



Zentrum für
Adipositas &
Metabolische
Chirurgie



UNIVERSITÄTS
KLINIKUM FREIBURG



Banded vs. non-banded Sleeve Gastrectomy: a 5 year update on an RCT



XXVI
IFSO WORLD CONGRESS

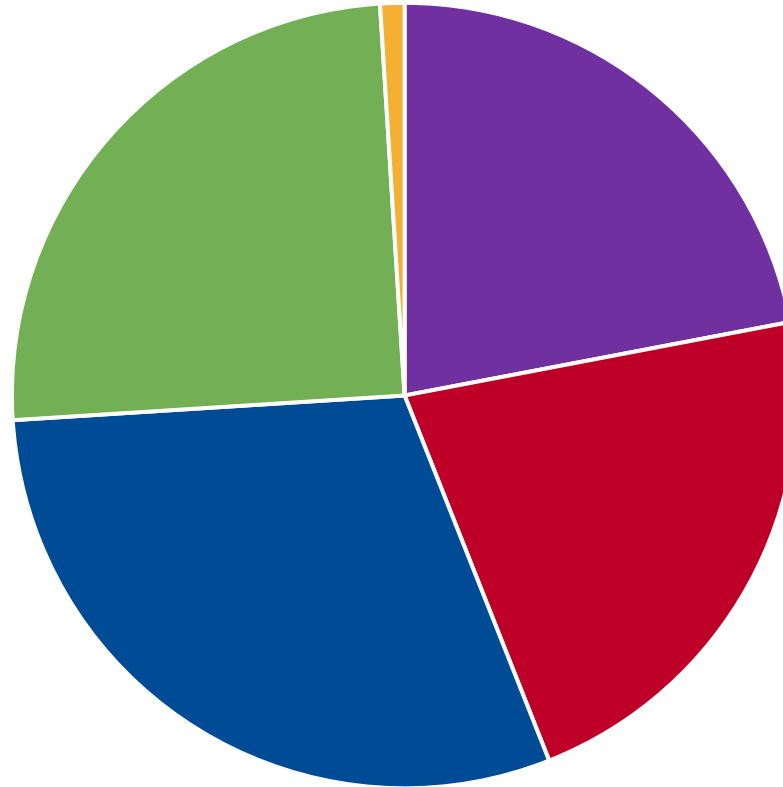
Jodok Fink

University of Freiburg, Center for Bariatric and Metabolic Surgery

Conflicts of interest



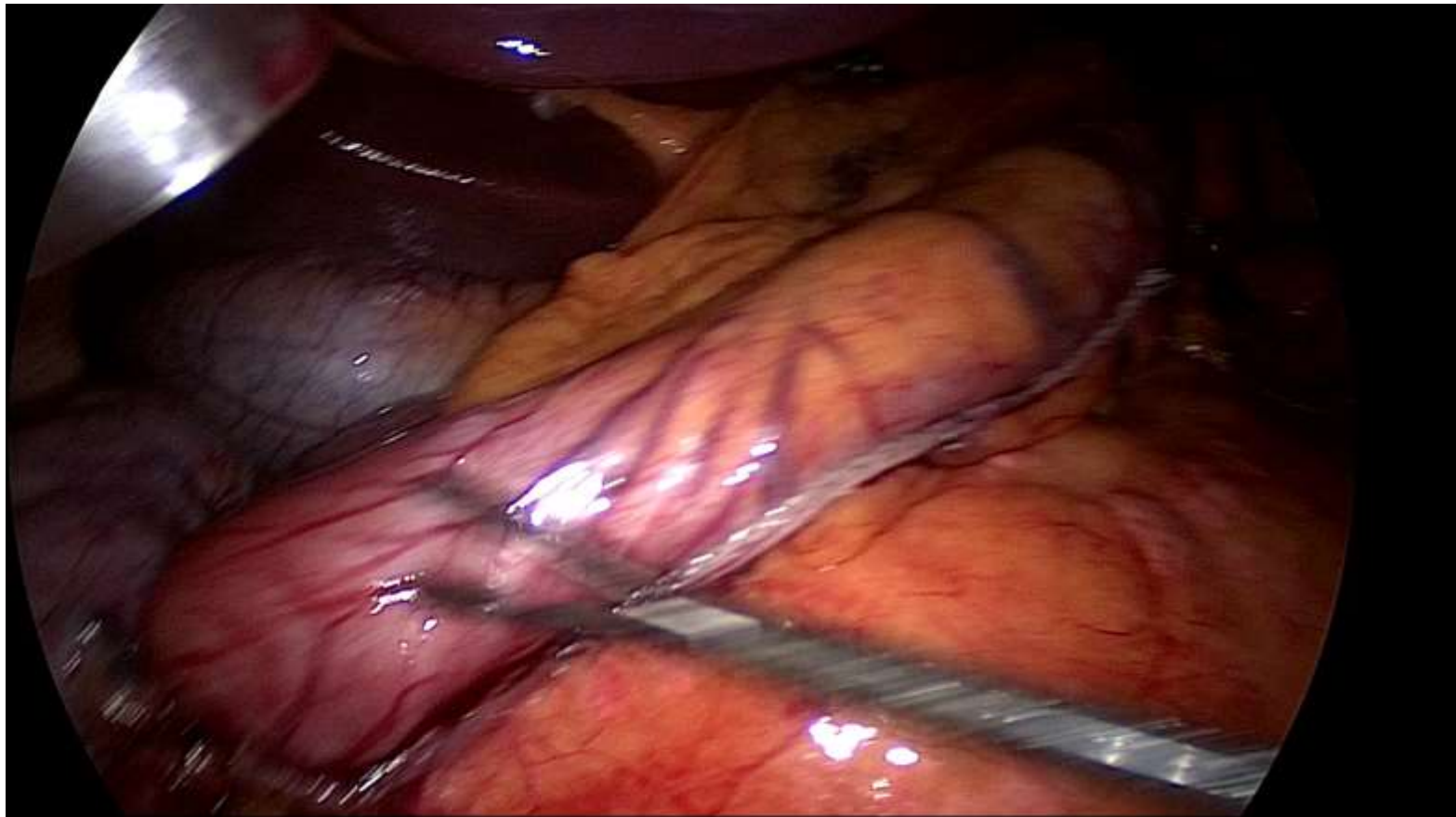
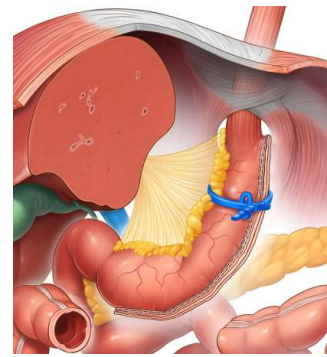
Case mix disclosure



