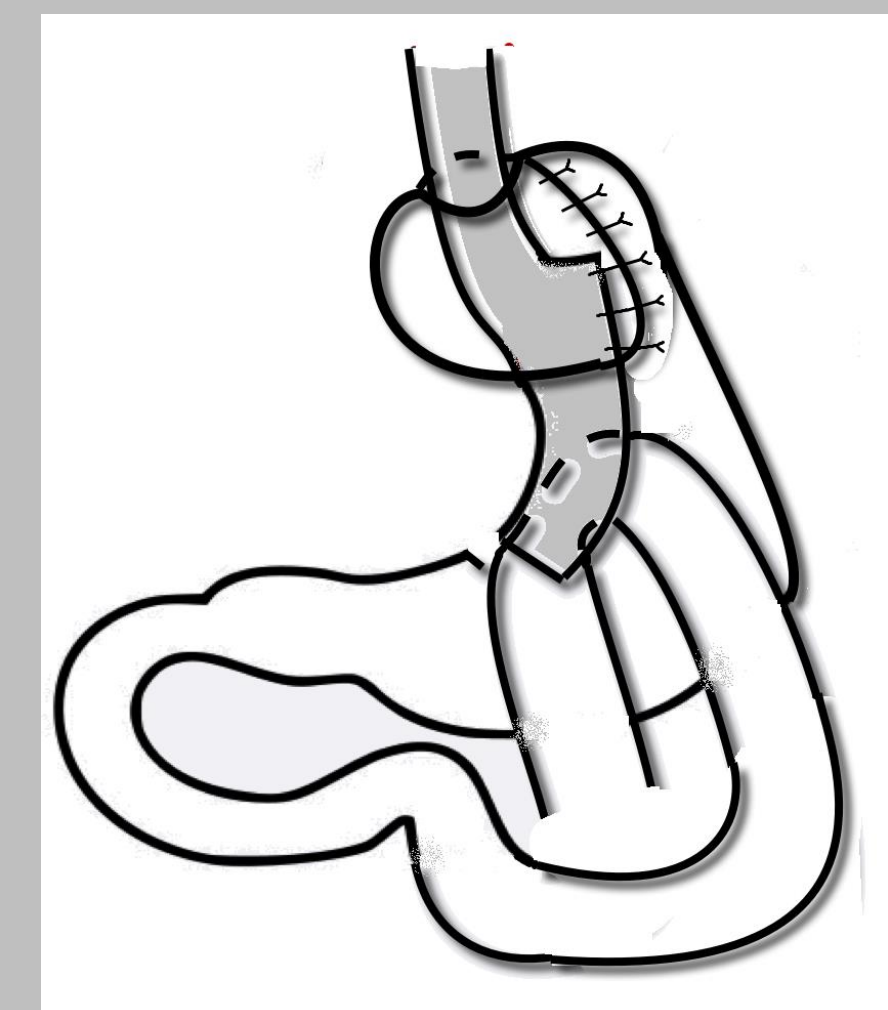


TORONTO2026

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



THREE-YEAR TYPE 2 DIABETES MELLITUS and METABOLIC SYNDROME OUTCOMES FOLLOWING FUNDORING-OAGB

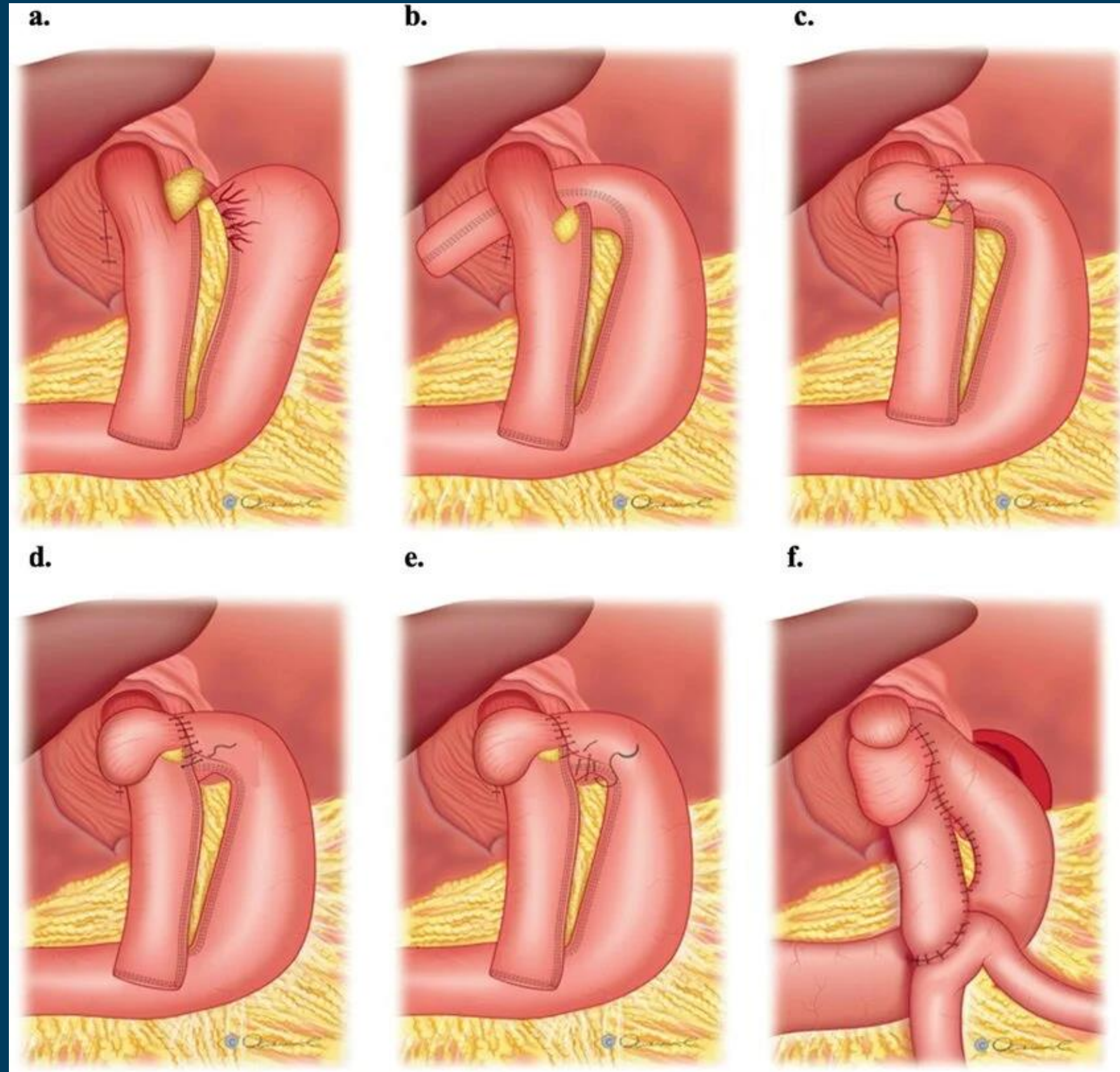


**M.D. Prof. Oral Ospanov
M.D. Bakhtiyar Yelembayev
M.D. Galymjan Duysenov**

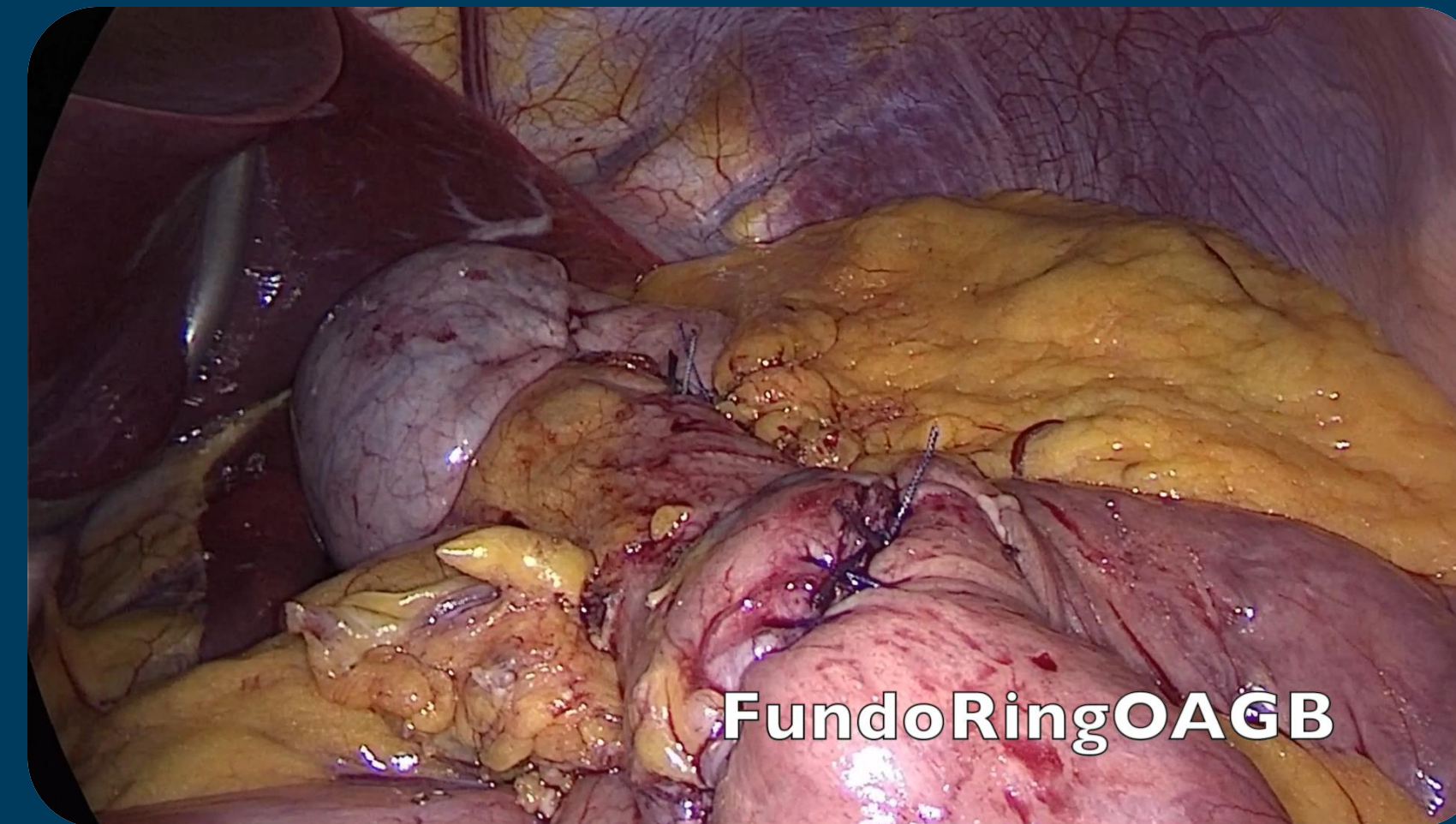
- **Disclosures of interests**

I have nothing to disclose

New modification of OAGB - FundoRing-OAGB

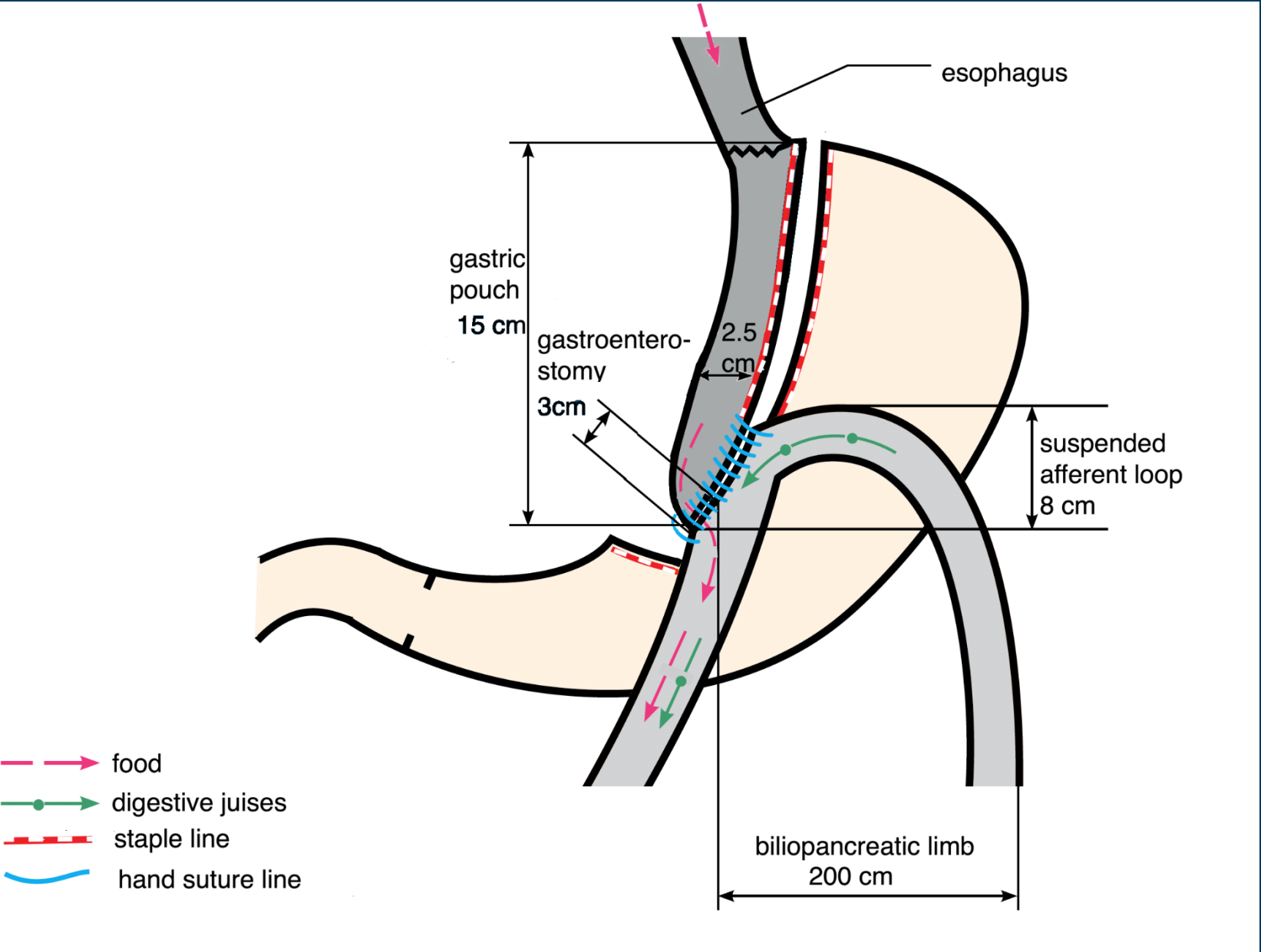
