Comparative Analysis of Diabetes Remission After Endoscopic vs Laparoscopic Sleeve Gastrectomy Using Fragility Index

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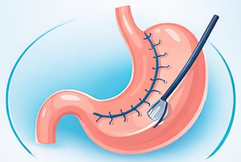
Endoscopic Sleeve Gastroplasty vs Laparoscopic Sleeve Gastrectomy

Endoscopic Sleeve Gastroplasty (ESG)



Endoscopic Sleeve Gastroplasty (ESG)

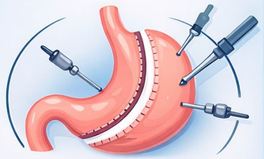
- **Incisionless** endoscopic procedure
- Reduces gastric volume using internal sutures
- Effective weight loss
- **Meets ASGE / ASMBS** efficacy threshold

Key Clinical Question

Does **ESG** achieve **DIABETES REMISSION** comparable to **LSG**?

Current data remain limited, heterogeneous, and rarely tested for statistical robustness.

Laparoscopic Sleeve Gastrectomy (LSG)



Laparoscopic Sleeve Gastrectomy (LSG)

- **Laparoscopic** surgical procedure
- Resection of greater curvature
- Established metabolic surgery
- High diabetes remission rates

Methods: Study Selection & Fragility Index Analysis

PubMed Search

- **Incisionless** endoscopic procedure
- Reduces gastric volume using internal sutures
- **Effective** weight loss
- **Meets ASGE / ASMBS** efficacy threshold

9 Studies Identified

Screening for comparative diabetes outcomes

Laparoscopic Sleeve Gastrectomy (LSG)

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Fragility Index Calculation

Minimum number of outcome reversals required to change $p < 0.05 \rightarrow p > 0.05$

Results: Diabetes Remission After ESG vs LSG

Study	Sample Size	ESG Remission	LSG Remission	*p*-value
Alqahtani et al.	3,018 matched pairs	64%	82%	$p = 0.00022$
Joseph et al.	280 (unmatched)	44%	50%	$p = 1.00$

Remission

Remmrs	ESG	No Remission	Total
Endoscopic Sleeve Gastroplasty (ESG)	72	40	112
Joseph et al.	287	63	350
Total	359	103	462

LSG demonstrates higher diabetes remission rates than ESG

Conclusion

LSG is associated with higher diabetes remission rates than ESG in the largest propensity-matched cohort studied to date. The evidence remains limited to single-center observational data, and residual confounding cannot be excluded.