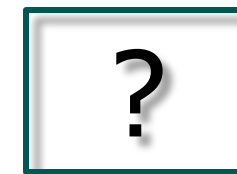


Recurrent Weight Gain Failure of Therapy or Failure to understand chronic Disease



Prof. Ralph Peterli

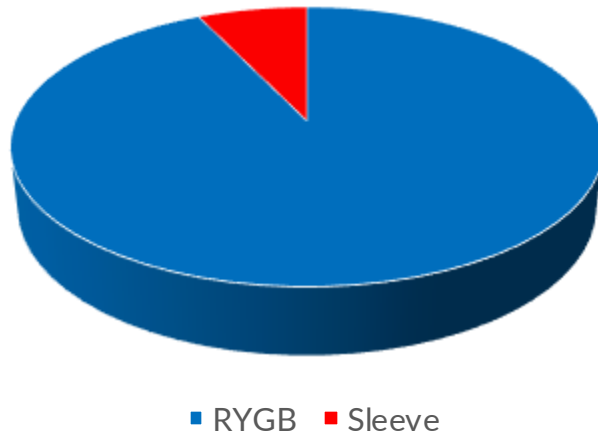
Department of Clinical Research University of Basel, Switzerland

Senior Consultant Visceral Surgery: ViszeraMed Zürich & Spital Männedorf

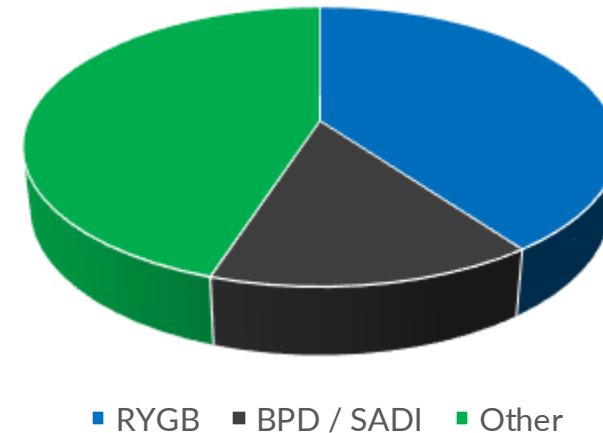
DISCLOSURES

- Research grants: Swiss National Science Foundation, Johnson & Johnson, Hirzbrunnen Foundation
NovoNordisk, UKBB, Novartis
- Lecture/consulting fees: Johnson & Johnson, Viatris, Falk Foundation, NovoNordisk, Lilly, Medtronic
- Case mix disclosure

Primary Procedures



Revisional Procedures



BACKGROUND

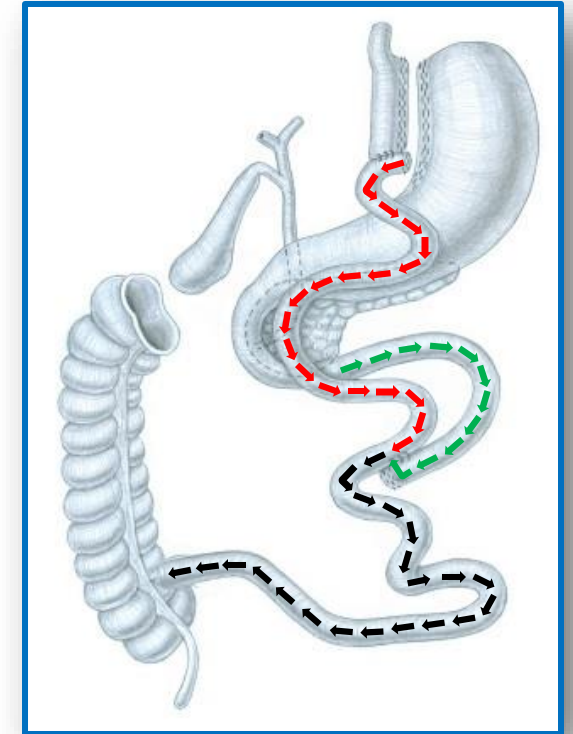
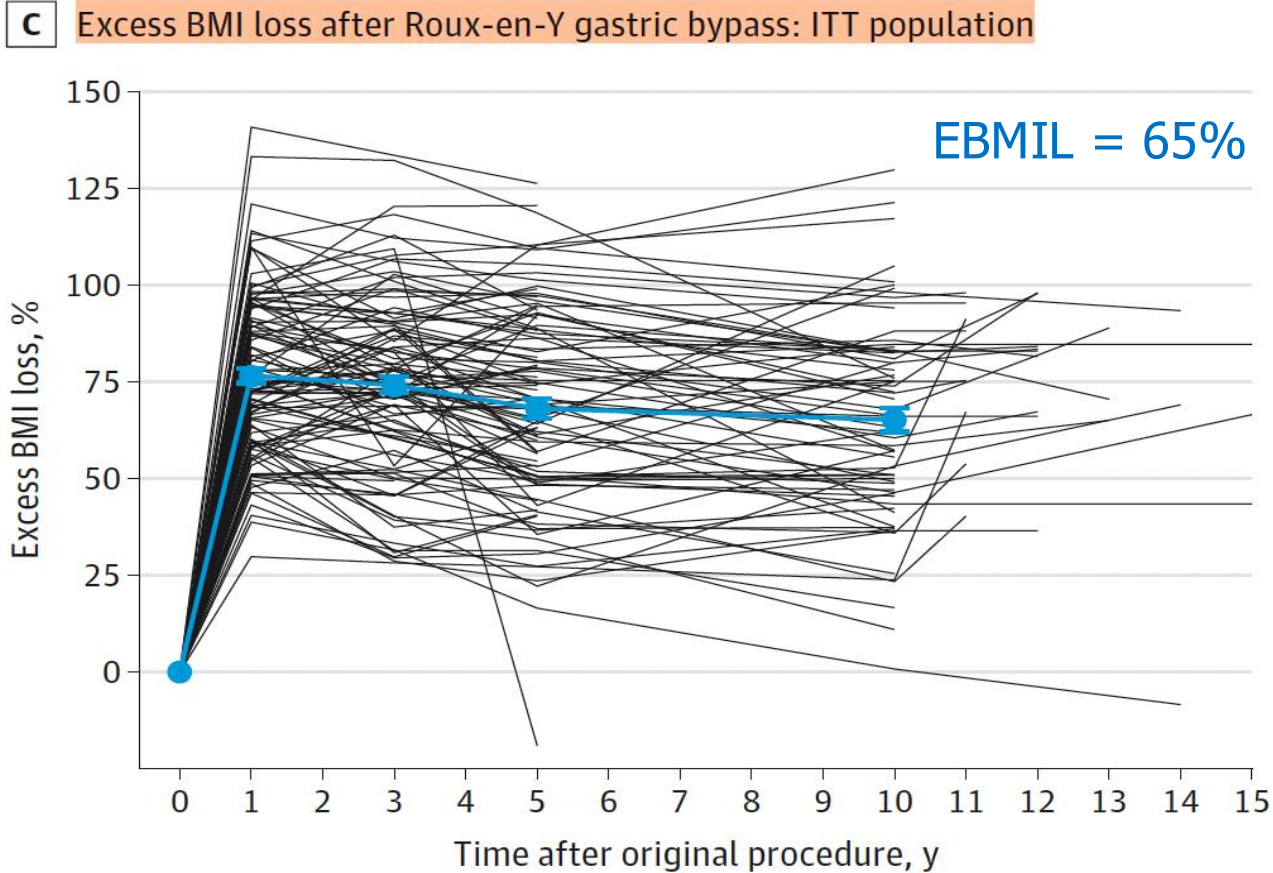
Evolution of Chronic Disease

