Bariatrische/Metabolische Chirurgie

PATRICK FOLIE

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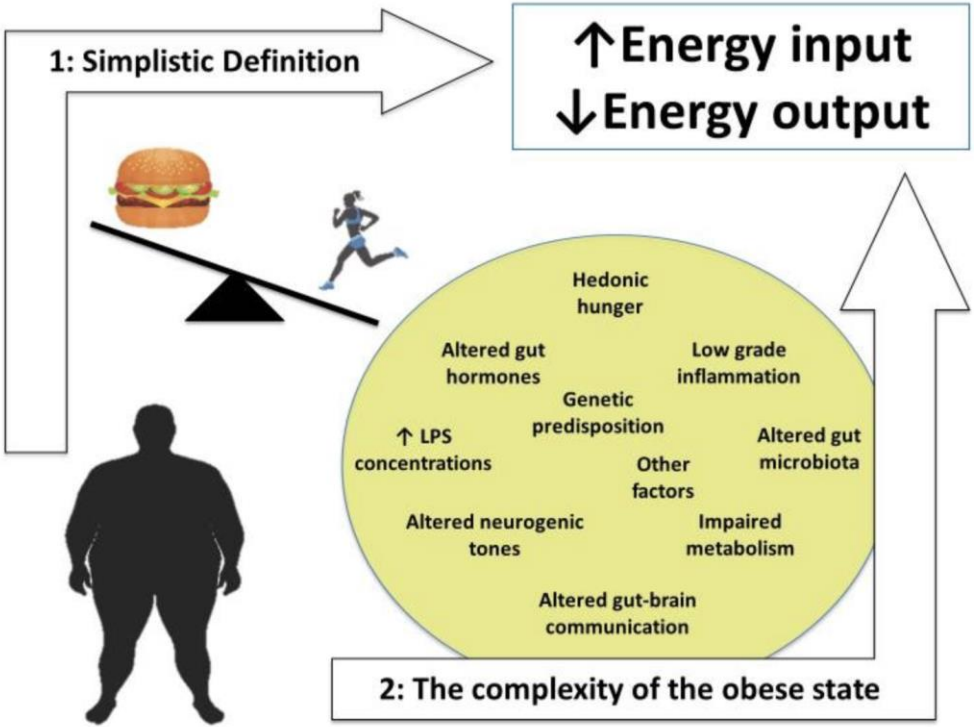
Leitung Ostschweizer Adipositaszentrum

Kantonsspital St.Gallen

OAZ OSTSCHWEIZER ADIPOSITASZENTRUM

Adipositas

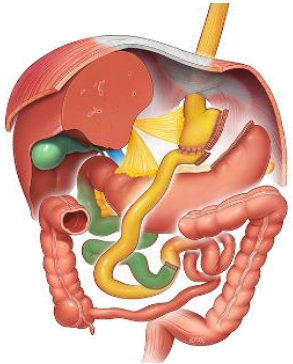


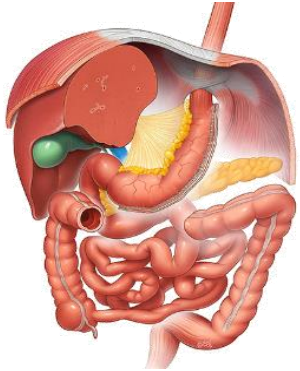
Pucci et al, *Endotext, 2020*

Somit komplexe Therapie

truthaboutweight.global/ch

What‘s hot, what‘s new in Bariatric Surgery??





- ✓ Verständnis
- ✓ Geschwindigkeit (45-90min)
- ✓ Effizienz (Liegezeit 2-3 Nächte)

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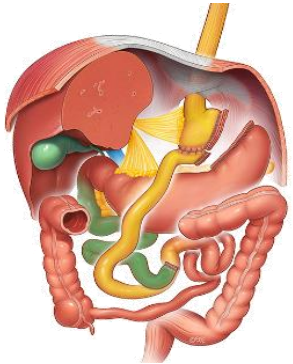

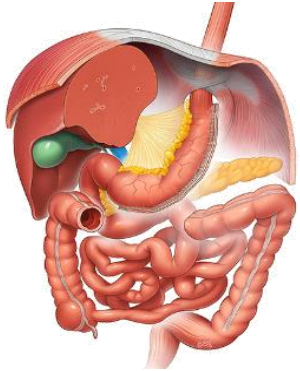

- ✓ Verständnis
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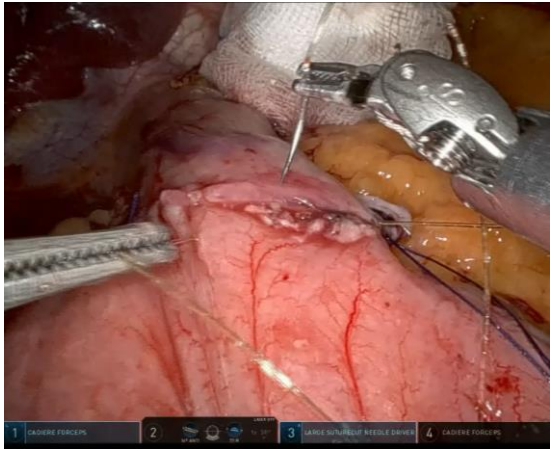
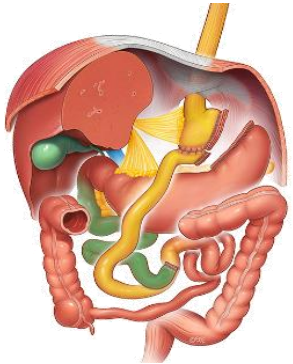
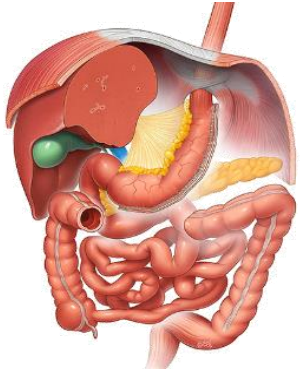
- ✓ Präzision (CRP häufig <20)



What‘s hot, what‘s new in Bariatric Surgery??





- ✓ Verständnis
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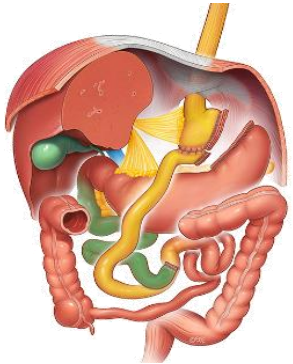
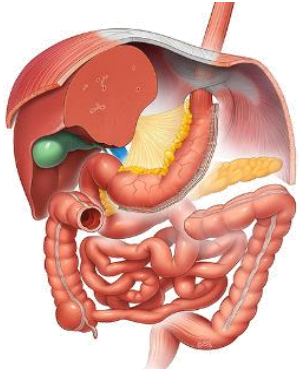
- ✓ Sicherheit (Major Kompl. <1%)

What‘s hot, what‘s new in Bariatric Surgery??





