

210 - ROBOTICS IN MBS - INNOVATIONS, TECHNIQUES, AND FUTURE DIRECTIONS



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REVISIONAL METABOLIC BARIATRIC SURGERY PART 1

Ramon VILALLONGA, MD, PhD. FACS, Int ASMBS
Unidad de Cirugía Bariátrica y endocrina HVH.



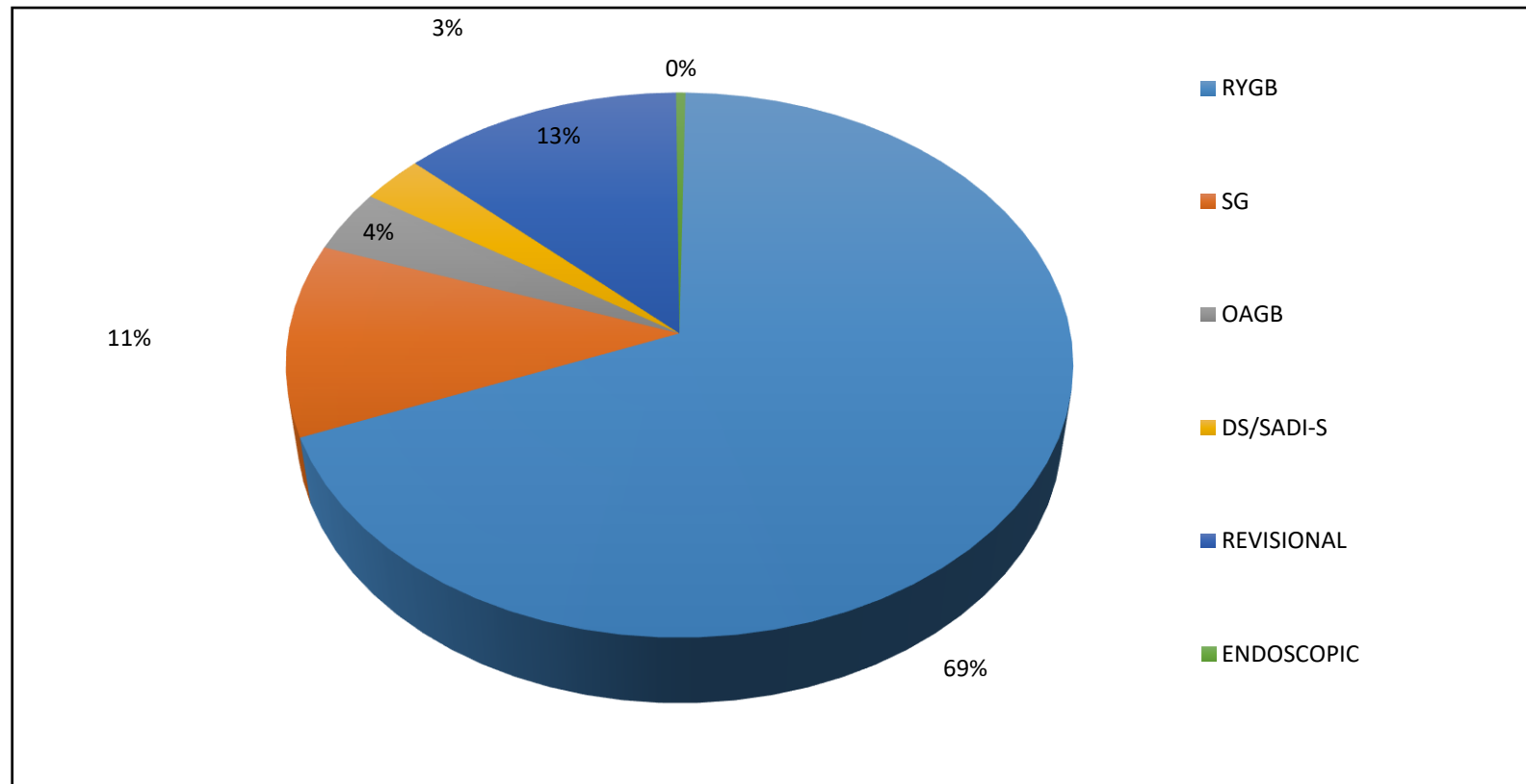
Receipt of grants/research supports:

ETHICON CONSULTANT

Abex Spain with robotic course organization



Case Mix:



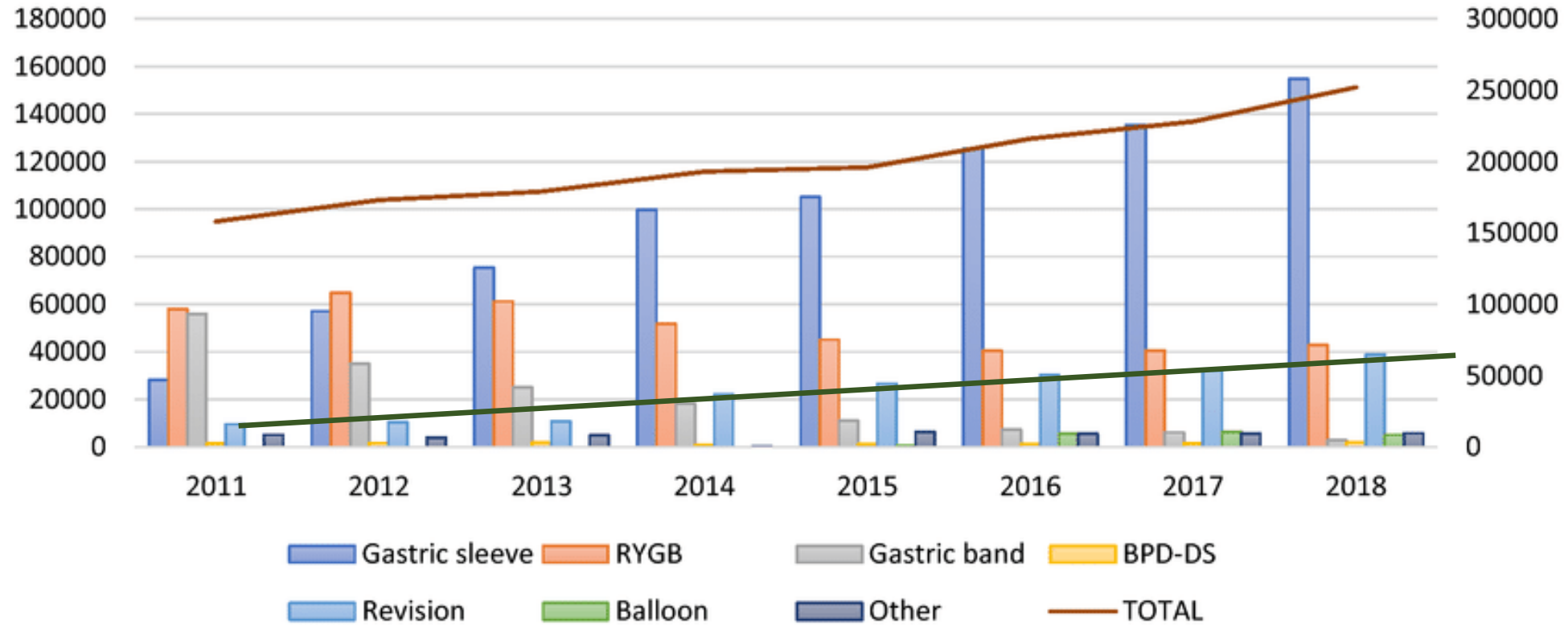


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Trends In bariatric surgery

Estimate of Bariatric Surgery Numbers 2011-2018





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Revisional Bariatric/Metabolic Surgery: What Dictates Its Indications?

Pearl Ma¹ · Subhash Reddy¹ · Kelvin D. Higa¹

Revisional surgeries are higher risk operations and should be performed by experienced and technically competent bariatric surgeons with multidisciplinary resources available.

Clapp B (2020) Trends in revisional bariatric surgery using the MBSAQIP database 2015–2017. Surg Obes Relat Dis 16:908–915

Montfared S. *Surgical Endoscopy* (2023)

Revisional procedures are typically more complicated with longer operative times, potentially increased complication rates, and the necessity for an advanced technical skill set.



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DOI: 10.1089/lap.2021.0506

The Panoramic View of Revisional Bariatric Surgery

Ramon Vilallonga, PhD,^{1,i} José Manuel Fort, PhD,¹ María Rita Rodríguez Luna, MD,^{2,ii}
Amador García Ruiz de Gordejuela, PhD,¹ Oscar Gonzalez, PhD,¹ Enric Caubet, PhD,¹
Arturo Cirera de Tudela, MD,¹ Mariano Palermo, PhD,^{3,iii} Andrea Ciudin, PhD,⁴⁻⁶ and Manel Armengol, PhD¹



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Surgical Endoscopy (2023) 37:4824–4828
<https://doi.org/10.1007/s00464-022-09622-y>

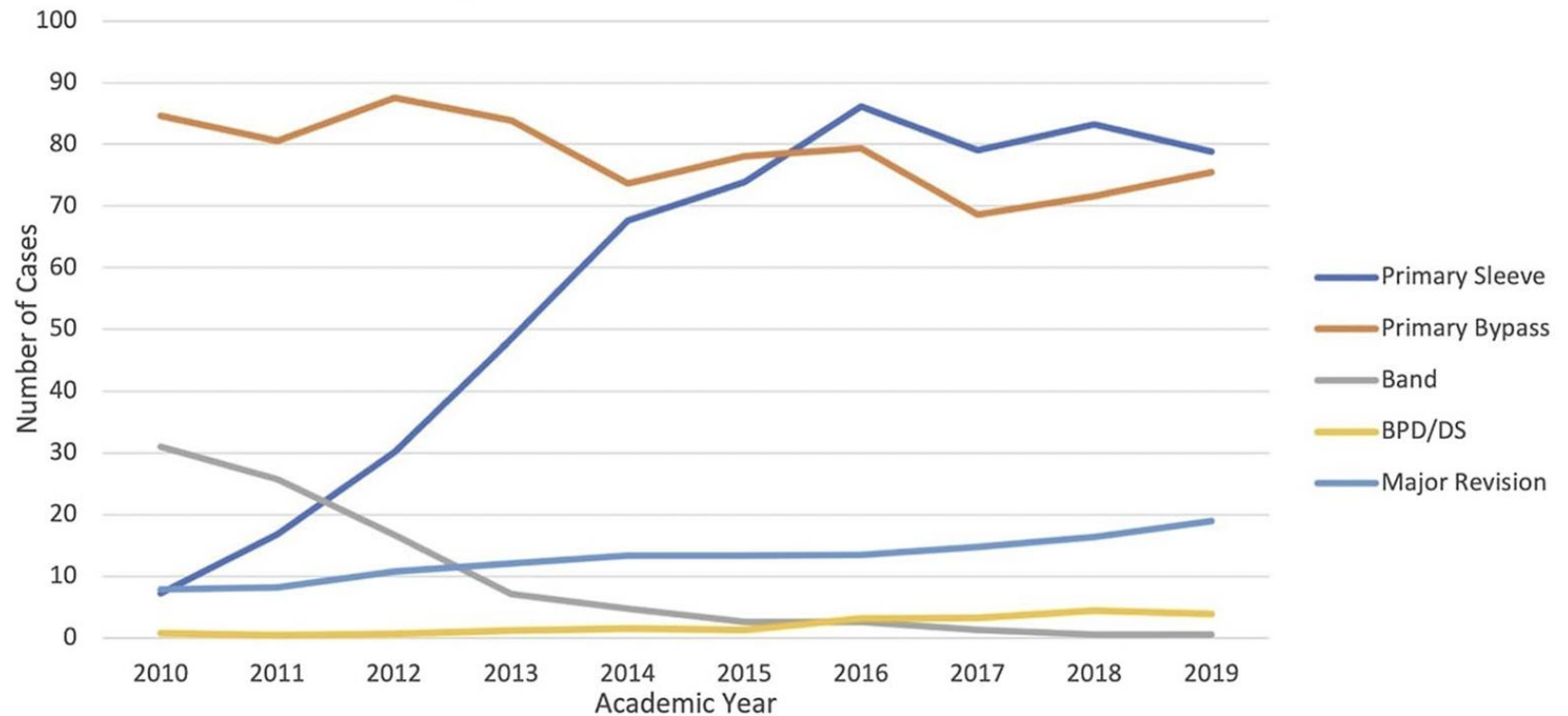


2022 SAGES ORAL

The rising tide of revisional surgery: tracking changes in index cases among bariatric-accredited fellowships

Sara Monfared¹ · Joshua J. Weis¹ · Shinil K. Shah¹ · Daniel J. Scott² · Meliss

Average Volume of Index Procedures per Fellow





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	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Sleeve	152,866	122,056	152,413	154,976	135,401	125,318	105,448	99,781	75,359	57,090	28,124
RYGB	56,527	41,280	45,744	42,945	40,574	40,316	45,276	51,724	61,218	64,875	57,986
Band	1,121	2,393	2,375	2,660	6,318	7,310	11,172	18,335	25,060	34,946	55,932
BPD-DS	5,525	3,555	2,272	2,123	1,588	1,236	1,176	772	1,790	1,730	1,422
Revision	31,021	22,022	42,881	38,971	32,238	30,077	26,656	22,195	10,740	10,380	9,480
SADI	1,025	488	—	—	—	—	—	—	—	—	—
OAGB	1,149	1,338	—	—	—	—	—	—	—	—	—
Other	7,339	1,221	6,060	5,847	5,606	5,665	6,272	193	4,833	3,979	5,056
ESG	2,220	1,500	—	—	—	—	—	—	—	—	—
Balloons	4,100	2,800	4,655	5,042	6,280	5,744	700	—	—	—	—
Total	262,893	198,651	256,000	252,564	228,005	215,666	196,700	193,000	179,000	173,000	158,000

Source: ASMBS database. Available at website.



