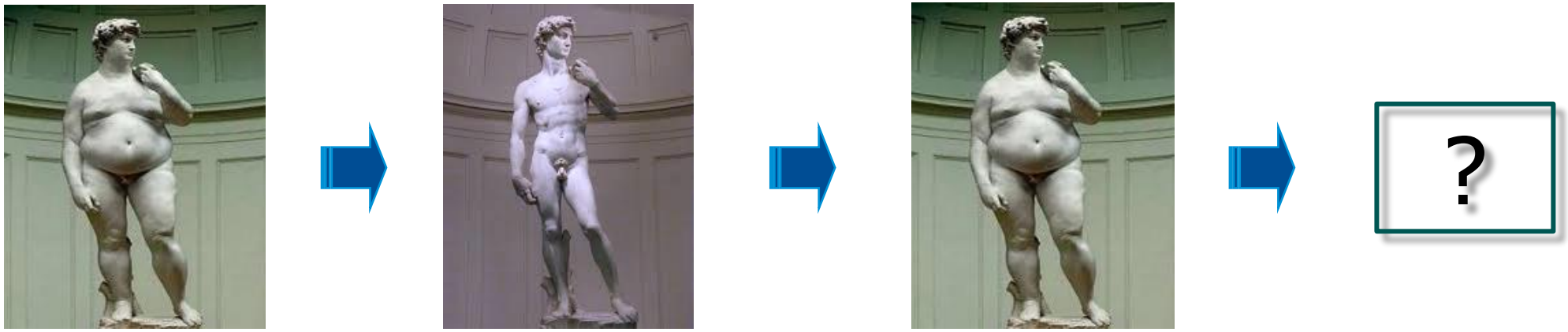
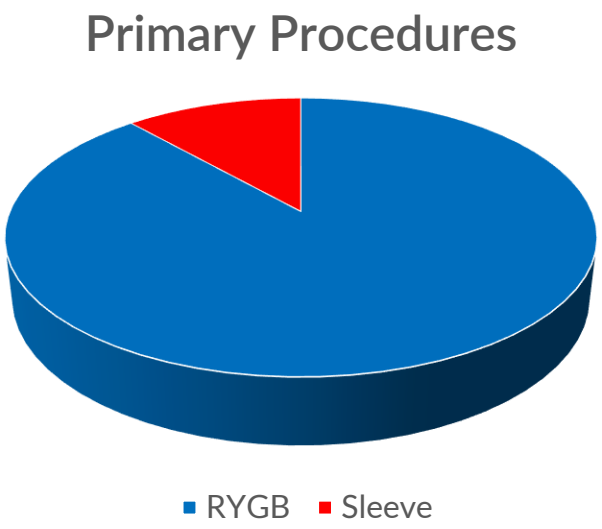
Management Algorithm for Suboptimal Clinical Response after RYGB

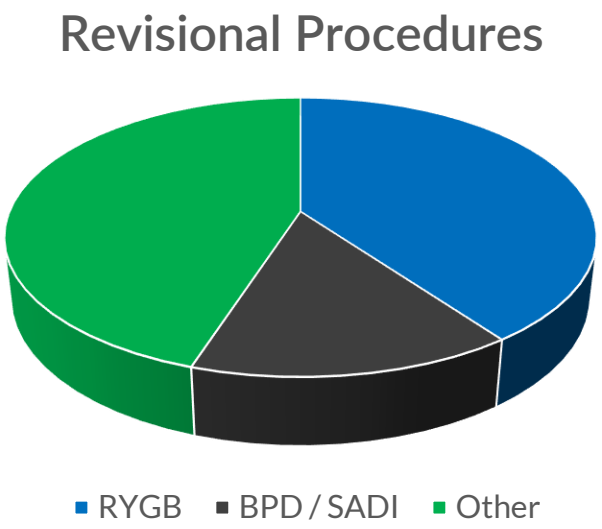


Prof. Ralph Peterli
Department of Clinical Research University of Basel, Switzerland
Senior Consultant Visceral Surgery: ViszeraMed Zürich & Spital Männedorf

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





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BACKGROUND *how to define "optimal clinical result"*

Weight loss:

- What is "normal weight loss" ?
  - According to IFSO Consensus > 20 %WL *
- What does the patient expect ?
- How much is needed = f (co-morbidity)

Which measurement?

- % excess BMI or % excess weight loss (EWL)
  - Success: > 50% EWL ?? (Reinhold's criteria #)
- % original weight (%WL)
  - Independent of height
- Recurrent weight gain:
  - 30% from weight nadir (71% of experts in IFSO Consensus agree) *

** Salminen Obes Surg 2024*
#Reinhold, Surg Gynecol Obstet 1982

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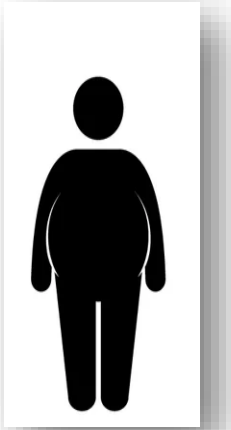
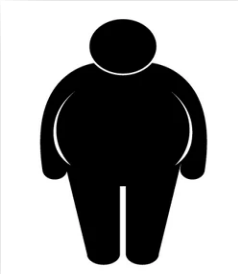
Example:

- Patient 1: initial weight 120 kg, 170 cm, BMI 41.5 kg/m^2
  - Weight loss: 40 kg
  - BMI: 27.7 kg/m^2
  - Δ BMI: 13.8
  - %WL: 30%
  - % EBMIL: 83.6%



- Patient 2: initial weight 120kg, 150 cm, BMI 53.3 kg/m^2
  - Weight loss: 40 kg
  - BMI: 35.6 kg/m^2
  - Δ BMI: 17.7
  - %WL: 30%
  - % EBMIL: 62.5%



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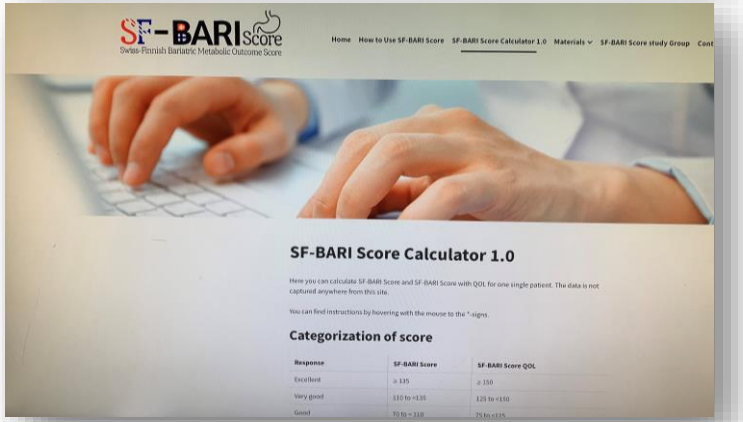
** Salminen Obes Surg 2024*
#Reinhold, Surg Gynecol Obstet 1982