- ✓ Verständnis
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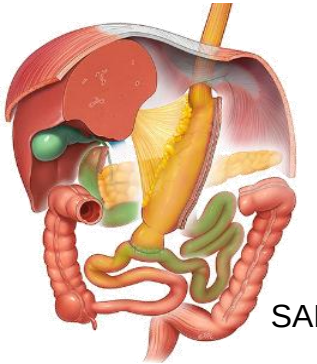
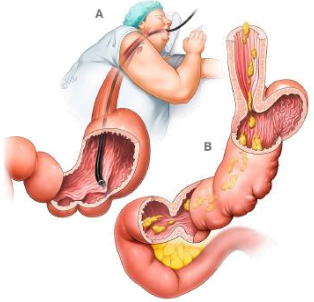
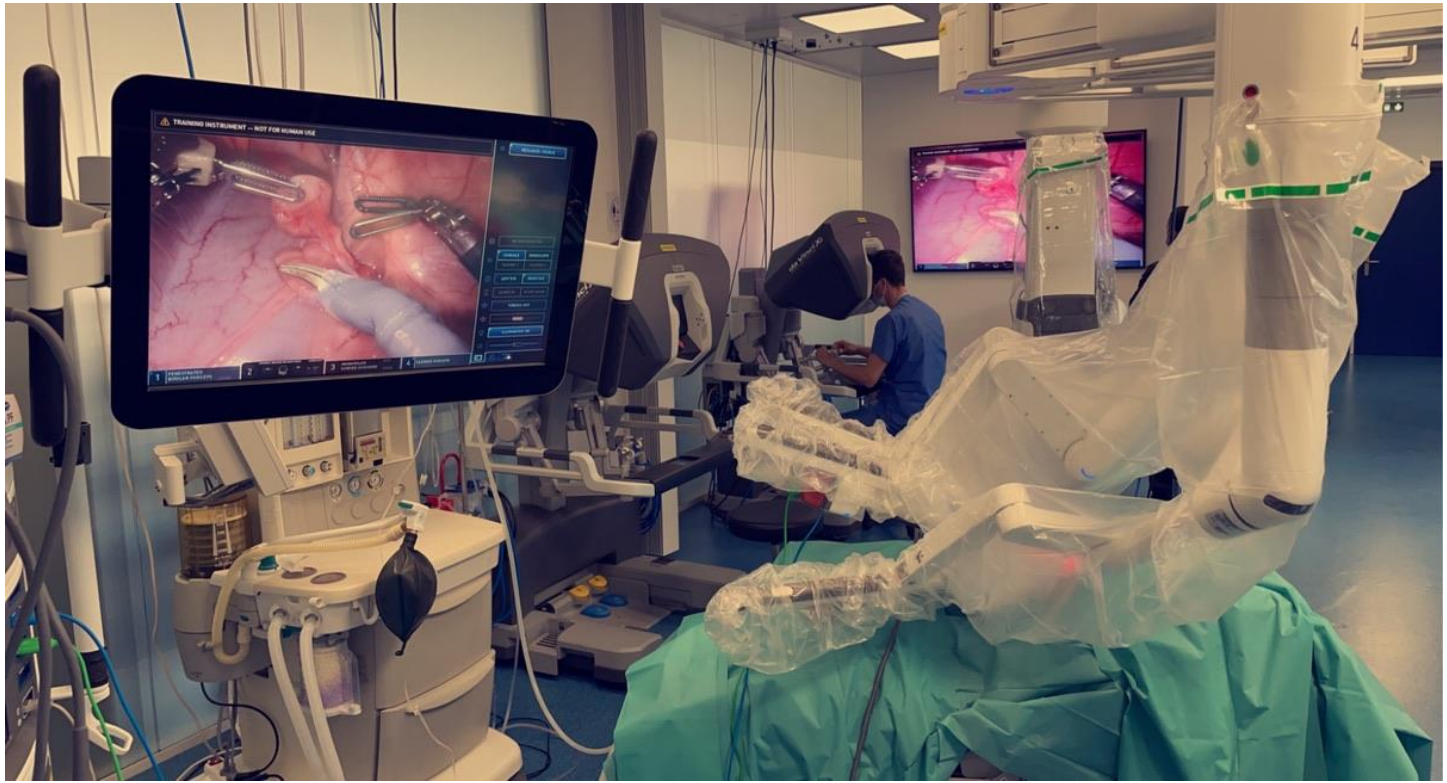
- ✓ Sicherheit (Major Kompl. <1%)
- ✓ Innovation



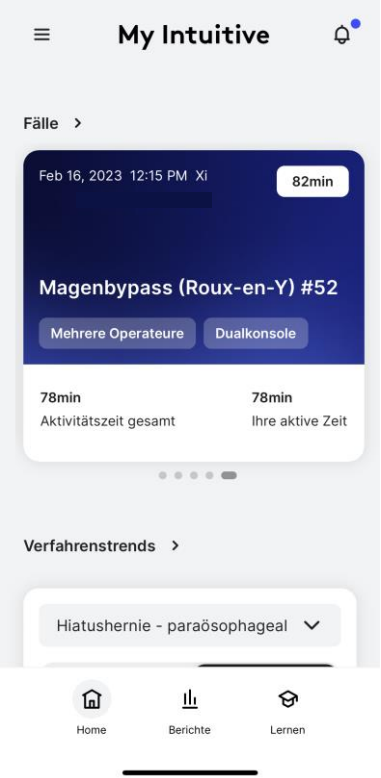
SADI-S

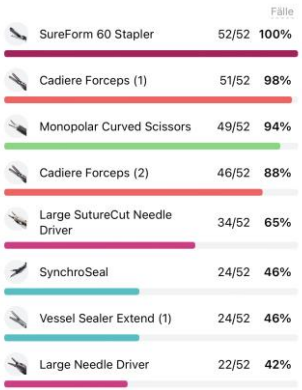


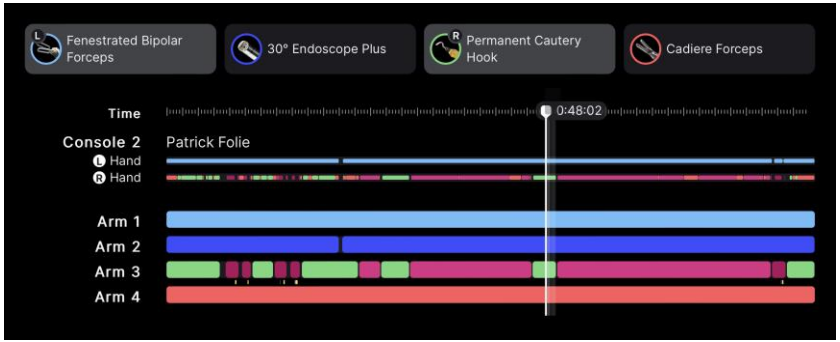
GLP-1 Agonist of the Surgeon.. ;)



