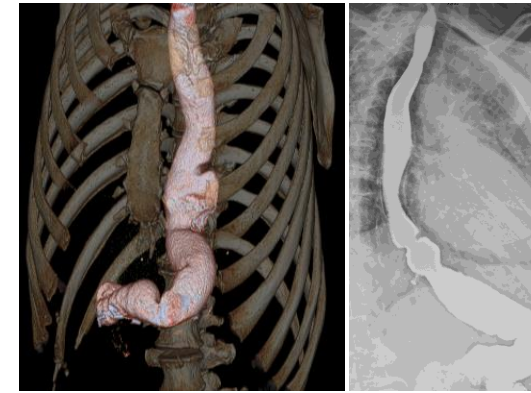


The Unanswered Question

Long-Term Clinical Validation

Concomitant Hiatal Hernia repair during sleeve gastrectomy is widely practiced, yet robust outcome data beyond five years remains scarce in the literature.

Question: Does recurrence on postoperative imaging translate to actual clinical failure and symptomatology for the patient?




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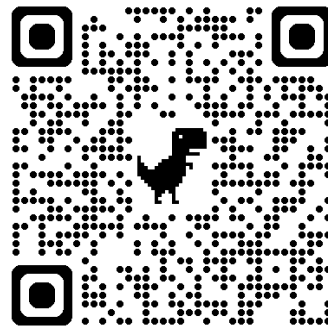
RESEARCH

Long-Term Anatomical Durability and Clinical Outcomes of Concomitant Laparoscopic Sleeve Gastrectomy and Hiatal Hernia Repair: Up to 10-Year Multicenter Analysis

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Study Design

- **Method:** Retrospective multicenter study across 4 Italian bariatric centers
- **Cohort:** Primary LSG + concomitant HHR performed between 2014–2015
- **Inclusion Criteria:** Documented HH with **minimum 5-year follow-up**
- **Exclusion Criteria:** prior bariatric surgery, severe GERD (LA grade C/D) esophagitis or Barrett's esophagus, PE hernias requiring emergent repair, and incomplete FU.

❑ **Primary Outcome:** To evaluate the 10-year recurrence rate, predictors of failure, and clinical outcomes following concomitant LSG and HHR.

❑ **Secondary Outcomes:**

1. Primary end point: anatomical recurrence (>2 cm transhiatal migration of the gastric sleeve).
2. Secondary end points: reinterventions, GERD, and weight loss.



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FEDERICO II



San Carlo Hospital, Potenza

Study Demographics & Inclusion

108

Analyzed Patients

Primary LSG + HHR (2014-2015)

80.6% Female | Baseline BMI 42.7

93

Months Mean Follow-up

Minimum 5-year requirement

Mean 7.7 ± 1.9 years follow-up



Intraoperative Hernia Findings



30%

HH identified **only** during surgical exploration → need for meticulous intraoperative assessment.



10.2%

Classified as Large Hernias (≥ 5 cm).
The vast majority (81.5%) were
Non-Large Hernias
(< 5 cm).



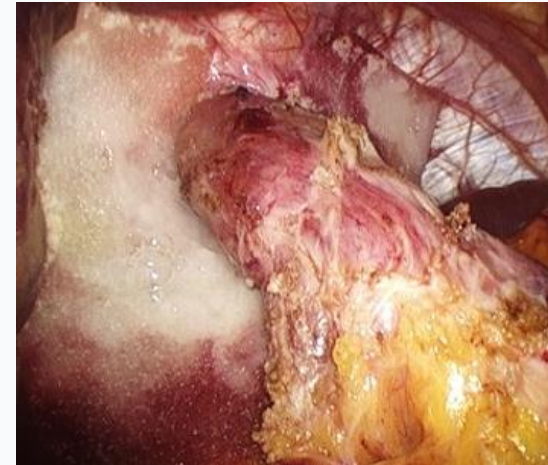
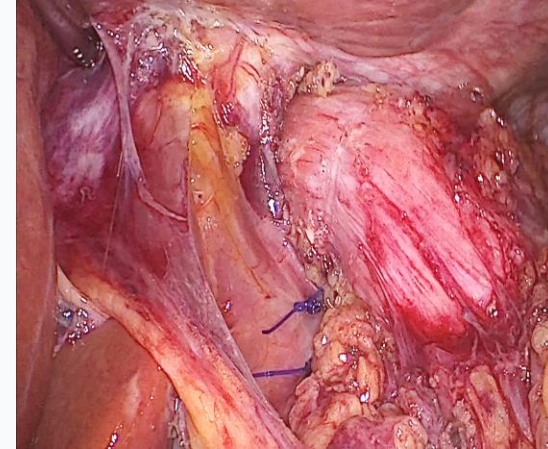
98.2%