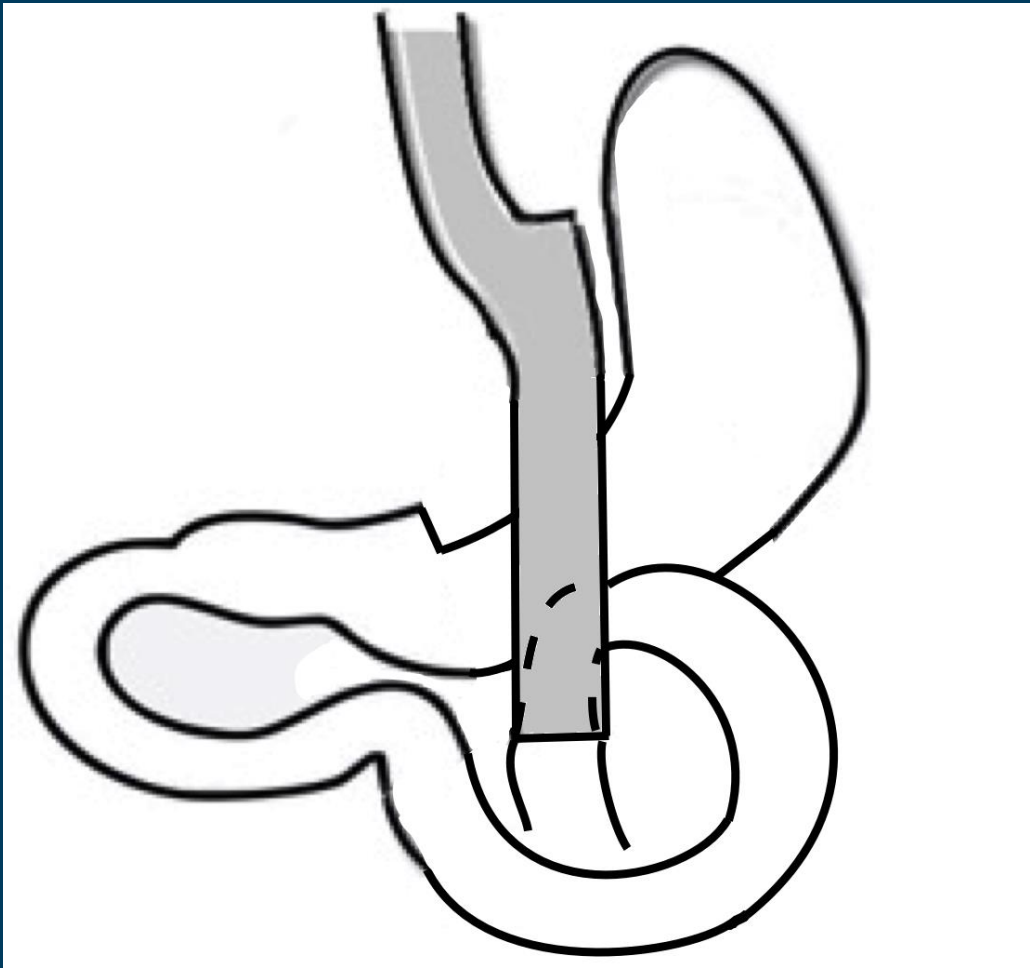


- **Ospanov O.** introduced the **FundoRing-OAGB** procedure, which is a modification of OAGB involving the simultaneous creation of a **fundoplication** wrap from the remnant part of the stomach using the author's technique.
- FundoRing-OAGB prevents the development of **biliary reflux** and limits the distension of the gastric pouch—providing a **banding effect**.
- To date, more than 10 studies on this topic have been published.