BACKGROUND *how to define "optimal clinical result"*

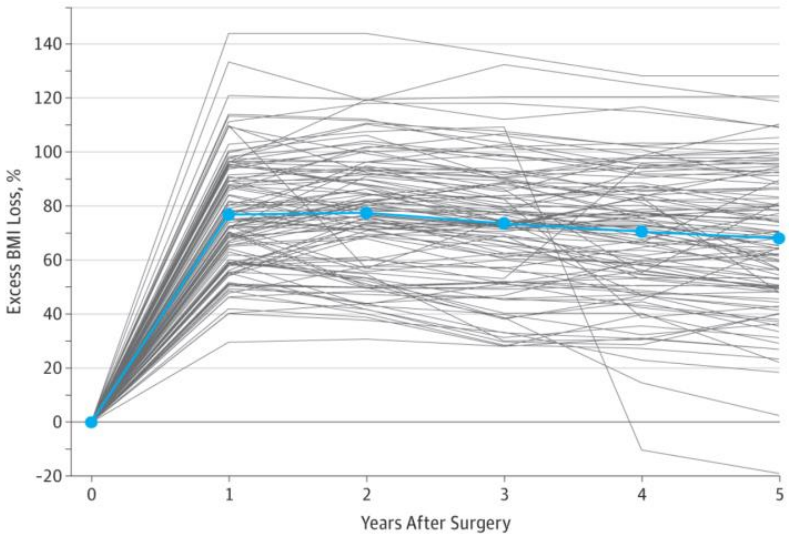
- Composite endpoint to compare different treatment modalities / series
  - Weight loss (%WL * 2)
  - Co-morbidities
    - T2DM
    - Dyslipidemia
    - Hypertension
    - OSAS
  - Complications / side effects
    - Comprehension complication index (0 = no complication / 100 = death)
  - (Quality of life)
  - Based on the merged patient level data of SLEEVEPASS & SM-BOSS *
    ** Wölnerhanssen, Peterli, Bueter, … Salminen, BJS 2020*
  - Is validated in large databases (SOREG Sweden & Norway, Dutch DATO) #

SF-BARI score
Swiss-Finnish Bariatric Metabolic Outcome Score

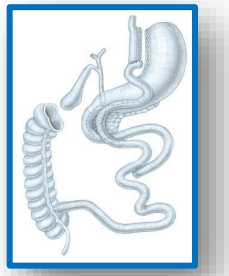


** Peterli, JAMA Surg 2023, # Bruinsma, Peterli, Salminen, BJS 2025*

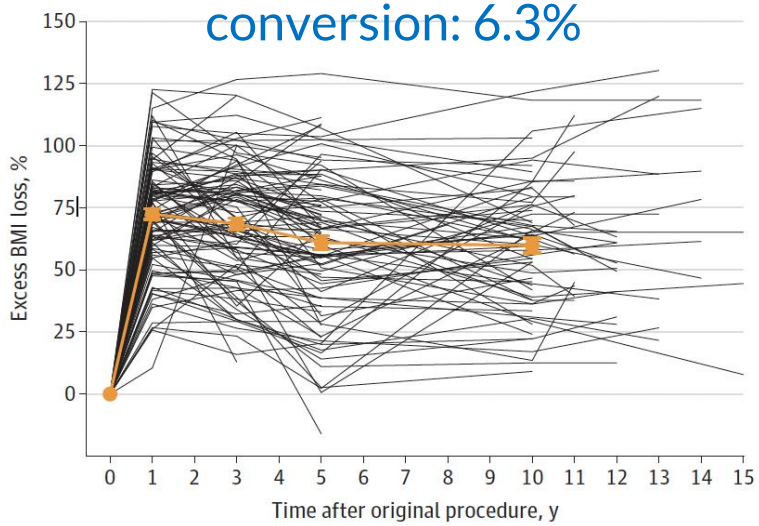
SM-BOSS *Weight loss ITT-Population 5y PP-population 10y*



68 %EBMIL
29 %WL

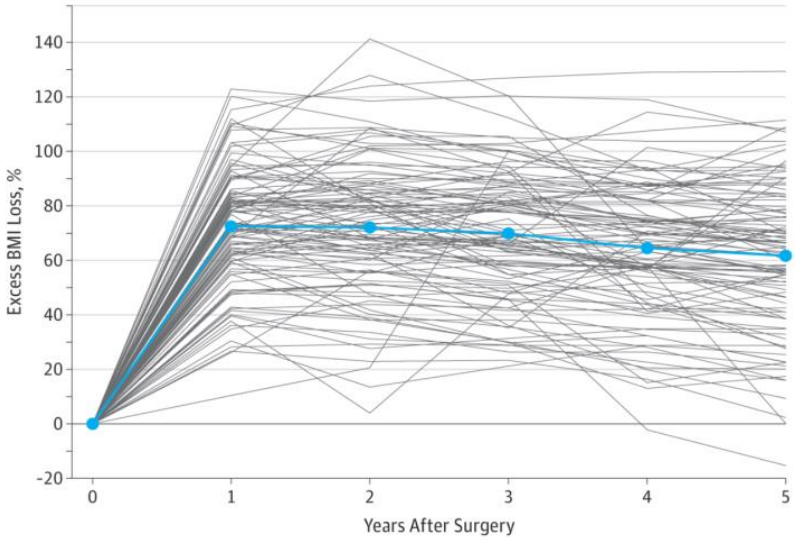


65 %EBMIL
28 %WL

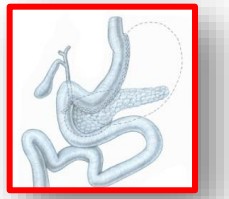


n.s. after adjustment for multiple comparisons

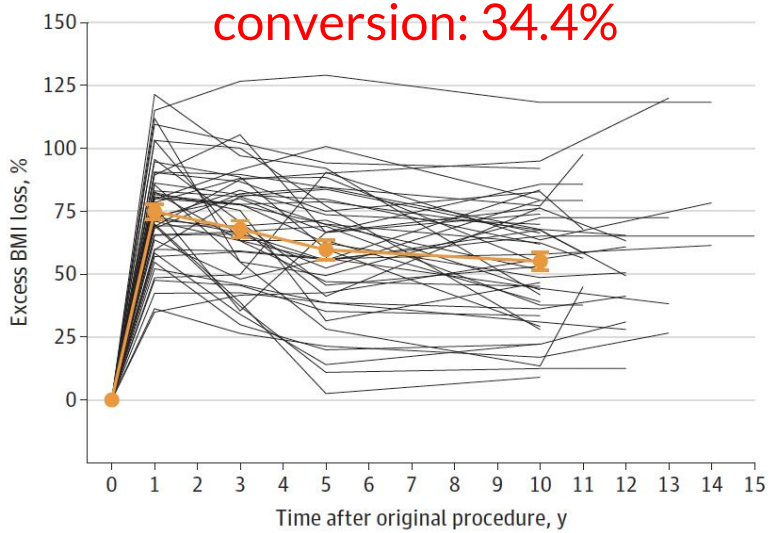
p < 0.5%



61 %EBMIL
25 %WL



55 %EBMIL
26 %WL



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Peterli, JAMA 2018, Kraljevic & Peterli, JAMA Surg 2025

Patient Management

- Interdisciplinary and interprofessional team
  - Endocrinologist
  - Nutritionist
  - Psychiatrist
  - Surgeon
  - Gastroenterologist
  - .....
- Detection of pts with weight issues / comorbidity recurrence
  - During regular FU
    - Mandatory in Switzerland
    - FU rate > 75% at 5 years postop