Sliding type hiatal hernias, with
only a marginal 1.9% classified as
Type II Paraesophageal.



Surgical Technique & Safety

- Standard posterior cruroplasty was performed consistently across all centers.
- **Confirmed Safety:** 0% mortality and 0% conversions recorded throughout the cohort.
- Cruroplasty was selectively reinforced with Bio-A mesh in 36 patients (32%).
- Mesh utilization was not a statistically significant independent predictor of success.



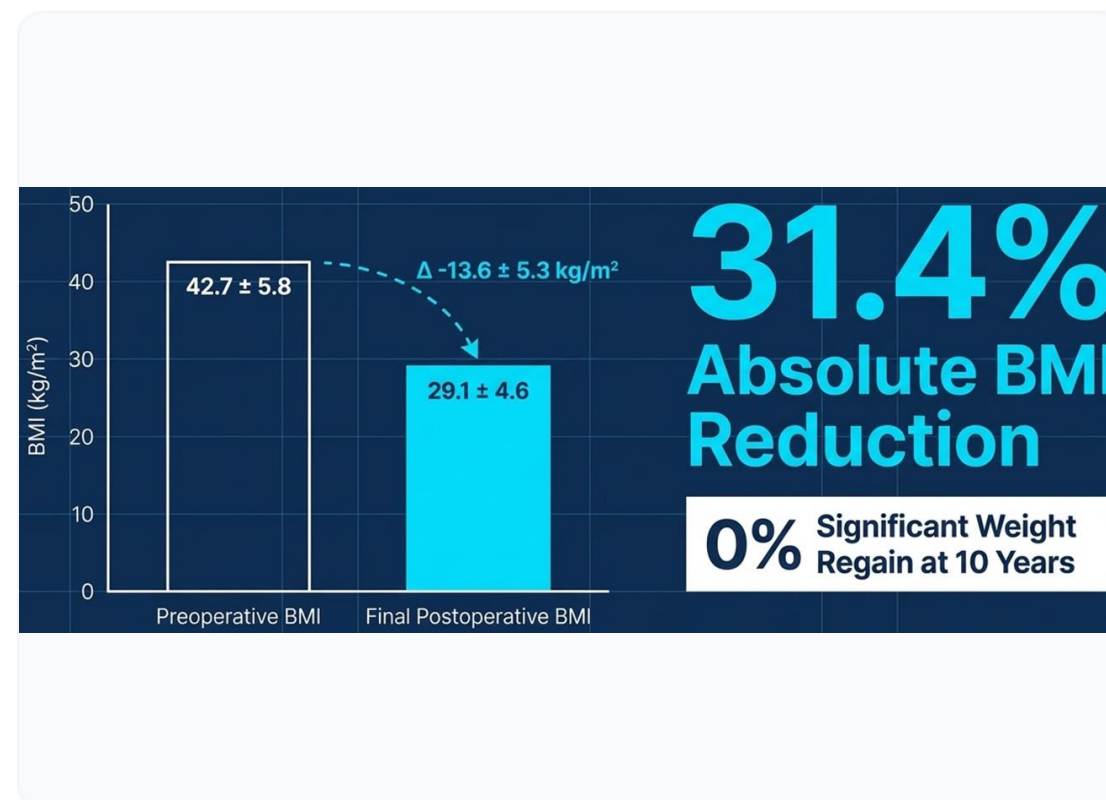
Absolute BMI Reduction

Sustained Efficacy

Despite concerns over long-term anatomical alterations, the cohort achieved satisfactory and highly sustained weight loss.