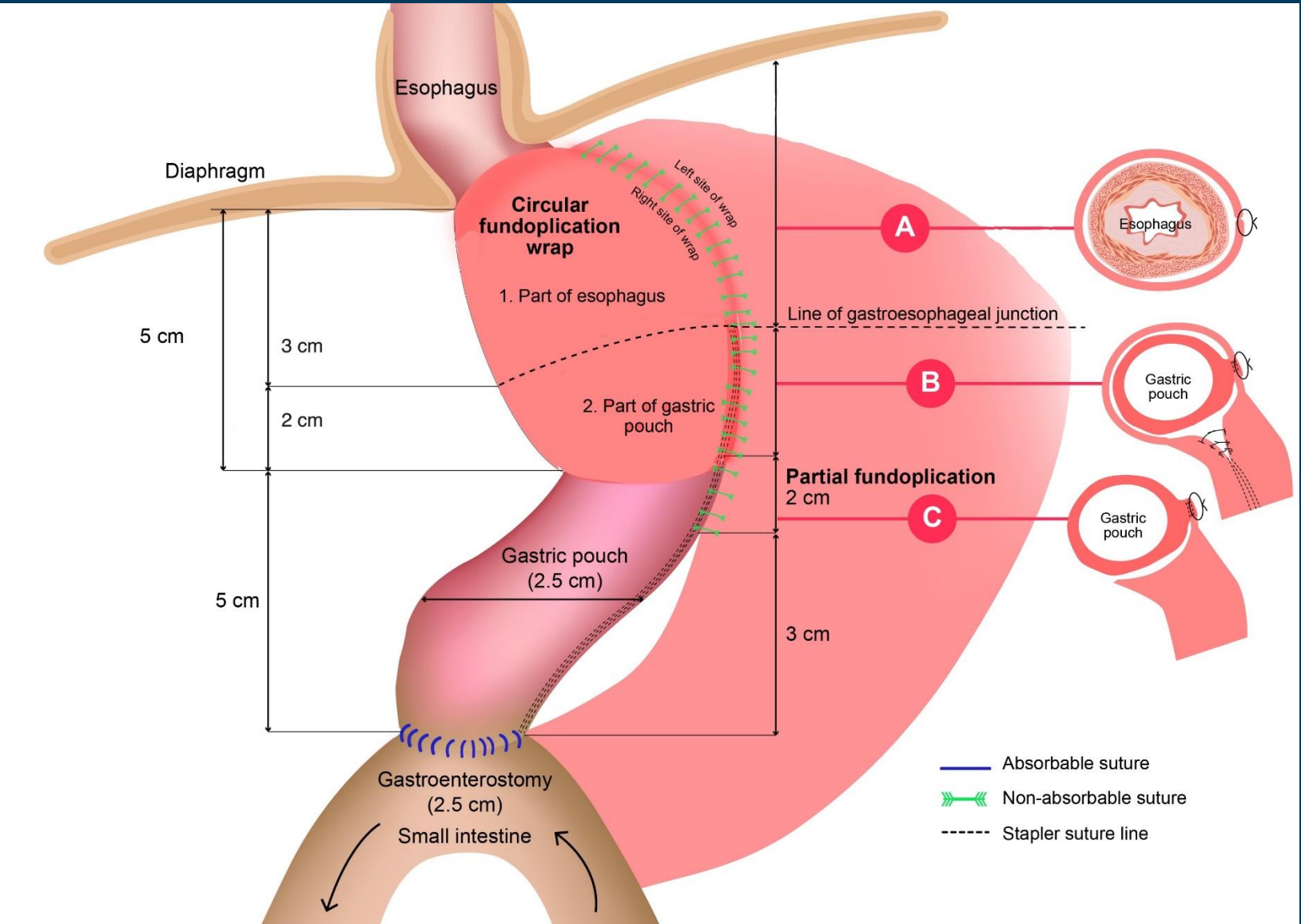
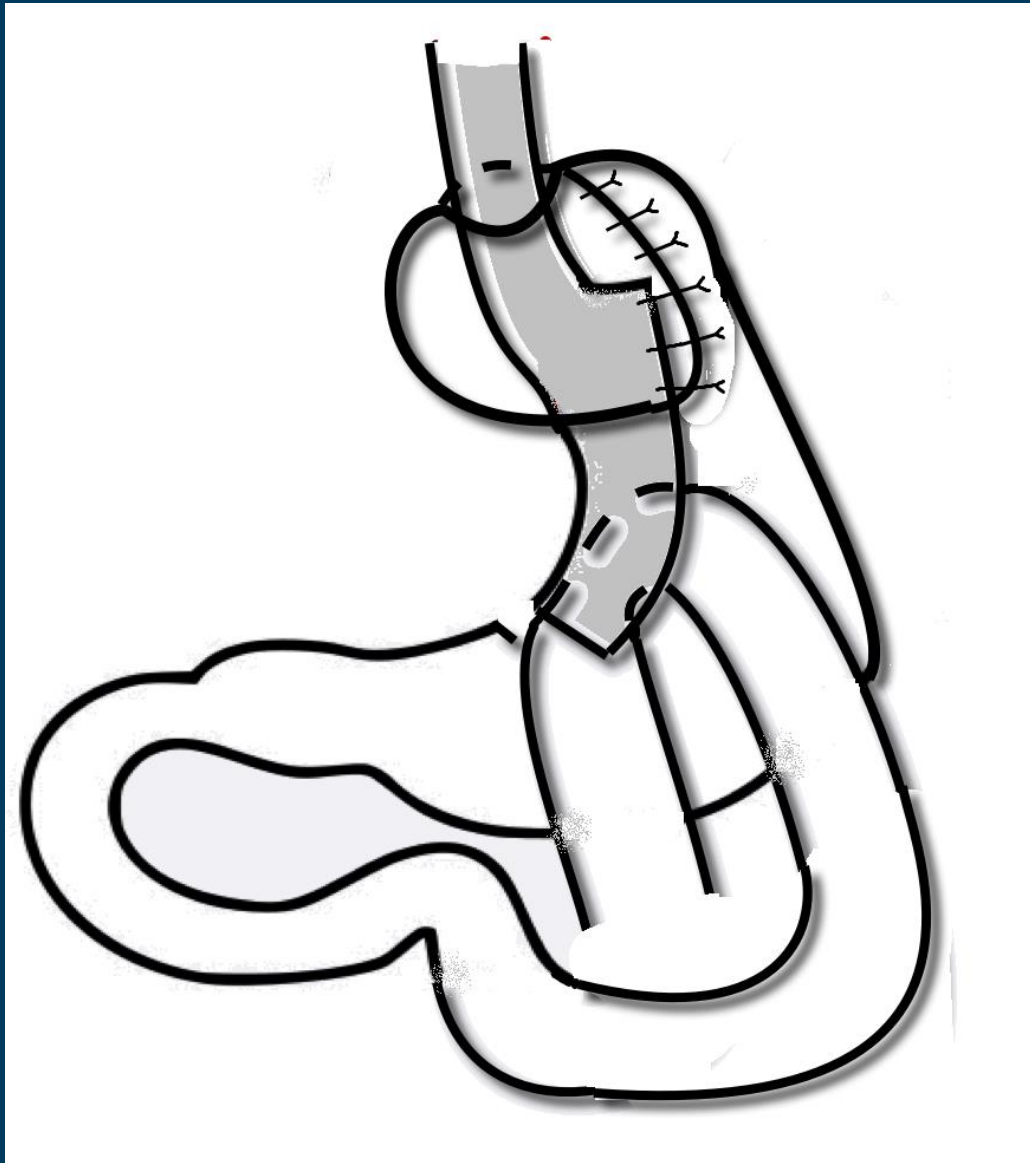


Ospanov O. Standardization of surgical technique of the fundoring method for laparoscopic gastric bypass. Sci Rep. 2025 Dec 29;15(1):44941. doi: 10.1038/s41598-025-29153-5. PMID: 41462511; PMCID: PMC12750015.