SMOB
SWISS MULTIDISCIPLINARY
OBESITY SOCIETY

  - Patient
  - GP

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?)
- Co-morbidity
  - 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
  - ……

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SUMMARY OMMs after MBS

- Timing:
  - Usually, late start when recurrent weight gain present
  - If start too early (before full effect of MBS is reached) may lead to reduced additional weight loss effect of OMMs
  - Insufficient data

- Recurrence after termination of therapy comparable to isolated use of OMMs

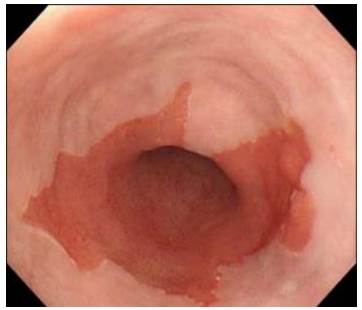
- Choice of OMMs similar to regular use:
  - Pt characteristics
  - Contraindications
  - Preference
  - Cost
  - Access

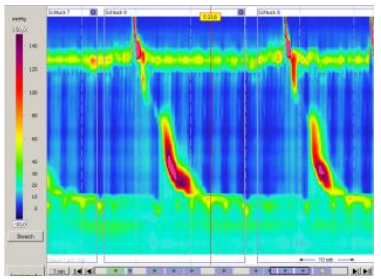
- Lira & Sema: 50-75% of regained weight can be lost again

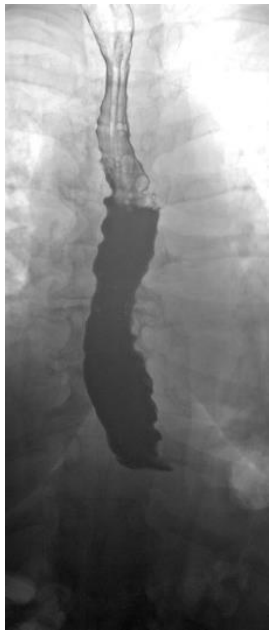
Work-up 2

after unsuccessful conservative 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?

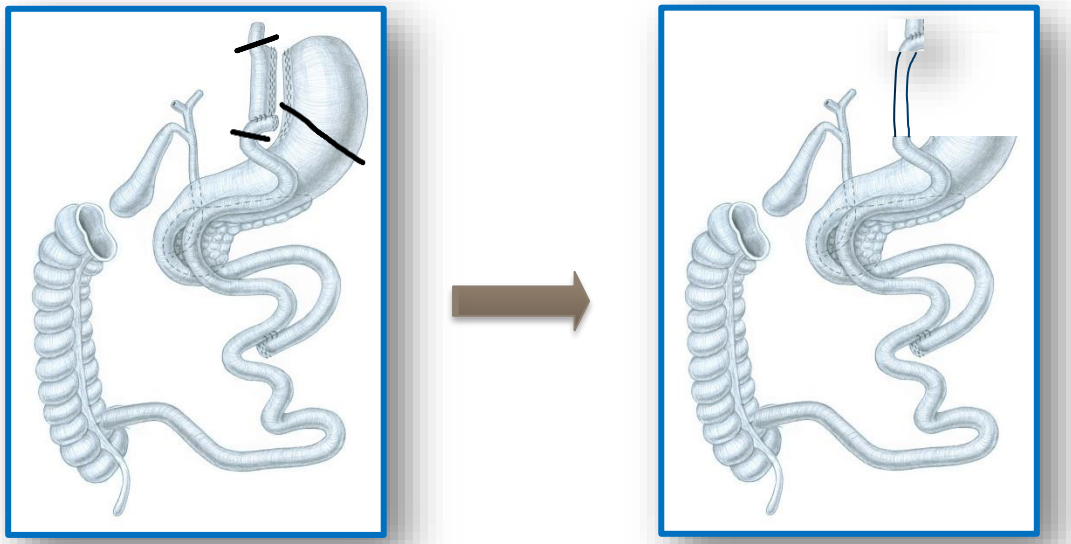






Surgery *for suboptimal clinical response and recurrent weight gain RYGB*

- Anatomical problem?
  - Fistula

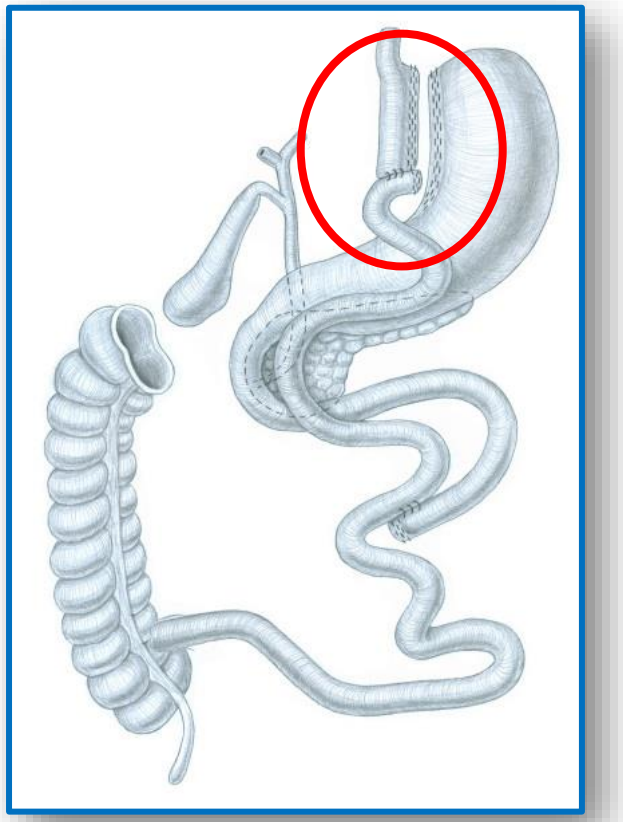


  - Candy cane?
  - Pouch size (open bypass)