- Treatment escalation over time in arterial hypertension



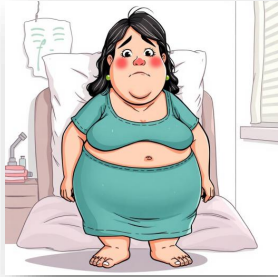
BACKGROUND *Variety of Weight loss Results in highly standardized LRYGB*

- SM-BOSS: LSG vs LRYGB (110 vs 107 patients) > 10y

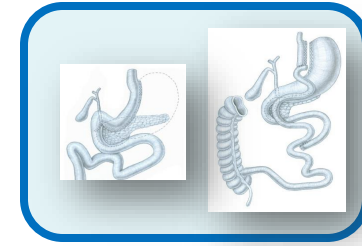


Potential Factors Affecting Obesity Treatment Outcomes

1. Patient



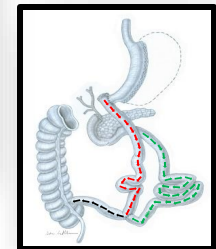
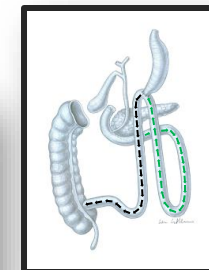
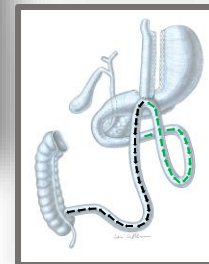
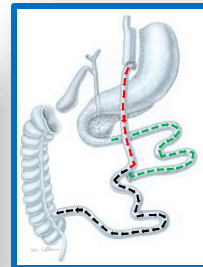
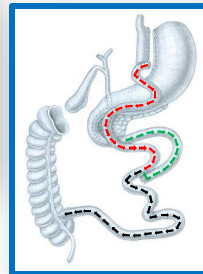
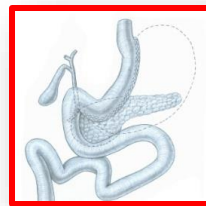
2. Treatment Modalities



3. Clinical setting leading to treatment decisions



4. Technical Issues



1. Potential Patient Factors with Effect on Result

Preclinical / clinical obesity

Severe eating disorders

Ability to adhere to nutritional advice

Potential for physical activity

Genetic / epigenetic factors

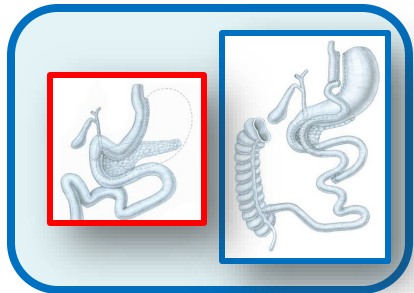
Fat distribution, subcutaneous, liver/pancreas or perivascular

Total bowel length

Try not to blame the patient, it's the biology

2. Different Treatment Modalities OMM, EBP & MBS

- Efficacy and safety



Intervention	TBWL (%)				Any SAE (OR)			
	26-52	53-104	105-156	≥ 156	26-52	53-104	105-156	≥ 156
Obesity management medications								
Orlistat	3.1	3.2	3.0	3.0	1.16	1.27	*	0.00
Liraglutide	4.5	5.1	4.2	—	1.01	1.29	*	—
Naltr./Bupr.	4.8	4.8	—	—	1.12	1.12	—	—
Phen./Topir.	—	8.8	—	—	—	1.28	—	—
Semaglutide	8.6	10.5	8.7	—	0.51	0.91	*	—
Tirzepatide	15.2	16.5	—	—	1.00	0.91	—	—
Endoscopic bariatric procedures								
POSE	3.8	—	—	—	3.12	—	—	—
IGB	4.8	—	—	—	3.40	—	—	—
AT	9.2	—	—	—	2.52	—	—	—
ESG	12.8	—	—	—	4.42	—	—	—
Metabolic bariatric surgery								
LAGB	7.9	9.6	7.4	5.6	*	1.84	*	8.06
GCP	17.1	8.1	—	6.6	1.68	—	*	10.75
LVBG	10.9	11.6	19.4	10.2	*	—	*	5.84
SG	11.5	12.1	19.4	13.0	1.68	—	*	1.87
OAGB	19.5	13.9	22.5	14.9	3.54	—	*	1.39
RYGB	18.4	17.2	17.3	17.1	2.24	5.0	*	5.84
SADI	24.4	—	—	—	*	—	—	—
BPD	26.2	24.3	25.4	26.0	*	*	*	22.78

3. Clinical Setting may Affect Treatment Efficacy

- Primary contact with:

- Internist

- If OMM #1 doesn't work: pt gets #2, 3



«If all you have is a hammer, everything looks like a nail»

A. Maslow

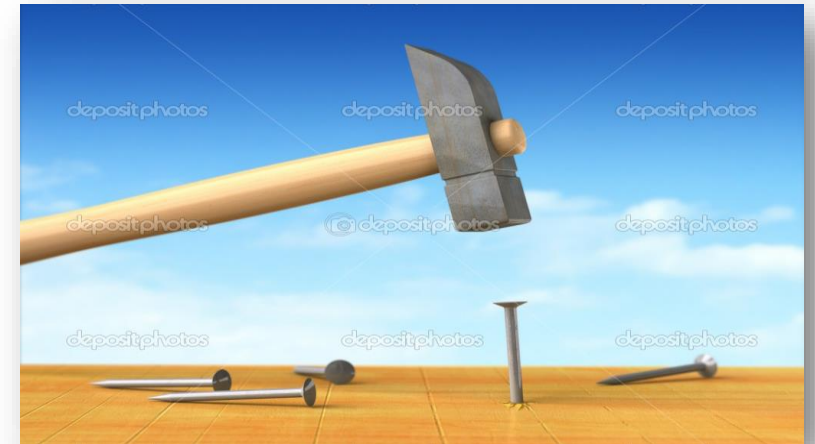
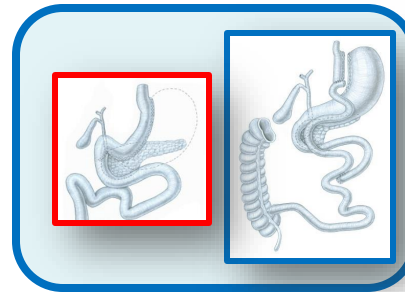
- Endoscopist