OAGB

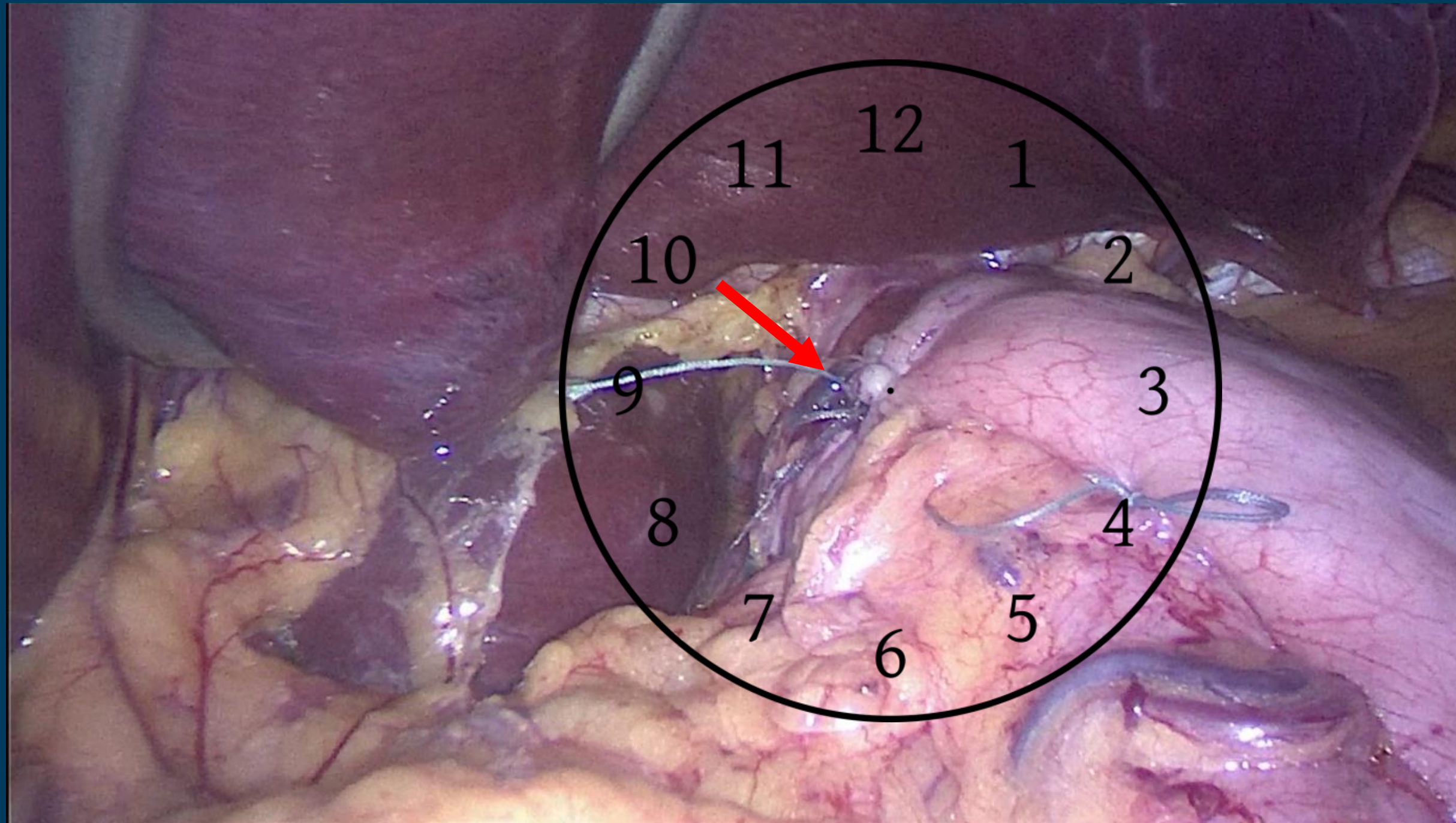


FundoRing-OAGB

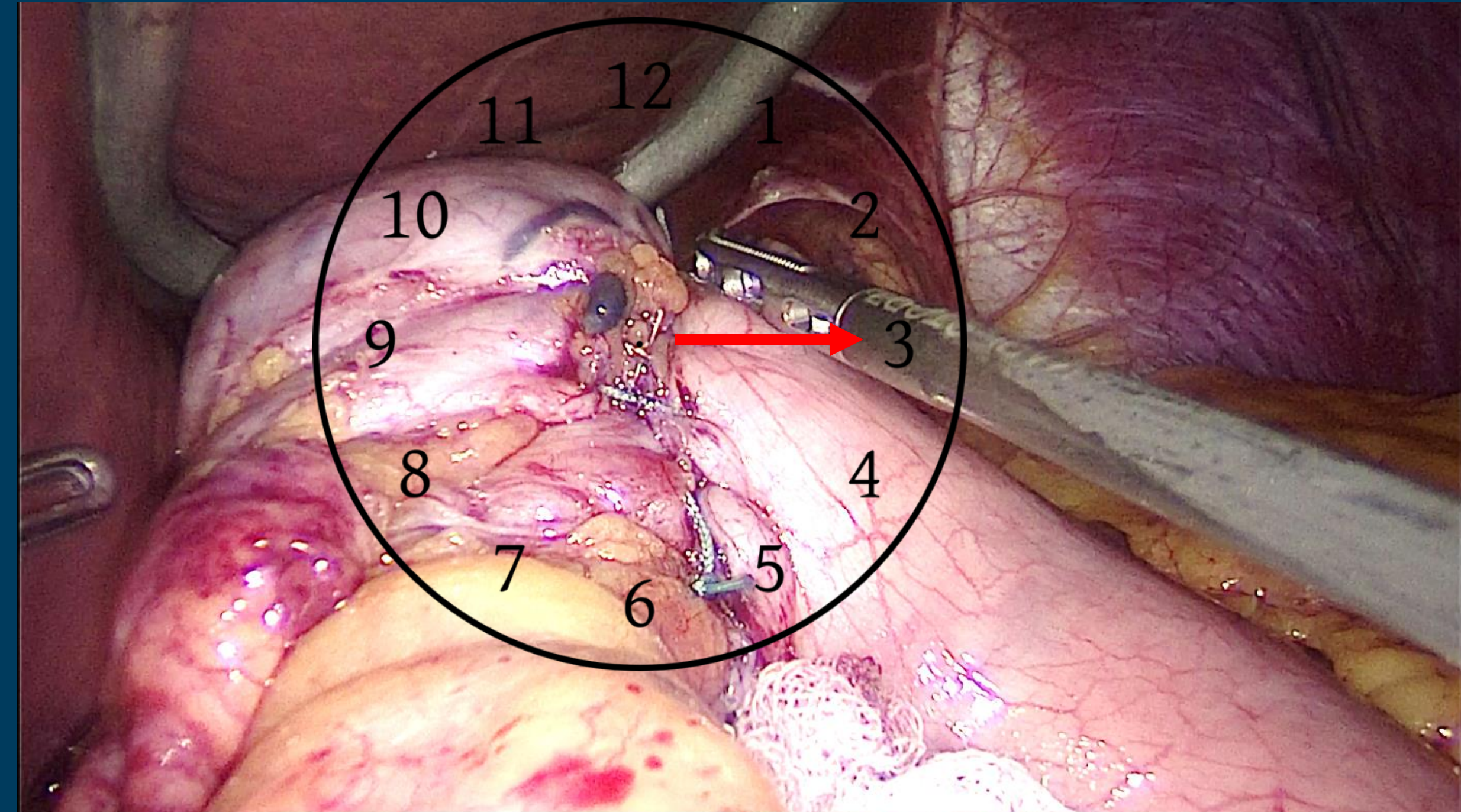


First calibration (suturing) at 3 o'clock

- The fundoplication wrap according to Nissen is formed at **10 o'clock** of the conventional dial (take tissue in equal distance from the greater curvature of the stomach!)
- FundoRing formed matching to the stapler line (**3 o'clock**) on the pouch! In addition, in this way it closes the weak points of the pouch.



Nissen fundoplication



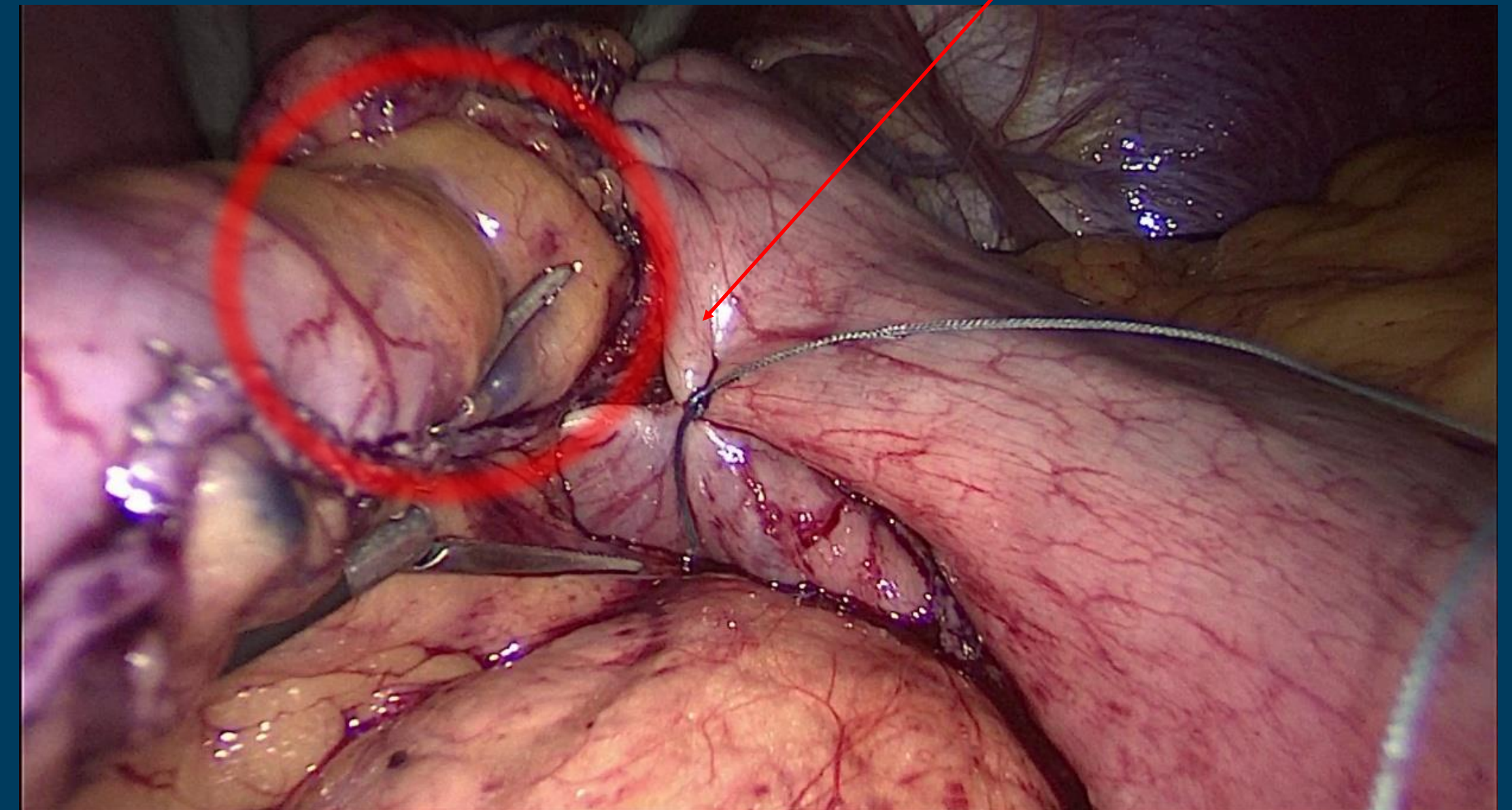
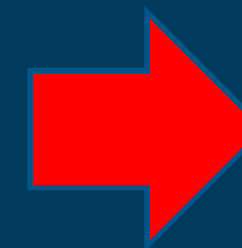
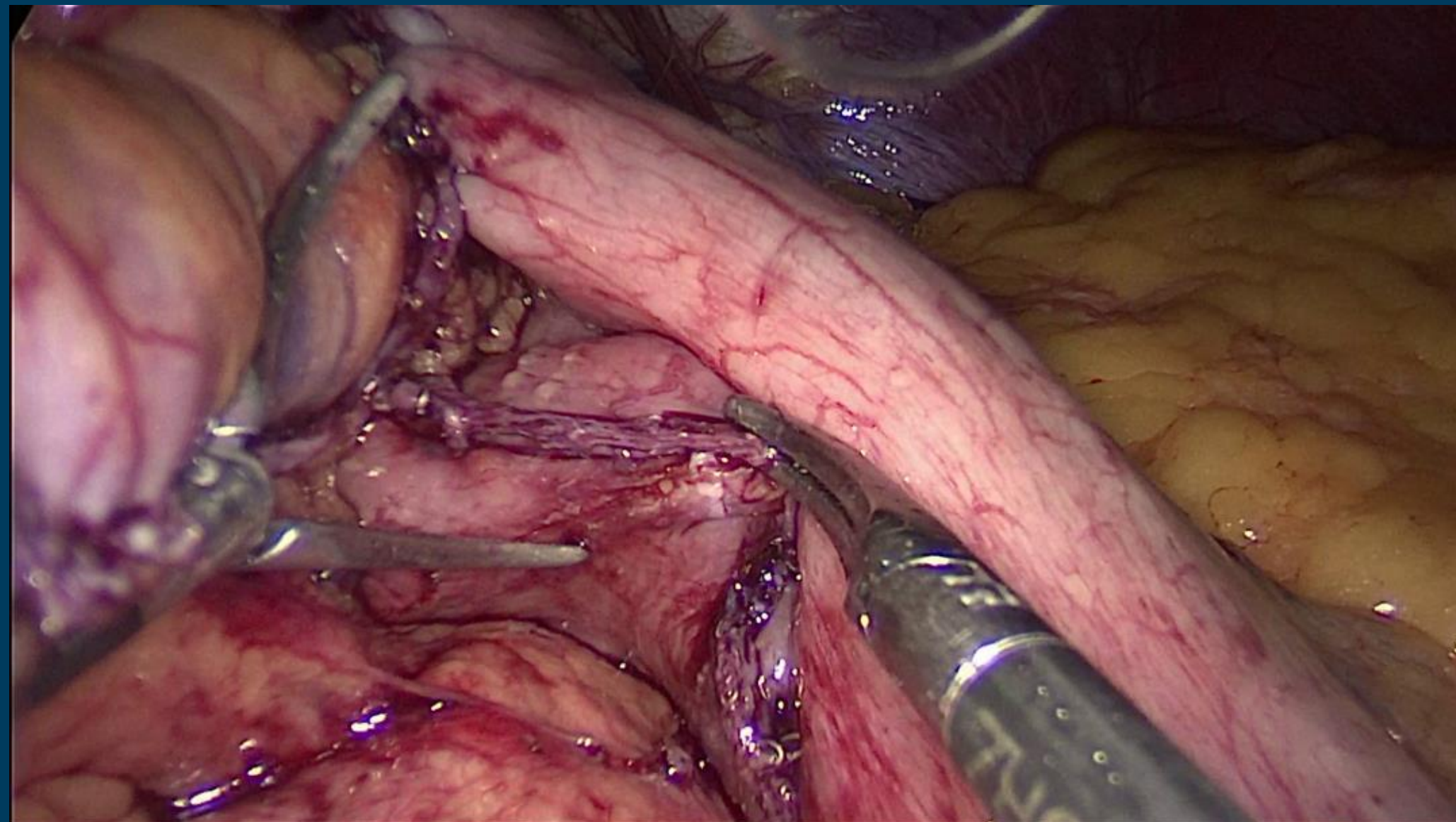
FundoRingOAGB