■ LSG ■ RYGB ■ Revisions ■ Banded Bypass/Sleeve ■ BPD

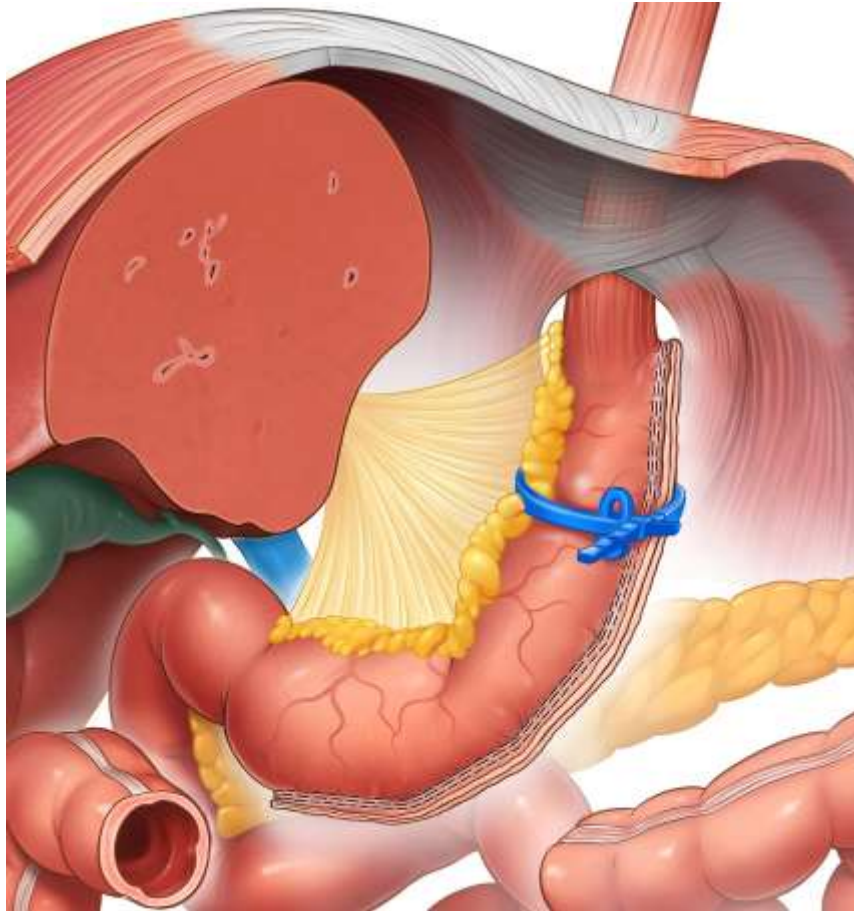


Banded Sleeve



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2023

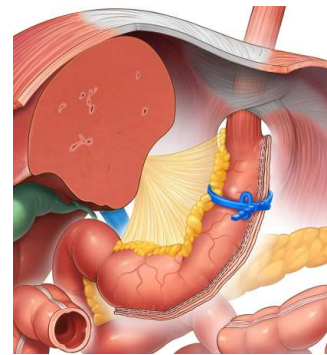
Banded Sleeve



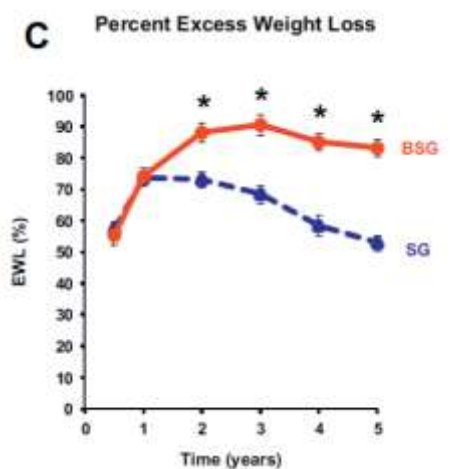
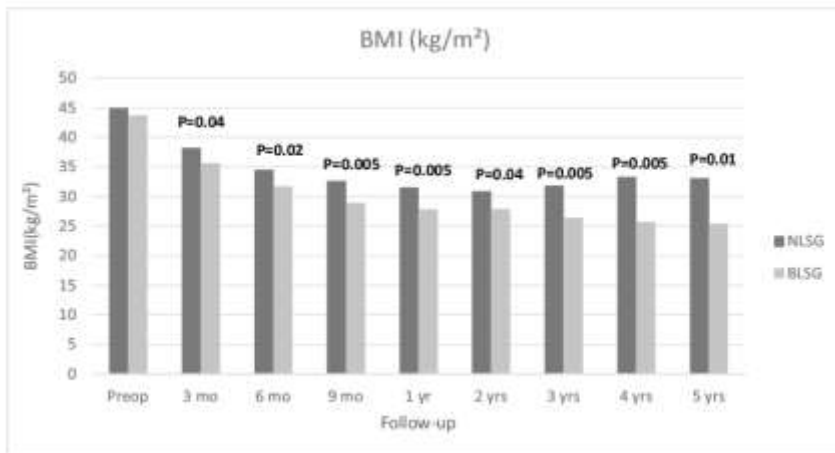
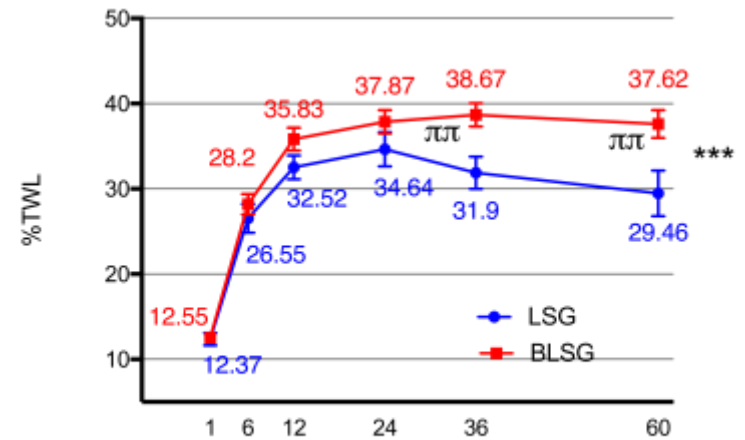
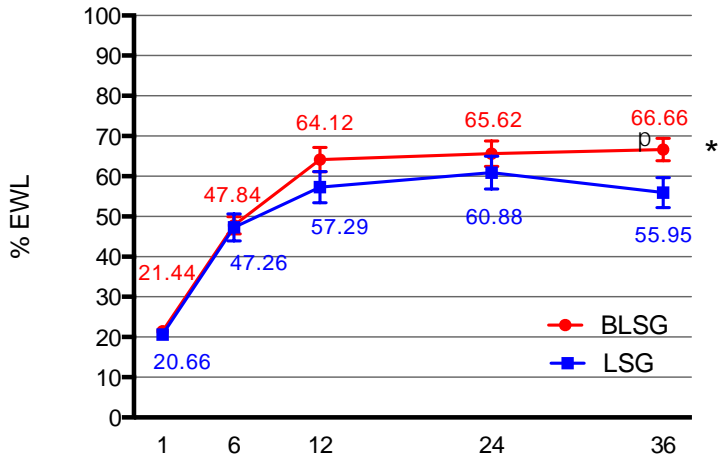
- Sleeve 35 Fr. bougie
- Implant position: 3-4 cm below GE
- Implant diameter 2.4 cm

Banded Sleeve

Weight loss, retrospective data

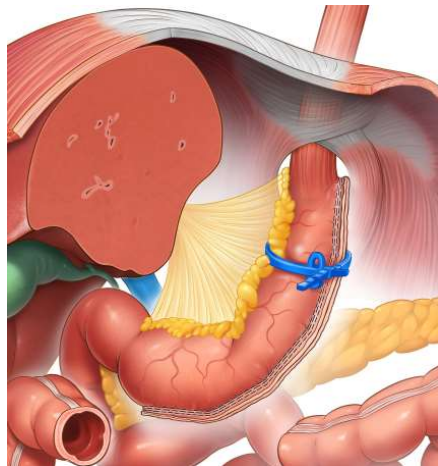
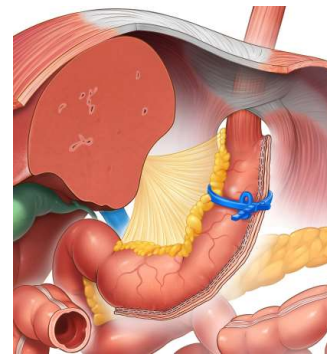


Fink, Lemmens, Bhandari 2017-2020



RCT Banded vs. nonbanded Sleeve

Study design



vs.



Single-center randomized controlled trial

Primary endpoint: EWL% 3 years after surgery

Sample Size: 94 patients

Recruitment from January 2015- July 2016

Banded versus nonbanded sleeve gastrectomy: A randomized controlled trial with 3 years follow-up



Jodok M. Fink, Andrea Hetzenecker, Gabriel Seifert, Mira Runkel, Claudia Laessle, Stefan Fichtner-Feigl, Goran Marjanovic [AnnSurg 2020](#)



Characteristic	Banded Sleeve Gastrectomy (n=47)	Sleeve Gastrectomy (n= 47)
Age, mean (CI)	43.3 (40.6-46)	40.9 (38.2-43.5)
Female, No. (%)	35 (74.5)	31 (66)
Weight, mean (CI), kg	147 (CI 139.2-154.8)	147.5 (CI 139.1-155.9)
BMI, mean (CI), kg/m ²	51 (CI 49.1-53)	50.7 (CI 48.8-52.6)
Type 2 diabetes, No. (%)	11 (23.4%)	6 (12.8%)
Arterial hypertension, No. (%)	26 (53.3)	20 (42.6%)