- If it doesn't work: another endoscopy



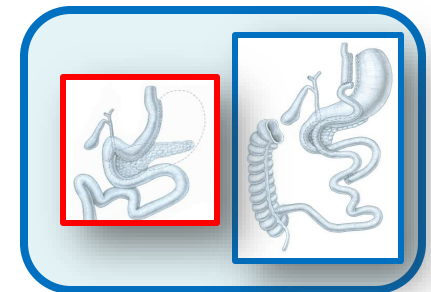
- Surgeon

- If it doesn't work: another operation



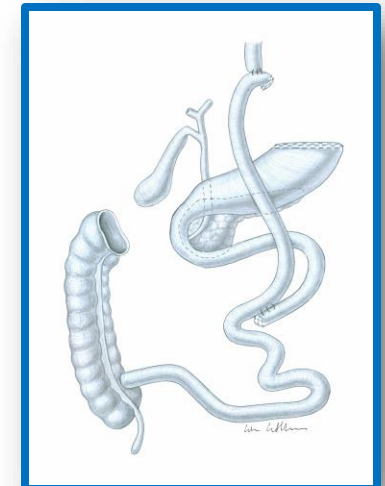
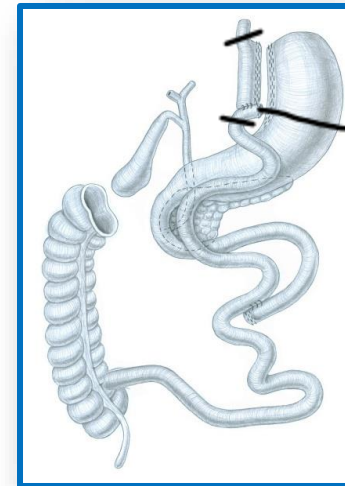
3. Clinical Setting may Affect Treatment Efficacy

- Ideal: interdisciplinary & interprofessional obesity clinics
 - Independent of which specialist sees the patient first
 - Information from the beginning:
 - Obesity = chronic disease
 - Description of all modalities with pros & cons
 - More than one intervention (OMM, EBP or MBS) may be necessary
 - All modalities are taken into consideration if suitable
 - Individual, multimodal therapeutic concept is defined
 - Shared decision of team & patient's wish (placebo effect)



4. Technical “mistakes” of Initial Intervention

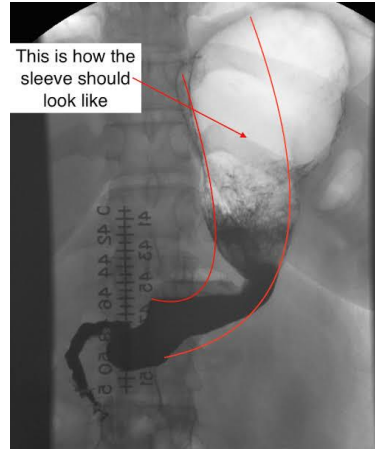
- RYGB:
 - Too large & wide pouch
 - Candy cane ?
- Pouch-gastro-gastric fistula



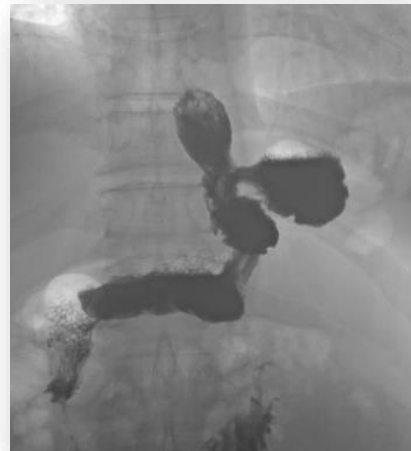
4. Technical “mistakes” of Initial Intervention

- Sleeve:

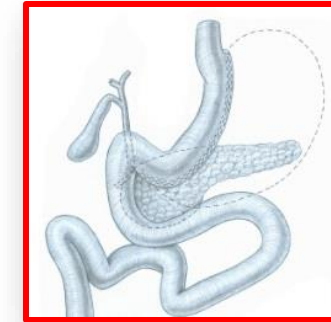
- Too wide, large



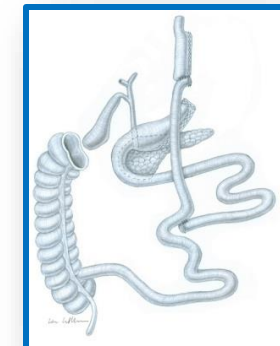
- Fundus-diverticula



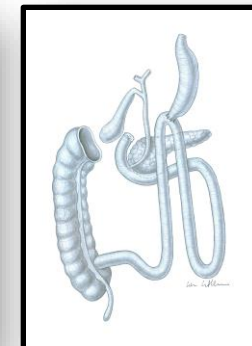
Re-Sleeve or endoscopic techniques



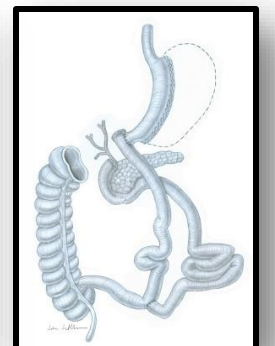
Conversion to RYGB with long BPL



SADI



BPD-DS



Management of Patients with Recurrent Weight Gain

- Interdisciplinary and interprofessional team
- Detection of pts with weight issues / comorbidity recurrence
 - During regular FU
 - Mandatory in Switzerland for a minimum of 5y
 - FU rate at 5y > 75%



- GP refers patient
- Patient



Work-up 1

Suboptimal Initial Clinical Response & Recurrent Weight Gain

- Weight evolution
 - %WL 20% ?
 - Weight loss nadir
 - Severity of recurrent weight gain (> 30% from nadir?)
- Obesity assoc. Complications
 - Evolution
 - Severity
- Eating habits
 - Existing/newly developed eating disorder
 - Potential to improve?
 - Compliance (vitamin supplementation)
 - Deficiencies ?
- Anatomical problem ?



Conservative options

- Intensified dietary counselling & physical activity
- Additional psychological support

- OMMs

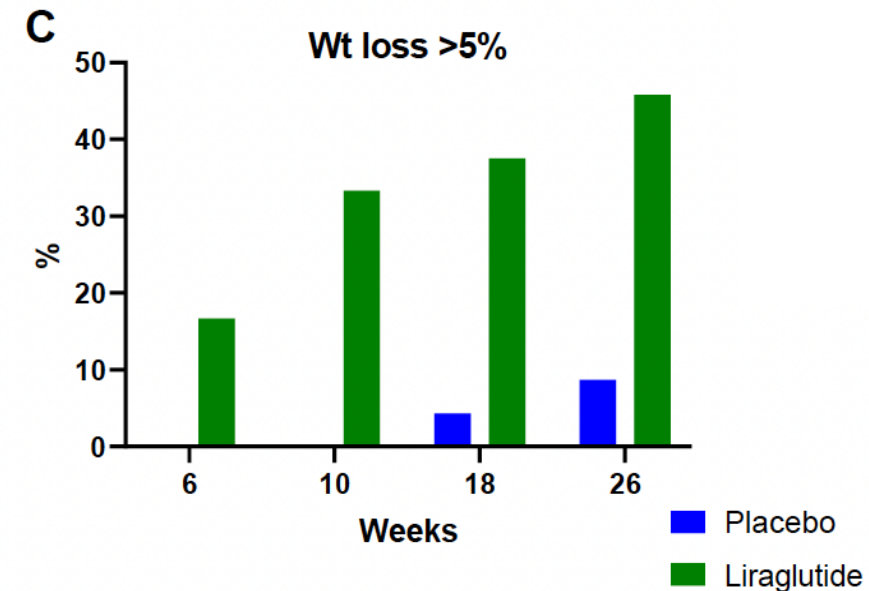
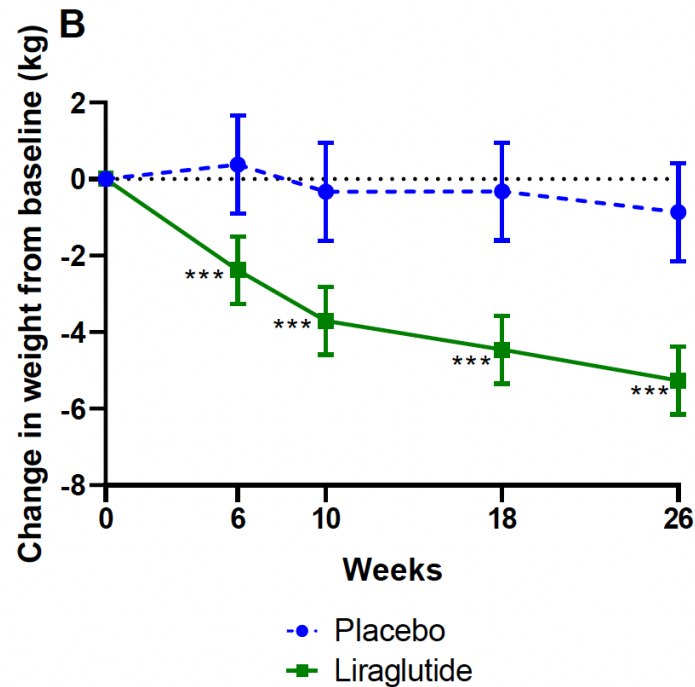