Surgery *for suboptimal clinical response and recurrent weight gain RYGB*

- No anatomical problem
- Endoscopic / surgical options

  1. Add restriction

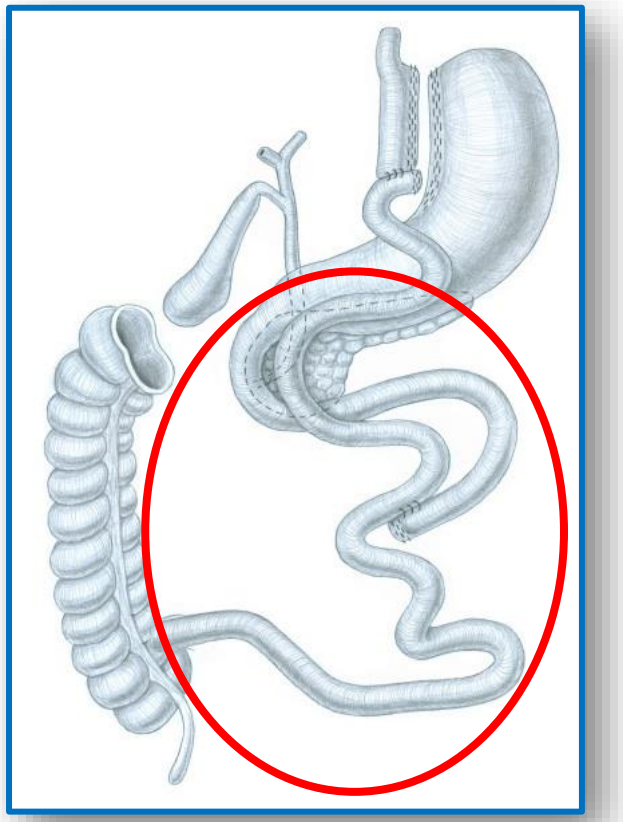


Surgery *for suboptimal clinical response and recurrent weight gain RYGB*

- No anatomical problem
- Endoscopic / surgical options

1. Add restriction

2. Escalation of metabolic surgery: add hypo-absorption



Endoscopy *for suboptimal clinical response and recurrent weight gain RYGB*

1. Add restriction by endoscopy: reshaping of stoma size at gastro-enterostomy
   - (Sclerotherapy)
   - Argon Laser Plasma Coagulation (APC)

   - Meta-analysis (4 trials with isolated APC, 828 pts)
     - Additional %WL: 6 % 1y, 11% 2y; 5% 3y
     - Complications 1.6%

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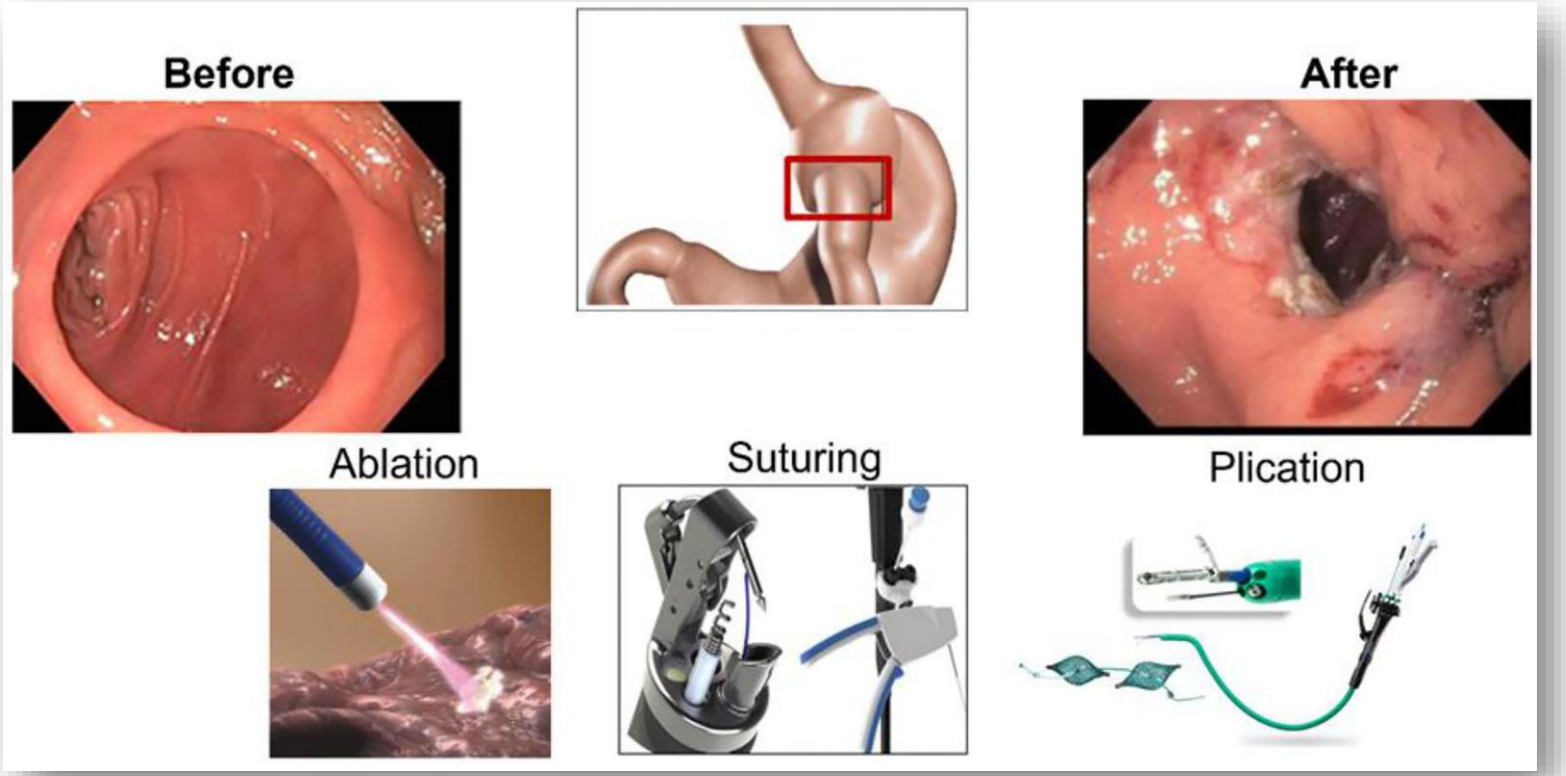
     - In combination with APC
     - Repeat TORe



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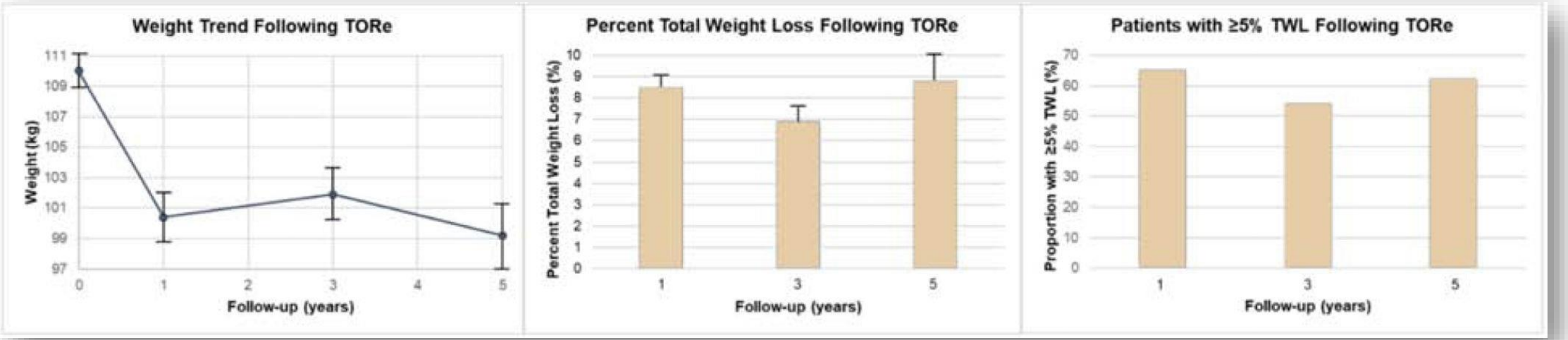
     - Repeat TORe
     - Single center study: 331 pts *
       - FU up to 5y (123 pts, FU rate > 80%)
       - 3.6 % repeat TORe
       - 39 % had additional therapy (pharmacotherapy or procedure ?)
       - No severe adverse events