My Intuitive App

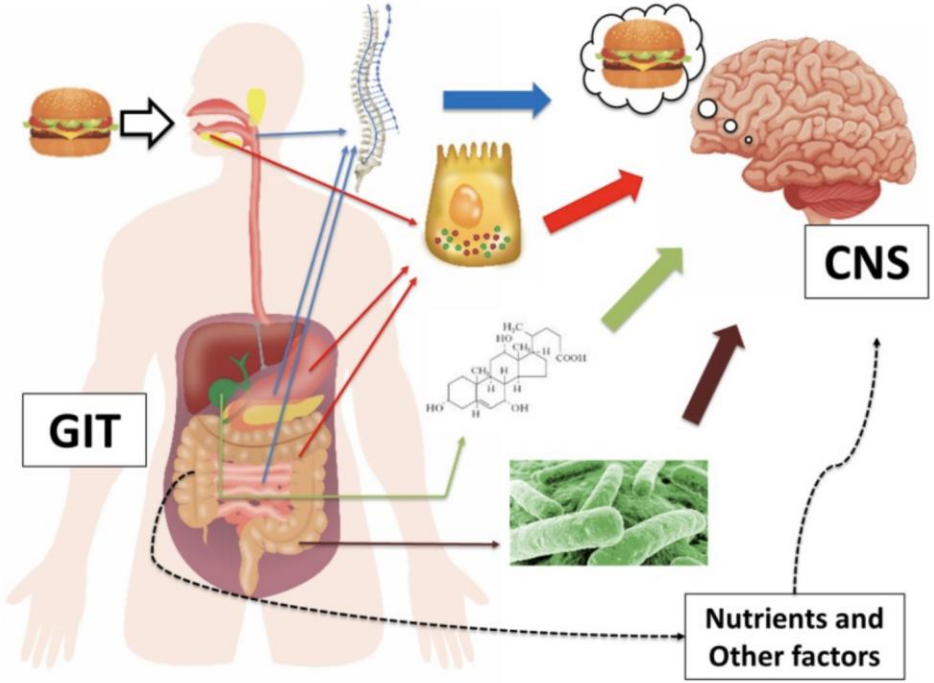






Next Level Teaching

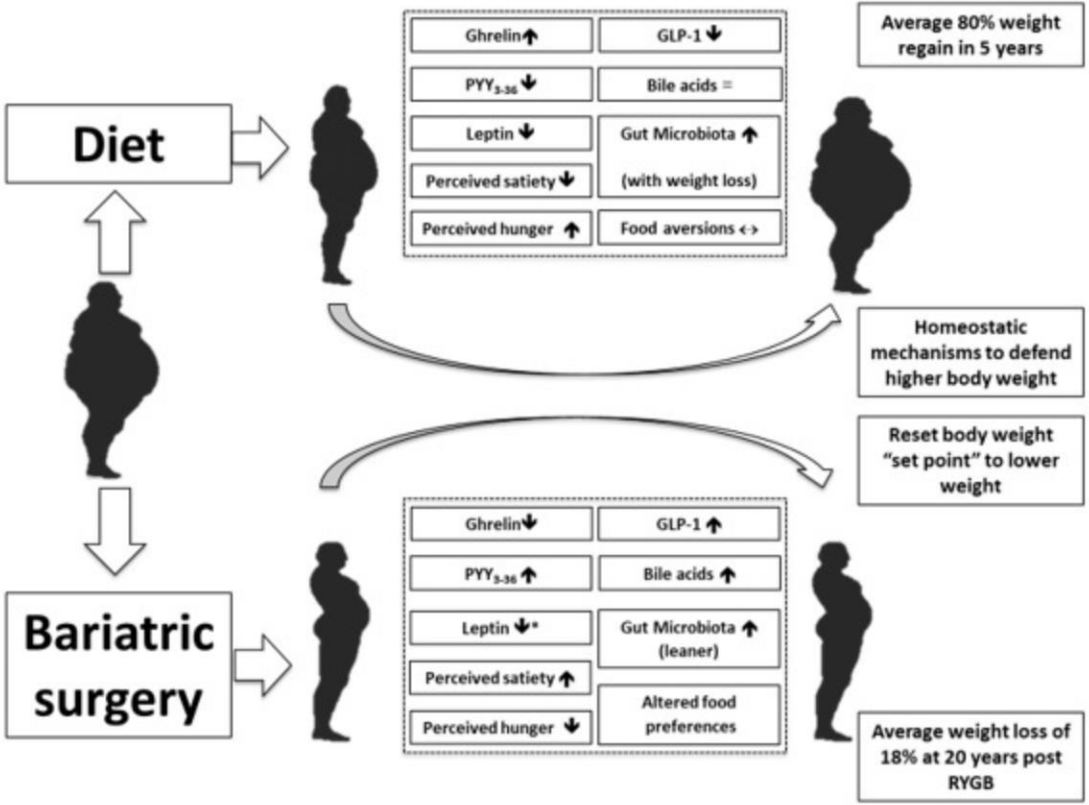
Linking the gut and the brain...



- Neuronale Signale
- Intestinale Hormone
- Gallensäuren
- Microbiom

Pucci et al, *Endotext, 2020*

Diät vs Bariatrie...

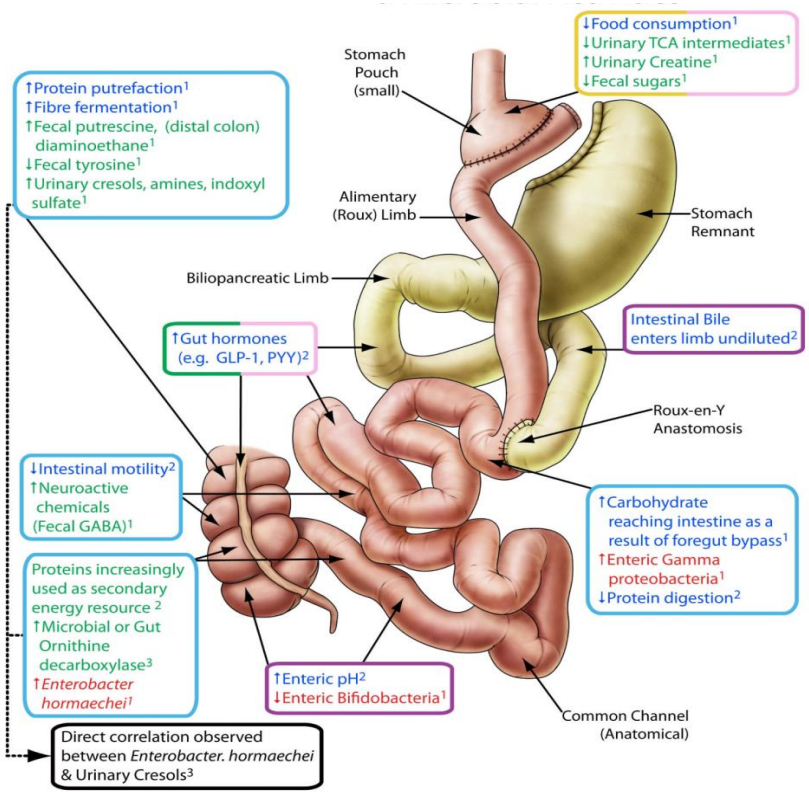


Starke kompensatorische Gegenregulation

«Sollwert-Verstellung»

Pucci et al, *Endotext, 2020*

Wirkmechanismus Bariatrischer Operationen



Veränderungen in...