- Intensified medical therapy:
 - For T2DM
 - GERD
 -

OMMs in Pts with Suboptimal Clinical Response or Recurrent Weight Gain

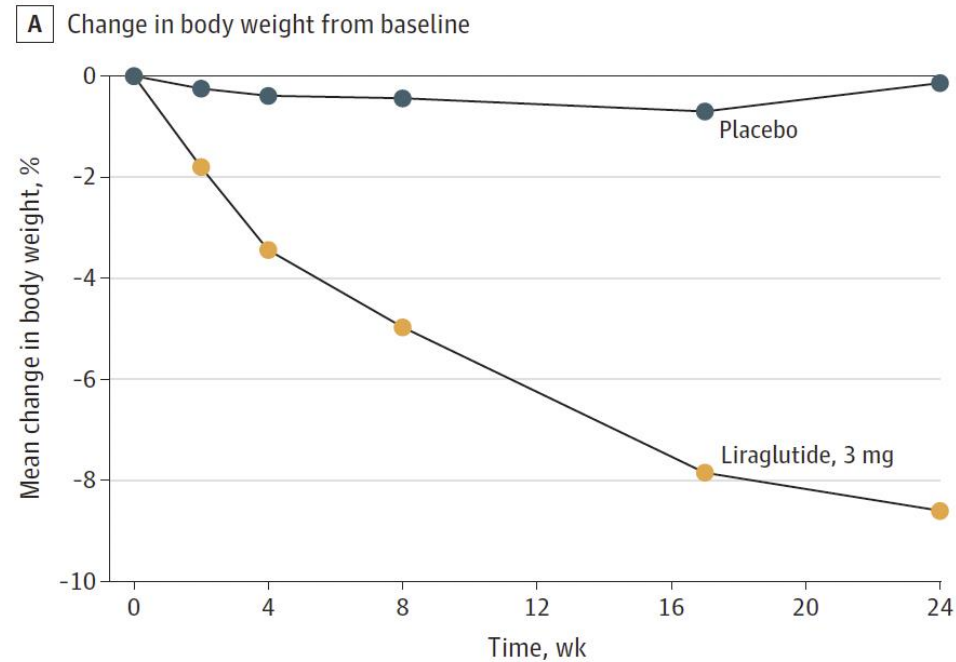
Gravitas

- RCT, N=80 (71): 48 Lira / 23 Placebo in pts < 20% WL, > 1y postop
- Weight loss (RYGB = Sleeve)



OMMs in Pts with Suboptimal Clinical Response or Recurrent Weight Gain Bari-Optimize

- RCT, N=70 (35 Lira / 35 Placebo) in pts < 20% WL, > 1y postop
- LSG (65), RYGB (5)

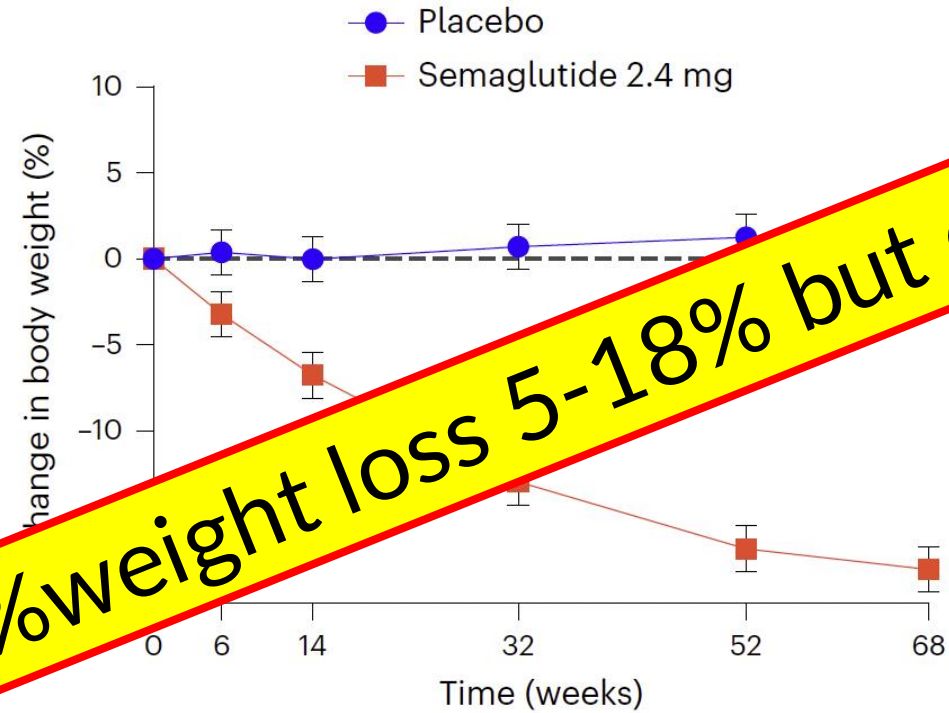


- More SAE in the placebo group

OMMs in Pts with Suboptimal Clinical Response or Recurrent Weight Gain

Bari-Step

- RCT, N=70 (35 Sema / 35 Placebo) in pts < 20% WL, > 1y postop
- LSG (55), RYGB (15)



Additional %weight loss 5-18% but durability?

