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BACKGROUND

LSG consists of three steps: decompression, sleeve sizing, and leak testing. Using a different intraluminal tube for each step interrupts OR workflow and increases clinical risks. The aim of this study was to evaluate a suction calibration system (SCS) that integrates said steps in LSG compared to a bougie.

MATERIALS & METHODS

Enrolled patients were randomly assigned to receive either the 36 Fr. SCS or bougie. Adenosine triphosphate (ATP) swab testing was performed prior to time-out. The insertion and removal times of tubes were recorded. Intraoperative pictures of stomachs before the first staple firing were recorded. The frequency of tube movements was documented.







Fig 1. ATP swab test sytem from Ruhof[®]. **Visit:** ruhof.com/product/test-swab



Fig 2. Left - Suction Calibration System (ViSiGi 3D™, www.visigi.com). *Right -* OG Tube and Bougie System from St. Luke's Hospital.

Evaluation of Safety and Effectiveness of a Novel Suction Calibration System vs. Bougie in LSG

RESULTS



Fig 3. With SCS, median total operating time decreased 39.8% (1960 sec vs. 1180.5 sec, p < 0.001); decompression time decreased 93.0% (301 sec vs. 21 sec, p < 0.001); greater curvature mobilization time decreased 14.1% (559 sec vs. 480 sec, p =0.01).



Fig 4. The median number of tube movements was 8 for the bougie versus 4 for SCS (p < 0.0001).

Fig 5. ATP results identified 10 times more microbial activity on reusable bougie compared to SCS (p < 0.0001).

Demographics	SCS	Bougie	TOTAL
Ν	30	23	53
Age (mean <u>+</u> SD)	47.2 <u>+</u> 11.6	43.6 <u>+</u> 10.0	45.7 <u>+</u> 11.0
Age (range)	(29 – 70)	(25 – 61)	(25 – 70)
Female Gender (n, %)	23 (76.7%)	19 (82.6%)	42 (79.2%)
BMI (kg/m²) (mean <u>+</u> SD)	40.4 <u>+</u> 3.6	41.9 <u>+</u> 6.7	41.1 <u>+</u> 5.2
BMI (range)	(34.1 - 47.8)	(32.2 – 56.8)	(32.2 – 56.8)

PATIENT DEMOGRAPHICS

CONCLUSIONS

ViSiGi 3D[™] is a safe and effective tool for LSG.

• **Comparison 1** – SCS effectively integrates multiple steps in one device with controlled suction capability and significantly reduces each step of a sleeve gastrectomy during LSG.

• **Comparison 2** – SCS safely reduces the chance of improper sterilization, therefore decreases the chance of cross-contamination in hospitals.

• Comparison 3 – SCS consists of fewer intraluminal tubes compared to the bougie system, which may reduce the chance of inadvertent tube stapling.

• **Comparison 4** – SCS reduces the frequency of tube movement and potentially decreases the chance of risk in esophageal perforation.

Acknowledgement and References

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