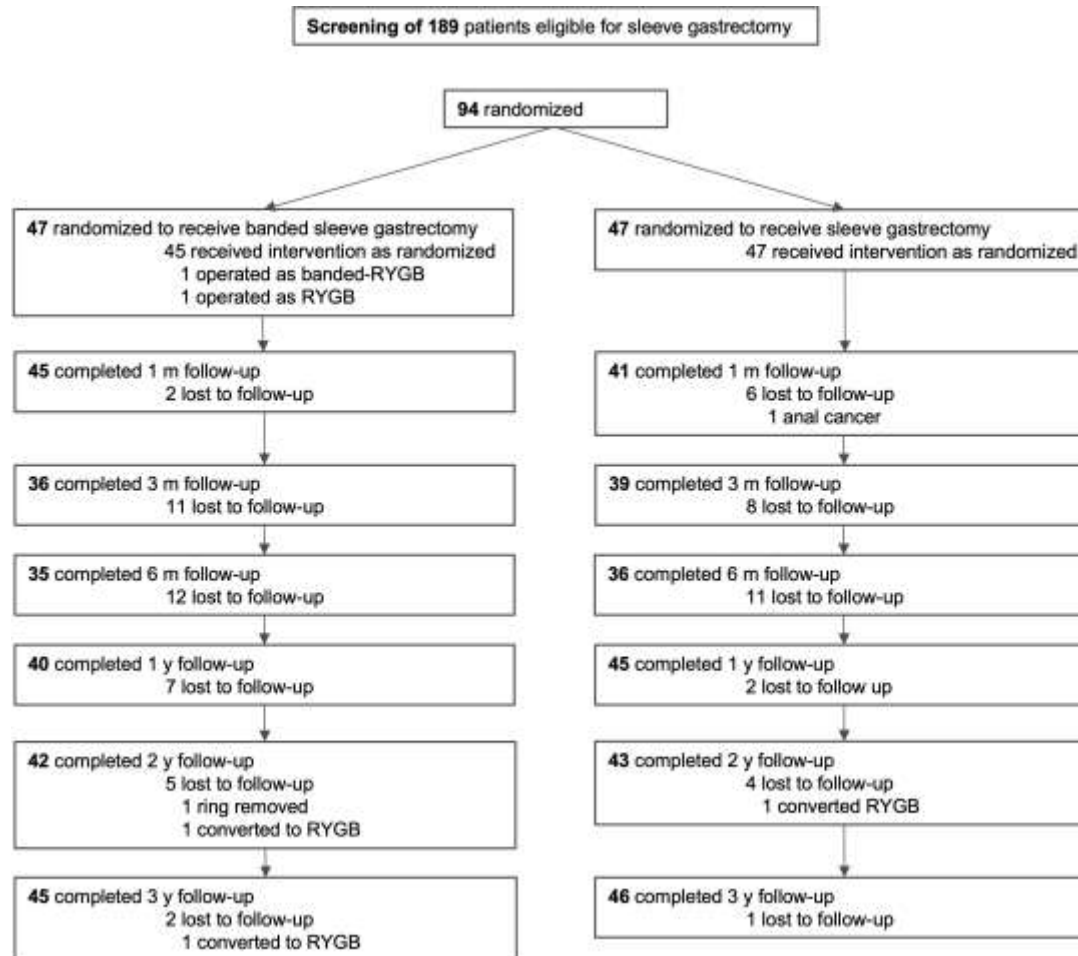
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Fink 2023, AnnSurg, 2020

Banded versus nonbanded sleeve gastrectomy: A randomized controlled trial with 3 years follow-up