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** Jirapinyo & Thompson, Gastrointest Endosc. 2020*

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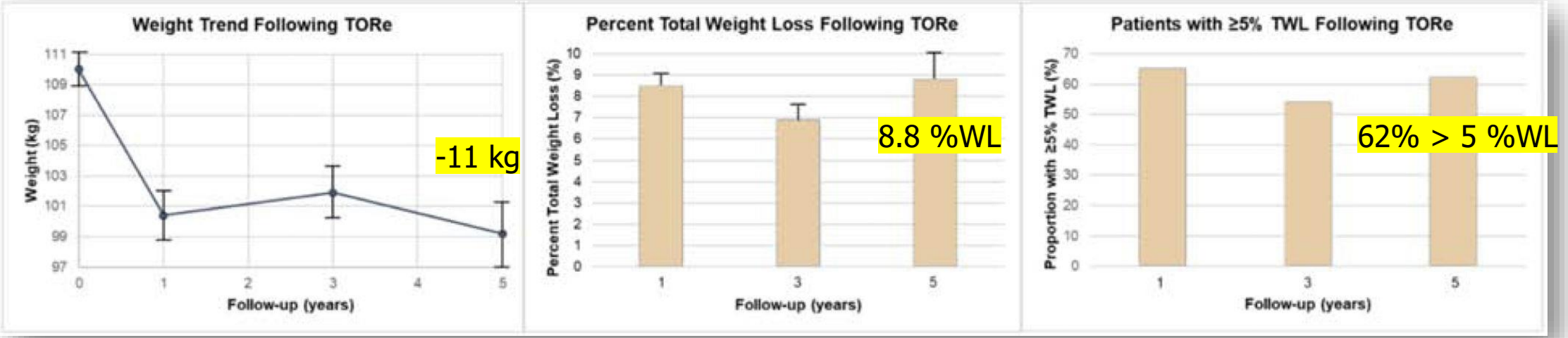

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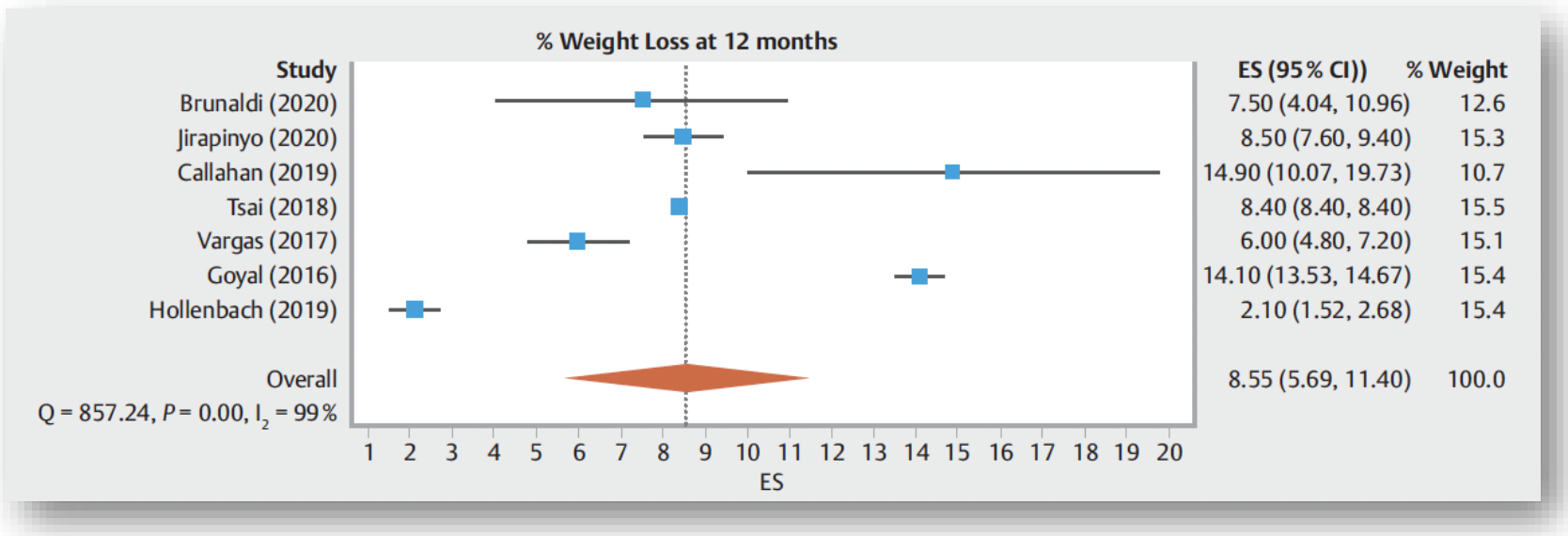

** Dhindsa B., Endoscopy International Open 2020*

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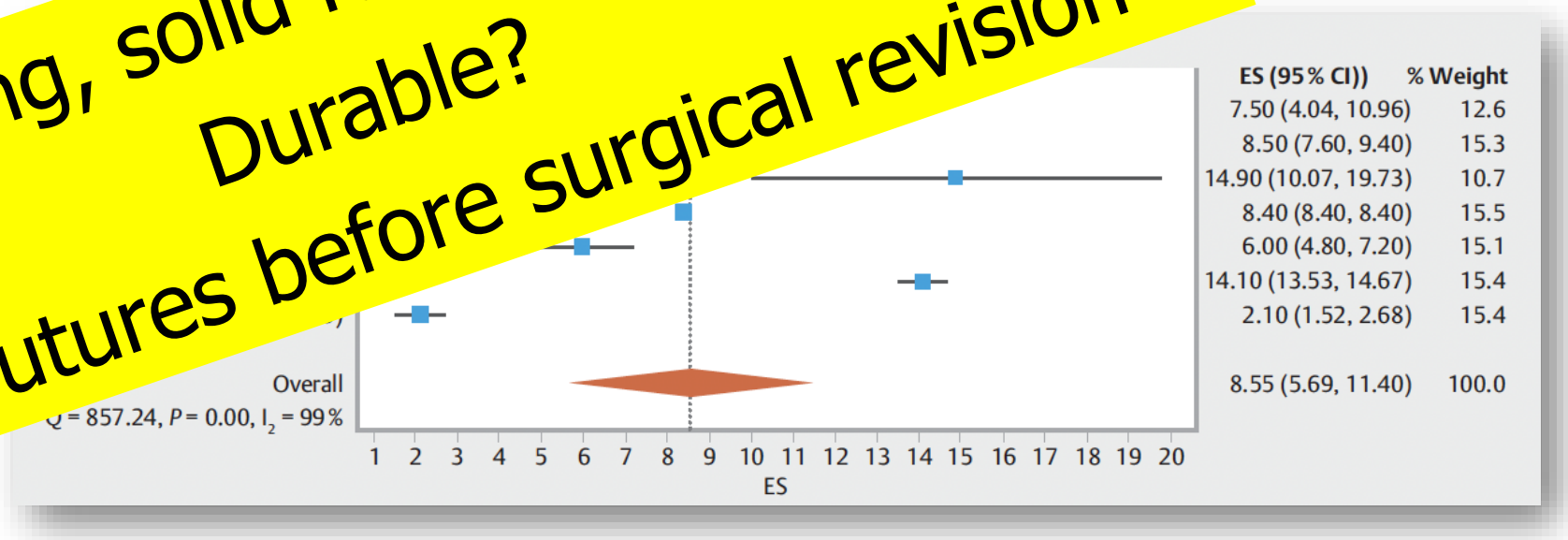
Vomiting, solid food intolerance
Durable?
Remove sutures before surgical revision ?