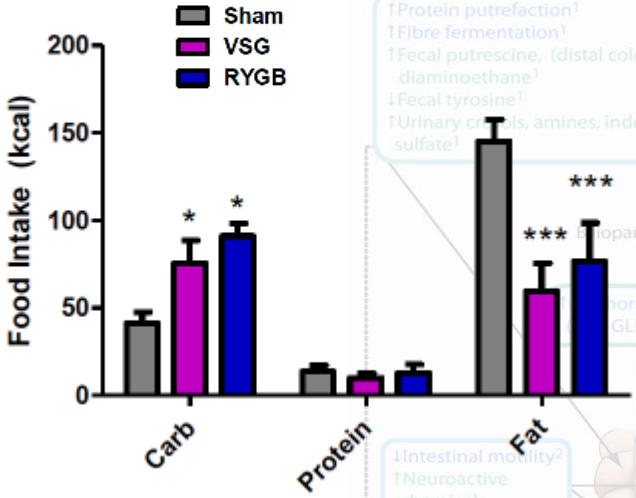
...Physiologie

...Biochemie

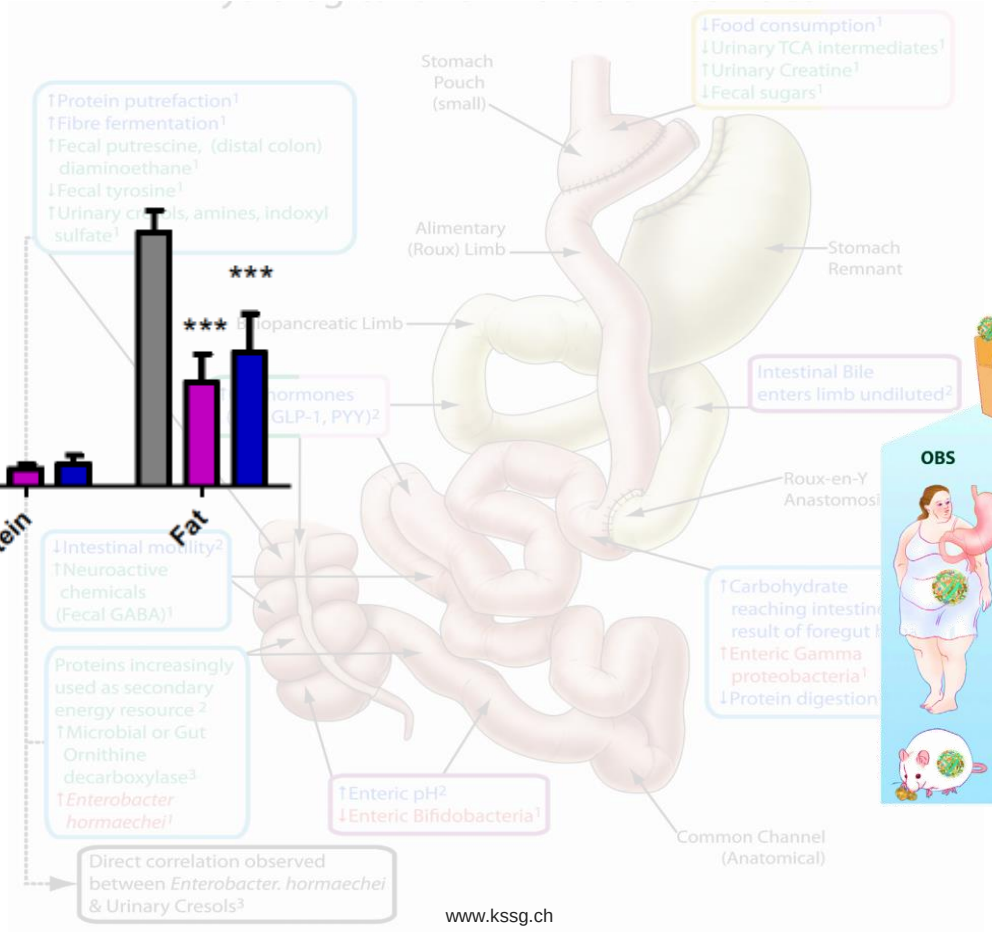
...Microbiologie

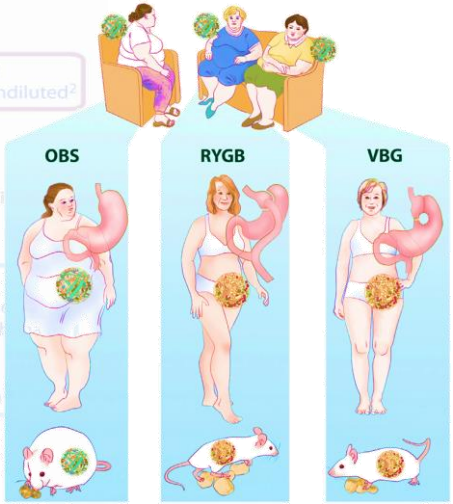
Jia V. Li, *Gut, 2011*

Wirkmechanismus Bariatrischer Operationen



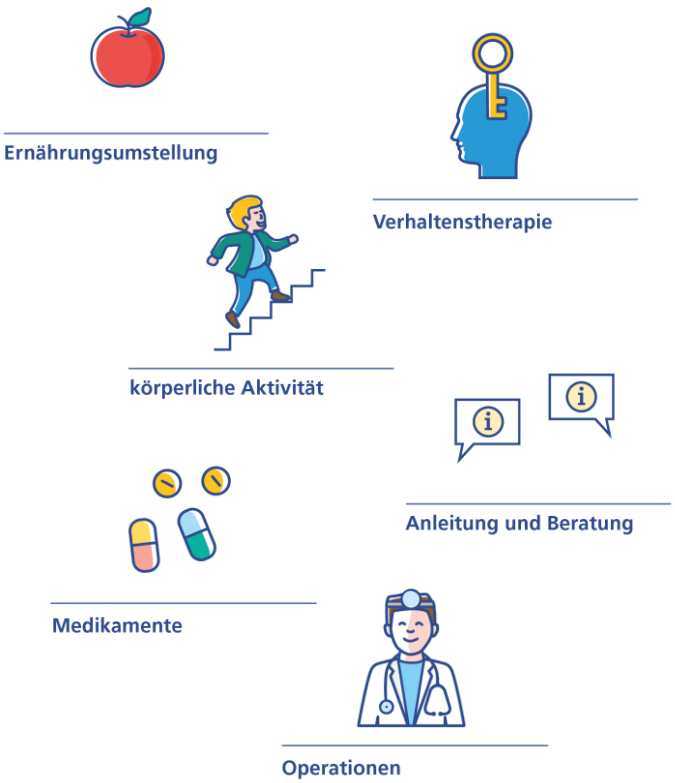
Wilson-Pérez, *Int J Obes*

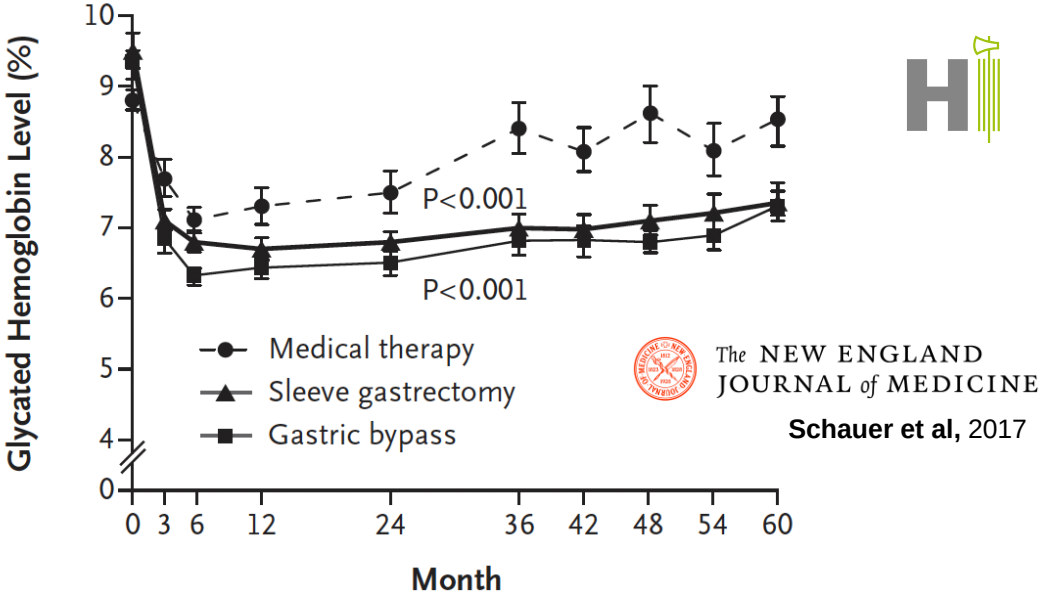




Tremaroli, *Cell Metabolism*

Indikation (Zeitpunkt)