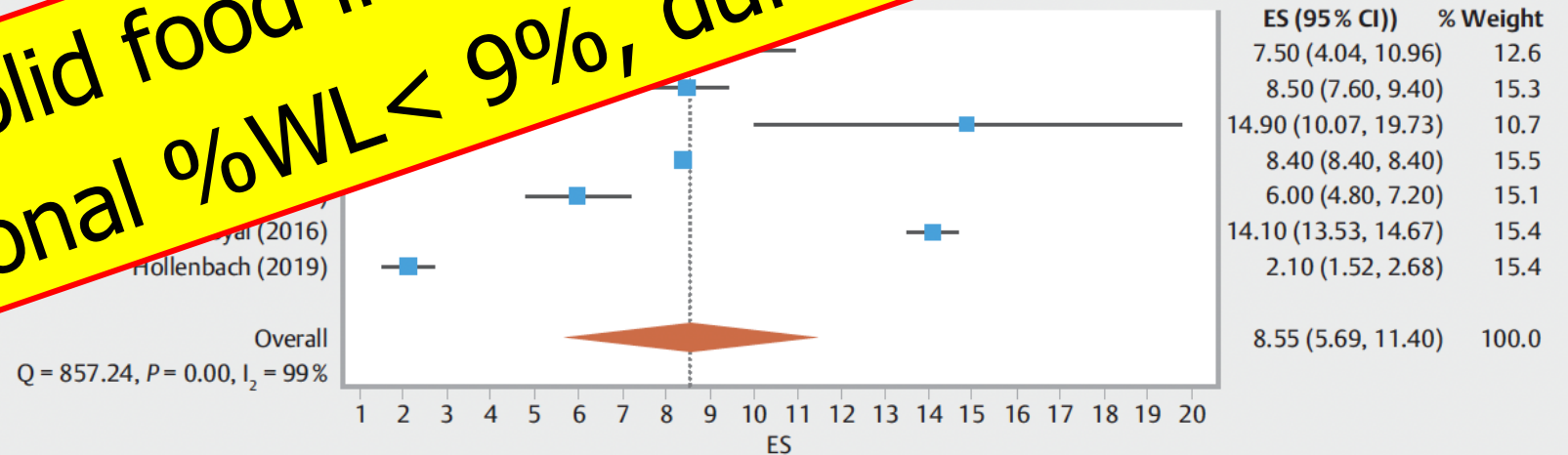
- SAE similar

Endoscopy for Suboptimal Clinical Response and Recurrent Weight Gain RYGB

Reshaping of stoma size at gastro-enterostomy in RYGB

- (Sclerotherapy)
 - Argon Laser Plasma Coagulation (APC)
 - TORe (transoral outlet reduction) with Endostitch®
 - In combination with APC
 - Repeat TORe
 - Meta-analysis: 13 studies on 810 pts *
- Additional %WL: 8.6% 1y

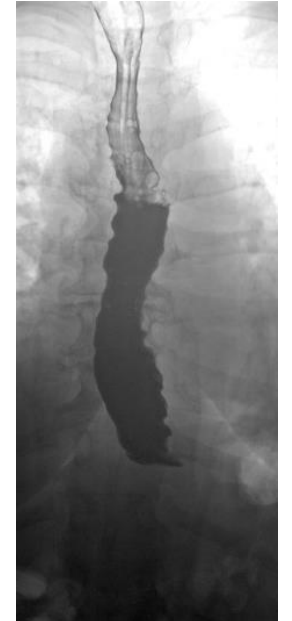
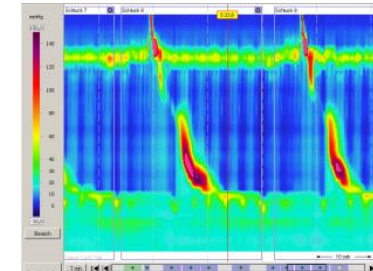
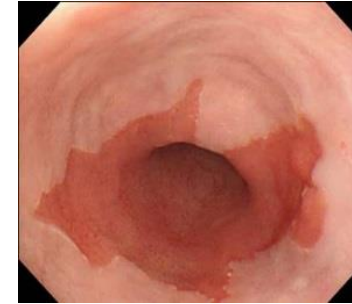
Solid food intolerance
additional %WL < 9%, durable?



Work-up 2

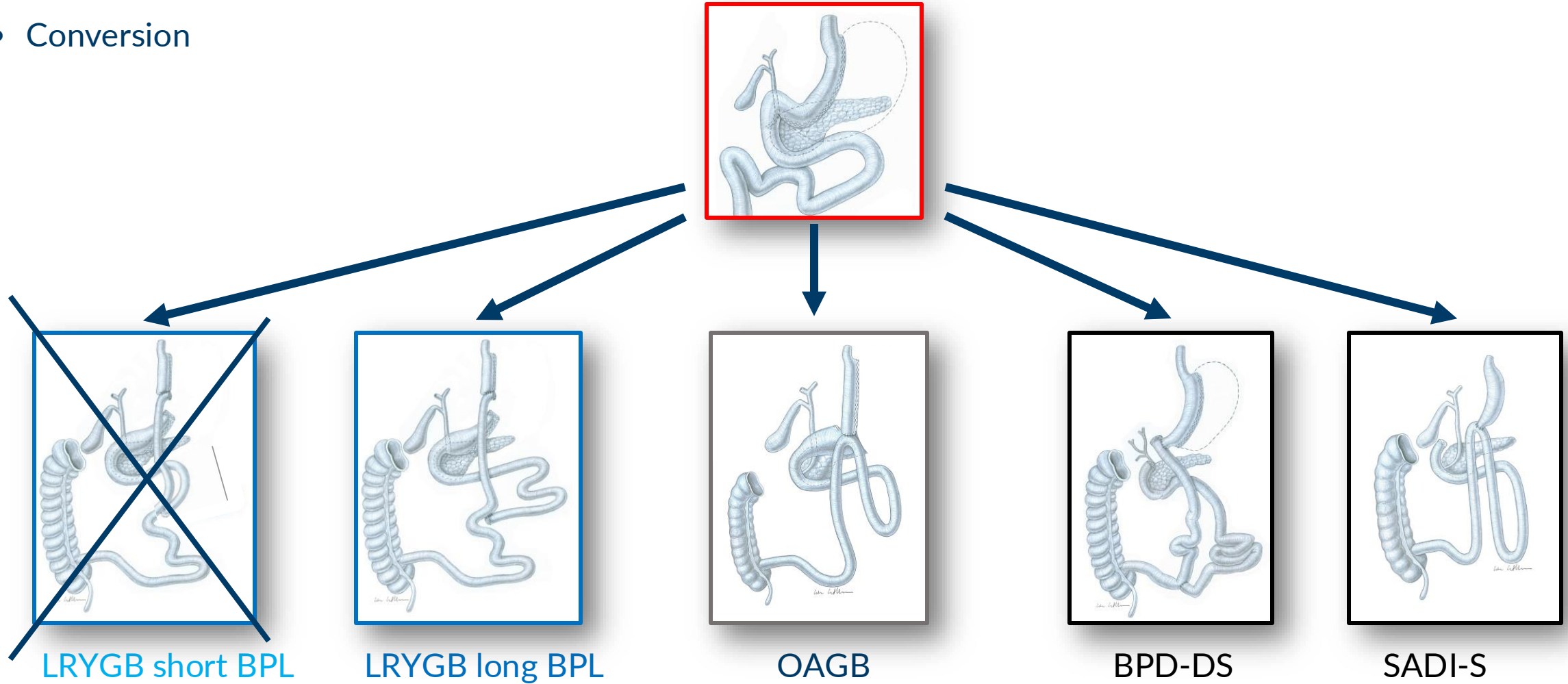
After Unsuccessful Conservative/Endoscopic Therapy

- Expectations of patient: realistic ?
 - Psychiatric re-evaluation
- Adherence:
 - In the past
 - Future
- Compliance (vitamin supplementation)
- Additional investigations:
 - Depending on symptoms
 - Endoscopy
 - Manometry
 - Upper GI-series
 - Cardio-pulmonary work-up in T2DM
 - Ultrasound: gallstones?
- Escalation of metabolic surgery: add hypo-absorption ?
 - Proteins: can pt. eat enough; can pt. afford them?
 - Does pt. tolerate diarrhea, odorous stools?
 - Stool incontinence?