Mean BMI dropped from **42.7** to **29.1** at final long-term follow-up.

Remarkably, there was a **0% significant weight regain** documented at the 10-year milestone.



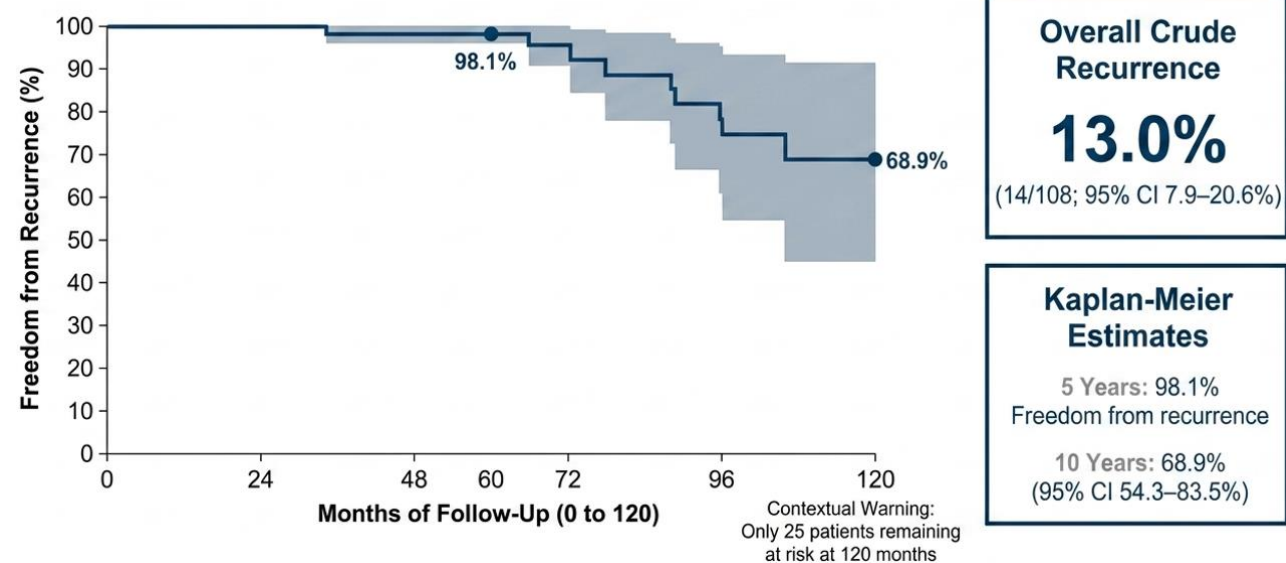
The Anatomical Reality

Excellent 5-Year Durability

Kaplan-Meier estimates reveal good mid-term stability (98.1% freedom from recurrence at 5 years).

Late-stage attrition brings the 10-year estimate down to 68.9%.

The overall crude recurrence rate for the cohort was **13.0%** (14 out of 108 patients).



Clinical Failure vs. Radiographic Recurrence

64.3% Managed Conservatively

Most anatomical recurrences detected on imaging were successfully managed without the need for surgical reintervention.

This highlights a divergence between anatomical defects and severe clinical failure.

35.7% Surgical Reintervention

A smaller subset of those with anatomical recurrence presented with symptoms severe enough to require surgical revision.

Clinical symptoms, rather than imaging alone, drove the decision to reoperate.