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1. Lack of success in fulfilling a will or purpose
2. The omission of an action expected or required

“Partial response”

- Failure to lose weight
- Excessive weight loss: malnutrition
- Control of comorbidities
- Meeting Patient Expectations
- Impact on quality of expected years of life (QALY)



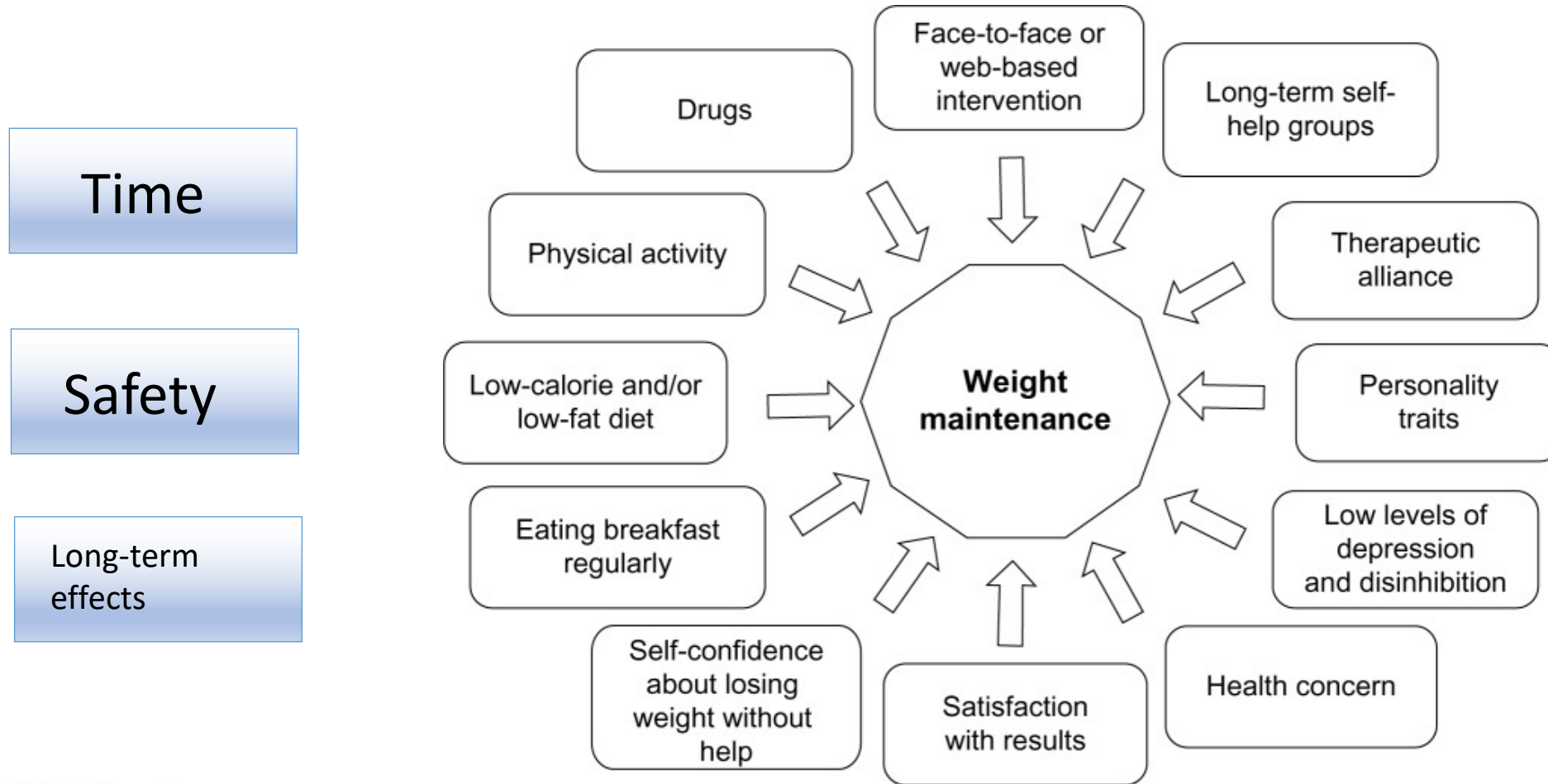
Long-term results ? Factors ?

Factors associated with long-term weight loss maintenance in the general population of obese subjects attending nonsurgical weight loss programs.



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The first consensus statement on revisional bariatric surgery using a modified Delphi approach

Kamal K. Mahawar¹ · Jacques M. Himpens² · Scott A. Shikora³ · Almino C. Ramos⁴ · Antonio Torres⁵ · Shaw Somers⁶ · Bruno Dillemans⁷ · Luigi Angrisani⁸ · Jan Willem M. Greve^{9,10} · Jean-Marc Chevallier¹¹ · Pradeep Chowbey¹² · Maurizio De Luca¹³ · Rudolf Weiner¹⁴ · Gerhard Prager¹⁵ · Ramon Vilallonga¹⁶ · Marco Adamo¹⁷ · Nasser Sakran¹⁸ · Lilian Kow¹⁹ · Mufazzal Lakdawala²⁰ · Jerome Dargent²¹ · Abdelrahman Nimeri²² · Peter K. Small¹





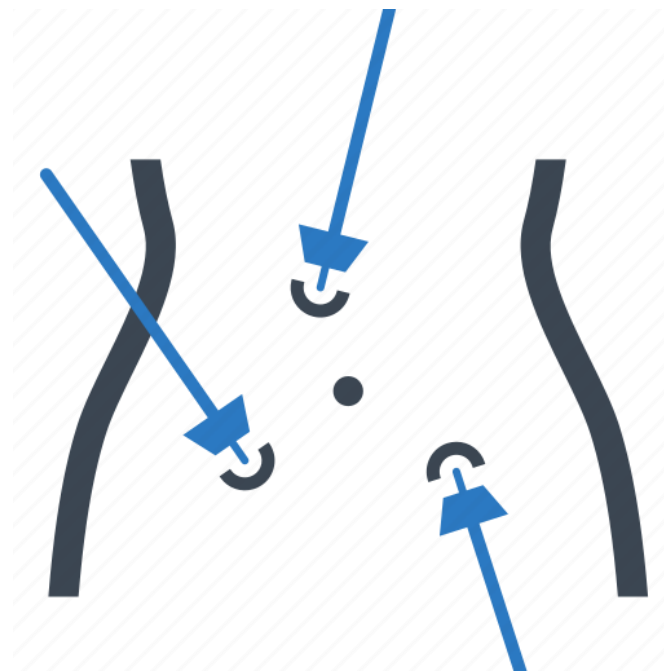
RBS is a justified treatment option for some patients	100.0 (71/71)	NA	Consensus Agreement
A second RBS may be justified for some patients	95.7 (67/70)	NA	Consensus Agreement
A third RBS may be justified for some patients	<u>77.1 (54/70)</u>	90.0 (63/70)	Consensus Agreement
A fourth RBS may be justified for some patients	55.7 (39/70)	61.4 (43/70)	No consensus achieved

OAGB is an acceptable RBS option after SG	84.3 (59/70)	NA	Consensus Agreement
BPD/DS is an acceptable RBS option after SG	81.4 (57/70)	NA	Consensus Agreement
SADI-S is an acceptable RBS option after SG	88.5 (62/70)	NA	Consensus Agreement

Podemos ir a al revisión... Pero ojo., que no sea una costumbre



First Feature



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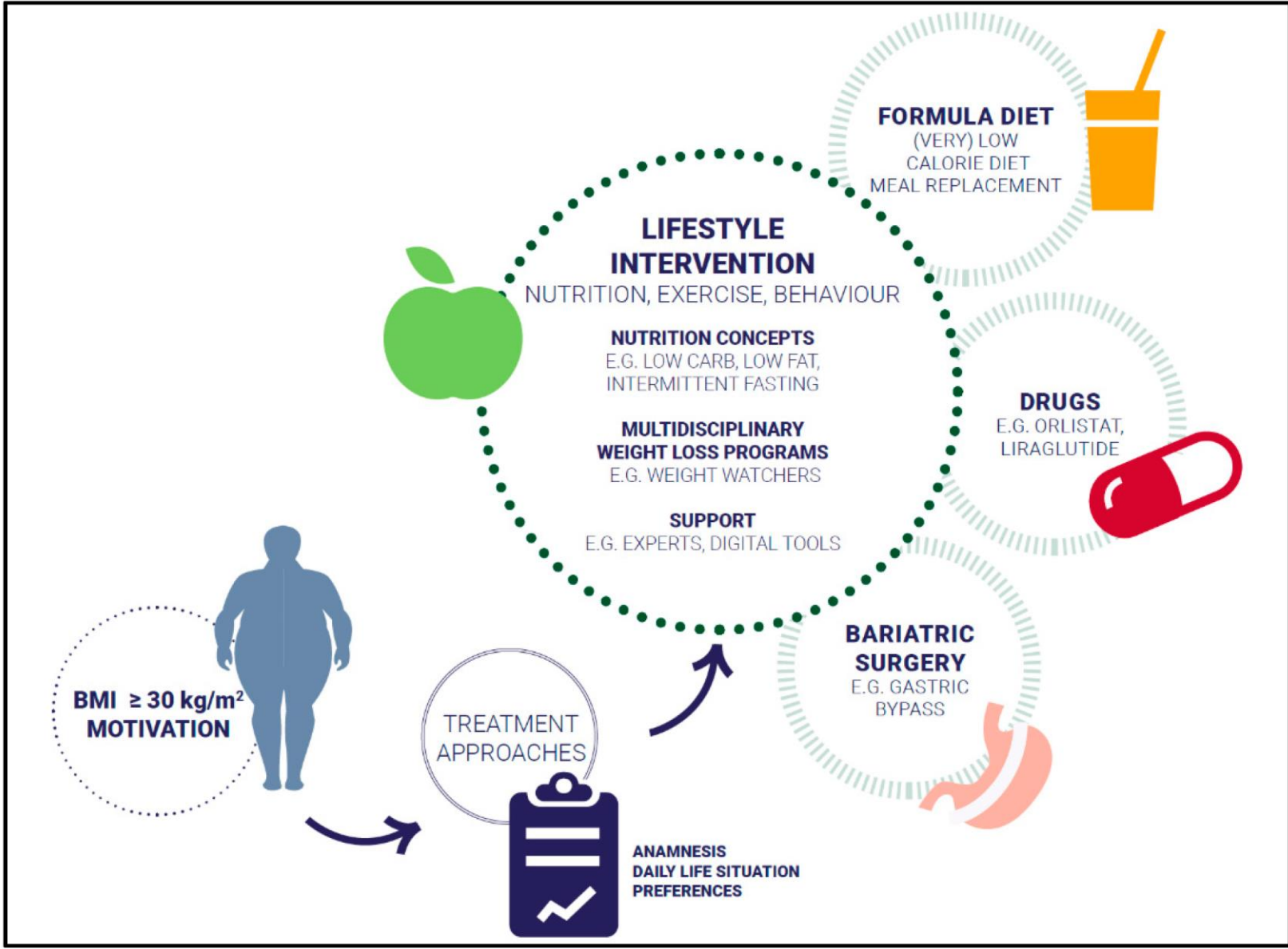
Second Feature



HOW TO DO IT ?

Changing the way to
approach disease.