Options after **Sleeve** for recurrent weight gain

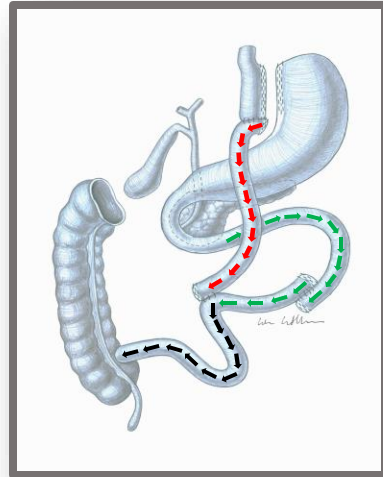
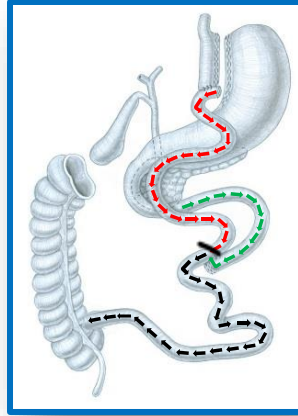
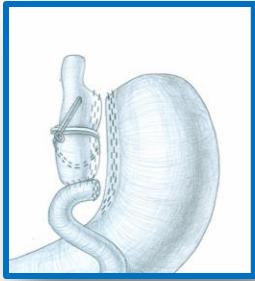
- Conversion



Options after RYGB for recurrent weight gain

Add restriction

- Pouch-resizing & ring
- If dumping is an issue



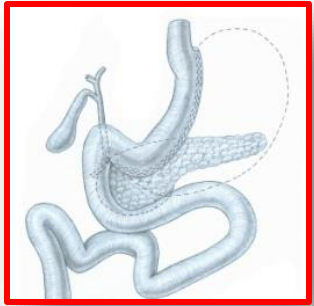
Add hypo-absorption: Distalization Type 1

- Higa-Formula: taking down the **AL** close to the ileocecal valve
- **TAL (AL & CL)** = min. 3m

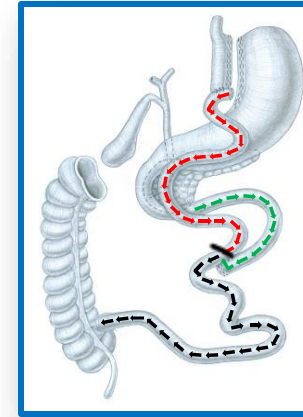
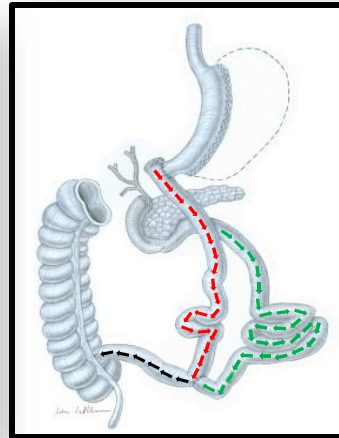
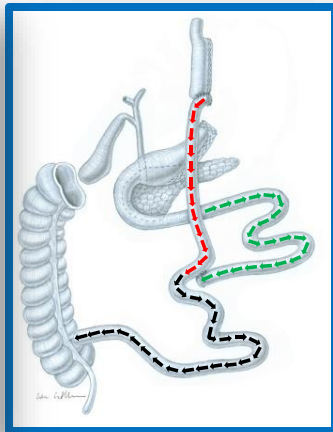
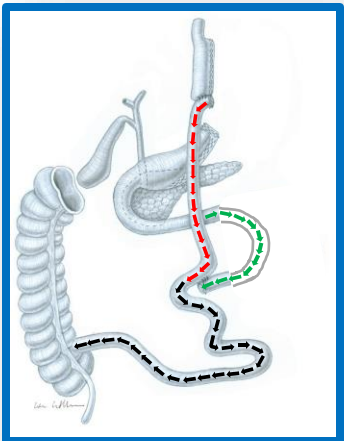
SM-BOSS: 10-year Results

Conversion to Different Anatomy

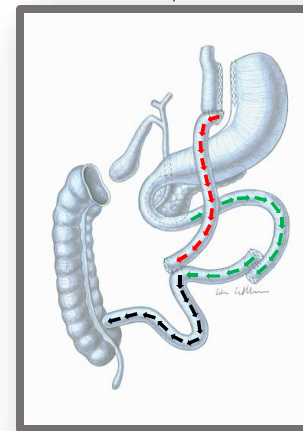
- LSG had significantly higher rates of conversion than LRYGB (30% vs. 5.5%, $p < 0.001$)



- n=32
- Indication:
 - Reflux 50%
 - Suboptimal weight loss 30%
 - Both 20%



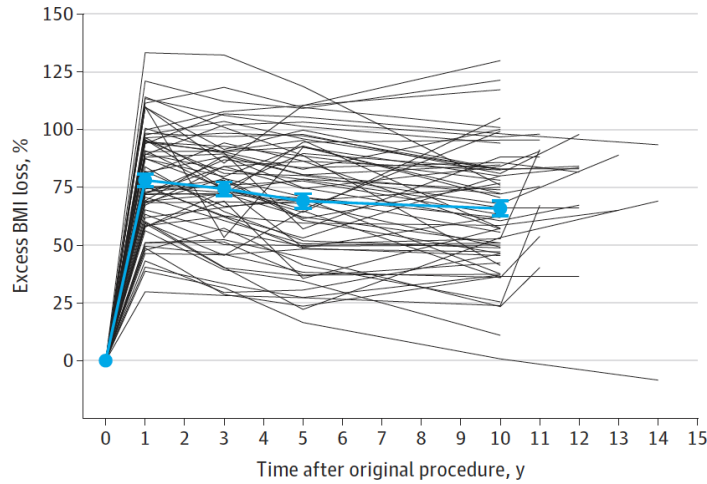
- n = 6
- Indication:
 - Suboptimal weight loss 100%



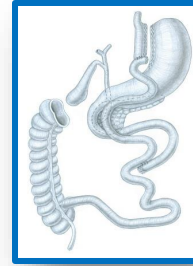
SM-BOSS: 10-year Results

Conversions Improve Weight Loss Result

PP population (without conversions)