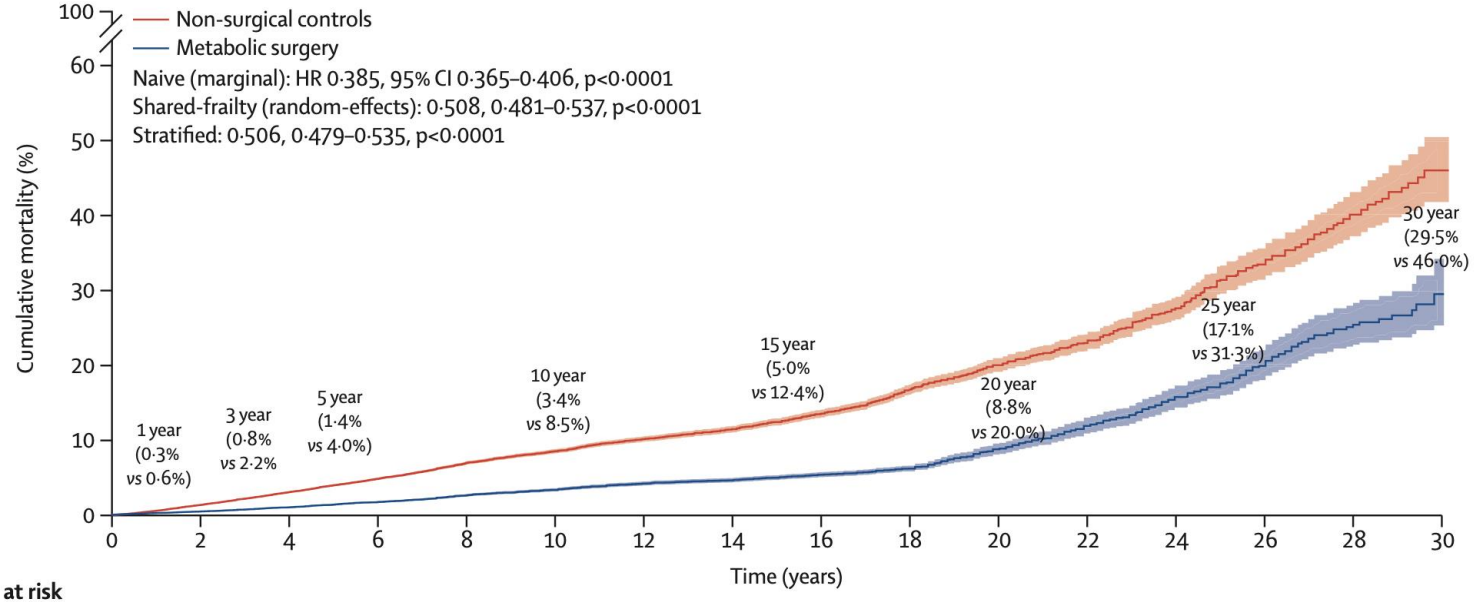




Schauer et al, 2017

- *Effect of laparoscopic Roux-en Y gastric bypass on type 2 diabetes mellitus. Ann Surg 2003; 238: 467-85*
- *Bariatric surgery and cardiovascular outcomes: a systematic review. Heart 2012; 98: 1763-77*
- *Association of bariatric surgery with long-term remission of type 2 diabetes... JAMA 2014; 311: 2297-304*
- *Association between bariatric surgery and long-term survival. JAMA 2015; 313: 62-70.*
- *Long-term metabolic effects of bariatric surgery in obese patients with type 2... Ann Surg 2013; 258: 628-37*
- *Adjustable gastric banding and conventional therapy for type 2 diabetes: ... JAMA 2008; 299: 316-23*
- *Bariatric-metabolic surgery versus conventional medical treatment in obese patients... Lancet 2015; 386: 964-73*
- *Roux-en-Y gastric bypass for diabetes (the Diabetes Surgery Study): 2-year outcomes of a 5-year... 2015; 3: 413-22*
- *Multidisciplinary diabetes care with and without bariatric surgery in... Lancet Diabetes Endocrinol 2014; 2: 545-52*

Outcome



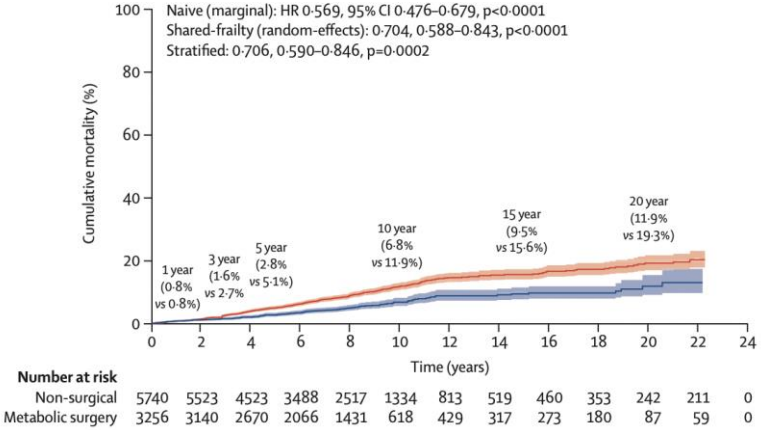
Number at risk

Non-surgical	108 987	96 181	70 908	46 202	19 899	12 878	9230	7399	6019	2756	2101	1566	813	413	206	26
Metabolic surgery	65 785	61 183	48 240	34 847	16 482	13 098	11 605	10 483	9811	6844	1997	1456	878	474	239	34

THE LANCET Syn et al, 2021

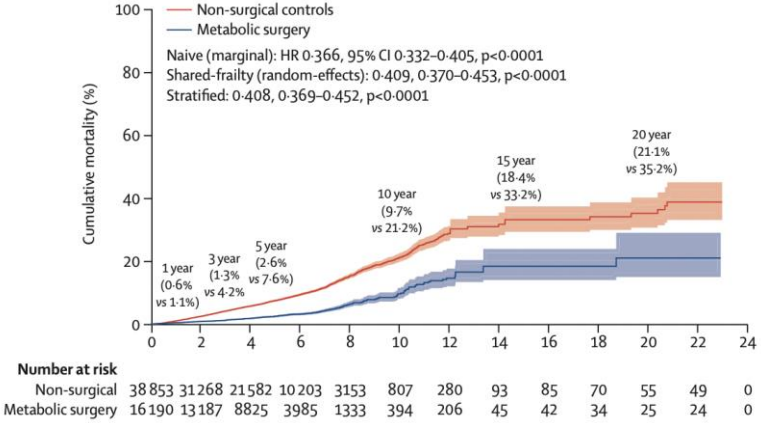
Mediane Lebenserwartung

Nicht-Diabetiker



+ 5.1 Lebensjahre

Diabetiker



+ 9.3 Lebensjahre

THE LANCET Syn et al, 2021

Bariatrie und Risiko für Karzinome

- Adipositas erhöht deutlich Risiko für Karzinome, ca. **7.8%** aller Karzinome sowie ca. **6.5%** karzinombedingte Todesfälle sind auf morbide Adipositas zurückzuführen

- Nachgewiesen, dass bariatrische Chirurgie Karzinomrisiko (Colon, Mamma, Endometrium) reduziert

➢ **fraglicher Zusammenhang zwischen bariatrischer Chirurgie und Risiko für ösophagogastrale Karzinome**

1. Bandi P, Minihan AK, Siegel RL, et al. Updated review of major cancer risk factors and screening test use in the United States in 2018 and 2019, with a focus on smoking cessation. Cancer Epidemiol Biomarkers Prev. 2021;30(7):1287-1299. doi:10. 1158/1055-9965.EPI-20-1754
2. Campos GM, Mazzini GS, Altieri MS, Docimo S Jr, DeMaria EJ, Rogers AM; Clinical Issues Committee of the American Society for Metabolic and Bariatric Surgery. ASMBS position statement on the rationale for performance of upper gastrointestinal endoscopy before and after metabolic and bariatric surgery. Surg Obes Relat Dis.. 2021;17(5):837-847. doi:10.1016/j.soard2021.03.007

Bariatrie und Risiko für ösophagogastrale Karzinome

- **2010-2019** wurden **3 633 019** Patienten aufgrund Adipositas in Frankreich stationär behandelt
- Davon unterzogen sich **303 709** Patienten, unter Berücksichtigung der Einschlusskriterien, einer bariatrischen Operation
- In einer 1:2 Ratio mittels Propensity score, wurden **640 150** Patienten die nicht operiert wurden, den operierten Patienten abgestimmt
- Insgesamt Kohorte von **943 859**

Einschluss	Ausschluss
≥18; BMI ≥ 30 kg/m^2	≤ 18
Bariatrische Operation - Magenband - Biliopankreatische Diversion - RYGB - SG	Diagnose eines Karzinoms im Moment der Operation
Offen/laparoskopisch	Neudiagnose eines Karzinoms 2 Jahre nach bariatrischer Operation