Opciones....

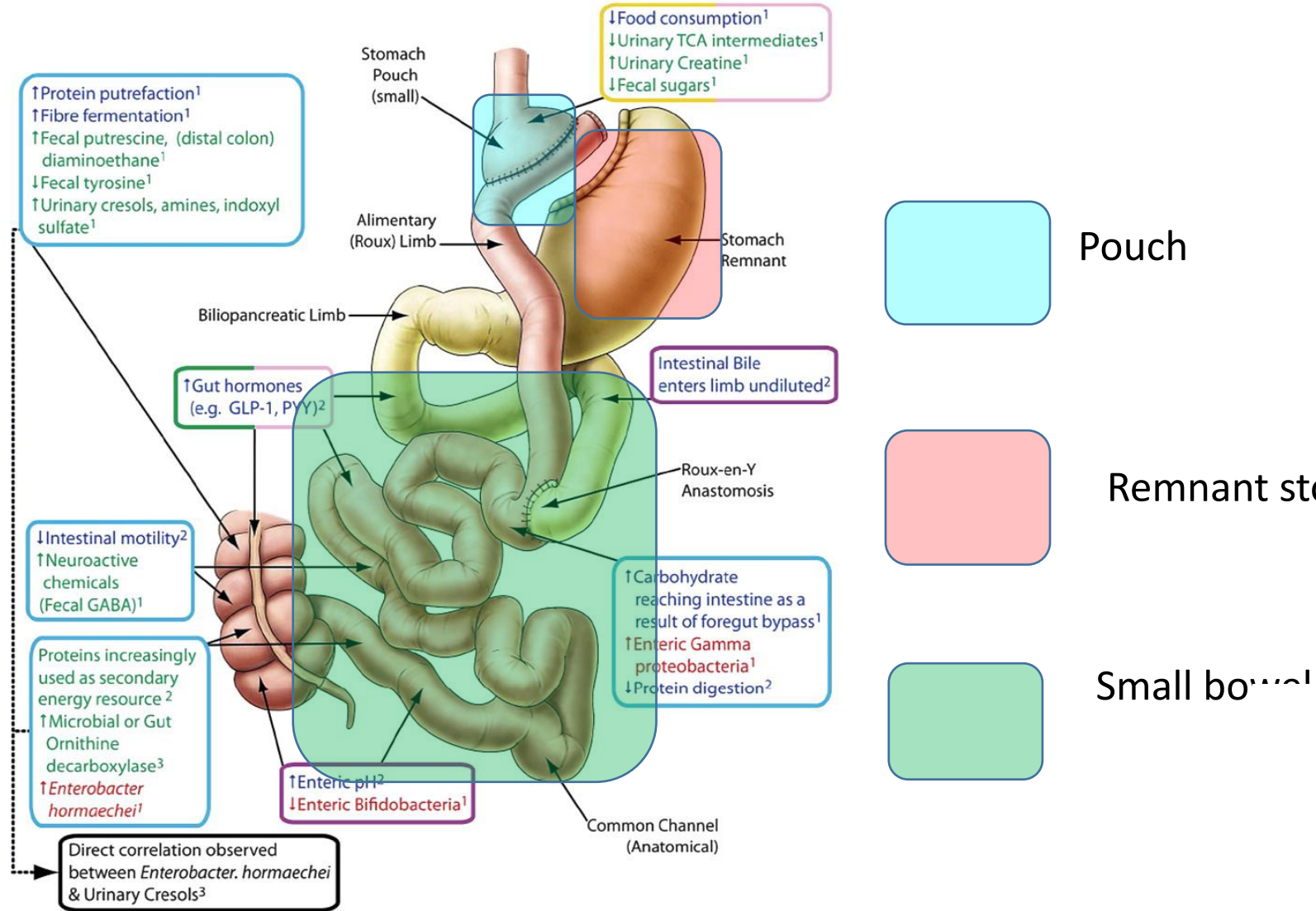


The Roux-en-Y Gastric Bypass in Relation to Physiological and Microbial Activities

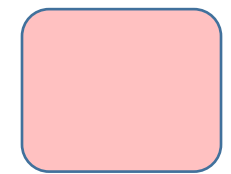


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Pouch



Remnant stomach



Small bowel



COLOR CODE KEY FOR BRAVE EFFECTS (Box outline)	LABEL KEY	TEXT COLOR KEY
 B-Bile Flow alteration	1. Direct observation	Physiology
 R-Reduction of gastric size	2. Literature	Biochemistry
 A-Anatomical gut rearrangement and altered flow of nutrients	3. Hypothesis	Microbiology
 V-Vagal manipulation		
 E-Enteric gut hormone modulation		



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Causes of failure or partial response to surgery



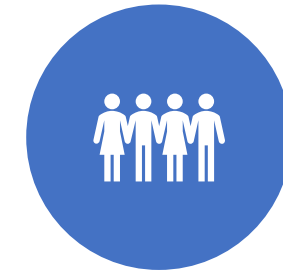
BAD SELECTION OF
TECHNIQUE



TECHNICAL ERRORS
DURING SURGERY



BAD PATIENT'S
BEHAVIOUR VIOURE



OTHERS

Others...



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PROBLEMS

- TORSION
- STENOSIS
- GERD ... HH ...
- WEIGHT REGAIN OR INSUF. WEIGHT LOSS
- RELPSED CO-MORBIDITIES
- NUTRICIONAL DEF.





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**Sleeve
Gastrectomy**

GERD

Insufficient weight loss

Weight regain

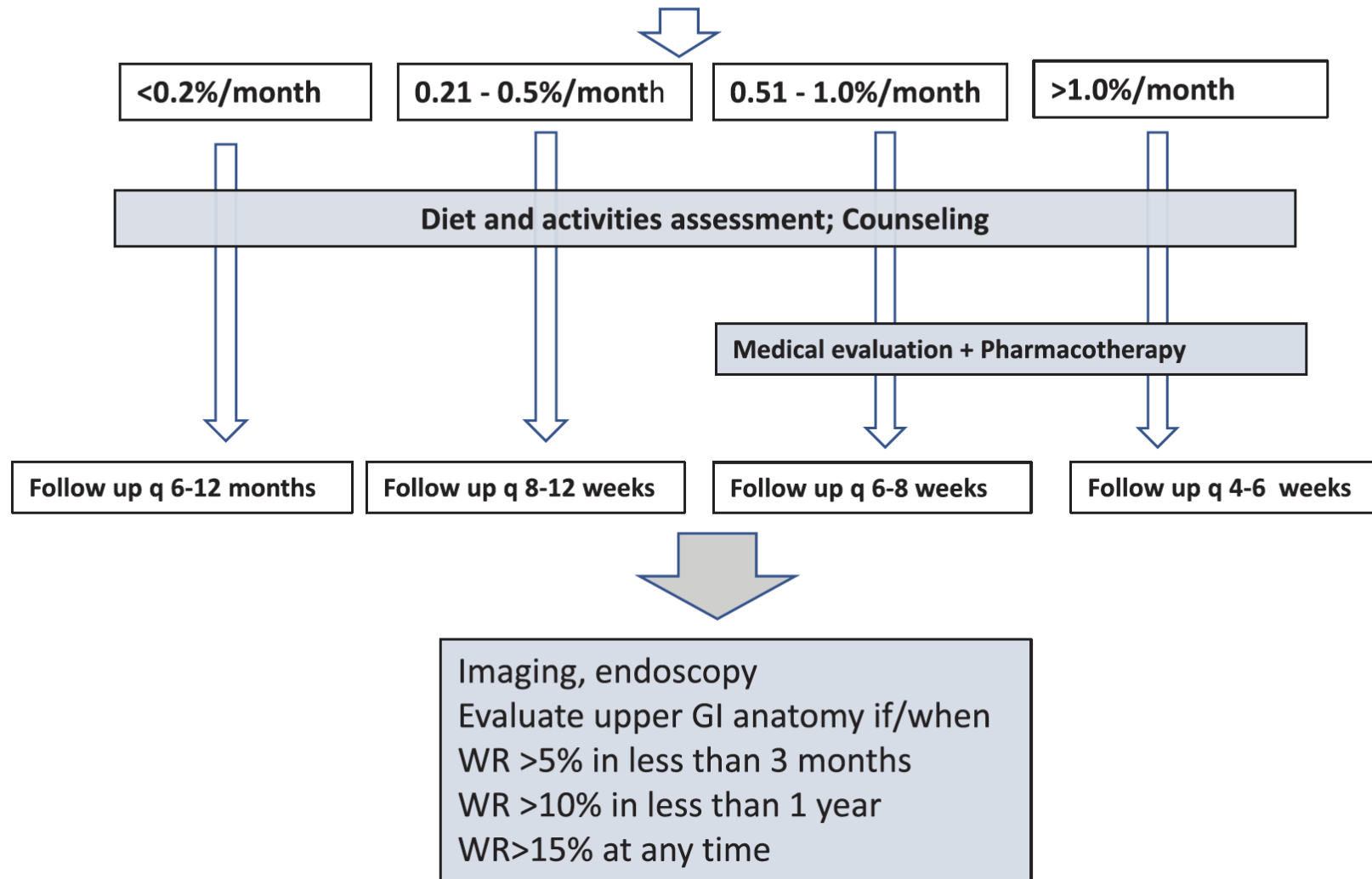
ALONE OR COMBINED

Initial BMI $>50 \text{ Kg/m}^2 \rightarrow$ Still $>40 \text{ Kg/m}^2$ and/or Co.M
Initial BMI $<50 \text{ Kg/m}^2 \rightarrow$ Still $>35 \text{ Kg/m}^2$ and/or Co.M



Evaluation of WR: Percent Over Nadir

Initial evaluation



Multidisciplinary Approach for Weight Regain—how to Manage this Challenging Condition: an Expert Review

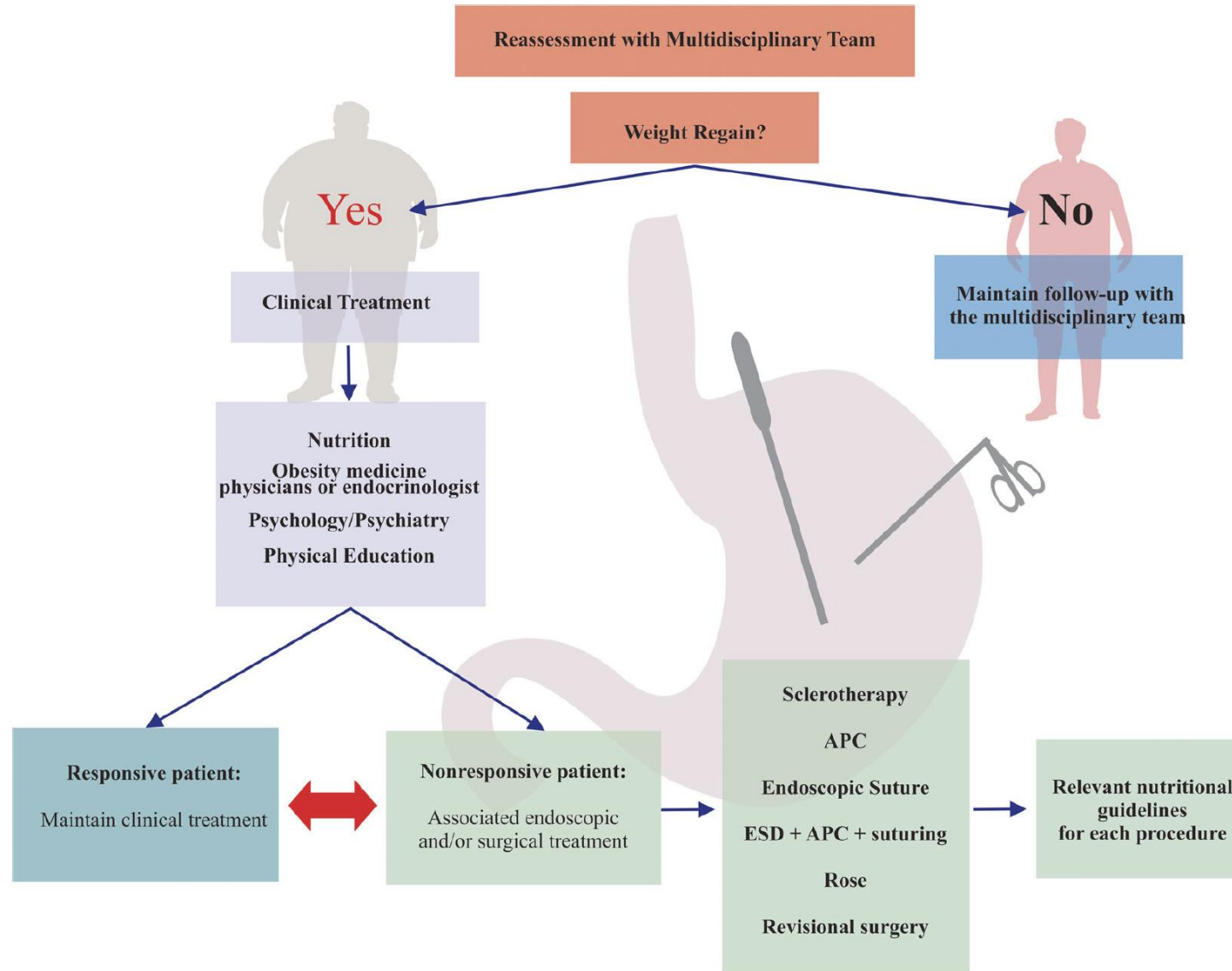
Maria Paula Carlin Cambi¹ · Giorgio Alfredo Pedroso Baretta¹ · Daniéla De Oliveira Magro² · Cesar Luiz Boguszewski³ · Igor Braga Ribeiro⁴ · Pichamol Jirapinyo⁵ · Diogo Turiani Hourneaux de Moura^{4,5}