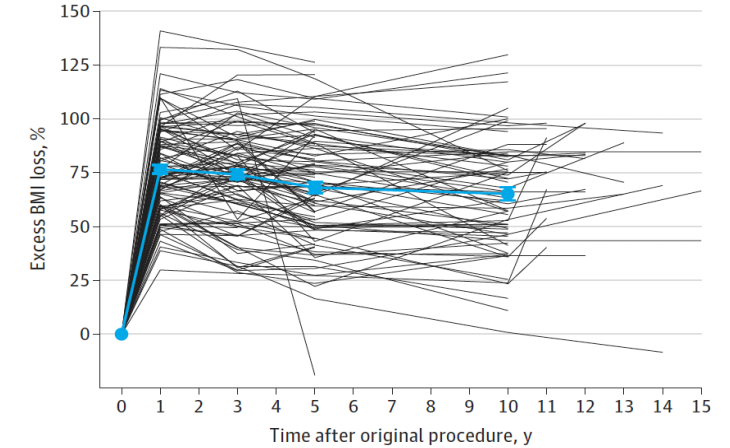


66 %EBMIL

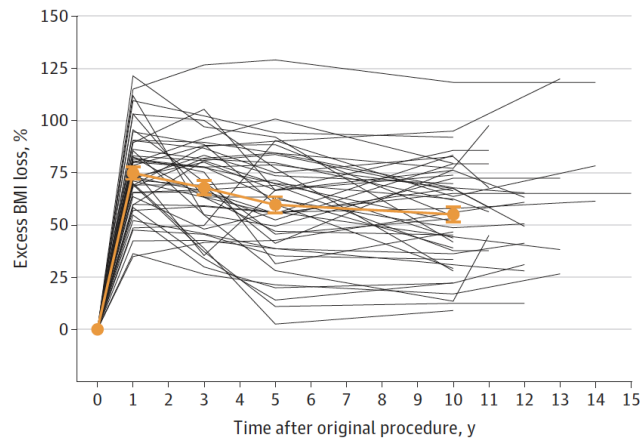


65 %EBMIL

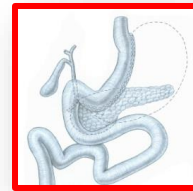
ITT population (with conversions)



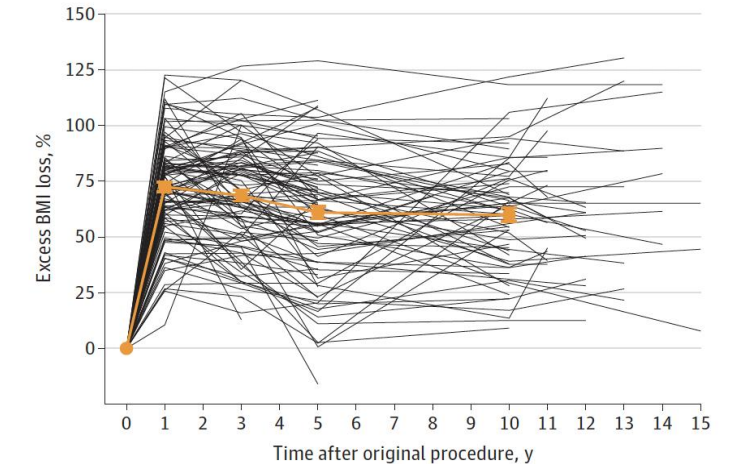
$p < 0.5\%$



56 %EBMIL

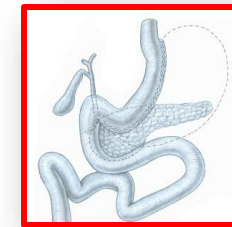
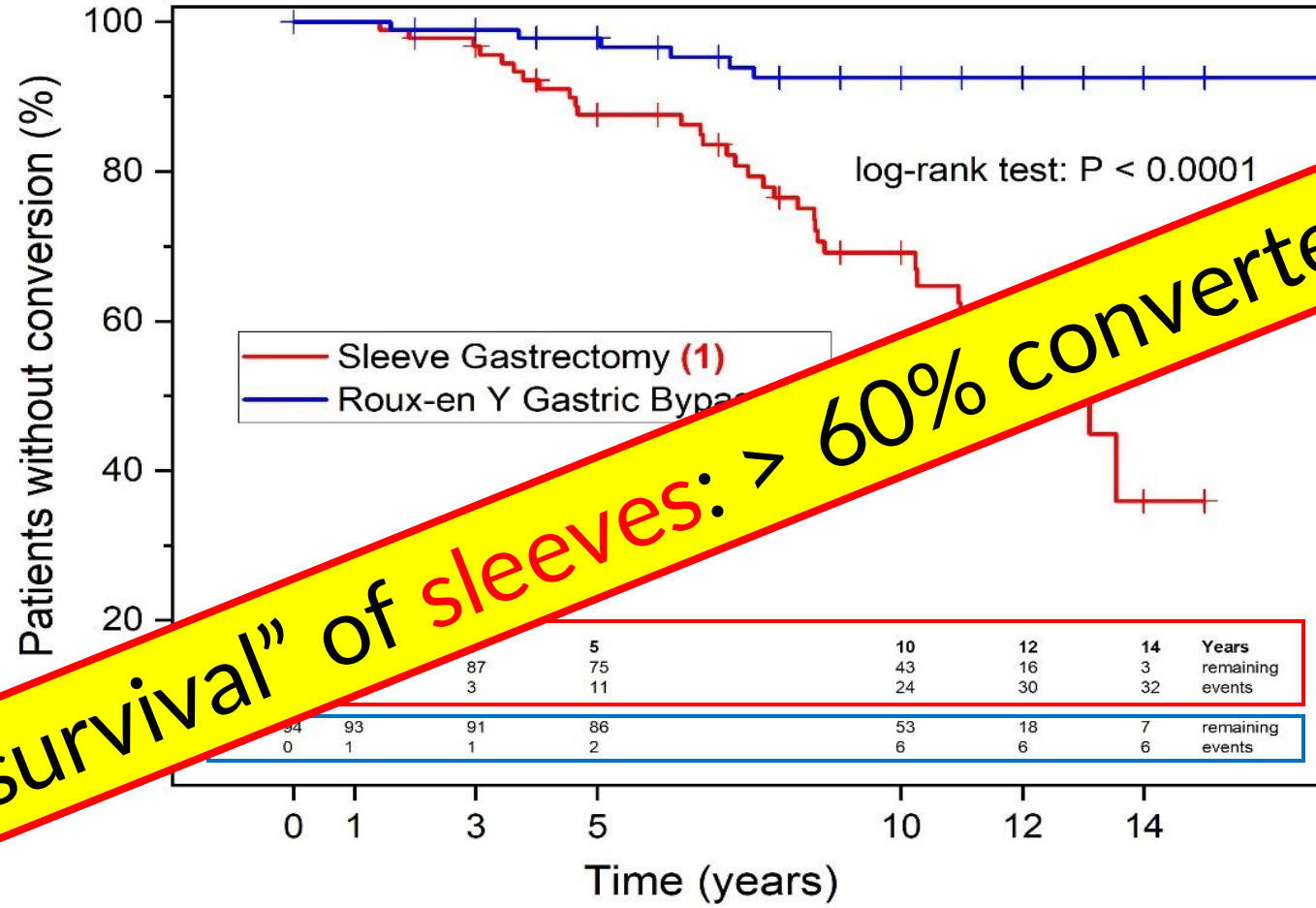