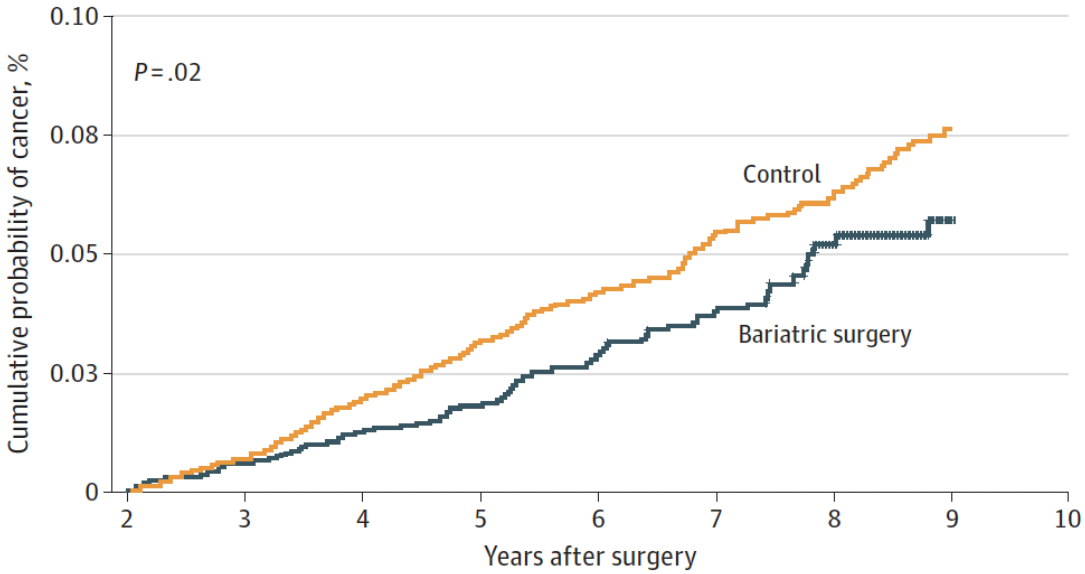
Follow-up

- Chirurgische Gruppe 6.06 Jahre
- Kontrollgruppe 5.62 Jahre

JAMA Surgery **Lazzati et al,** 2023

Bariatrie und Risiko für ösophagogastrale Karzinome

Cumulative Incidence of Esophagogastric Cancer by Group



No. at risk								
Control	605 140	530 527	451 518	374 256	298 378	222 953	146 612	74 705
Bariatric surgery	303 709	258 599	210 907	167 159	124 525	85 680	51 551	23 825

JAMA Surgery

Lazzati et al, 2023

Bariatrie und Risiko für ösophagogastrale Karzinome

Table 3. Incidence Rate of Esophageal and Gastric Cancer in Study Population

	Overall	Surgical group	Control group	IRR (95% CI)	*P* value
Follow-up, mean (SD), y	5.91 (2.28)	6.06 (2.31)	5.62 (2.20)	NA	NA
Time at risk, person-year	5 372 886	1 705 735	3 667 151	NA	NA
Esophageal cancer events, total No.	112	26	86		
Incidence rate, cases per 100 000 population/y	2.1	1.5	2.3	1.54 (0.99-2.38)	.05
Gastric cancer events, total No.	225	57	168		
Incidence rate, cases per 100 000 population/y	4.2	3.3	4.6	1.37 (1.01-1.85)	.04
Esophagogastric cancer events, total No.	337	83	254		
Incidence rate, cases per 100 000 population/y	6.3	4.9	6.9	1.42 (1.11-1.82)	.005

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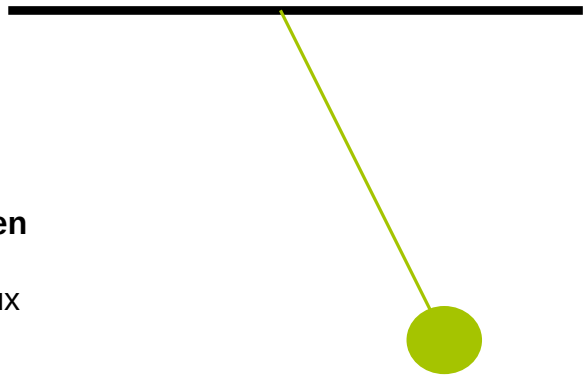
Bariatrie und Risiko für ösophagogastrale Karzinome

- Junges Alter der Kohorte (knapp 40 Jahre), Peak für ösophagogastrale Karzinome deutlich später
- Relativ kurzes medianes Follow-up

➢ Detektion von 337 ösophagogastralen Karzinomen
➢ Immerhin 112.000 Pat. mit follow-up von 9 Jahren



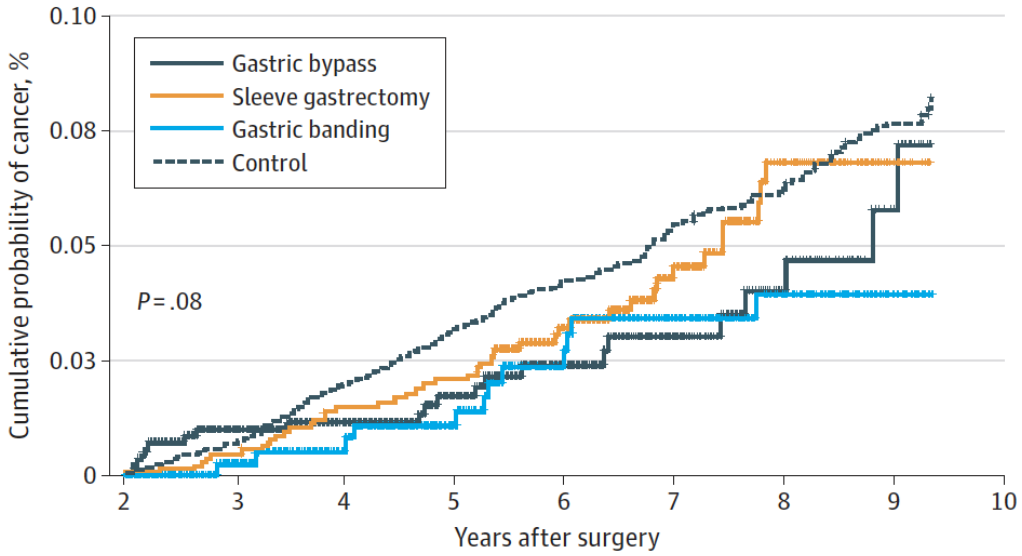
Risiko-Faktoren
- GERD
- Biliärer Reflux

Protektive Faktoren
- Gewichtsreduktion
- Metabolische Effekte
- H.p.-Eradikation

JAMA Surgery **Lazzati et al,** 2023

Bariatrie und Risiko für ösophagogastrale Karzinome

Cumulative Incidence of Esophagogastric Cancer by Bariatric Procedure

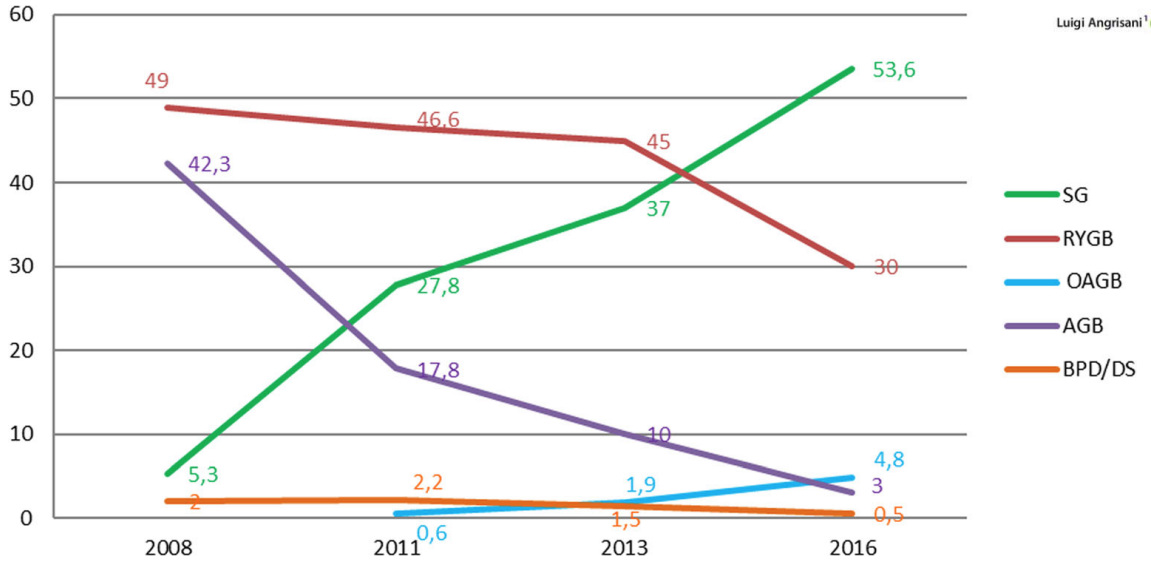


No. at risk								
Control	605 140	530 527	451 518	374 256	298 378	222 953	146 612	74 705
Gastric banding	39 453	37 847	35 495	32 633	28 365	22 982	16 098	8580
Sleeve gastrectomy	178 912	147 022	114 266	85 586	59 149	37 017	19 816	7780
Gastric bypass	84 187	72 720	60 250	48 153	36 292	25 042	15 096	7072