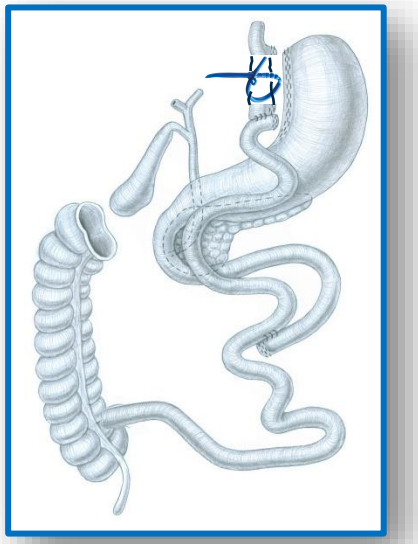


* *Dhindsa B., Endoscopy International Open 2020*

Surgery *for suboptimal clinical response and recurrent weight gain RYGB*

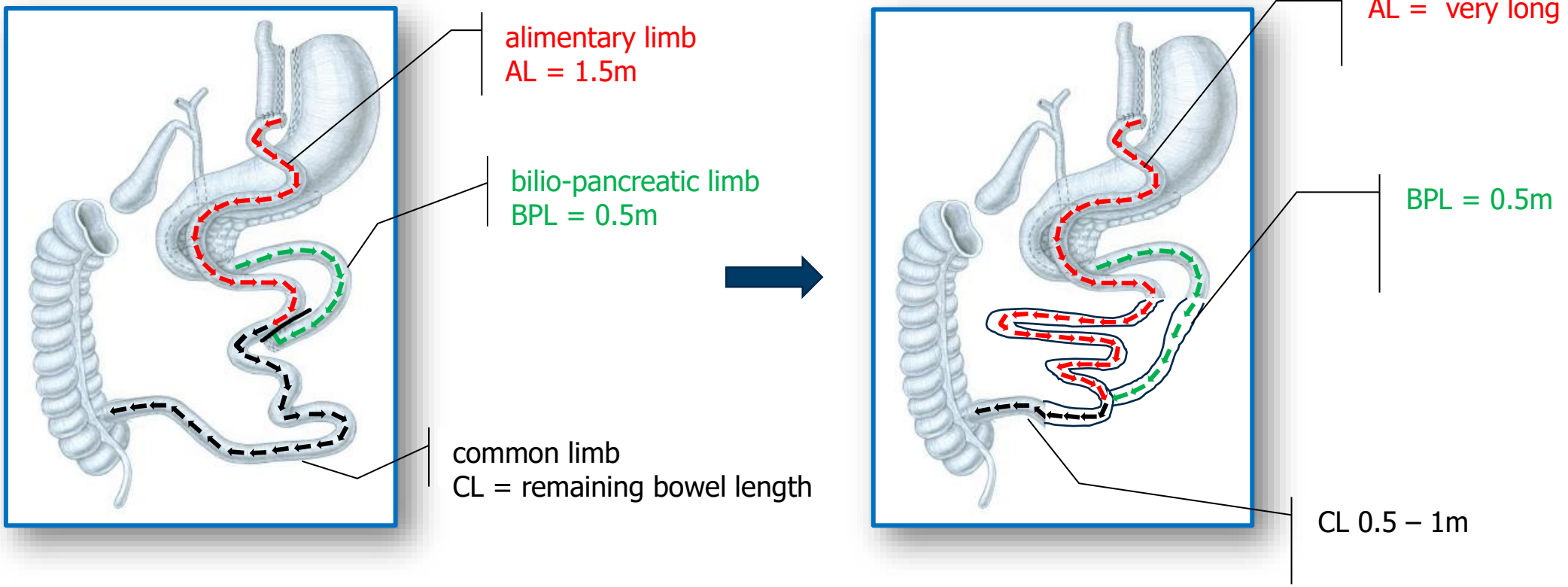
1. Add restriction by surgery
   - Band or Fobi ring (“ring augmented” LRYGB)
   - + / - additional pouch resizing