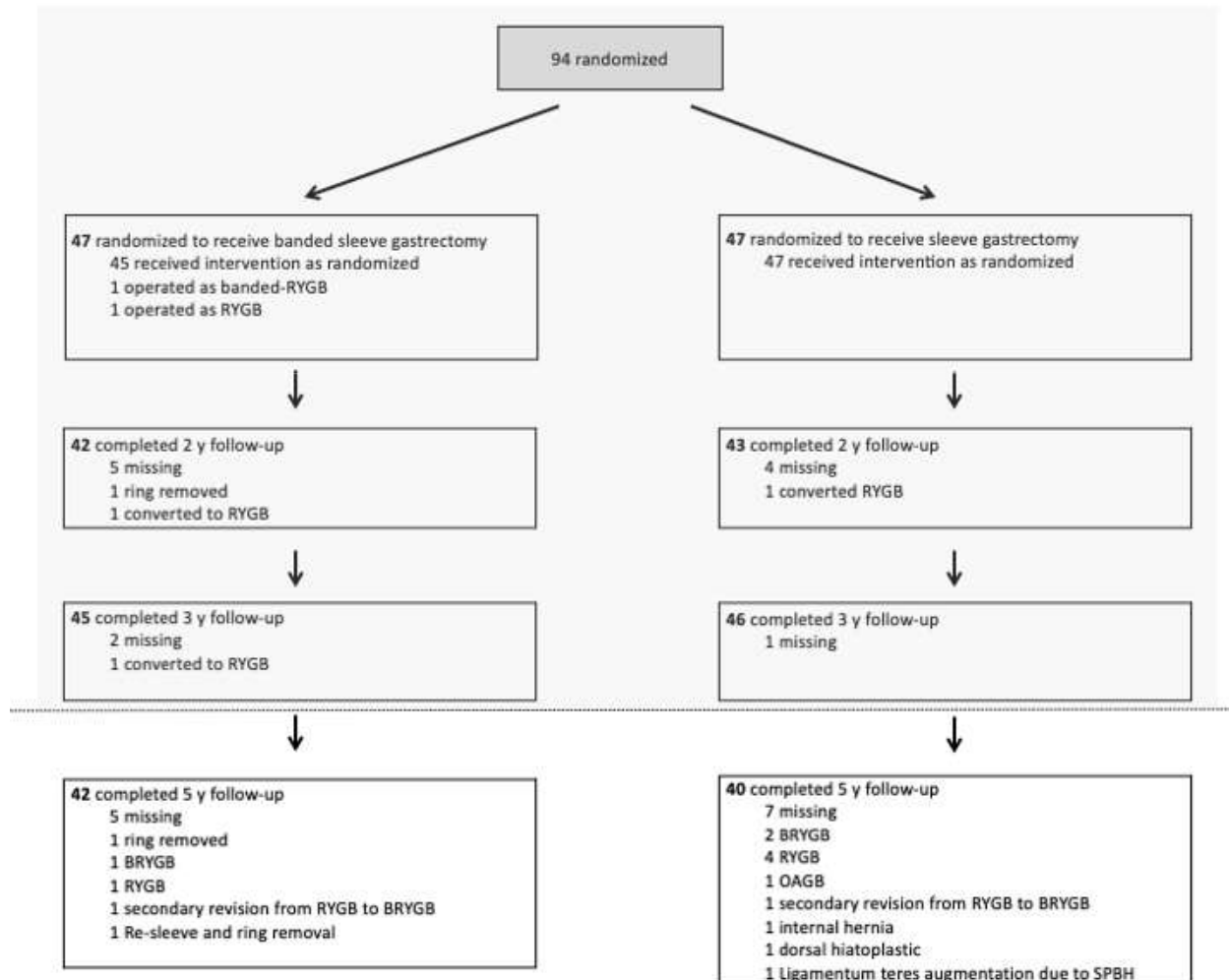


Jodok M. Fink, Andrea Hetzenecker, Gabriel Seifert, Mira Runkel, Claudia Laessle, Stefan Fichtner-Feigl, Goran Marjanovic *AnnSurg* 2020



Banded versus non-banded Sleeve Gastrectomy: 5-year follow-up report of a 3-year randomized controlled trial

Jodok M. Fink, Marina Reutebuch, Gabriel Seifert, Claudia Laessle, Stefan Fichtner-Feigl, Goran Marjanovic, Mira Fink Manuscript submitted



Banded versus non-banded Sleeve Gastrectomy: 5-year follow-up report of a 3-year randomized controlled trial



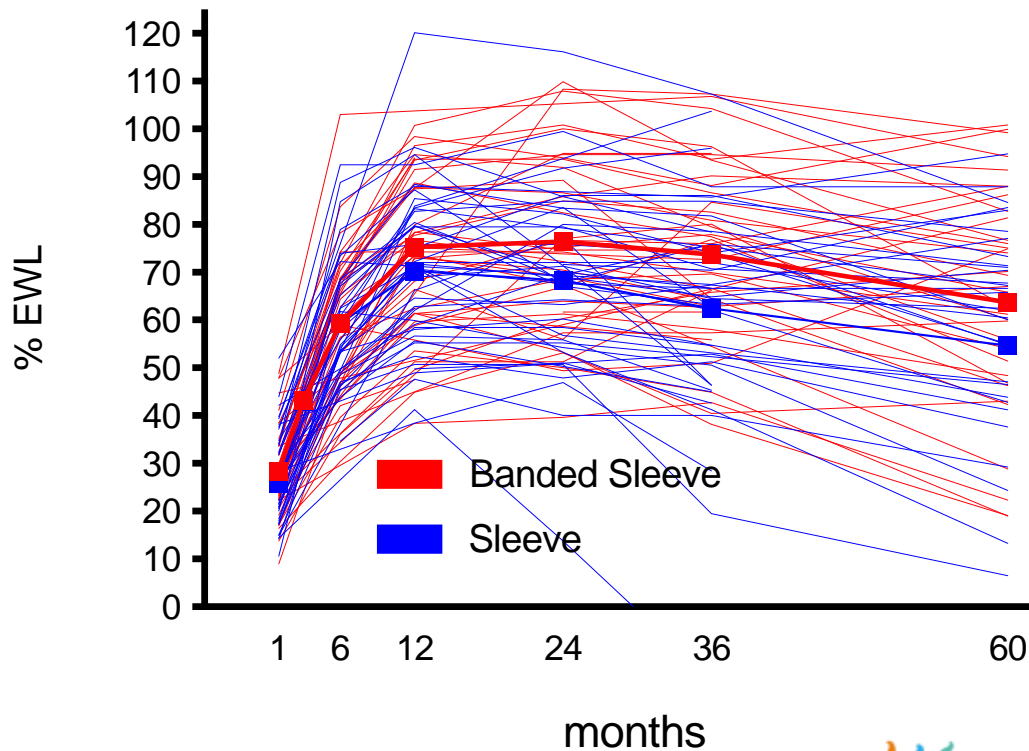
Jodok M. Fink, Marina Reutebuch, Gabriel Seifert, Claudia Laessle, Stefan Fichtner-Feigl, Goran Marjanovic, Mira Fink Manuscript submitted

Type of bariatric procedure present in all patients included in the intention to treat analysis at 5-6-year follow-up		
Characteristic	Banded Sleeve Gastrectomy (n=42)	Sleeve Gastrectomy (n= 40)
Sleeve gastrectomy	2 (4.8%)	32 (80%)
Banded sleeve gastrectomy	35 (83%)	-
Roux-en-Y gastric bypass	2 (4.8%)	4 (10%)
Banded Roux-en-Y gastric bypass	3 (7.1%)	3 (7.5%)
One-anastomosis gastric bypass	-	1 (2.5%)
Missing at follow-up (% of 47)	5 (10.6%)	7 (14.9%)