JAMA Surgery

Lazzati et al, 2023

Weltweiter Langzeittrend bariatrischer / metabolischer Operationen



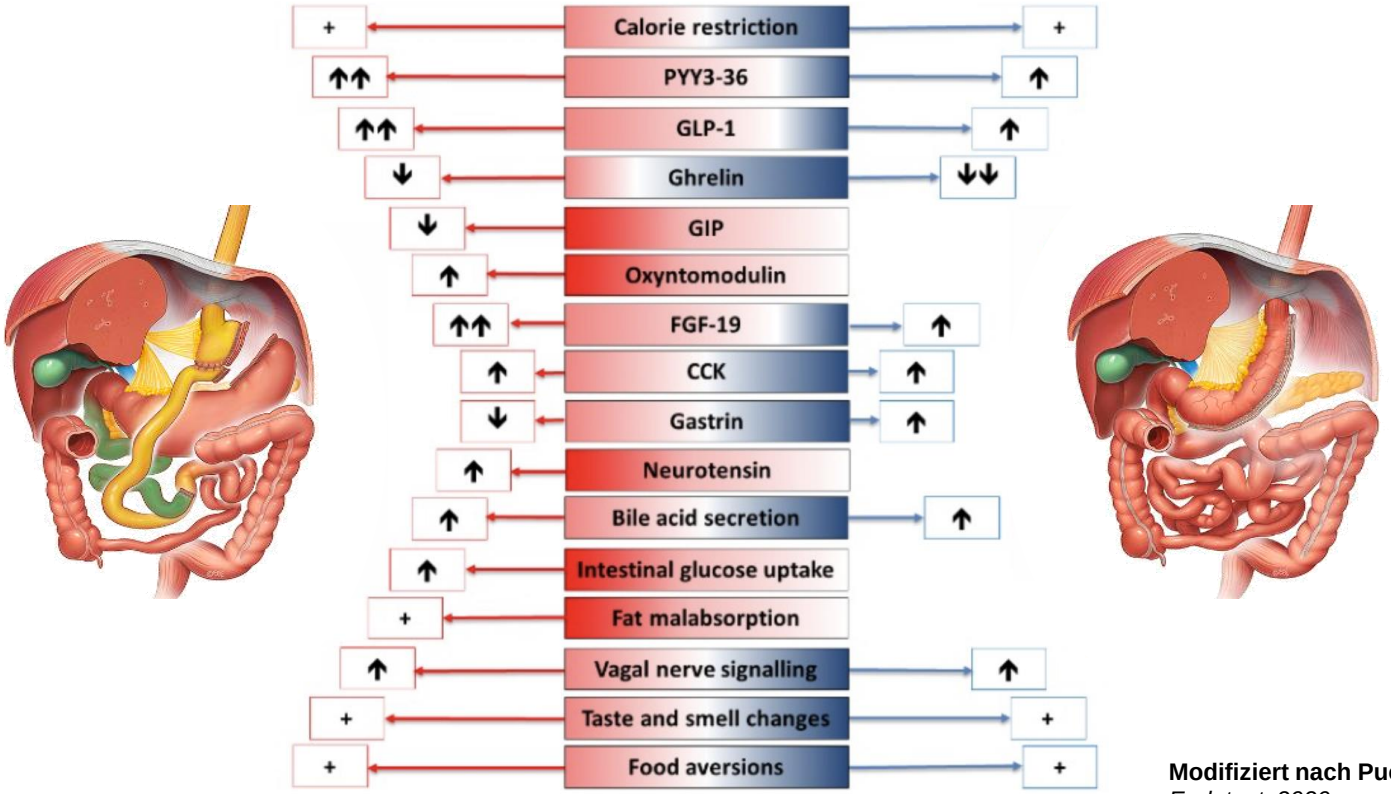
Obesity Surgery
https://doi.org/10.1007/s11695-018-3450-2

ORIGINAL CONTRIBUTIONS

IFSO Worldwide Survey 2016: Primary, Endoluminal, and Revisional Procedures

Luigi Angrisani[1] · A. Santonicola[2] · P. Iovino[2] · A. Vitiello[1] · K. Higa[3,4] · J. Himpens[5] · H. Buchwald[6] · N. Scopinaro[7]

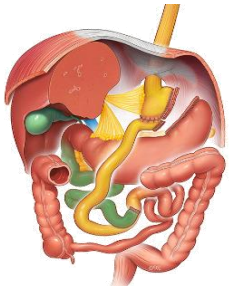
Sleeve vs Bypass



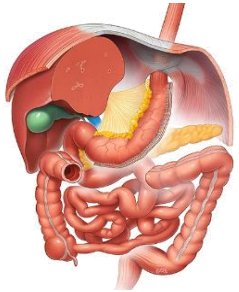
Modifiziert nach Pucci et al, *Endotext, 2020*

Sleeve vs Bypass

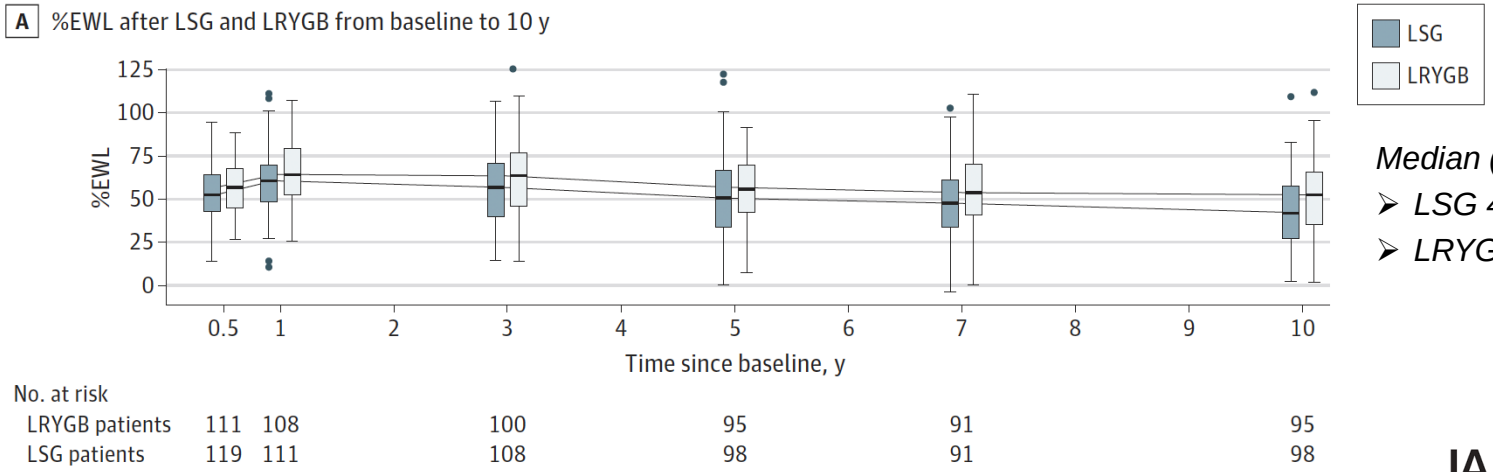
«SLEEVEPASS»



VS



GEWICHTSABNAHME



Median (range) %EWL

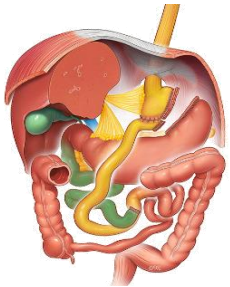
- *LSG 43.5% (2.1%-109.2%)*
- *LRYGB 50.7%(1.7%-111.7%)*