61 %EBMIL



SM-BOSS: 10-year Results

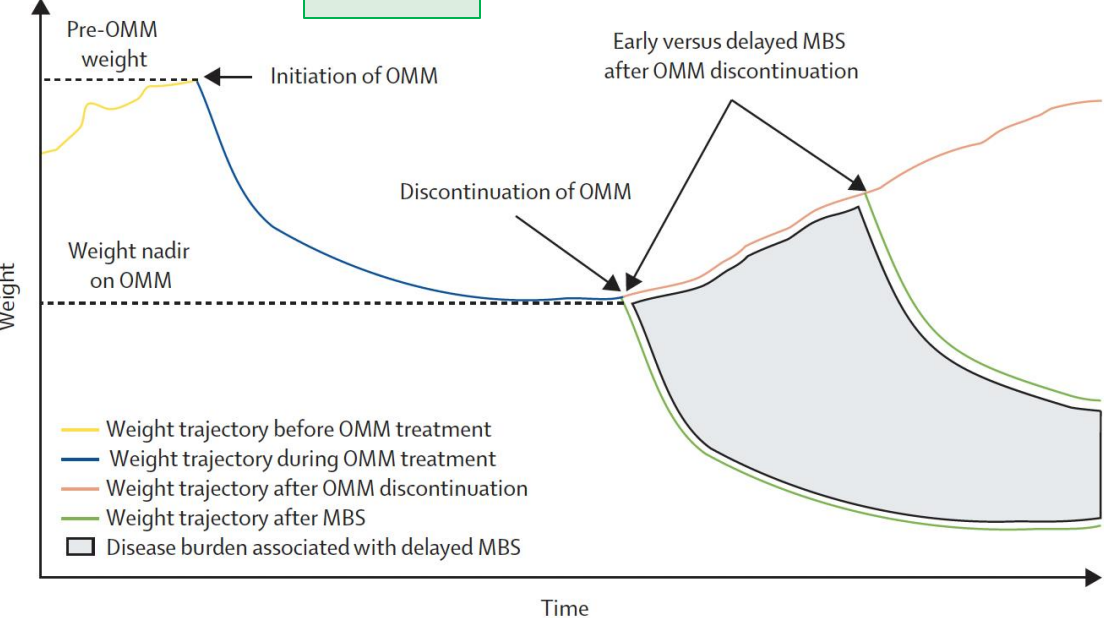
Probability of Conversion Over Time



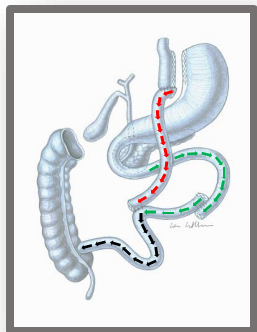
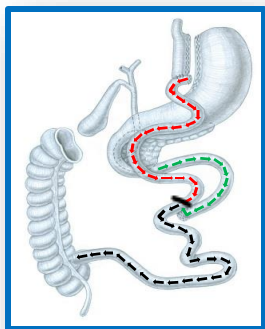
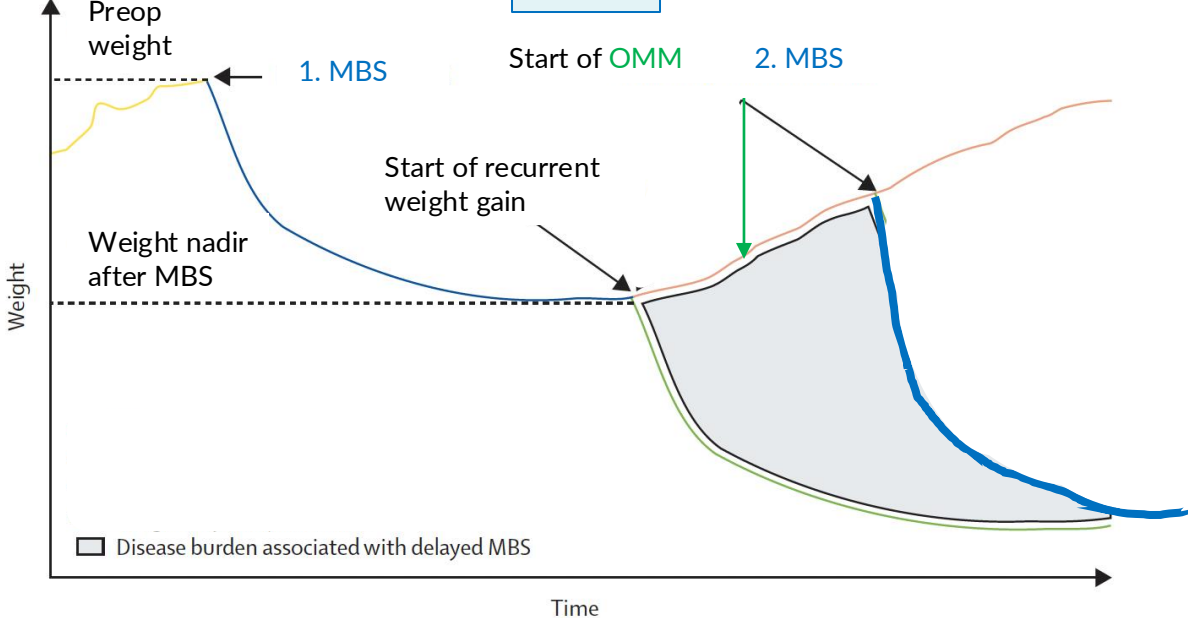
> 60%

Concepts in Pts with Suboptimal Clinical Response or Recurrent Weight Gain

OMM



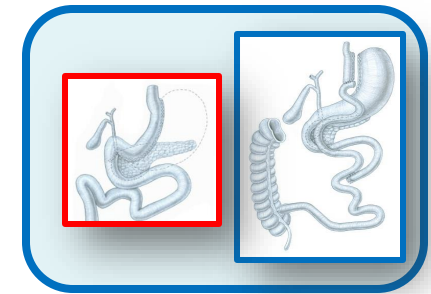
MBS



Author	Year	N	FU years	Type of redo-surgery	%EWL (since revision)	Malnutrition
Ghiassi & Higa	2017	96	3 (FU 50%)	Higa	66	
Shin & Shikora	2019	22	?	Higa	78 (62%)	14%
Shah & Gislason	2023	48 42	1-8 (>90%)	Higa TAL 250 Higa TAL 300	3y 74% 8y 62%	35% 14%
Linke & Peterli	2020	20	2 (100%)	Higa & Hess TAL >300	69 (48%)	10% <2%

SUMMARY *Recurrent Weight Gain: Failure of Therapy or Failure to understand chronic Disease*

- Prevalence of suboptimal initial clinical response and recurrent weight gain >10y*
 - RYGB: $\cong 10\%$
 - LSG: 30 - 50 %
- Patient factor:
 - On average: patient who does comply (diet & physical activity) has a better result but exceptions
 - We shouldn't blame the patient, biology is different in every patient
- MBS > OMM > EBP
- Technical errors can lead to bad result
- Therapeutic strategy:
 - Specialized interdisciplinary and interprofessional obesity clinics
 - Multimodal concept from the beginning
- Revisional surgery:
 - Is safe with low early morbidity (but higher than primary surgery)
 - More effectivity can lead to more side effects
 - If hypo-absorption is added: better weight loss & effect on obesity assoc. complications BUT more severe side effects



CONCLUSION *Recurrent Weight Gain: Failure of Therapy or Failure to understand chronic Disease*



- Failure to understand obesity as a chronic disease can be avoided
 - Well informed patient
 - Treated in a specialized obesity clinic
 - With a multimodal therapeutic concept from the start



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