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Δ EWL 5 years 9.0%

(Δ EWL 3 years 11.6%)

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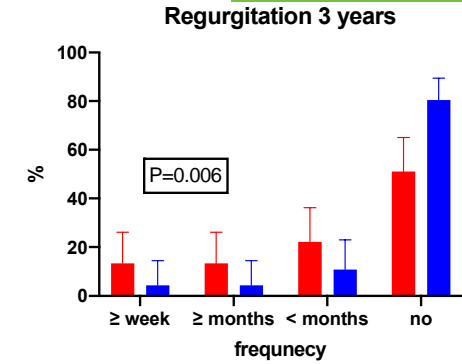
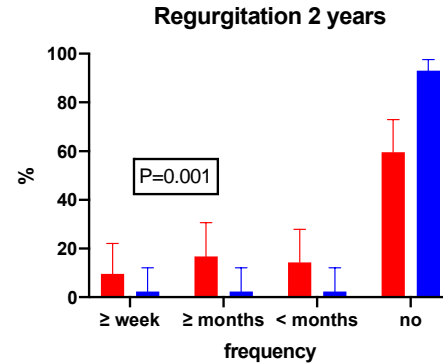
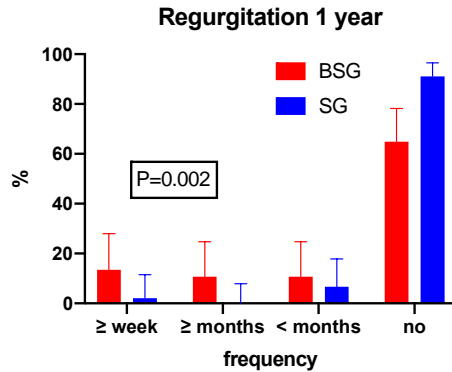
Development of type 2 diabetes and antihypertensive medication use at 5 years in relation to baseline following banded and non-banded sleeve gastrectomy

Category	Banded Sleeve Gastrectomy	Sleeve Gastrectomy
Type 2 Diabetes		
T2D at baseline, No.	11	6
Remission, No. (% of base.)	7 (63.6)	4 (66.7)
Improvement, No. (% of base.)	2 (18.2)	1 (16.7)
Unchanged, No. (% of base.)	0	0
Worsened, No. (% of base.)	0	0
HbA1c at baseline, mean (CI)	6.9 (5.6-8.3)	7.1 (5.2-9.1)
HbA1c 5 y, mean (CI)	5.5 (5.3-5.8)	6.2 (3.3-9.2)
Missing at follow-up, No.	2	1
Antihypertensive medication use		
Medication use at baseline	25	16
Stopped, No. (% of base.)	12 (48)	9 (56.3)
Lowered, No. (% of base.)	8 (32)	4 (25)
Unchanged, No. (% of base.)	2 (8)	1 (6.3)
Increased, No. (% of base.)	0	1 (6.3)
Missing at follow-up, No.	3	1

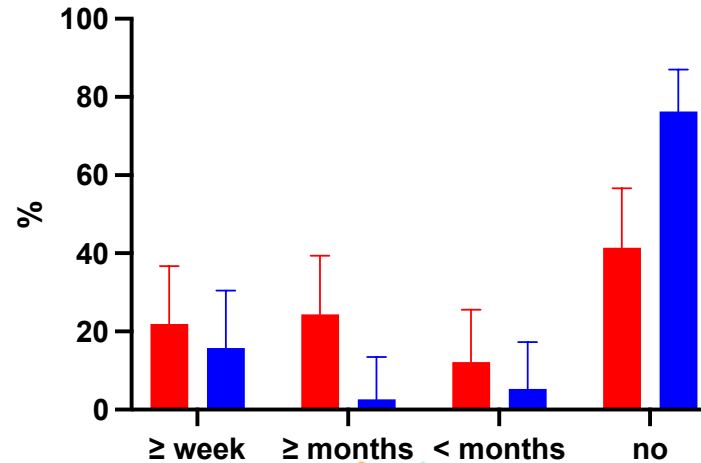


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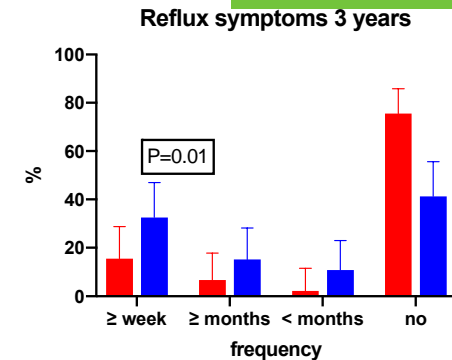
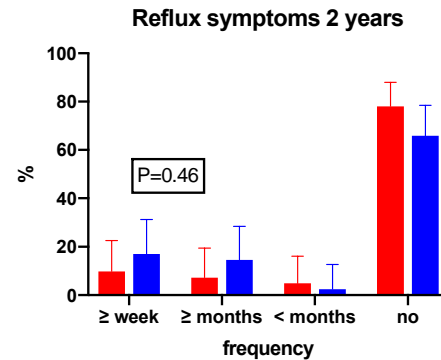
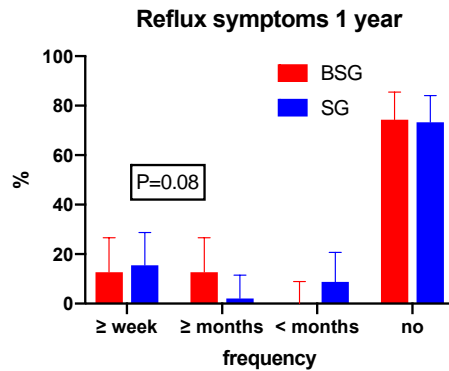