Second calibration of FundoRingOAGB at 6 o'clock creates a fundoplication ring (Most important difference from Nissen)

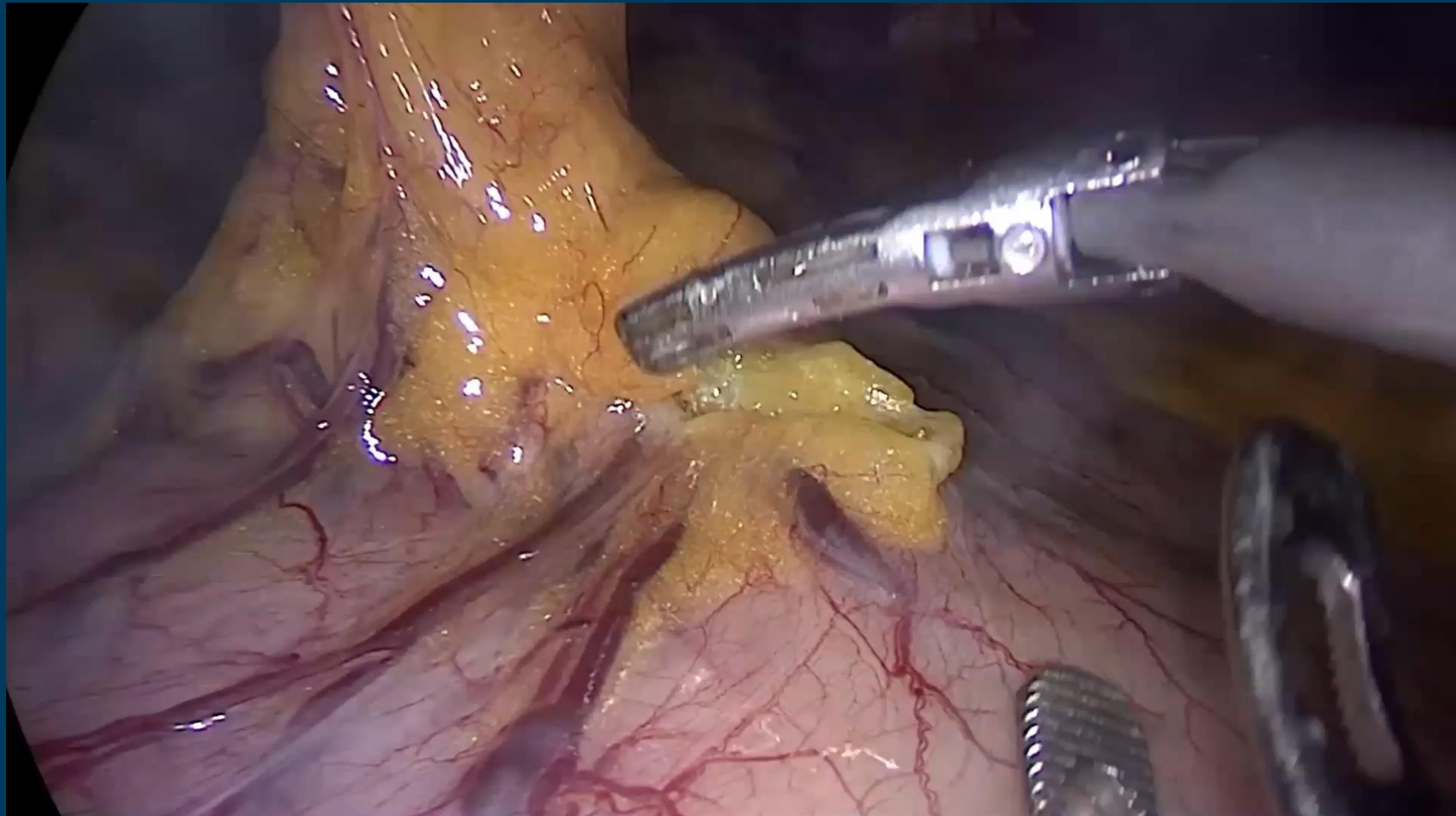
- The anterior and posterior walls of the excluded part of the stomach are sutured together. Finally forming a "living ring" FundoRing.

Calibration of wrap tension from the "greater curvature" side

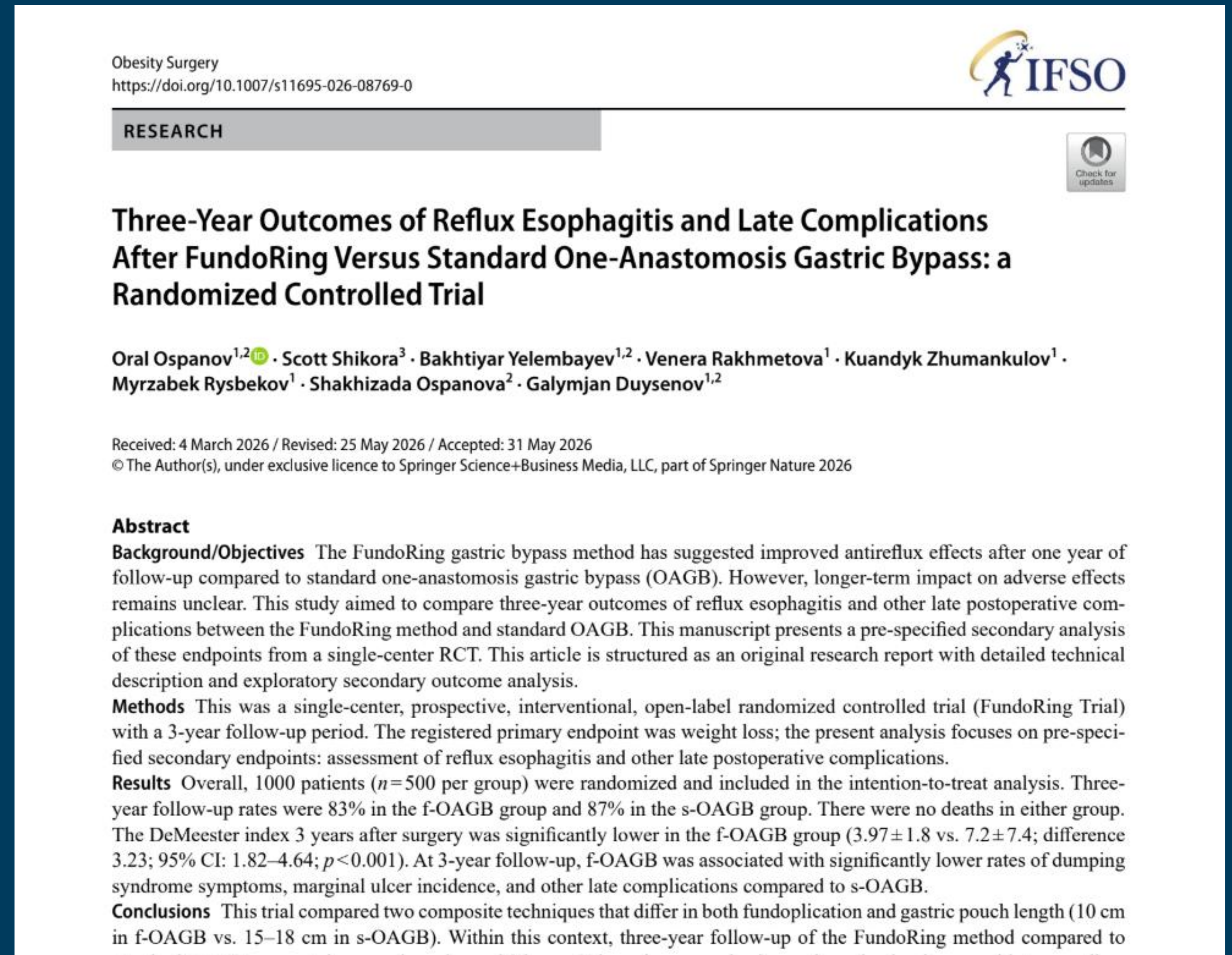
Fundoplication ring



FUNDORING-OAGB



1 and 3-Year Outcomes of the FundoRing-OAGB Trial showed better antireflux and weight loss results