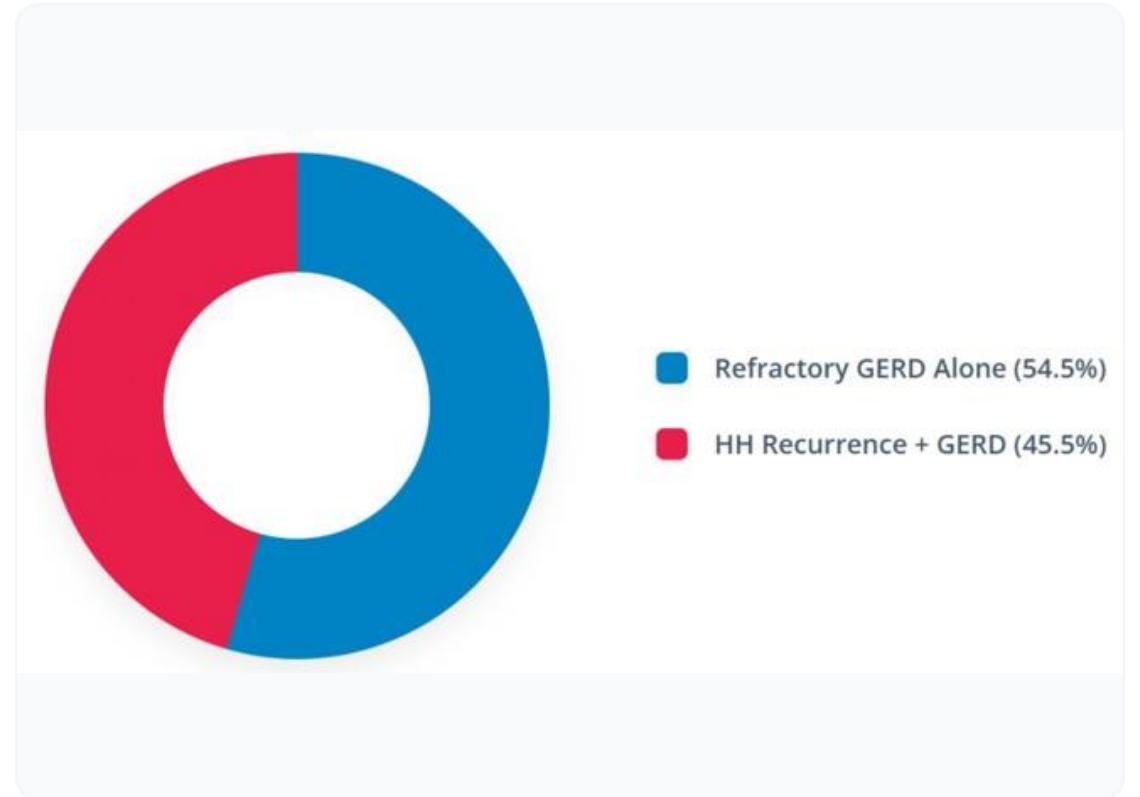
The GERD Connection

Reflux as the Primary Driver

A total of 11 reinterventions occurred (10.2% of the entire cohort).