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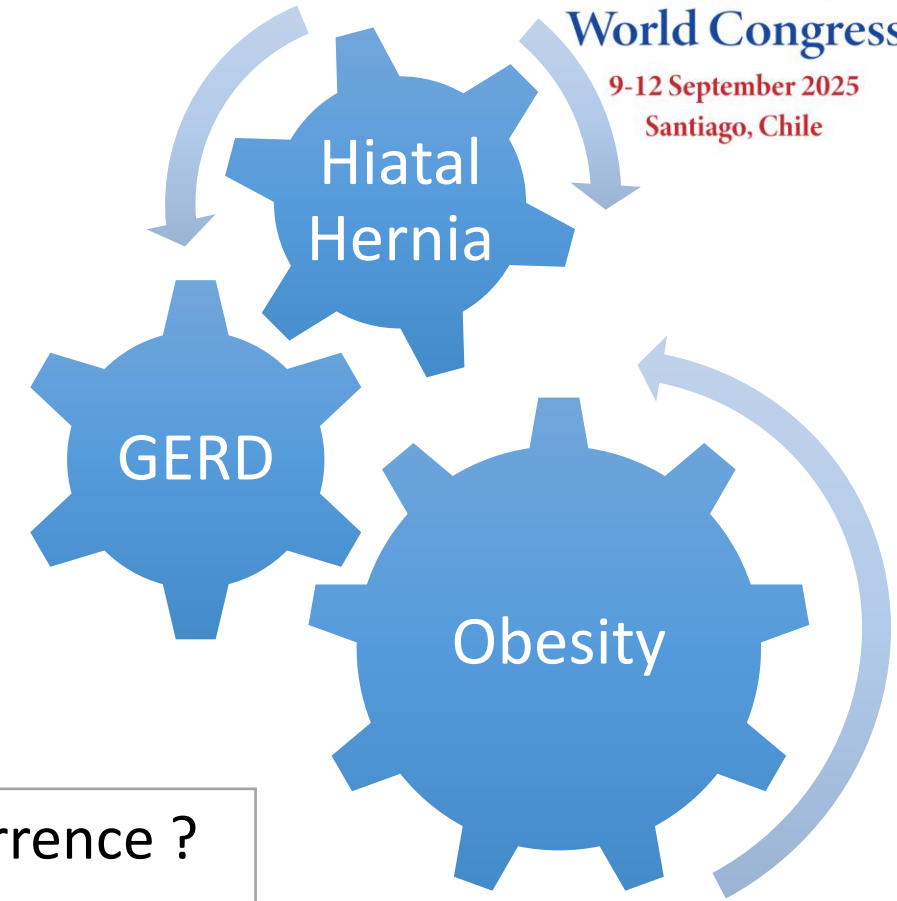
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Management.



GERD, OBESITY & HIATAL HERNIA: relation

- The presence of HH is very common in obese patients. Can still be present after the primary surgery
- Obesity is considered an independent risk factor for GERD. (Weight loss impact ??)
- A higher BMI causes an increase in the prevalence of GERD by increasing the risk of developing HH



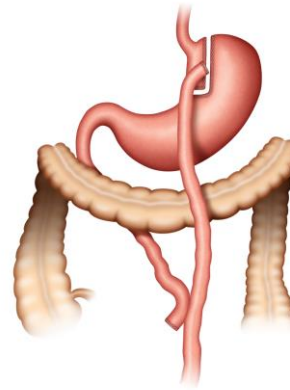
Risk of not repairing it during the first procedure. ::> Recurrence ?
Increased hernia after weight loss specially for SG. (?)

Before surgery....

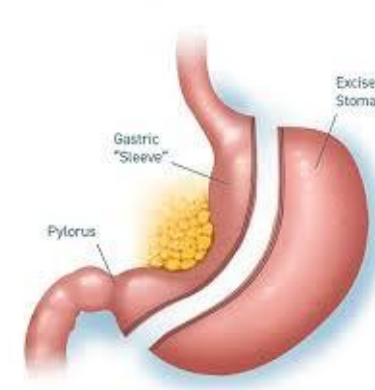
Evaluate the patient: what is the most important problem for the patient (can be different from the surgeon's perspective)

-> STRATEGY is mandatory

- FGS
- pHmetry
- Manometry
- EGD swallow
- CT volumetry with 3D reconstruction



Antecolic Limb



Sabry K,. J Laparoendosc Adv Surg Tech A. 2022
Vilallonga R, Medicina (Kaunas). 2021.



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Management.
Quantify the disease with diagnostic tests



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Diabetes Mellitus

Insuline

IMC

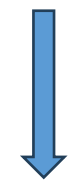
Liver steatosis

Age



Hiatal Hernia ? Preoperative
Diagnosis. Intraoperative
diagnosis ?

SOAS



Esophagitis

Barret

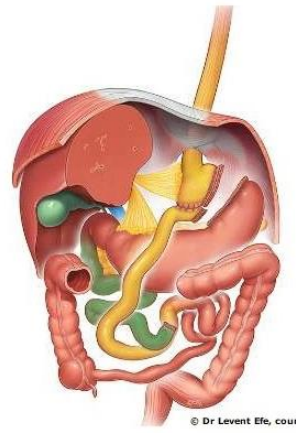
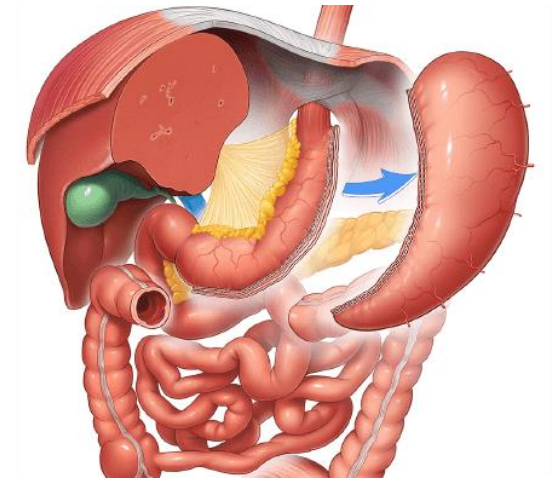
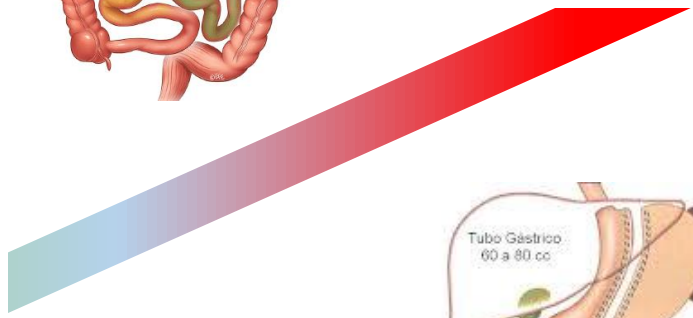
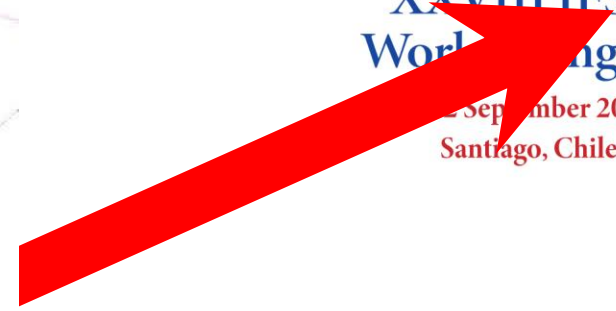
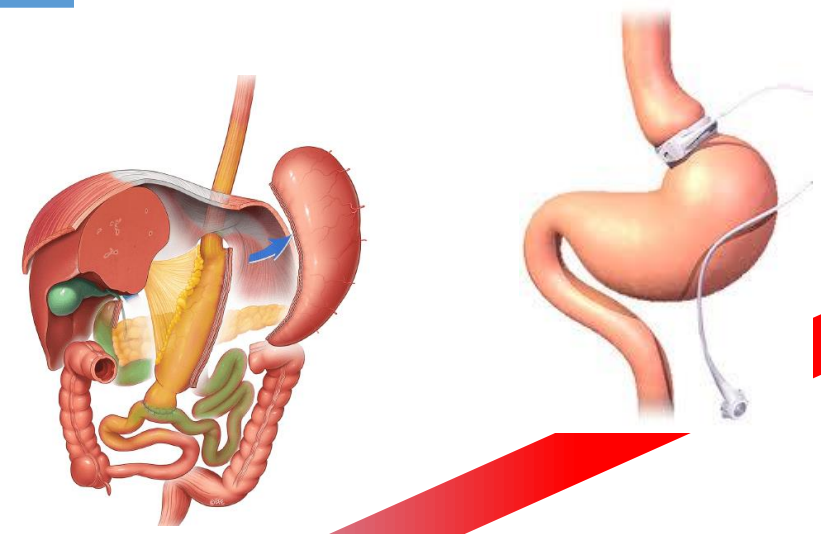


ifso2025.org

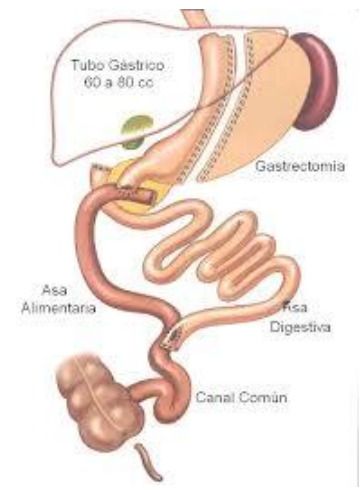
Primary Surgery and Corrective Surgery



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© Dr Levent Efe, courtesy of IFSO