Regurgitation 5 years

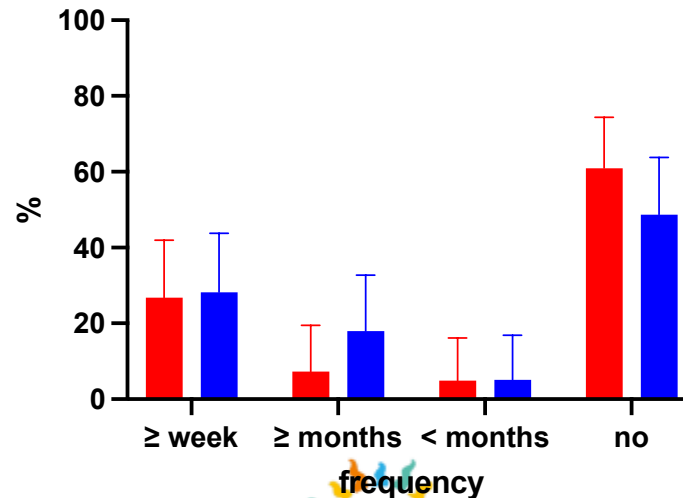


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Reflux symptoms 5 years



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Minor late complications following banded and non-banded sleeve gastrectomy

Complication type and Category	Banded Sleeve Gastrectomy (n=42)	Sleeve Gastrectomy (n= 40)
Minor late (>30 d), No. (%)		
Regurgitation \geq 1/ week	9 (21)	6 (15)
Gastroesophageal reflux	4 (10)	3(8)
RSI > 13		
Sleeve stenosis	0	1 (3)
Symptomatic cholelithiasis	3 (7)	2 (5)
Total	16 (38)	12 (30)

Major late complications following banded and non-banded sleeve gastrectomy

Complication type and Category	Banded Sleeve Gastrectomy (n=42)	Sleeve Gastrectomy (n= 40)
Major late (>30 d), No. (%)		
Ring slippage	1 (2)	0
Gastroesophageal reflux with conversion to RYGB	4 (10)	6 (15)
Gastroesophageal reflux with re-sleeve	1 (2)	0
Incisional hernia	0	1 (3)
Internal hernia with operative revision	0	1 pt. with RYGB (3)
Dumping syndrome with operative revision	1 pt. with RYGB (2)	1 pt. with RYGB (3)
Total	7 (17)	9 (22)



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Fink 2023, AnnSurg, 2020

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Incidence of vitamin deficiencies at 5 years following banded and non-banded sleeve gastrectomy

Category	Banded Sleeve Gastrectomy	Sleeve Gastrectomy
Vitamin deficiency (Ref. Interval)		
Vitamin D3 (50-174.7 nmol/l)	14 (41.2 ; n=34)	14 (46.7 ; n=30)
Vitamin B1 (89-225.3 nmol/l)	0 (n=33)	1 (3.4; n=29)
Vitamin B12 (145.3-568.8 pmol/l)	1 (2.9; n=34)	0 (n=30)
Folic acid (10.4-42.4 nmol/l)	12 (35.3 ; n=34)	12 (40 ; n=30)
PTH (1.6-6.9 pmol/l)	7 (21.2; n=33)	4 (13.8; n=29)
Iron (Ferritin; 31.7-316.5 pmol/l)	9 (26.5 ; n=34)	2 (6.5 ; n=31)

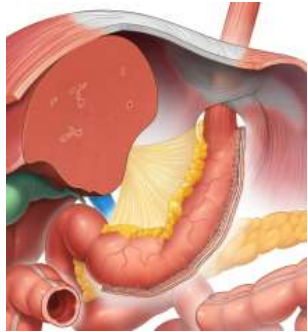


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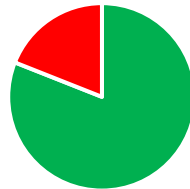
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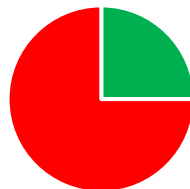
Abdominoplasty



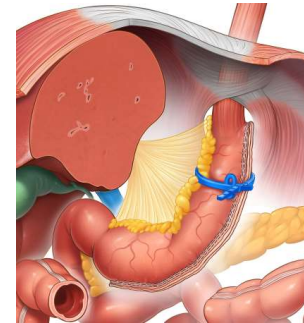
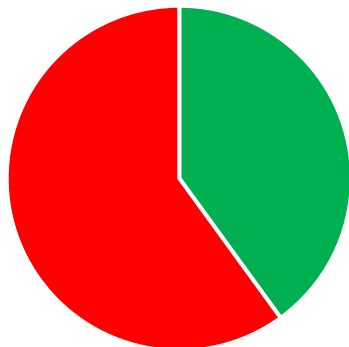
Leg lift