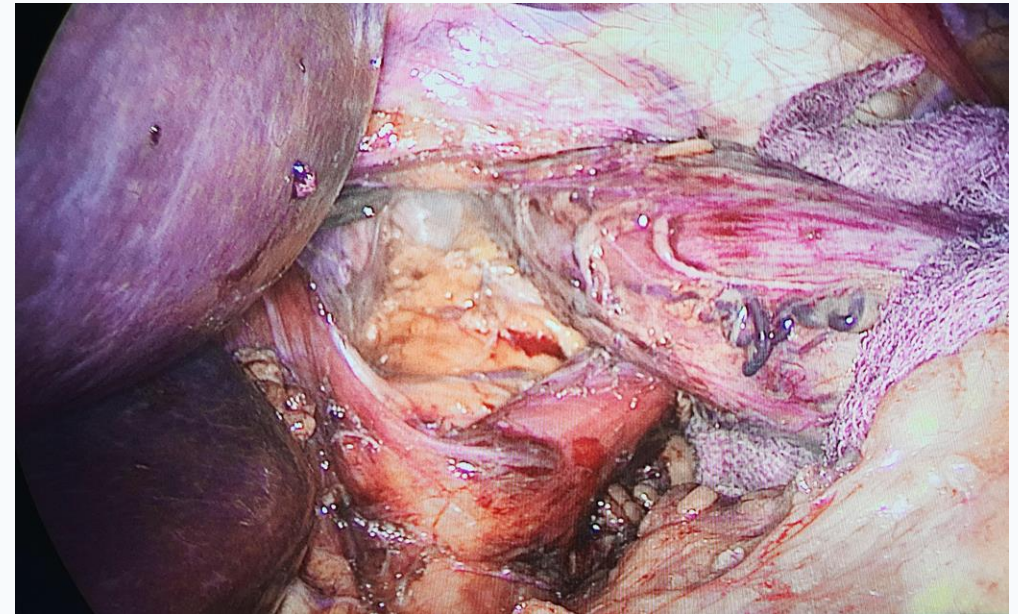
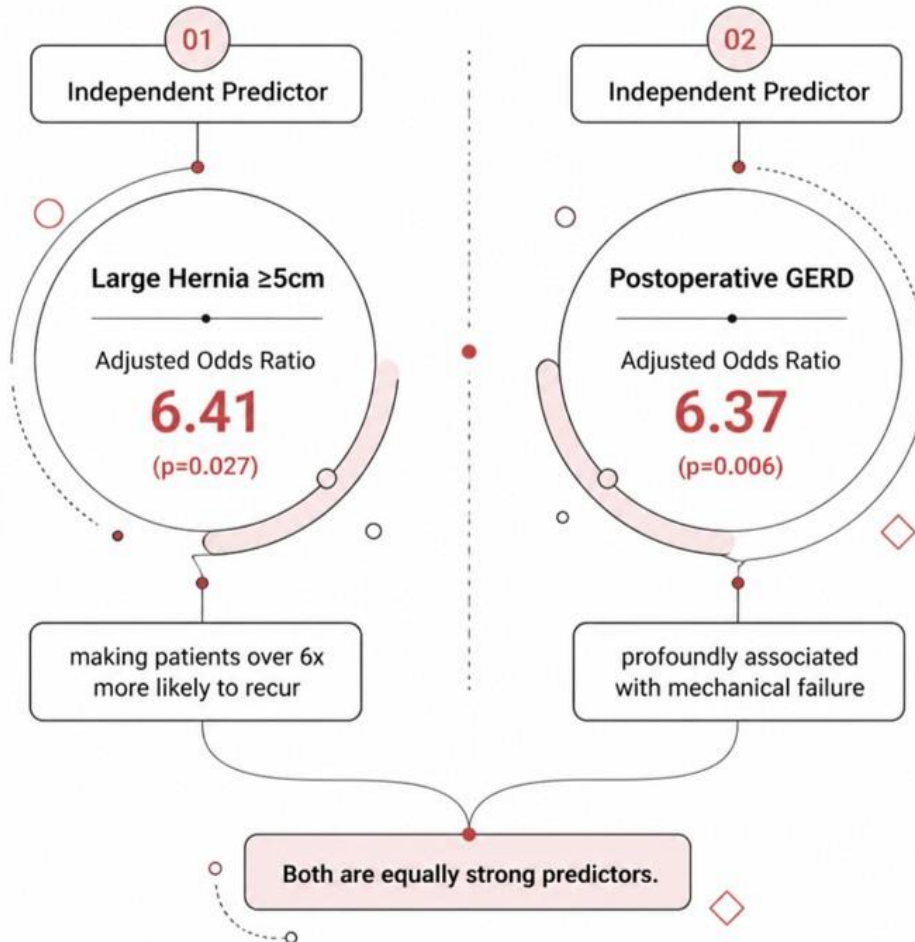
Crucially, **100% of reintervention patients** presented with symptomatic GERD.

Reflux, rather than hiatal hernia recurrence alone, is the definitive primary driver for surgical revision.



Independent Predictors of Recurrence

Key Multivariate Findings



Reintervention Risk by BMI Class

Non-Linear Risk Profile

The relationship between baseline BMI and the eventual need for reintervention is distinctly non-linear.

Reintervention risk remains relatively low for standard obesity classes, but **spikes significantly (33.3%)** in patients with a BMI ≥ 50 .



Intraoperative considerations



Remove Belsey Fat Pad

Nearly 30% of defects are missed preoperatively. Always clear the fat pad to properly visualize and assess the hiatal anatomy.