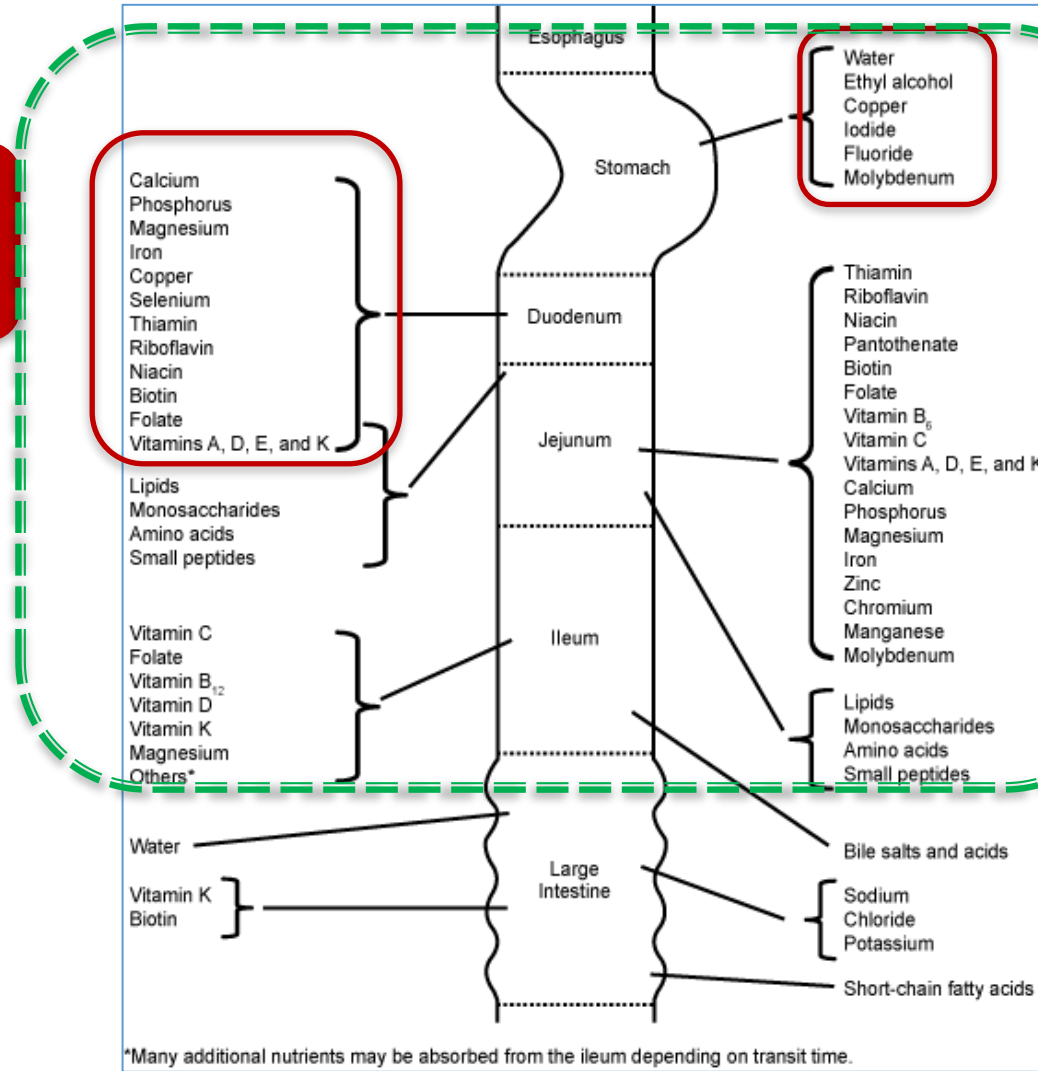
ifso2025.org



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GBP



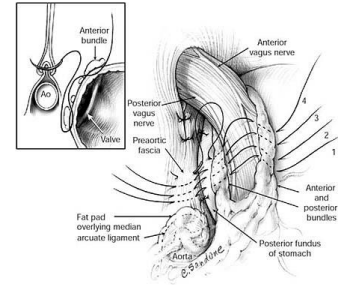
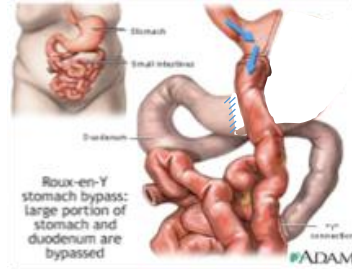
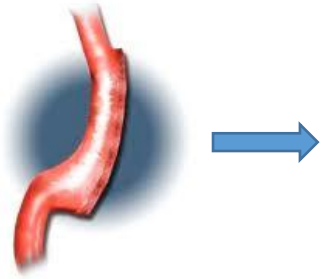
Malabs.

It is not only about absorption.....



GERD

%TWL



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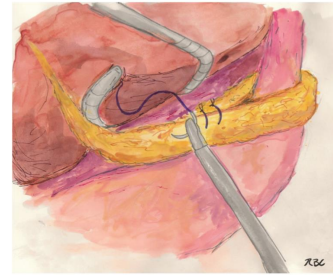
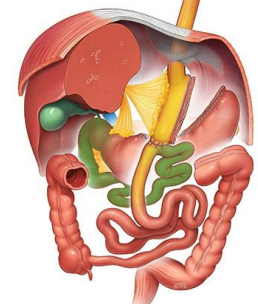
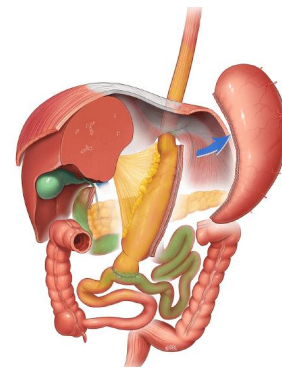
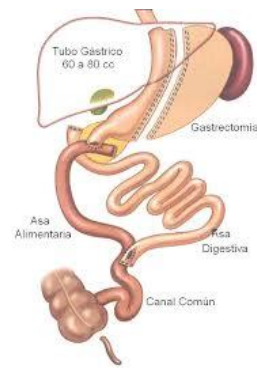
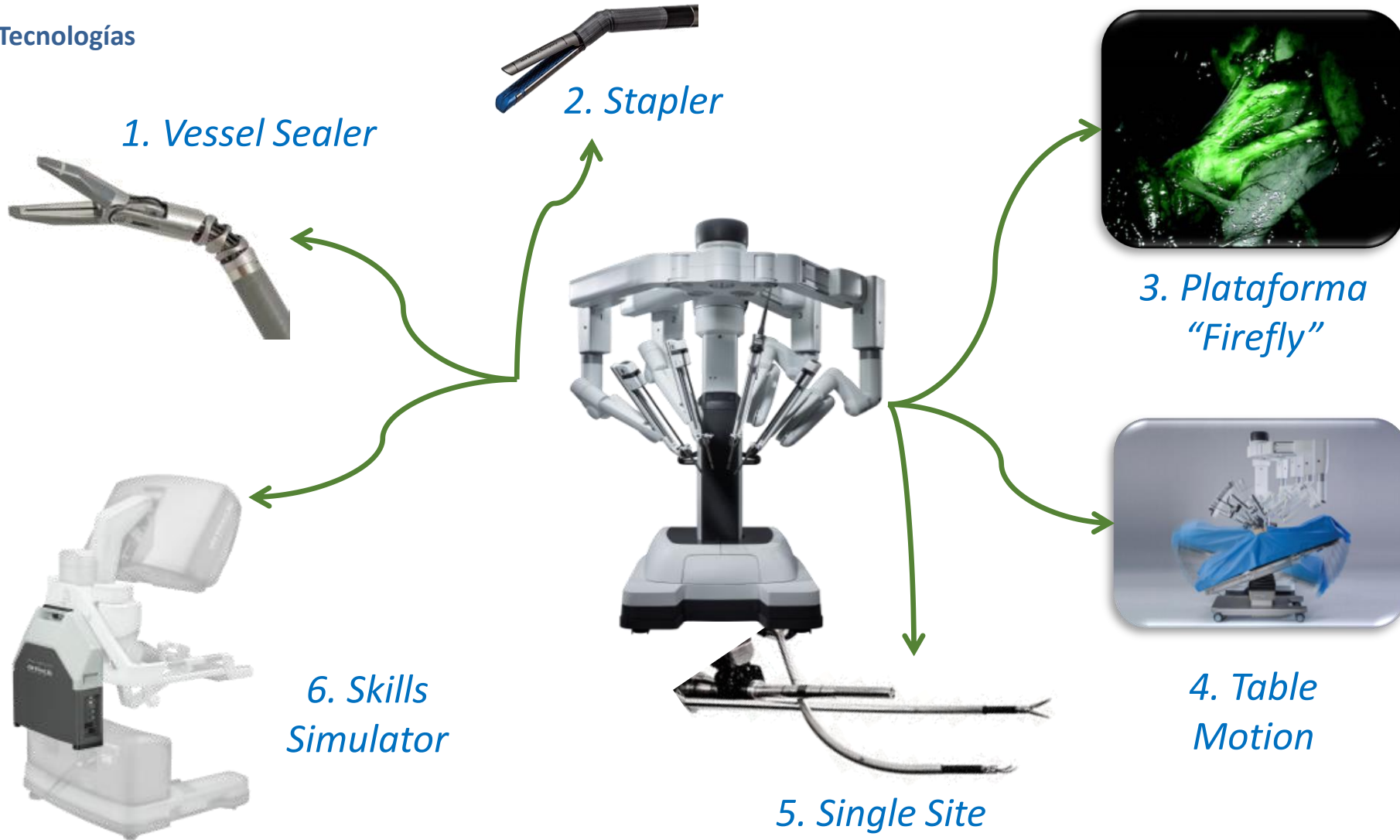


Fig. 3 The remainder of the ligamentum teres was fixed over itself with four to six stitches



da Vinci Xi: Nuevas Tecnologías



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Laparoscopic Versus Robot-Assisted Roux-en-Y Gastric Bypass: A Center of Excellence for the EAC-BC Experience

Ramon Vilallonga, MD, PhD,^{1,2,i} Amador García Ruiz de Gordejuela, MD, PhD,¹
José Manuel Fort, MD, PhD,¹ Oscar Gonzalez, MD, PhD,¹ María Rita Rodríguez-Luna, MD,^{1,ii}
Renato Roriz-Silva, MD,^{1,3} Enric Caubet, MD, PhD,¹ Andrea Ciudin, MD, PhD,^{4,iii}
Meritxell Pera-Ferreruela, MD,⁵ Carlos Petrola, MD,⁵ and Manel Armengol, MD, PhD⁵

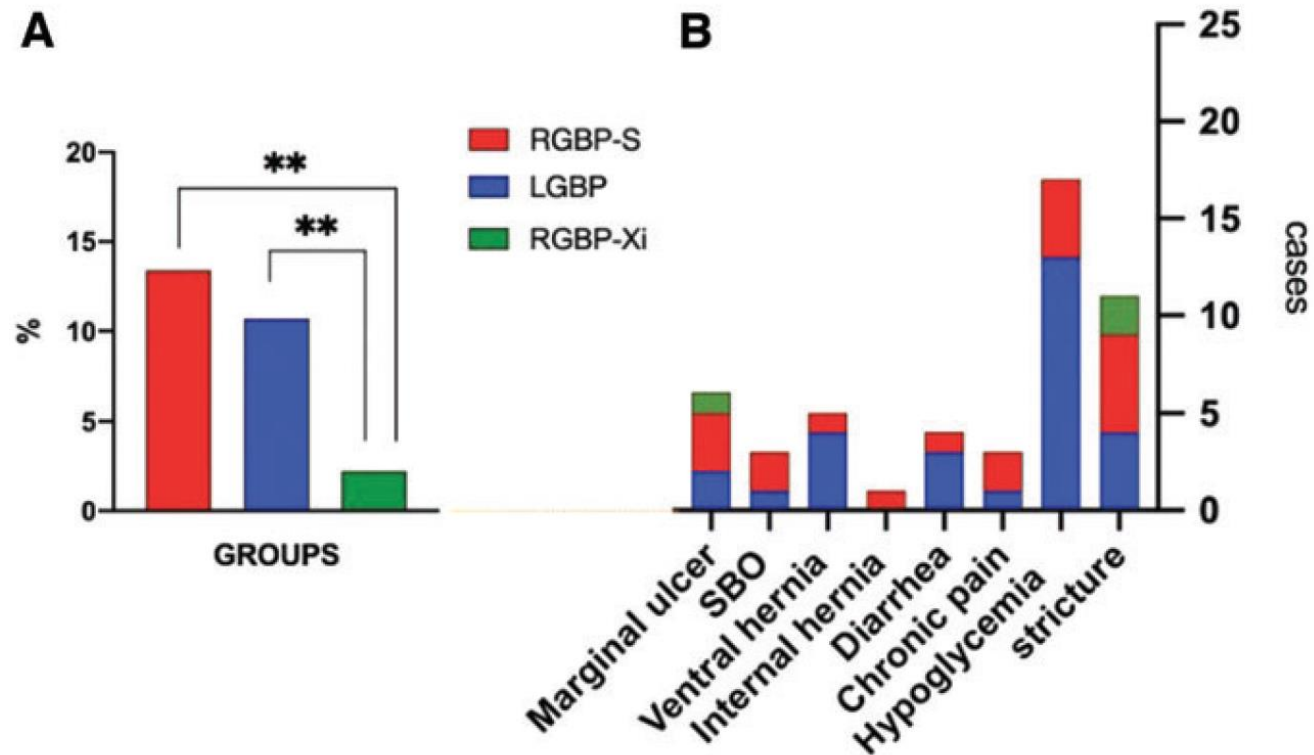


FIG. 1. (A) Complications during the follow-up period according to the groups. ** means $P = .001$. (B) Main complications identified during the follow-up period among the groups. Color images are available online.



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Full Reports

A Comparison of Clinical Outcomes Between Two Different Models of Surgical Robots in Roux-en-Y Gastric Bypass

María Rita Rodríguez-Luna, MD,^{1,2,*}i Ramon Vilallonga, MD, PhD,^{2,3,ii} Renato Roriz-Silva, MD,^{2,4,5,*}
Muthukumaran Rangarajan, MS, FRCS (Glasg),⁶ Amador García Ruiz de Gordejuela, MD, PhD,²
Enric Caubet, MD, PhD,² Oscar Gonzalez, MD, PhD,² Mariano Palermo, MD, PhD,⁷
José Manuel Fort, MD, PhD,² and Manel Armengol, MD, PhD⁸





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WHAT IS A HIATAL HERNIA ?