JAMA Surgery

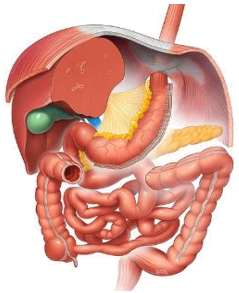
Salminen et al, 2022

Sleeve vs Bypass

«SLEEVEPASS»



VS



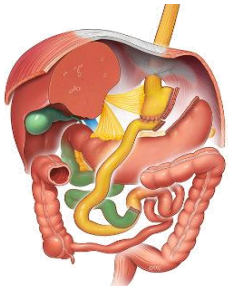
REMISSION CO-MORBIDITÄTEN

	LSG	LRYGB	
DM II	26%	33%	P = .63
Dyslipidämie	19%	35%	P = .23
OSAS	16%	31%	P = .30
aHT	8%	24%	**P = .04**

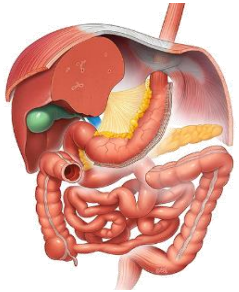
JAMA Surgery **Salminen et al,** 2022

Sleeve vs Bypass

«SLEEVEPASS»



VS



KOMPLIKATIONEN

	No. (%)		
	LSG (n = 121)	LRYGB (n = 119)	*P* value
Major complications			
Fistulectomia	1 (0.8)[b]	0 (0.0)	NA
Gastroesophageal reflux	14 (11.6)[a]	0 (0.0)	NA
Internal herniation	0	18 (15.1)[d]	NA
Incisional hernia	3 (2.5)	3 (2.5)[d]	NA
Candy cane/blind loop resection	0	1 (0.8)	NA
Abdominal pain and stricture	0	1 (0.8)	NA
Sleeve stenosis	1 (0.8)	0 (0.0)	NA
Total	19 (15.7)	22 (18.5)[d]	.57[c]

Reoperation rate (P = .57)

- *LSG 15.7%*
- *LRYGB 18.5%*

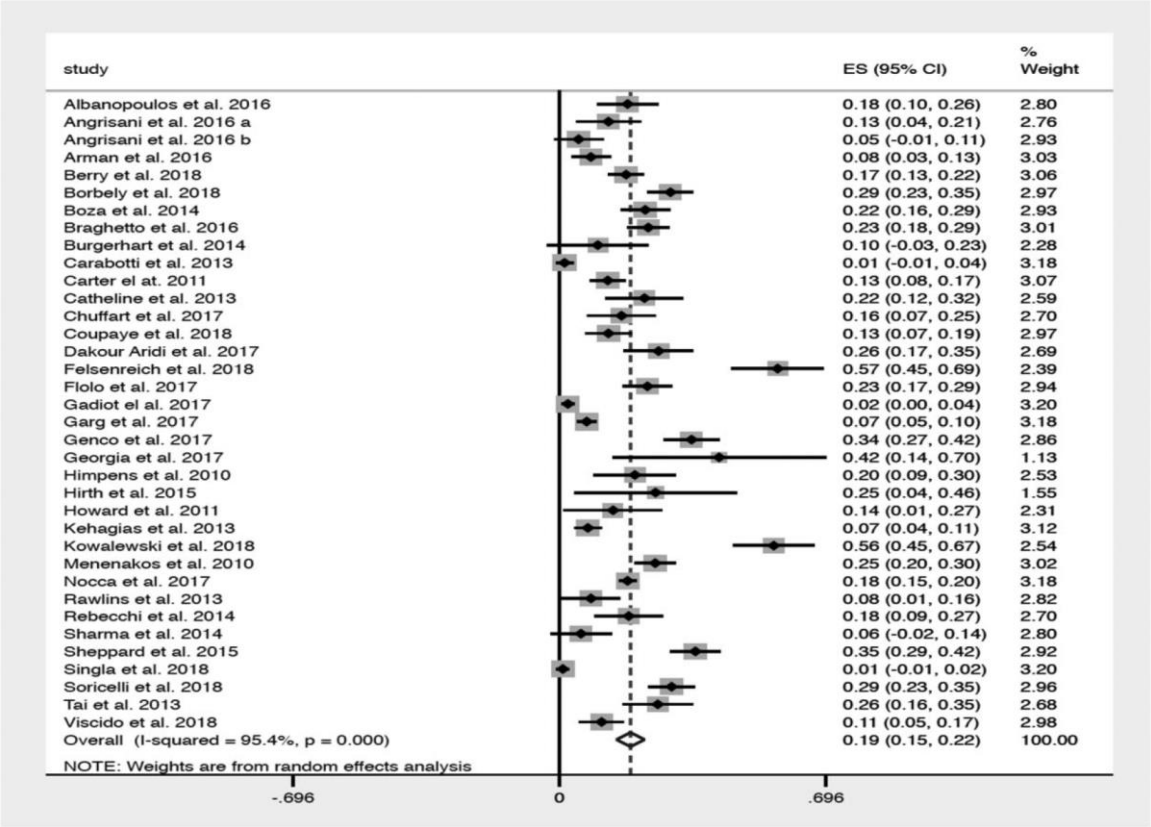
JAMA Surgery

Salminen et al, 2022

Sleeve und Reflux

Does Sleeve Gastrectomy Expose the Distal Esophagus to Severe Reflux?

A Systematic Review and Meta-analysis

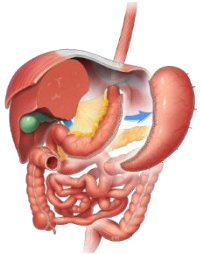


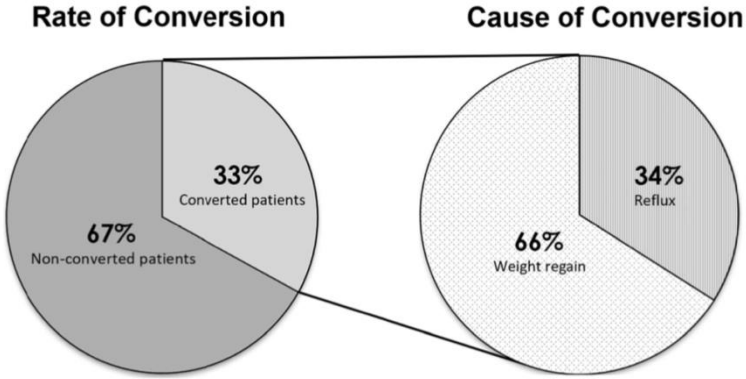
Forest plot of change in reflux

ANNALS OF SURGERY
A MONTHLY REVIEW OF SURGICAL SCIENCE SINCE 1885

Yeung et al, 2020

Sleeve – Re-OP im Langzeitverlauf





24h pH-Metrie-Ergebnisse 10J postop.

24 h ph-metry	Non-converted (n = 12)	Symptomatic reflux (n = 6)	Non-symptomatic reflux (n = 6)	p value
Acid exposure (%)	9.7 ± 8.0	9.7 ± 7.5	9.7 ± 9.2	0.99
(Normal <4.2%)				
Patients increased (%)	58.3	66.7	50	
Reflux activity (nr.)	62.7 ± 37.4	63.4 ± 37.8	62.0 ± 41.5	0.96
(Normal <73)				
Patients increased (%)	41.7	50.0	20	
DeMeester Score	52.7 ± 45.2	56.0 ± 40.9	49.3 ± 52.9	0.81
(Normal <14.72)				
Patients increased (%)	75.0	83.3	66.7	

SG sleeve gastrectomy

Hohe Rate an Reflux (+Barrett) nach Sleeve ohne klin. GERD-Symptome!!

OBESITY SURGERY
The Journal of Metabolic Surgery and Allied Care

Felsenreich et al., *2017 & 2018*

Take Home

- ✓ Wirkungsweise der Operationen ist vielschichtig und komplex
- ✓ Bariatrie ist effizient und sicher
- ✓ Bariatrie ≠ Last Resort!
- ✓ Sleeve ist keine «Bariatrie light»... Endoskopisches FU!

Herzlichen Dank!