   - Indication: dumping



Surgery *for suboptimal clinical response and recurrent weight gain RYGB*

2. Add hypo-absorption:
   - Taking down the BPL close to ileoceocal valve = “Type II Distalization”



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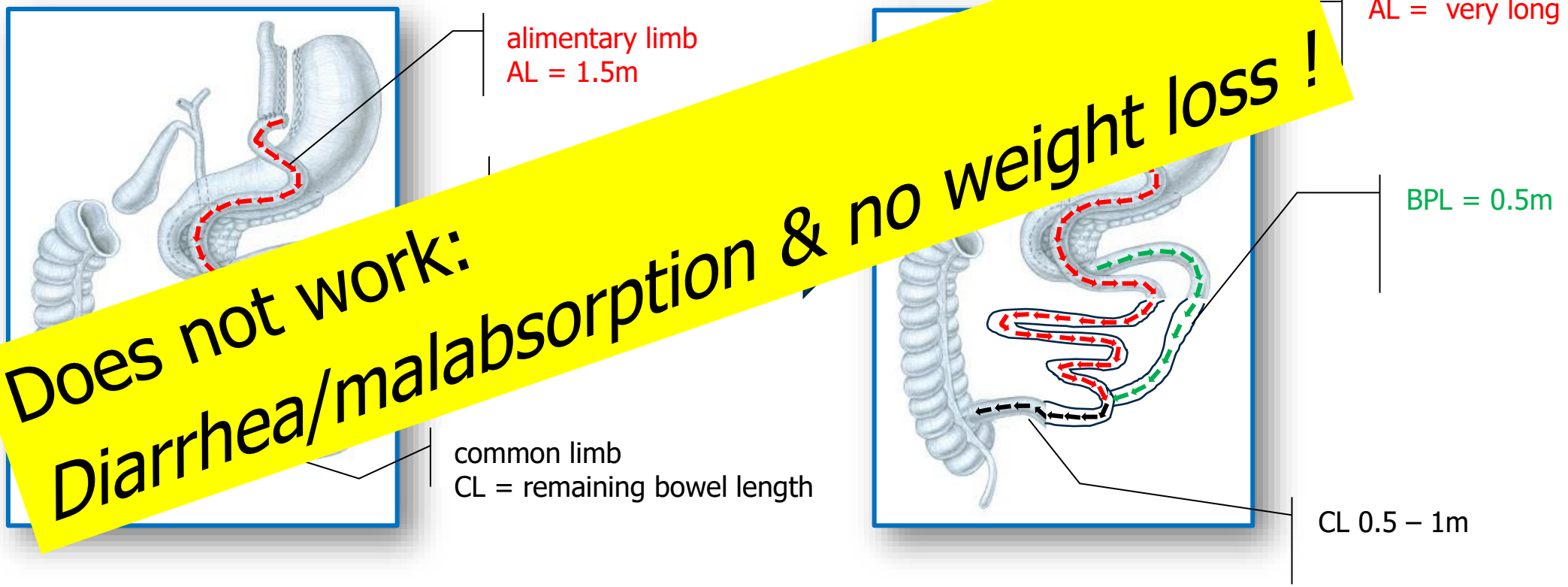
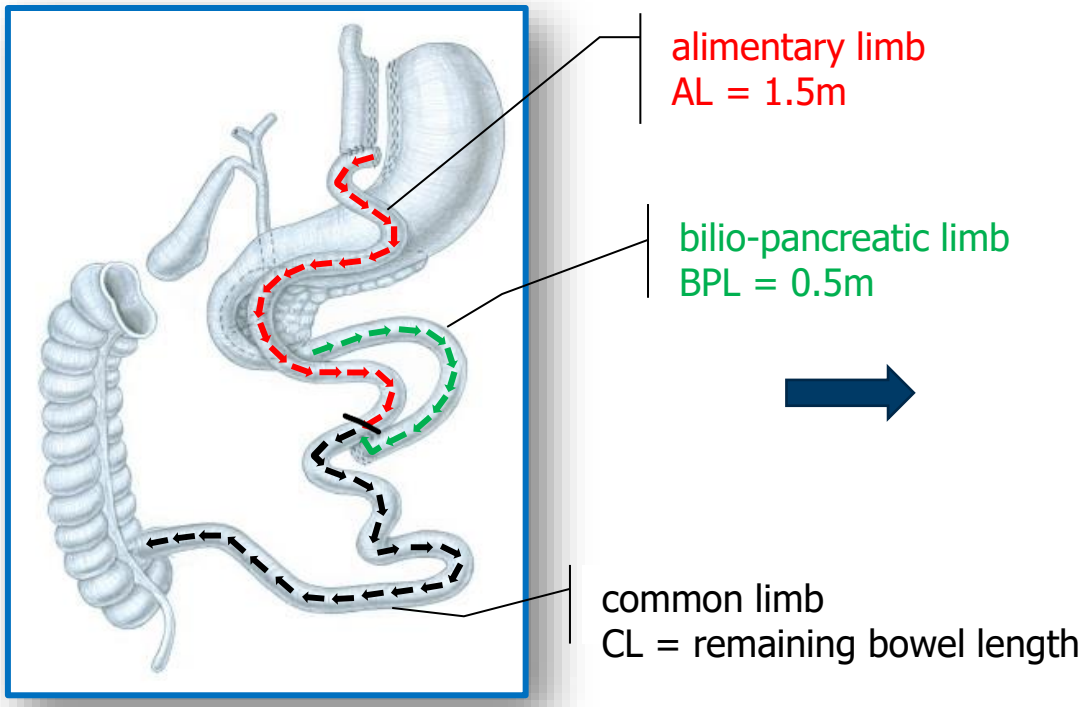
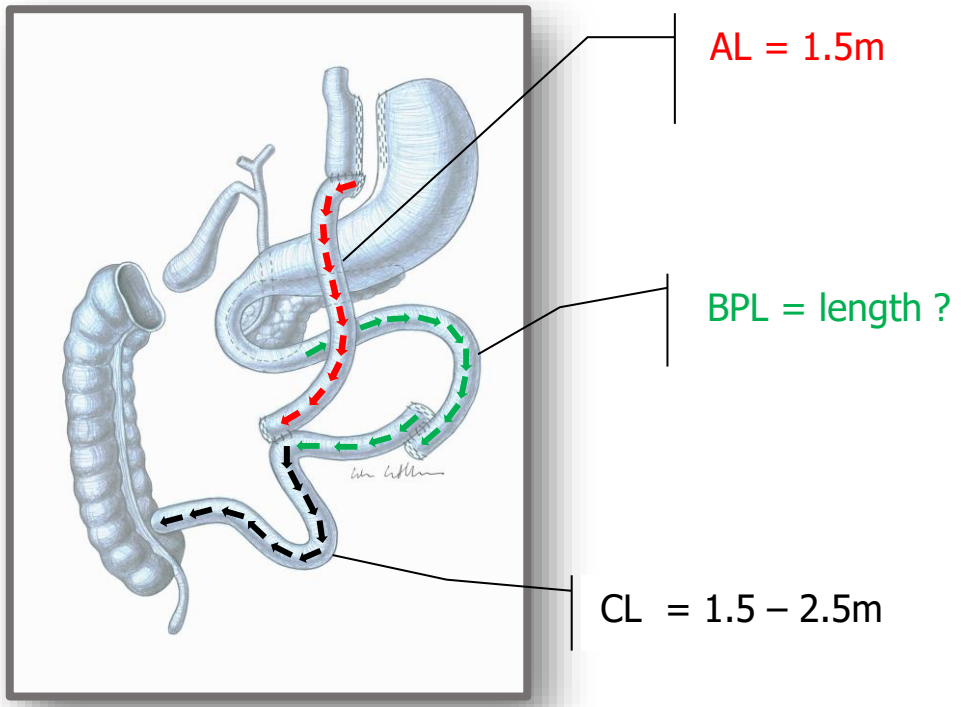


Does not work:
Diarrhea/malabsorption & no weight loss !

Surgery *for suboptimal clinical response and recurrent weight gain RYGB*

2. Add hypo-absorption:
   - Higa-Formula: taking down the AL close to the ileoceocal valve (only one anastomosis) = “Type I Distalization”





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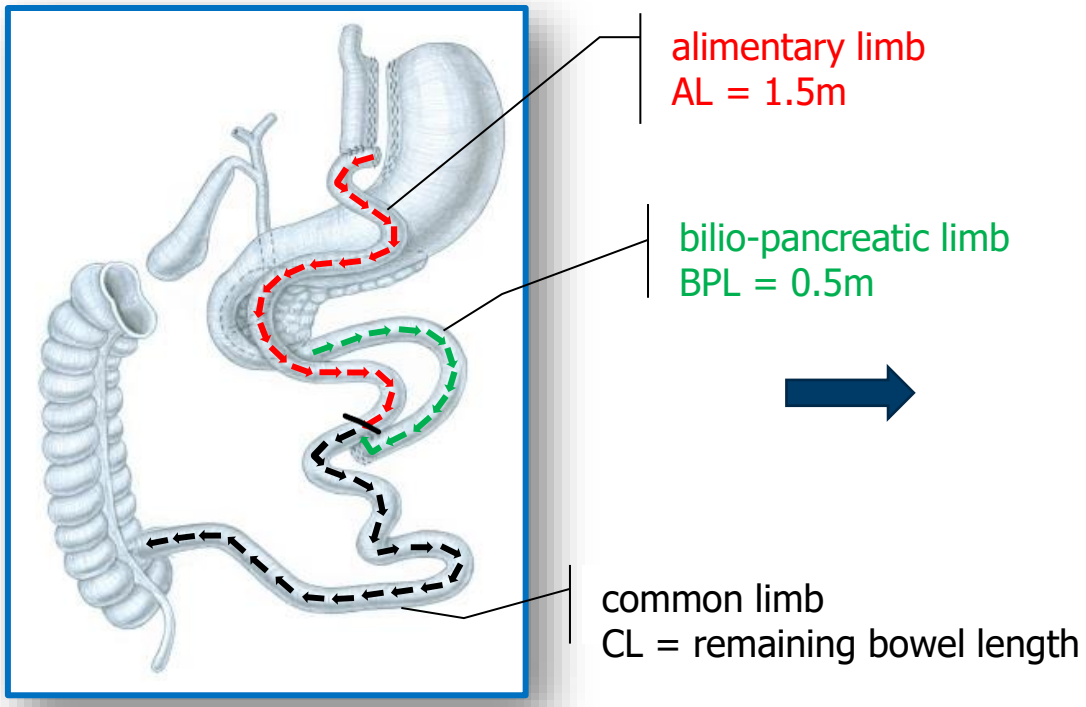