- VISUAL
- SIZE
- THICKNESS OF THE PILARS
- HOW MUCH TEH STOMACK IS IN THE THORAX ?
- EXPLORE THE HIATUS, RELEASE TEH CRURA ALWAYS

IDEAL PRIMARY PROCEDURE

INTRAOPERATIVE COMPLICATIONS

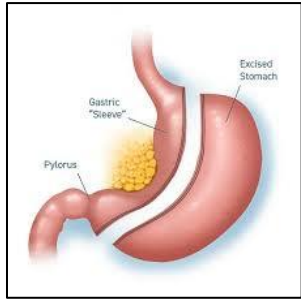
TECNICAL ASPECTS

STAGED STRATEGY FOR THE HIATUS ?

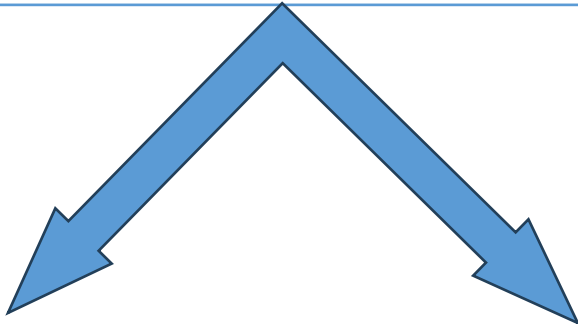


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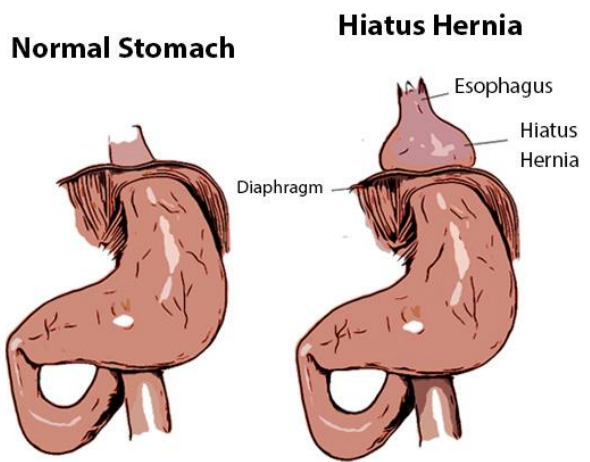


Debated issue about GERD in bariatric surgery is the presence of hiatal hernia



Improvement in GERD symptoms when hiatal hernia is diagnosed and repaired

NO Improvement in GERD symptoms when hiatal hernia is diagnosed and repaired



Hendricks L et al . Surg Obes Relat Dis 12:511–517.
Moon RC et al. Surg Obes Relat Dis 11:546–551.
Stenard F et al. World J gastroenterol 21(36):1034810357.
Braghettol et al. .Dis Esophagus.



Hill Procedure – STAGED STRATEGY

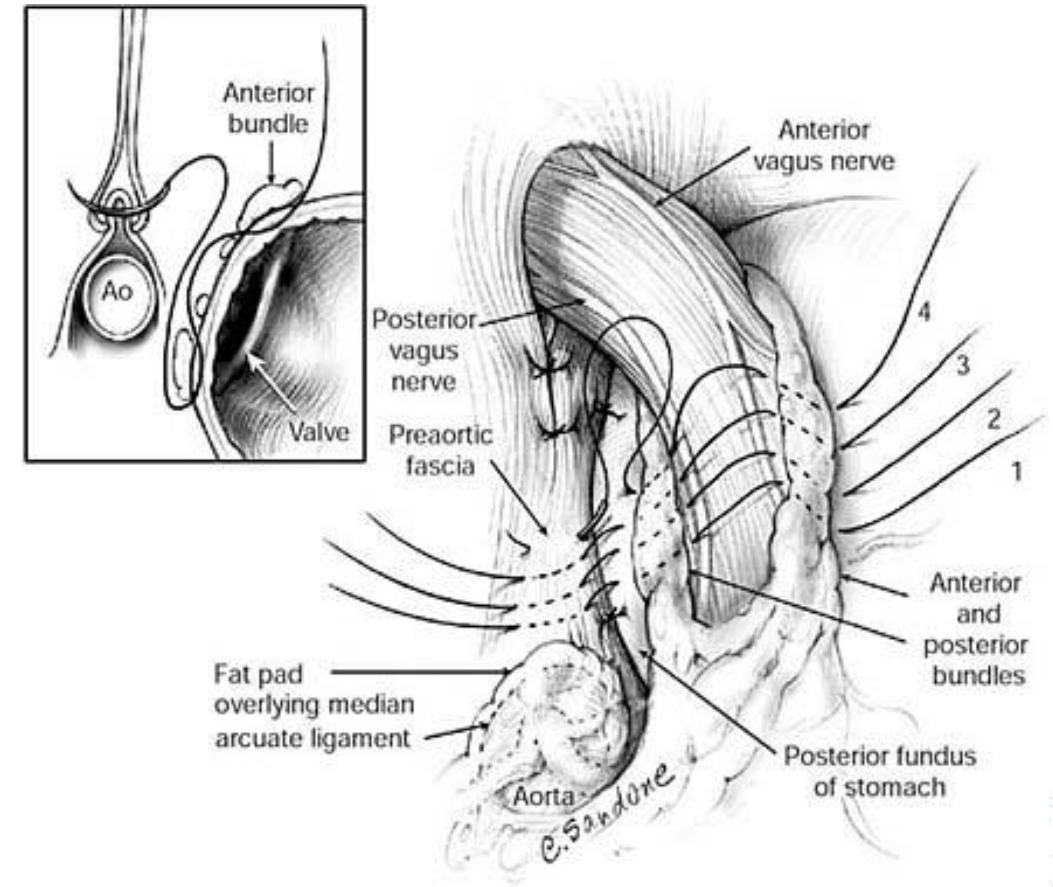
OBES SURG (2016) 26:910–912
DOI 10.1007/s11695-016-2076-5



VIDEO SUBMISSION

Technique of Hill’s Gastropexy Combined with Sleeve Gastrectomy for Patients with Morbid Obesity and Gastroesophageal Reflux Disease or Hiatal Hernia

Andrés Sánchez-Pernaute¹ · Pablo Talavera¹ · Elia Pérez-Aguirre¹ ·
Inmaculada Domínguez-Serrano¹ · Miguel Ángel Rubio² · Antonio Torres¹



Ligamentum Teres Cardiopexy– STAGED STRATEGY

Obesity Surgery (2019) 29:3765–3768
<https://doi.org/10.1007/s11695-019-03990-6>



BRIEF COMMUNICATION



Ligamentum Teres Cardiopexy as a Late Alternative for Gastroesophageal Reflux Disease in a Patient with Previous Reversal of Gastric Bypass to Sleeve Gastrectomy and Hiatal Hernia Repair

Ramon Vilallonga¹  · Sergi Sanchez-Cordero² · Piero Alberti³ · Ruth Blanco-Colino³ · Amador Garcia Ruiz de Gordejuela¹ · Enric Caubet¹ · Oscar Gonzalez¹ · Renato Roriz-Silva⁴ · Manel Armengol³ · José Manuel Fort¹

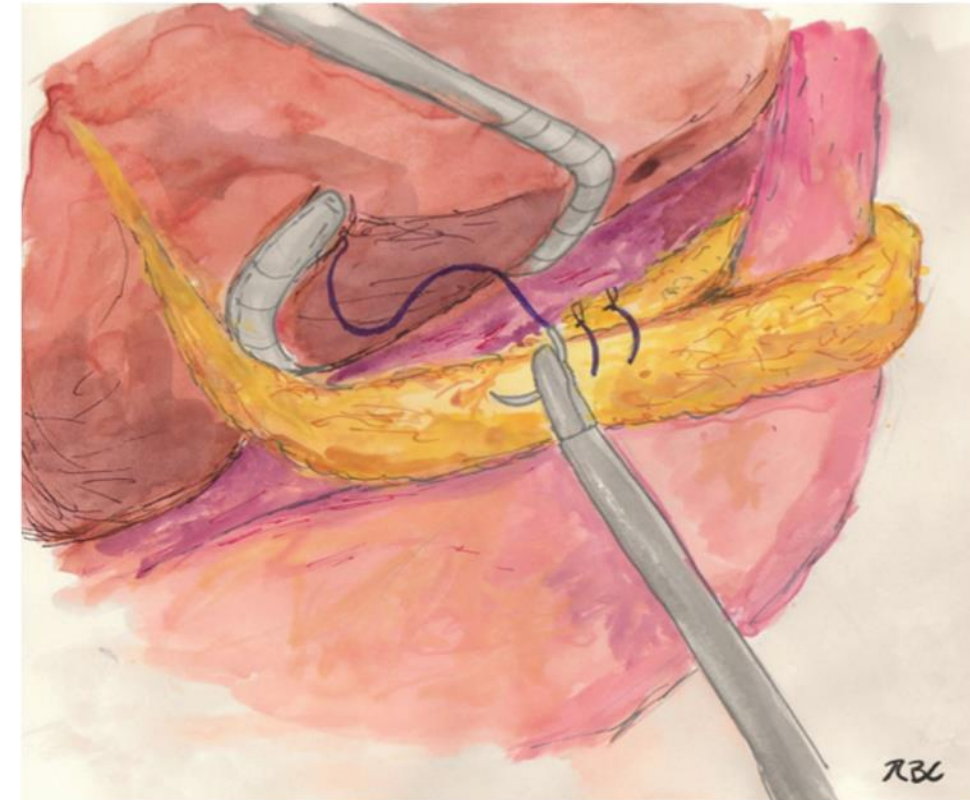


Fig. 3 The remainder of the ligamentum teres was fixed over itself with four to six stitches

SG TO GBP

Table 2. Patients' workup at different stages

	Before SG	After SG	After RYGB ± hiatoplasty
GERD symptoms	0/35 (0%)	35/35 (100%)	9/35 (26%) ✓
GERD disease*	0/35 (0%)	22/35 (62.9%)	1/35 (2.9%)
Upper endoscopy			
- Hiatal hernia	9/28 (32%)	14/31 (45%)	5/23 (22%) ✓
- Esophagitis ≥B	2/28 (7%)	12/31 (39%)	2/23 (9%)
- Barret's esophagus	0/28 (0%)	3/31 (10%)	0/23 (0%)
Barium swallow			
- Hiatal hernia	--	24/31 (77%)	7/14 (50%)
- Twisting	--	10/31 (32%)	--
- Stenosis	--	11/31 (35%)	--
- Fundus dilation	--	6/31 (19%)	--
pHmetry			
- DeMeester >16	--	20/20 (100%)	1/5 (20%)
Manometry			
- Hiatal hernia	--	5/24 (21%)	0/7 (0%)
- Hypotonic LES	--	17/24 (71%)	4/7 (57%)

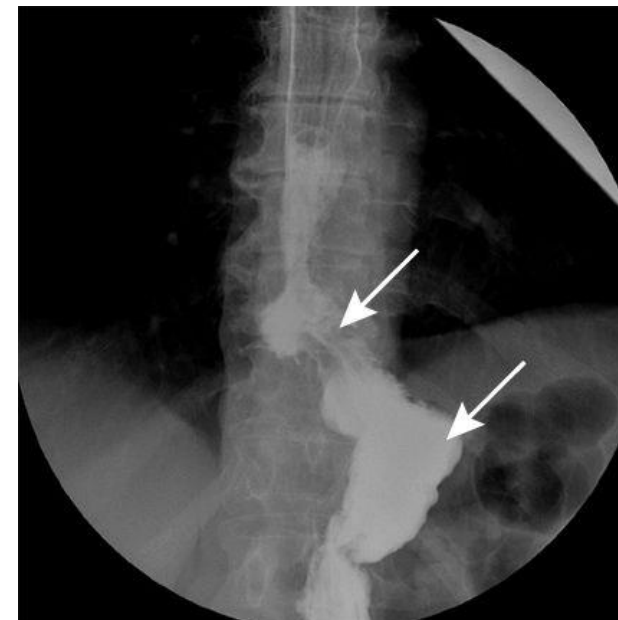
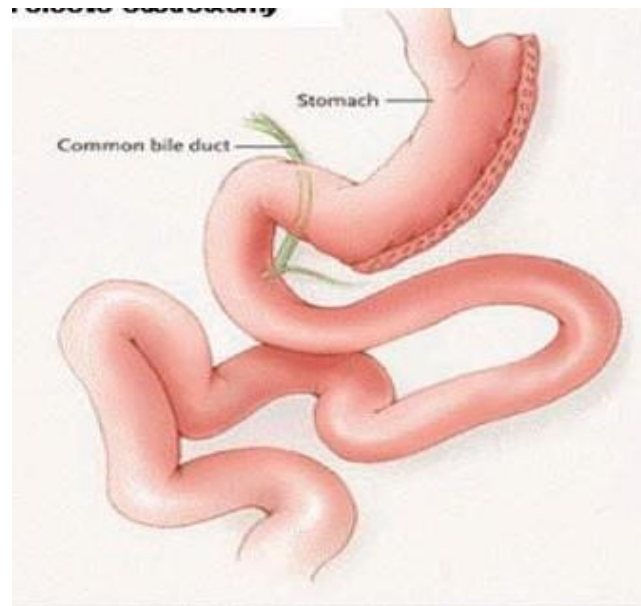
Not
systematic
review of
the Hiatus

SG: Sleeve gastrectomy; RYGB: Roux-en-Y gastric bypass; GERD: Gastroesophageal reflux disease; LES: Low esophageal sphincter; *GERD Disease defined by Lyon Criteria.