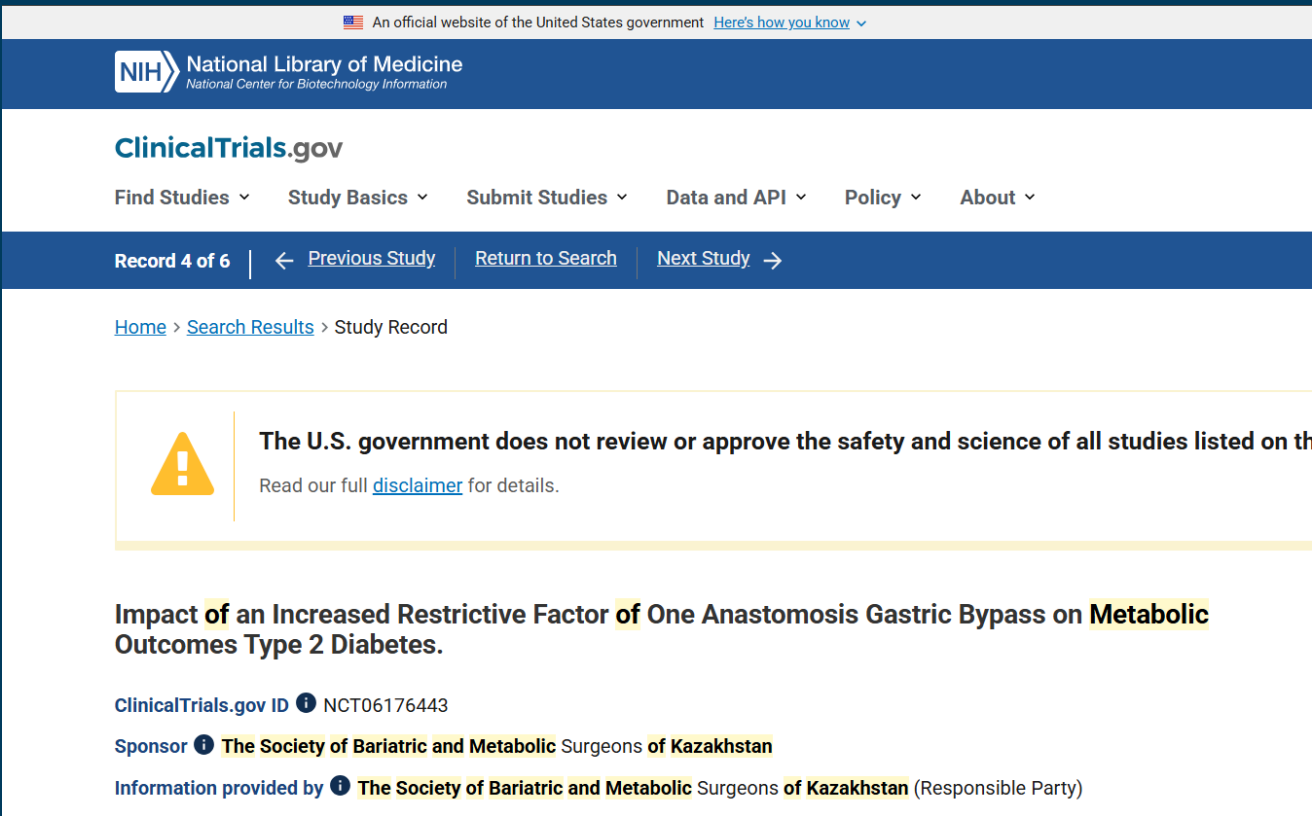
*

Ospanov O, Yeleuov G, Buchwald JN, Zharov N, Yelembayev B, Sultanov K. A Randomized Controlled Trial of Acid and Bile Reflux Esophagitis Prevention by Modified Fundoplication of the Excluded Stomach in One-Anastomosis Gastric Bypass: 1-Year Results of the FundoRing Trial. Obes Surg. 2023 Jul;33(7):1974-1983. doi: 10.1007/s11695-023-06618-y. Epub 2023 Apr 26. PMID: 37099252.

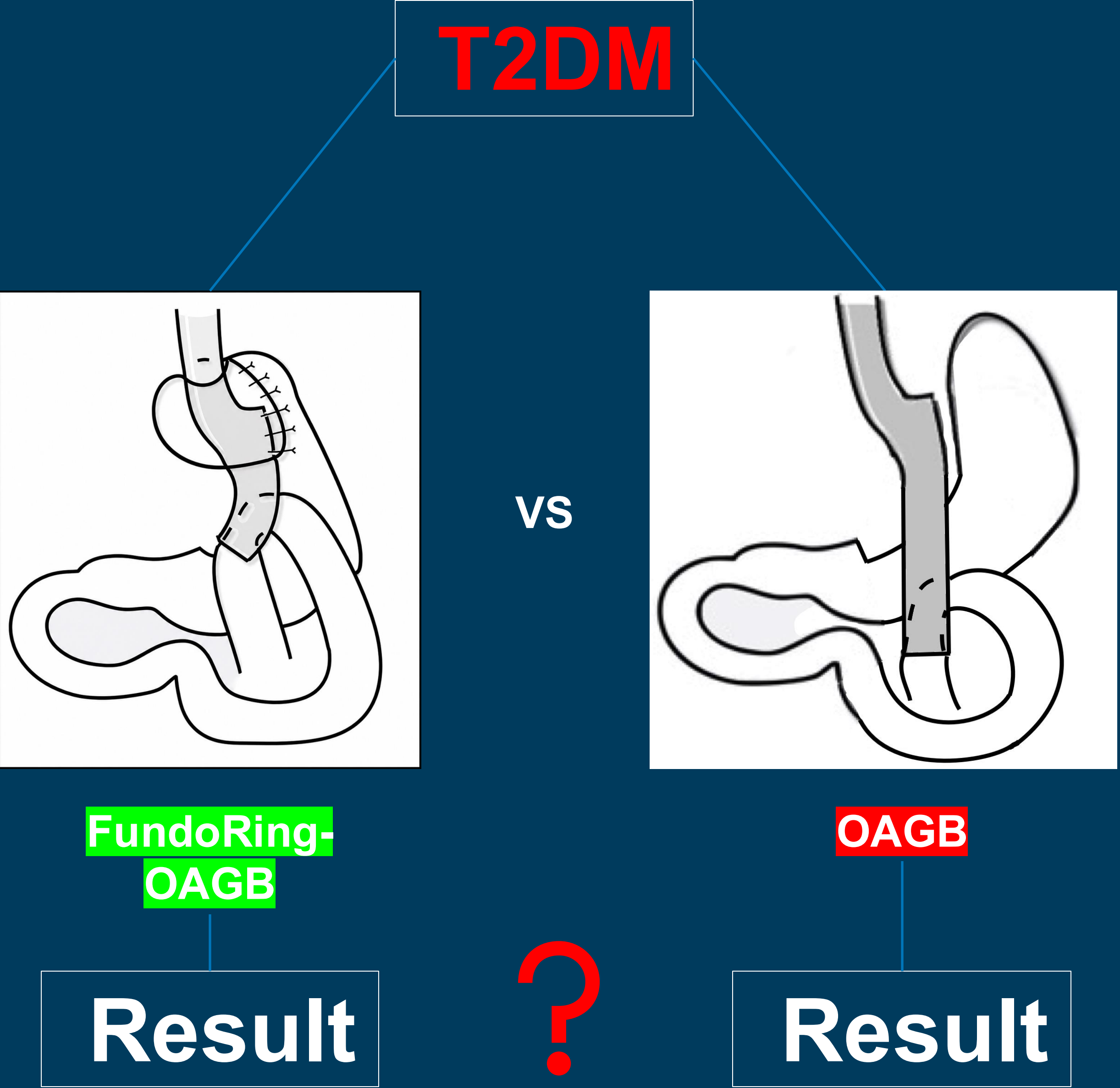
Ospanov O, Shikora S, Yelembayev B, Rakhmetova V, Zhumankulov K, Rysbekov M, Ospanova S, Duysenov G. Three-Year Outcomes of Reflux Esophagitis and Late Complications After FundoRing Versus Standard One-Anastomosis Gastric Bypass: a Randomized Controlled Trial. Obes Surg. 2026 Aug;36(8):4075-4083. doi: 10.1007/s11695-026-08769-0. Epub 2026 Jun 30. PMID: 42377767.

Another study

Comparison of the metabolic and bariatric effects of **FundoRing-OAGB** and standard **OAGB** procedures in patients with **type 2 diabetes mellitus (T2DM)**.