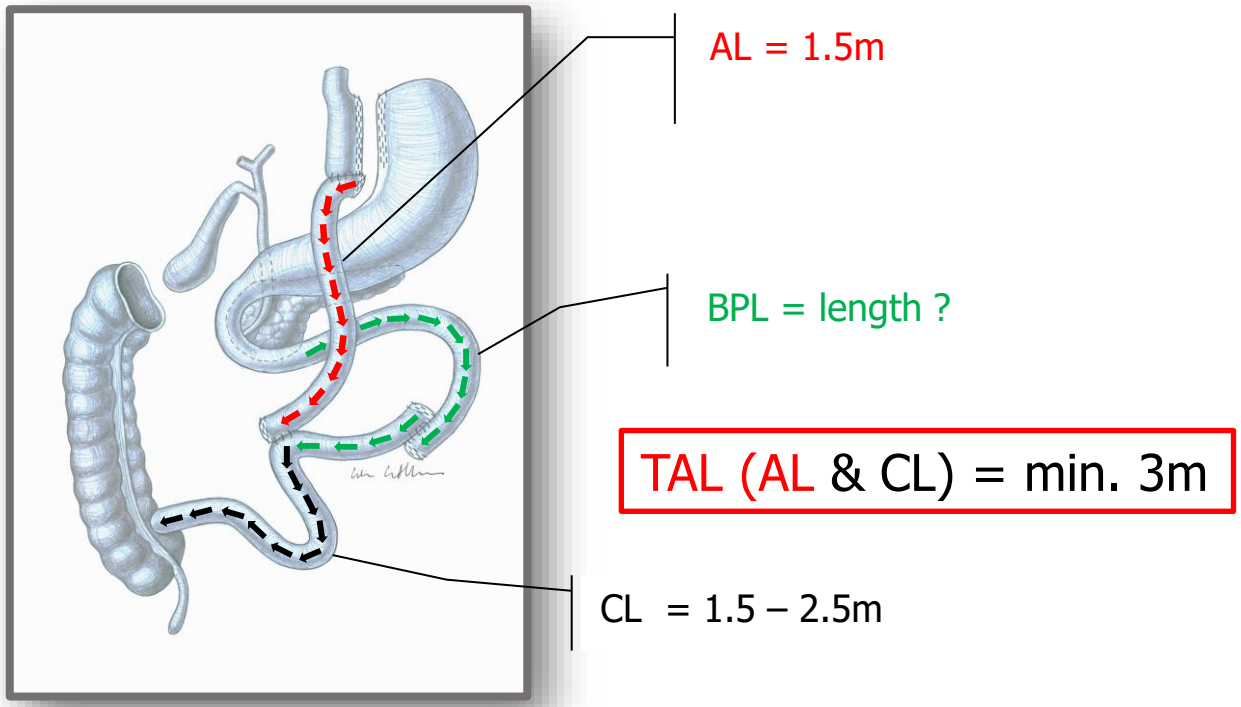

Weightloss-Results of Revisions after Bypass *literature*

- Banded revisional bypass ("ring augmented" bypass)

Author	Year	N	FU years rate (%)	type of band/ring	revisions	%EWL (since revision)
Dapri	2009	6	1	adjustable band		70
Bessler	2010	22	2			43
Irani	2011	43	2			38
Aminian	2015	28	3			13
Jakobs & Dillemans	2021	35	2 (80%)	Adhesix® Bioring®	21%	61 (+50%)
Lazaridis	2021	20	3 (100%)	adjustable band	65%	79.5% (+38%)
Franken (Metaanalysis)	2023	362	3 (22-89%)	band +/- pouch resizing	40%	(+17 %WL)
Linke & Peterli SOARD	*2020*	*34*	*2 (100%)*	*non adjustable*	*32%*	*70 (+9%)*

Weightloss-Results of Conversions after Bypass *literature*

- Conversion into hypo-absorptive procedure

Author	Year	N	FU years	type of redo-surgery	Malnutrition	%EWL (since revision)
Sugerman	1997	22	5	Higa Formula		69
Fobi	2001	65	>1	50% AL	22%	(-7 BMI points)
Dapri	2011	7	2	?		57
Ghiassi & Higa	2017	96	3 (FU 50%)	Higa		66
Shin & Shikora	2019	22	?	Higa	14%	78 (62%)
Shah & Gislason	2023	48 42	1-8 (>90%)	Higa TAL 250 Higa TAL 300	35% 14%	3y 74% 8y 62%
Linke & Peterli SOARD	*2020*	*20*	*2*	*Higa & Hess*	*10%*	*69 (48%)*

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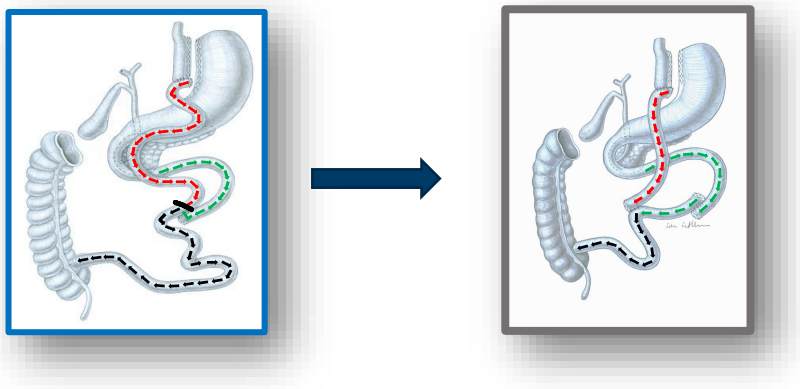
SUMMARY

suboptimal clinical response and recurrent weight gain after RYGB

- Definition of suboptimal clinical response (<20 %WL) and recurrent weight gain (>30% increase from nadir)
  - Important if co-morbidities recur

- Prevalence of suboptimal initial clinical response and recurrent weight gain:
  - RYGB: 10%

- Revisional surgery:
  - Is safe with low early morbidity (but higher than primary surgery)
  - If hypo-absorption is added: better weight loss, remission of co-morbidities BUT more severe side effects



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CONCLUSION

suboptimal clinical response and recurrent weight gain after RYGB

- OMMs are (primary) option if available, affordable, and tolerated
- After unsuccessful conservative treatment:
  - Surgery can be taken into account
  - In selected patients
- Interdisciplinary decision
- Outcome of salvage procedure equal compared to same procedure as primary intervention
- If hypo-absorption is added: excellent FU mandatory

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