Table 3. DeMeester scores found in pHmetries according to the presence or absence of different barium swallow findings

Barium swallow finding	Presence	Absence	p value
- Hiatal hernia	84.3 ± 40.9	51.6 ± 13.2	NS
- Twisting	64 ± 13	90.7 ± 52.2	NS
- Stenosis at incisura	103.3 ± 74.1	72.6 ± 19.2	NS
- Fundus dilation	63.5 ± 10.6	94.8 ± 54.9	NS

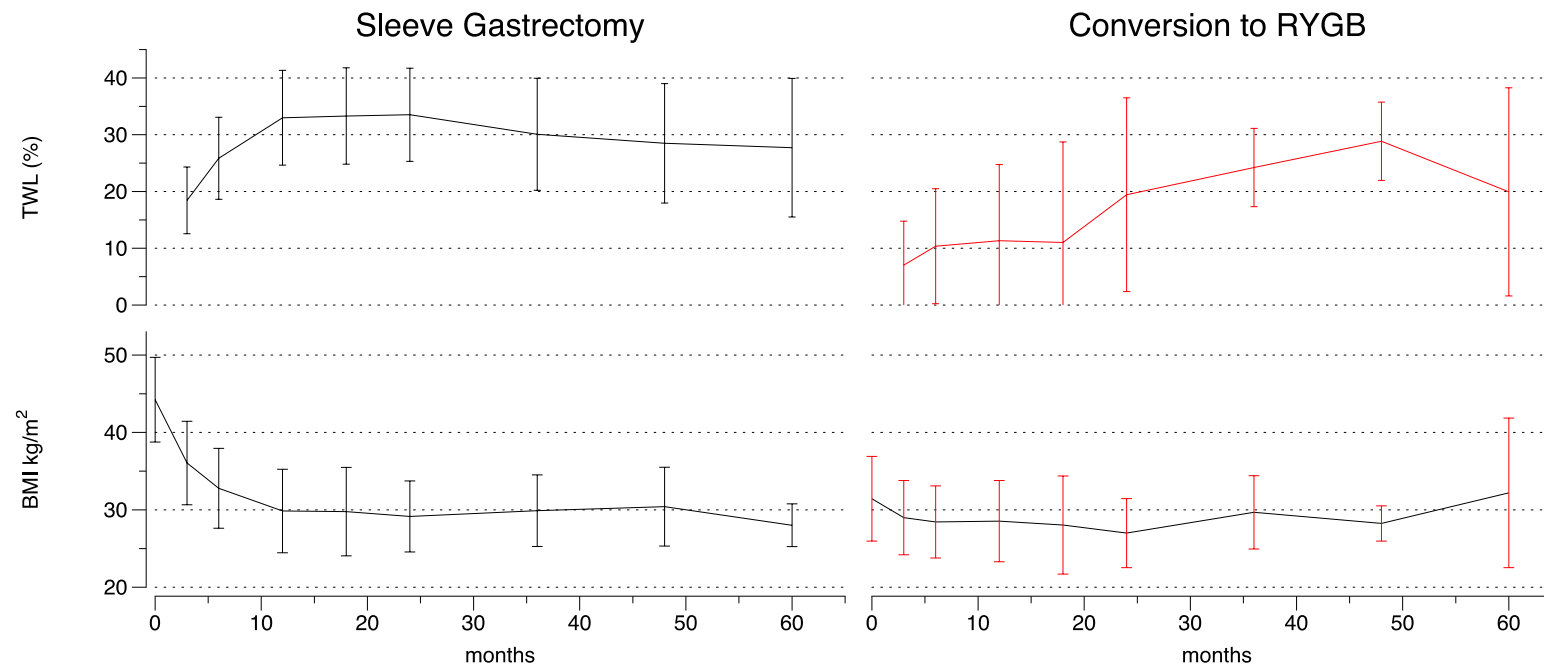
NS: not significant





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La conversió a BGYR: va ser eficaç en gairebé tots els pacients.

L'exposició patològica a l'àcid i les hèrnies de hiat semblen ser les principals troballes prèvies a la conversió, cosa que justifica un examen exhaustiu i un abordatge agressiu del hiat.

Correlació insuficient entre els símptomes i les troballes a les proves morfològiques i funcionals.



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Surgery for Obesity and Related Diseases 19 (2023) 492–499

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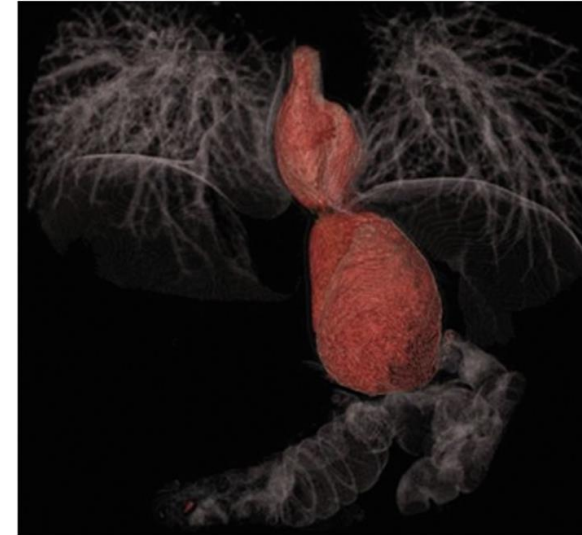
Original article

Intrathoracic pouch migration in one-anastomosis gastric bypass with and without hiatoplasty: A 3-dimensional-computed tomography volumetry study

Daniel M. Felsenreich, M.D., Ph.D.^a, Michael A. Arnoldner, M.D.^b, Lukas Wintersteller^a, Arpad Mrekva, M.D.^b, Julia Jedamzik, M.D.^a, Jakob Eichelter, M.D.^a, Felix B. Langer, M.D.^a, Gerhard Prager, M.D.^{a,*}

^aDivision of Visceral Surgery, Department of General Surgery, Medical University of Vienna, Vienna, Austria

^bDivision of General and Pediatric Radiology, Department of Biomedical Imaging and Image-Guided Therapy, Medical University of Vienna, Vienna,



Intrathoracic pouch migration

GERD in patients undergoing OAGB without/with hiatoplasty

	<u>All patients</u> (n = 50)	<u>OAGB without hiatoplasty</u> (n = 25)	<u>OAGB with hiatoplasty</u> (n = 25)	<i>P</i> value
GERD (%)	14 (28%)	6 (24%)	8 (32%)	.538

OAGB = one-anastomosis gastric bypass; GERD = gastroesophageal reflux disease.



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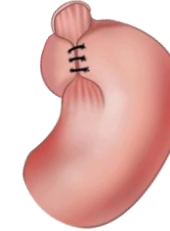


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REVIEW ARTICLE

The Improvement of Gastroesophageal Reflux Disease and Barrett's after Bariatric Surgery

Tammy L. Kindel¹ · Dmitry Oleynikov²



About **31 %** of obese patients undergoing a laparoscopic Nissen fundoplication (LNF) or trans-thoracic Belsey-Mark IV had an operative recurrence compared to an **8 %** recurrence rate in overweight patients (BMI 25–30) and **4.5 %** in normal patients

bariatric surgery has become the gold-standard treatment of morbidly obese patients with GERD

National study > 500 cases,
Obesity Class 1, NF versus GBP



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OBES SURG
DOI 10.1007/s11695-016-2271-4

ANNOUNCEMENT

Indications for Surgery for Obesity and Weight-Related Diseases: Position Statements from the International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO)

Maurizio De Luca¹ • Luigi Angrisani² • Jacques Himpens³ • Luca Busetto⁴ •
Nicola Scopinaro⁵ • Rudolf Weiner⁶ • Alberto Sartori¹ • Christine Stier⁶ •
Muffazal Lakdawala⁷ • Aparna G. Bhasker⁷ • Henry Buchwald⁸ • John Dixon⁹ •
Sonja Chiappetta⁶ • Hans-Christian Kolberg¹⁰ • Gema Frühbeck¹¹ • David B. Sarwer¹² •
Michel Suter¹³ • Emanuele Soricelli¹⁴ • Mattias Blüher¹⁵ • Ramon Vilallonga¹⁶ •
Arya Sharma¹⁷ • Scott Shikora¹⁸





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Sub-chapter 3.5 Gastroesophageal reflux disease (GERD)

Statement 3.5.1

Surgery for obesity and weight-related diseases is effective in controlling GERD and is therefore indicated in patients with morbid obesity who have signs and/or clinical symptoms of severe reflux disease.

(Level of evidence 2, grade of recommendation B)

Statement 3.5.2

In patients undergoing surgery for morbid obesity, GBP is the procedure of choice for patients with obesity and severe GERD.

(Level of evidence 2, grade of recommendation B)

Statement 3.5.3

GBP is the best option for patients with morbid obesity presenting recurrence of symptoms of GERD after traditional antireflux surgery.

(Level of evidence 2, grade of recommendation C)





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Statement 3.5.4

GERD symptoms are not a contraindication to LAGB. However, the presence of esophageal motility disorders at the time of surgery may reduce the efficacy in terms of reflux symptoms.

(Level of evidence 2, grade of recommendation B)

Statement 3.5.5

GERD symptoms are not a contraindication to sleeve gastrectomy.

(Level of evidence 3, grade of recommendation C)

Obesity Surgery (2020) 30:3135–3153
<https://doi.org/10.1007/s11695-020-04720-z>



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REVIEW



IFSO Position Statement on the Role of Esophago-Gastro-Duodenal Endoscopy Prior to and after Bariatric and Metabolic Surgery Procedures

Wendy A. Brown¹ • Yazmin Johari Halim Shah¹ • George Balalis¹ • Ahmad Bashir¹ • Almino Ramos¹ • Lilian Kow¹ • Miguel Herrera¹ • Scott Shikora¹ • Guilherme M. Campos¹ • Jacques Himpens¹ • Kelvin Higa¹



Surgery for Obesity and Related Diseases 17 (2021) 837–847

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ASMBS Guidelines/Statements

ASMBS position statement on the rationale for performance of upper gastrointestinal endoscopy before and after metabolic and bariatric surgery

Guilherme M. Campos, M.D., Ph.D., F.A.S.M.B.S., F.A.C.S.^{a,*},
Guilherme S. Mazzini, M.D., Ph.D.^a, Maria S. Altieri, M.D., M.S.^b,
Salvatore Docimo, Jr., D.O., F.A.S.M.B.S., F.A.C.S.^c,
Eric J. DeMaria, M.D., F.A.S.M.B.S., F.A.C.S.^b,

Ann M. Rogers, M.D., F.A.S.M.B.S., F.A.C.S.^d, On behalf of the Clinical Issues Committee
of the American Society for Metabolic and Bariatric Surgery

^aDivision of Bariatric and Gastrointestinal Surgery, Department of Surgery, Virginia Commonwealth University, Richmond, Virginia

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Received 10 March 2021; accepted 13 March 2021



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One-anastomosis vs Roux-en-Y Gastric Bypass as Revisional Surgery after Failed LSG

Systematic Review & Meta-analysis (Vitiello et al., 2023)

Langenbeck's Archives of Surgery

Aim: Compare weight loss and GERD remission after OAGB vs RYGB following failed LSG.