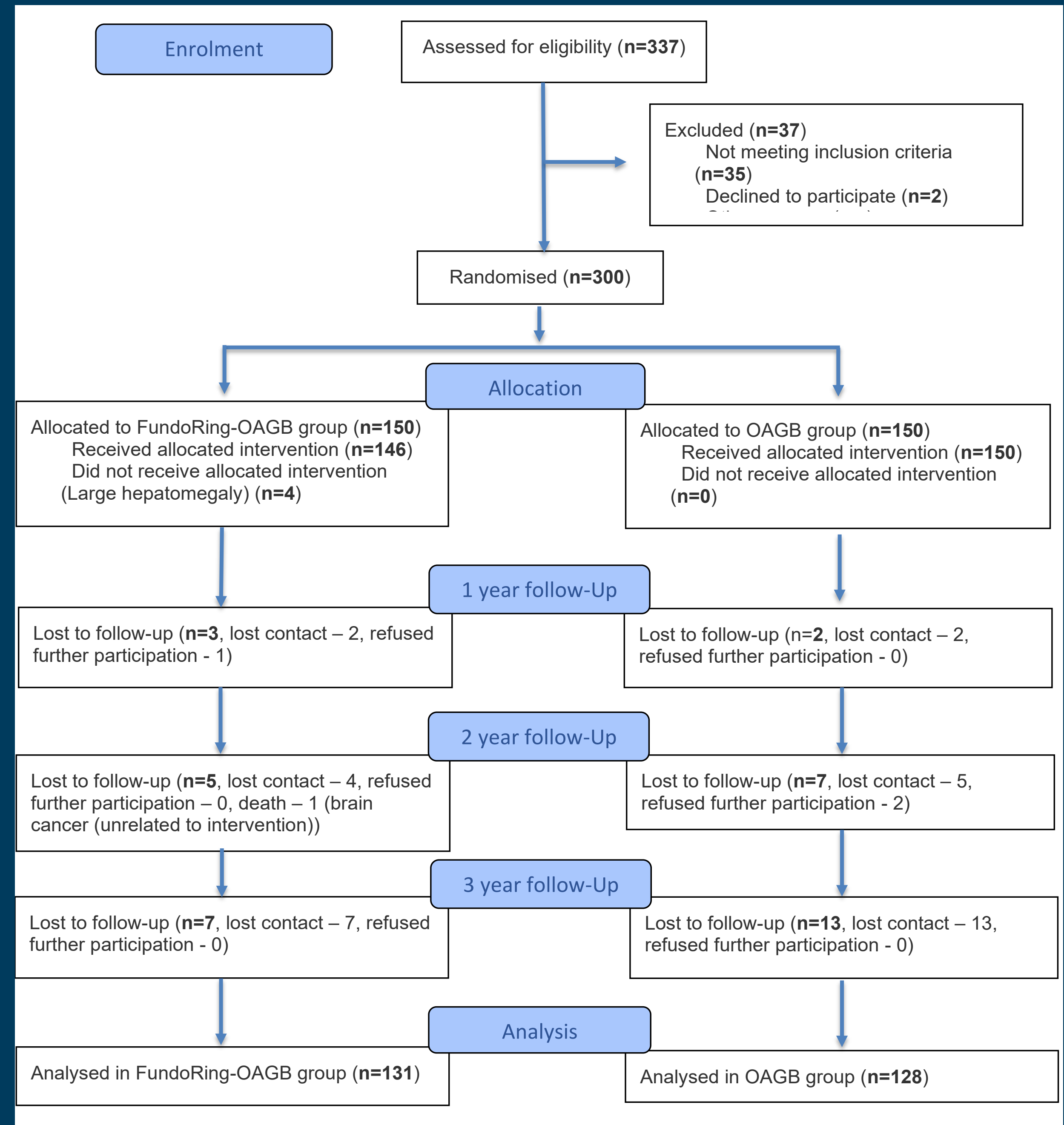


RCT Registration



Enrollment

- 2021- 2023 Randomized: 300
- By 2026 Completed 3-year follow-up (included in analysis): 259
- Overall retention rate: **86.3%**
- Overall attrition rate: **13.7%**



Demographic parameters

Variable	FundoRing-OAGB (n = 150)	OAGB (n = 150)	p-value
Age (years)*	43,63 ± 9.54	42.77 ± 9.52	0.44
Male, n (%) Female n, (%)	31 (20,7%) 119 (79,3%)	27 (18%) 123 (82%)	0.56
Weight (kg)	109.79 ± 20.46	108.21 ± 21.51	0.52
BMI (kg/m2)	40.23 ± 6.49	40.72 ± 7.13	0.53

Baseline glycaemic parameters

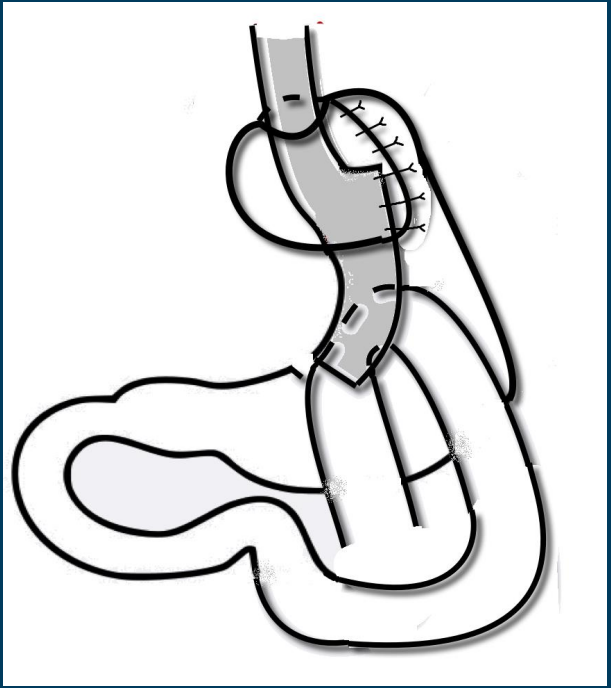
Variable	FundoRing-OAGB (n=150)	OAGB (n=150)	p-value
HbA1c, %	7.3 ± 1.7	7.18 ± 1.3	0.49
Duration of T2DM, years	3.8 ± 3.3	3.6 ± 2.9	0.57
Mean number of oral hypoglucemics	1.6 ± 0.8	1.5 ± 0.9	0.31
Insulin use at baseline, n (%)	9 (6%)	6 (4%)	0.41

Remission rates of type 2 diabetes mellitus

Diabetes remission was defined according to the 2021 international consensus report as HbA1c <6.5% (48 mmol/mol), assessed at least 3 months after cessation of glucose-lowering pharmacotherapy

max

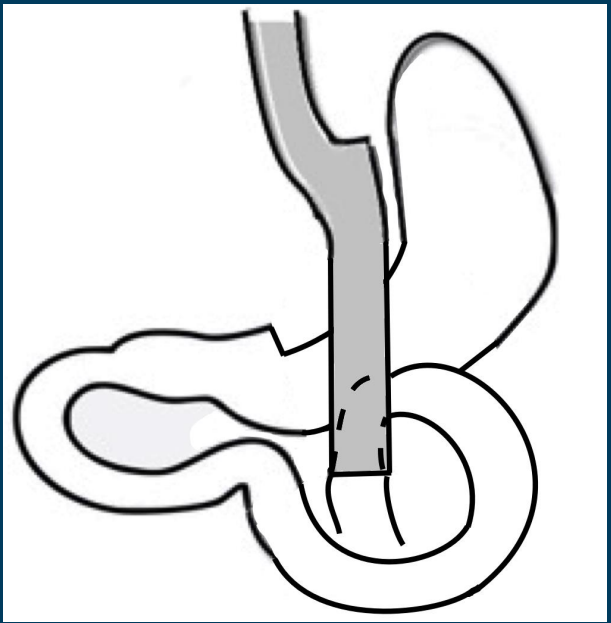
Follow-up	FundoRing-OAGB (n)	OAGB (n)	Between-group mean difference (95% CI)	P-value
1 year	86.7% (124/143)	83.1% (123/148)	+4.0% (-4.3% to +12.3%)	0.35
2 years	87.7% (121/138)	85.8% (121/141)	+2.3% (-5.4% to +10.0%)	0.56
3 years	85.5% (112/131)	78.9% (101/128)	+6.6% (-2.7% to +15.9%)	0.16



VS

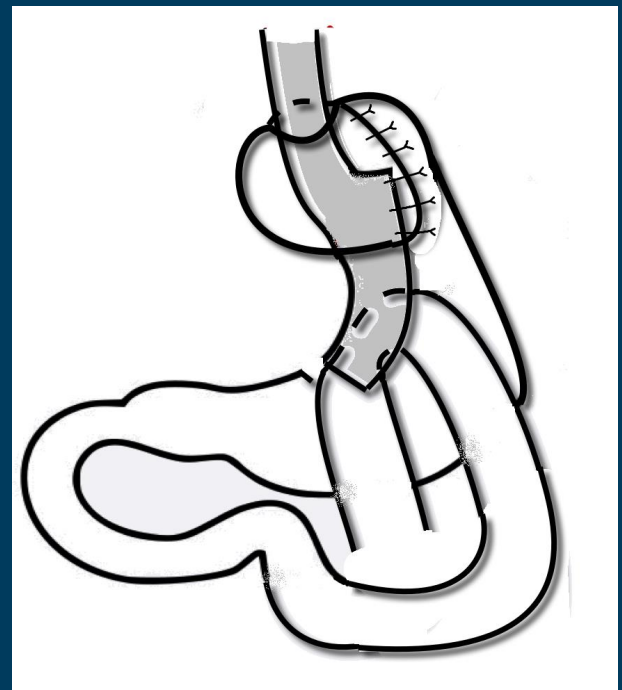
max

Follow-up	FundoRing-OAGB (n)	OAGB (n)	Between-group mean difference (95% CI)	P-value
Baseline	7.3 ± 1.7 (150)	7.18 ± 1.3 (150)	0.12 (-0.22 to +0.46)	0.49
1 year	5.53 ± 0.68 (143)	5.61 ± 0.66 (148)	-0.08 (-0.25 to +0.09)	0.36
2 years	5.48 ± 0.67 (138)	5.52 ± 0.79 (141)	-0.04 (-0.20 to +0.12)	0.61
3 years	5.65 ± 0.70 (131)	5.78 ± 0.85 (128)	-0.13 (-0.32 to +0.06)	0.18

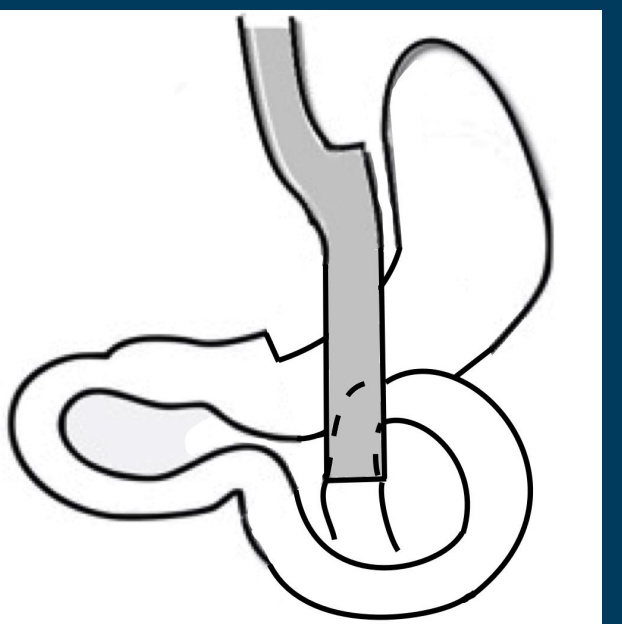


Weight Loss

Follow-up	FundoRing-OAGB  (n)	OAGB (n)	Between-group mean difference (95% CI)	P-value
BMI kg/m2				
1 year	28.2 ± 2.0 (143)	28.5 ± 2.3 (148)	−0.30 (−0.80 to +0.20)	0.23
max 2 years	27.3 ± 2.4 (138)	27.8 ± 2.6 (141)	−0.50 (−1.09 to +0.09)	0.09
3 years	28.5 ± 2.6 (131)	29.2 ± 2.7 (128)	−0.70 (−1.35 to −0.05)	0.03
EWL %				
1 year	80.7 ± 5.6 (143)	79.8 ± 6.3 (148)	+0.90 (−0.47 to +2.27)	0.20
max 2 years	81.9 ± 6.3 (138)	80.8 ± 7.6 (141)	+1.10 (−0.54 to +2.74)	0.19
3 years	80.5 ± 7.1 (131)	78.6 ± 8.3 (128)	+1.90 (+0.01 to +3.79)	0.04
TWL %				
1 year	34.2 ± 2.4 (143)	33.9 ± 2.6 (148)	+0.30 (−0.28 to +0.88)	0.30
max 2 years	35.1 ± 3.8 (138)	34.6 ± 3.1 (141)	+0.50 (−0.32 to +1.32)	0.23
3 years	34.8 ± 4.4 (131)	33.6 ± 4.6 (128)	+1.20 (+0.10 to +2.30)	0.03