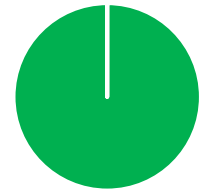
Arm lift



Recunstructive surgery



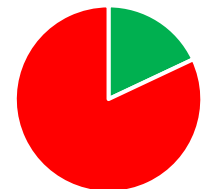
Abdominoplasty



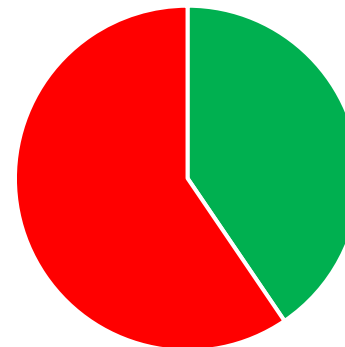
Leg lift



Arm lift

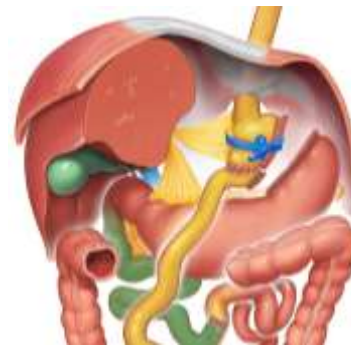


Recunstructive surgery

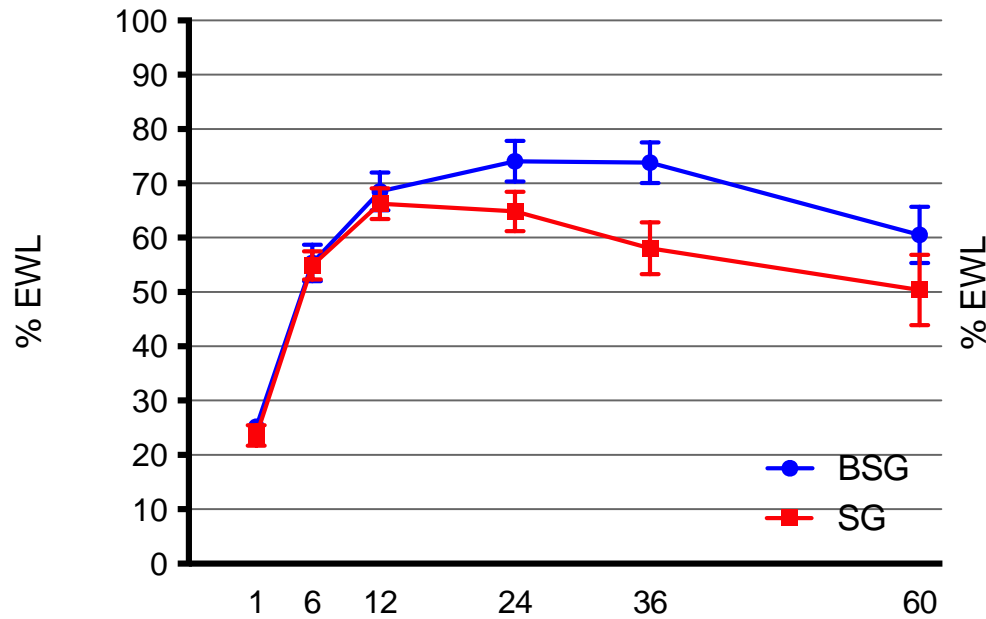


Who profits most from bading a sleeve ?

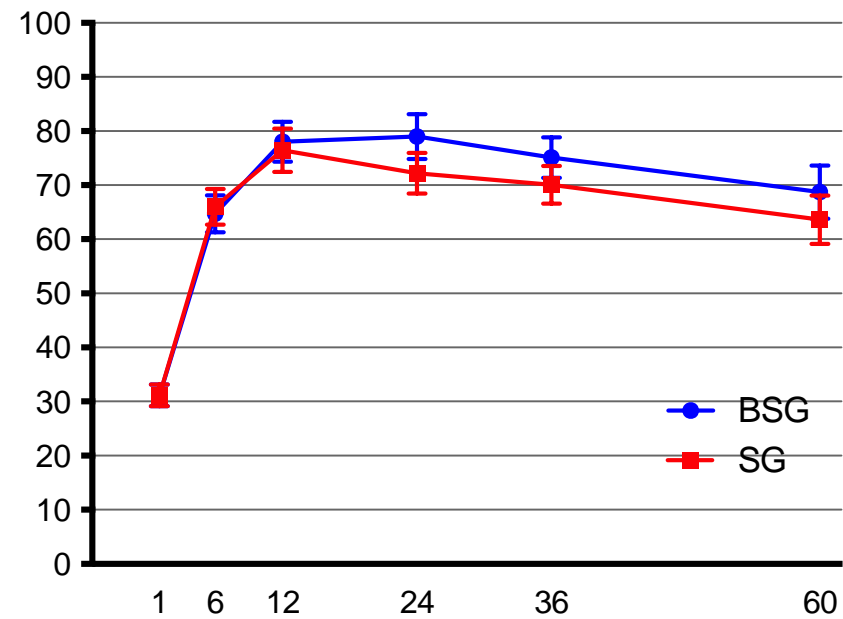
Fink et al., in preparation



BSG vs. SG BMI ≥ 50 kg/m², n=52

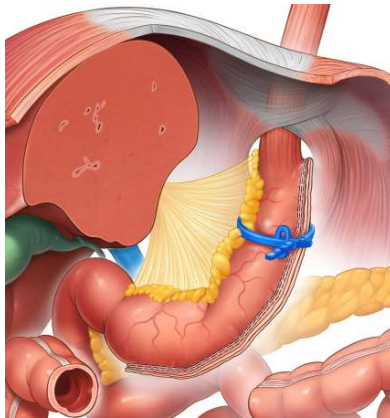


BSG vs. SG BMI < 50 kg/m², n=42



RCT banded vs. non-banded Sleeve Gastrectomy

Conclusion



vs.



+

Better weight loss

Low number of surgical
complications

-

Regurgitation



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Thank you for your attention