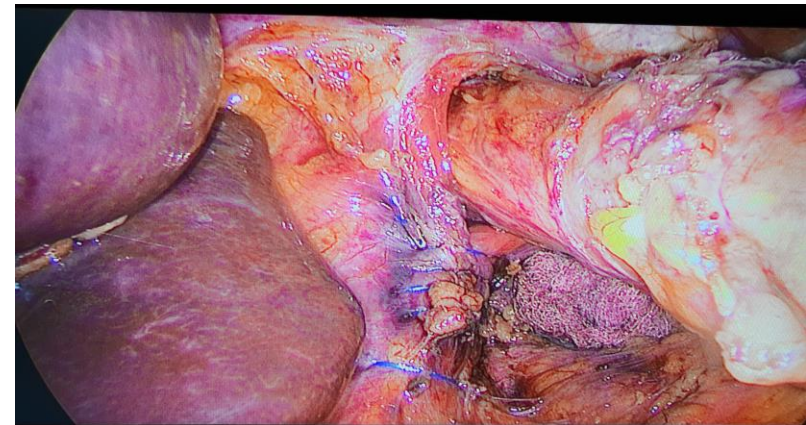
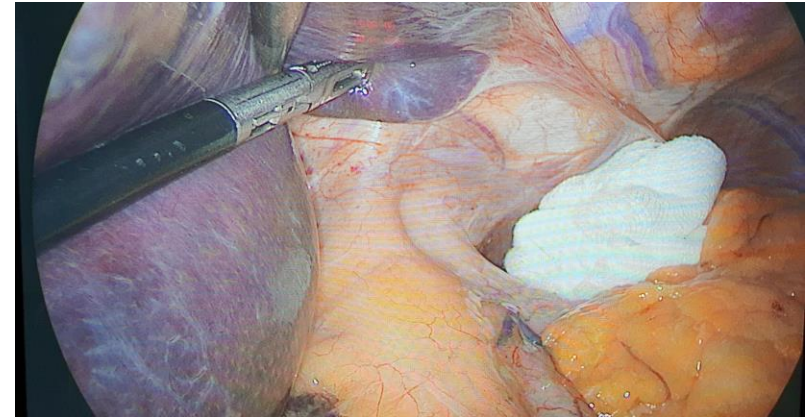
Expose the Left Crus

Ensure full exposure of the left crus during fundus dissection. Stay vigilant for posterior para-esophageal lipomas.



Verify EGJ Position

Always confirm the esophagogastric junction at procedure end to ensure no trans-hiatal sleeve migration.



Key Takeaways

→ Acceptable Long-Term Durability

Concomitant LSG + HHR achieves **13% anatomical recurrence** at 10 yrs with sustained weight loss (BMI 42.7 → 29.1).

→ Recurrence ≠ Reoperation

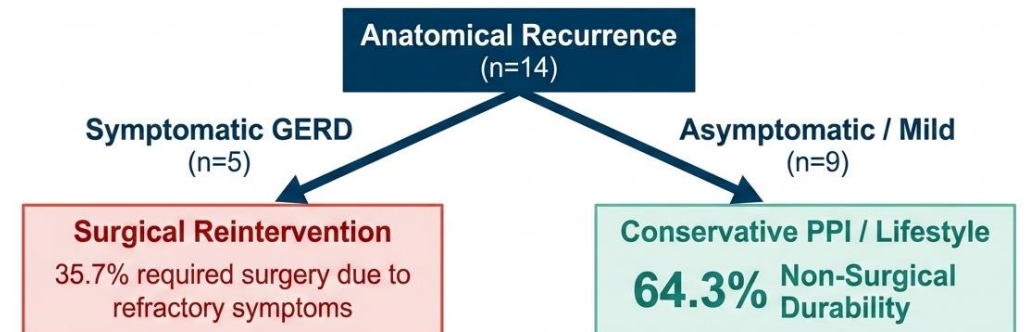
Anatomical recurrence does not mandate surgery.

Conservative management is safe and highly effective in the majority of cases.

→ GERD Is the True Driver

Postoperative GERD — not anatomical failure alone — is the primary determinant of clinical failure and surgical revision.

Redefining Failure: 64% of Anatomical Recurrences are Managed Without Surgery



Clinical Algorithm Takeaways:

- Anatomical failure ≠ Clinical failure.
- Routine imaging for asymptomatic patients may drive unnecessary anxiety and overtreatment.
- Treat the symptom, observe the anatomy.

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Thank You!

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