VS



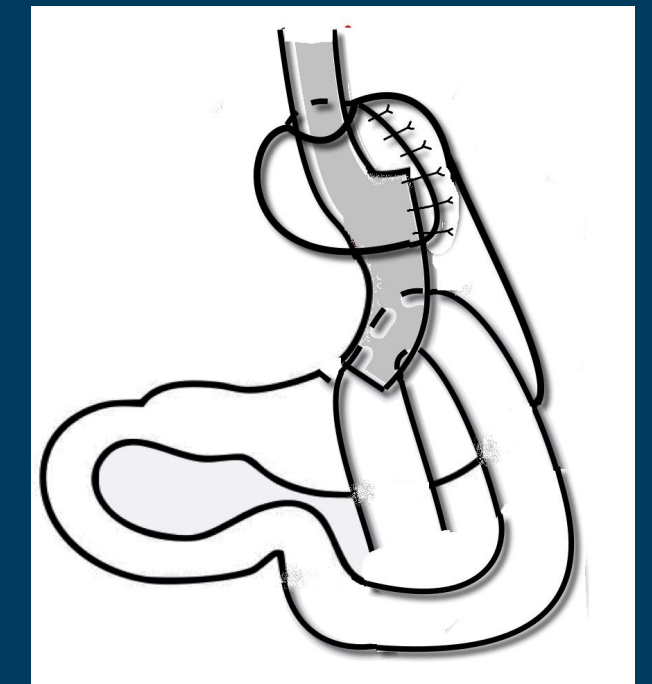
Metabolic Syndrome Components Resolution Index (0-5 Scale)

Follow-up	FundoRing-OAGB (n)	OAGB (n)	Between-group mean difference (95% CI)	P-value
Baseline	4.2 ± 0.7 (150)	4.1 ± 0.8 (150)	+0.10 (−0.08 to +0.28)	0.27
1 year	1.9 ± 1.0 (143)	2.1 ± 1.0 (148)	−0.20 (−0.43 to +0.03)	0.10
2 years	1.7 ± 1.0 (138)	1.9 ± 1.0 (141)	−0.20 (−0.44 to +0.04)	0.09
3 years	1.8 ± 1.1 (131)	1.95 ± 1.1 (128)	−0.25 (−0.52 to +0.02)	0.07

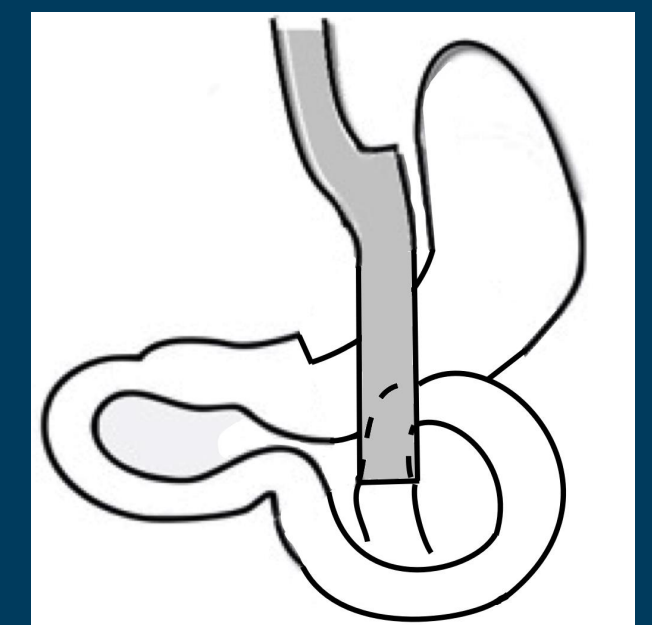


Evaluated Components:

1. Obesity → 1 point
2. Hyperglycemia → 1 point
3. Hypertension → 1 point
4. Hypertriglyceridemia → 1 point
5. Low HDL-C → 1 point



VS



Complications

Complication	FundoRing-OAGB (n-146)	OAGB (n-150)	p-value
Early postoperative (≤30 days)			
Staple line/anastomotic leak, n (%)	0 (0%)	0 (0%)	—
Postoperative bleeding, n (%)	5 (3.4%)	3 (2.0%)	0.49
Wound infection, n (%)	0 (0%)	1 (0.7%)	1.00
Venous thromboembolism (DVT/PE), n (%)	1 (0.7%)	0 (0%)	0.49
Reoperation within 30 days, n (%)	3 (2.1%)	2 (1.3%)	0.68
Readmission within 30 days, n (%)	0 (0%)	0 (0%)	—
30-day mortality, n (%)	0 (0%)	0 (0%)	—
Dysphagia, n (%)	11 (7.5%)	6 (4.0%)	0.22 (Fisher) / 0.29 (Chi²)

Late postoperative (>30 days)			
Marginal ulcer, n (%)	3 (2.1%)	6 (4.0%)	0.50
Anastomotic stricture, n (%)	5 (3.4%)	1 (0.7%)	0.11
Roux-en-Y conversion	2 (1.3%)	9 (6.0%)	0.06
Malabsorption (protein-calorie/micronutrient), n (%)	4 (2.7%)	3 (2.0%)	0.72
Iron deficiency anemia n (%)	14 (9.6%)	12 (8.0%)	0.68 (Fisher) / 0.78 (Chi²)

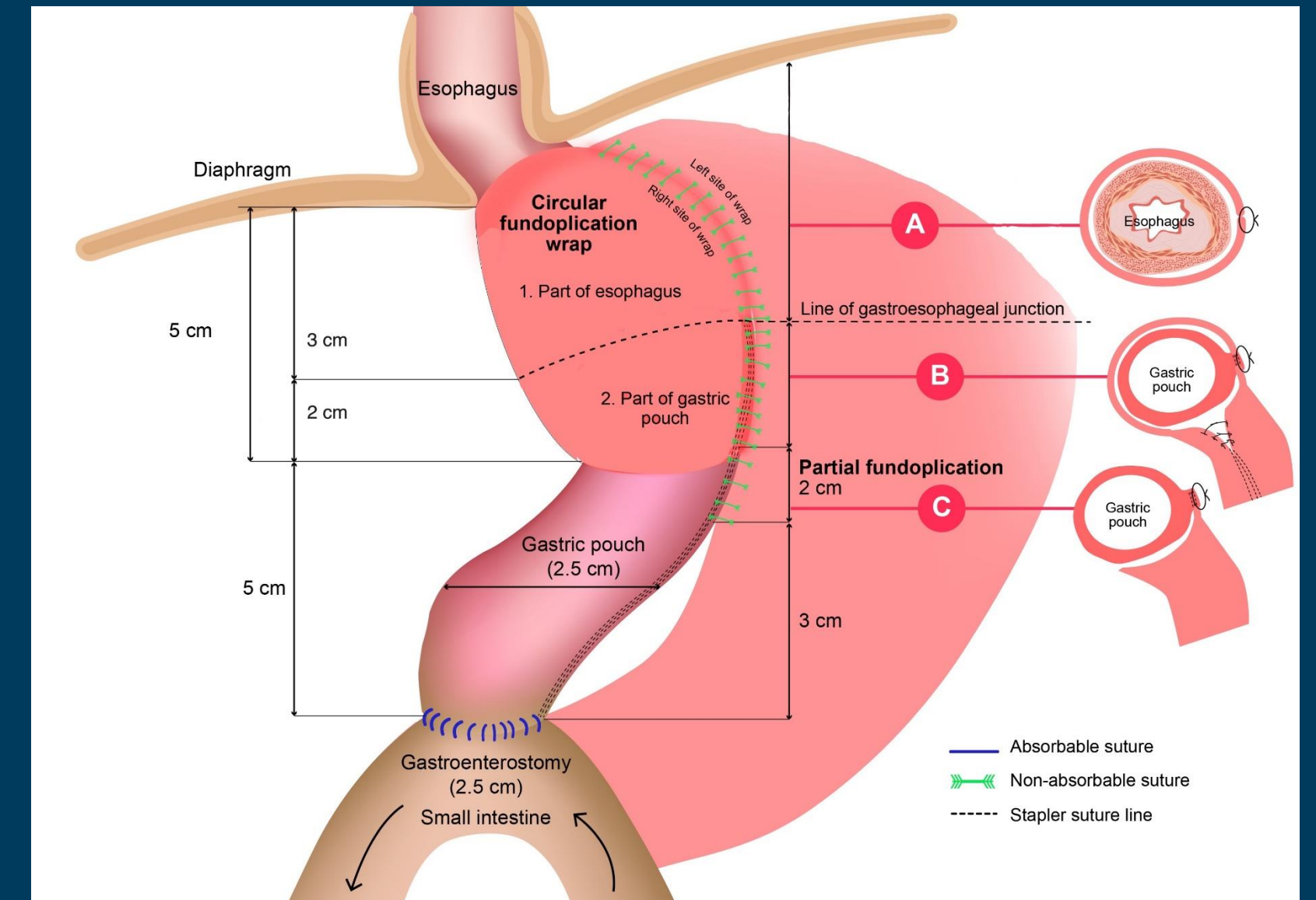
Conclusion

Potentially Superior Metabolic Effect:

A consistent positive trend is observed in terms of type 2 diabetes remission and reduction of the overall metabolic syndrome components index.

Clinical Implication:

The addition of a restrictive component (FundoRing) to the bypass procedure may serve as an effective strategy to improve long-term metabolic control and prevent obesity recurrence.





Thank you for your attention!