Methods

- Systematic review & meta-analysis (PRISMA guidelines).
- Databases: PubMed, Embase, Cochrane Library.
- 6 studies included (739 patients: 373 OAGB, 366 RYGB).
- Outcomes: % total weight loss (TWL), GERD remission, leak, bleeding, marginal ulcer.
- Statistical analysis: Mantel-Haenszel, random-effects model.



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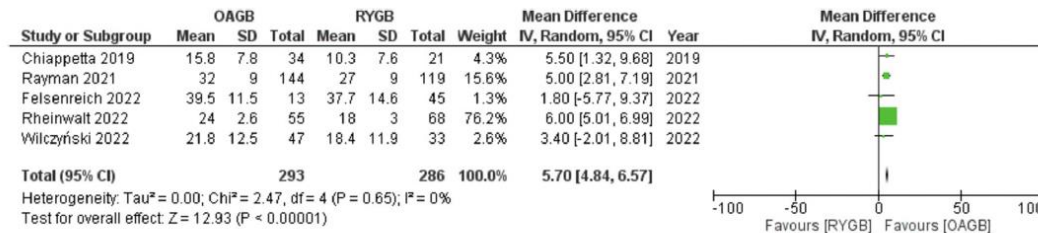


Fig.2 Forest plot for percentage of total weight loss

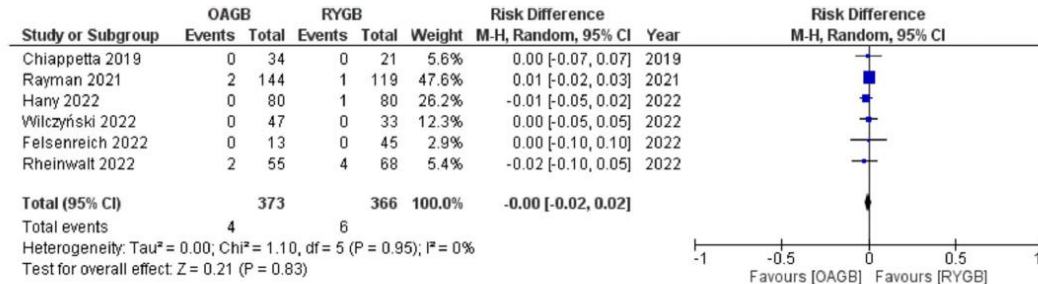


Fig.3 Forest plot for leak

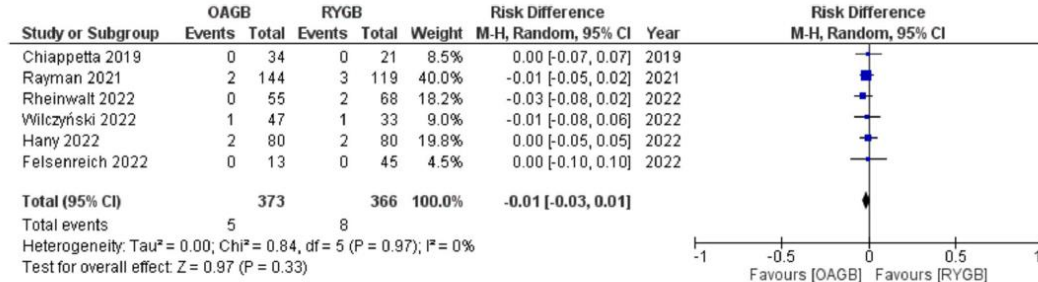


Fig.4 Forest plot for bleeding

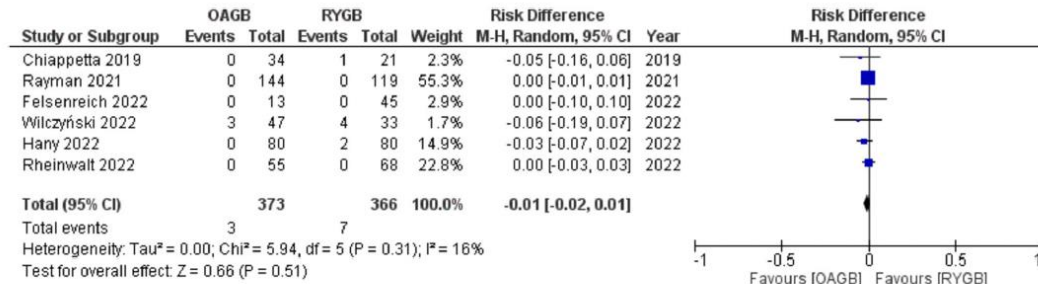


Fig.5 Forest plot for marginal ulcer



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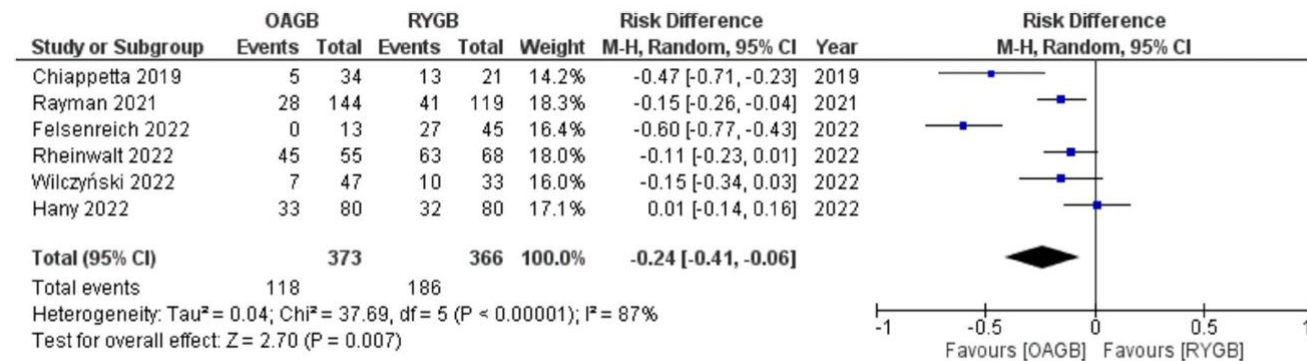


Fig. 6 Forest plot for GERD as indication for conversion

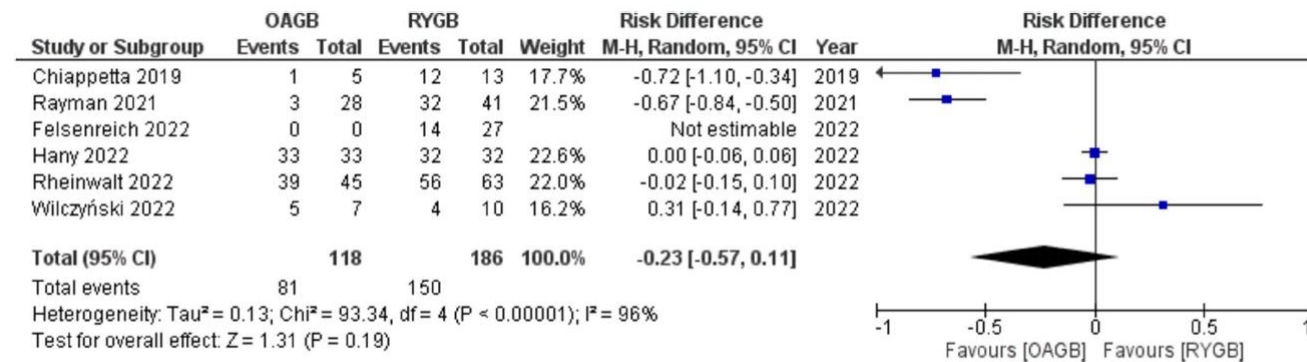


Fig. 7 Forest plot for GERD after conversion

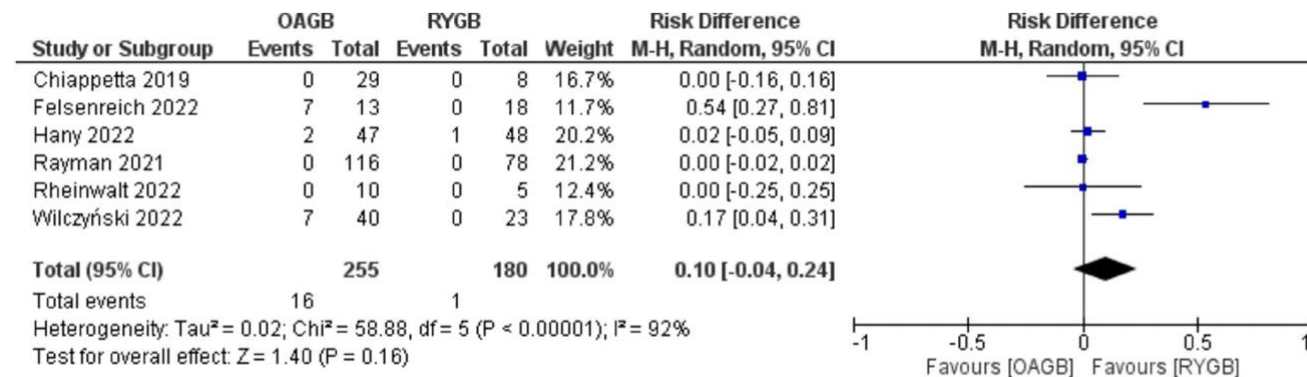


Fig. 8 Forest plot for de novo GERD after conversion



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Results & Conclusions

- OAGB achieved greater weight loss (MD +5.7% TWL, $p < 0.001$).
- No significant difference in leak, bleeding, or marginal ulcer.
- GERD remission: higher after RYGB (80.6% vs 68.6%), but not statistically significant.
- **De novo GERD: more frequent after OAGB (6.3% vs 0.5%).**


Conclusions:

- Both revisional procedures are safe and effective.
- OAGB provides superior weight loss.
- RYGB preferred in patients with severe GERD.





Revisional Roux-en-Y Gastric Bypass Versus Revisional One-Anastomosis Gastric Bypass After Failed Sleeve Gastrectomy: a Randomized Controlled Trial

Mohamed Hany^{1,2} · Ahmed Zidan¹ · Ehab Elmongui³ · Bart Torensma⁴ 

- Prospective randomized controlled trial.
- Patients: Individuals with failed LSG (insufficient weight loss or GERD).
- Randomization: RYGB vs OAGB.
- Outcomes: % total weight loss (TWL), % excess weight loss (EWL), GERD remission, complications.
- Follow-up: 24 months.

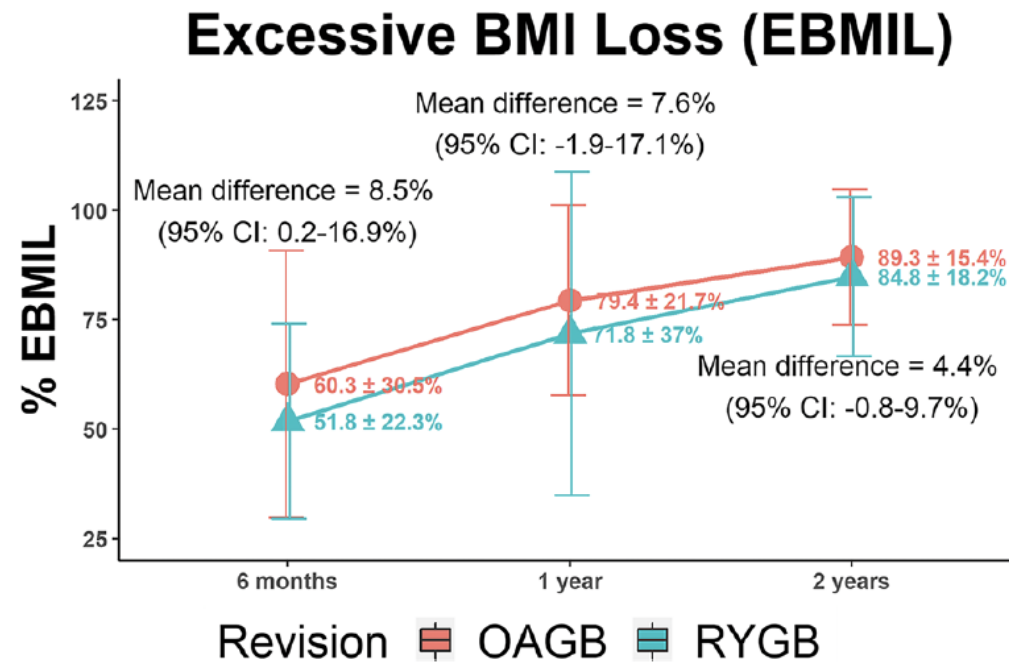
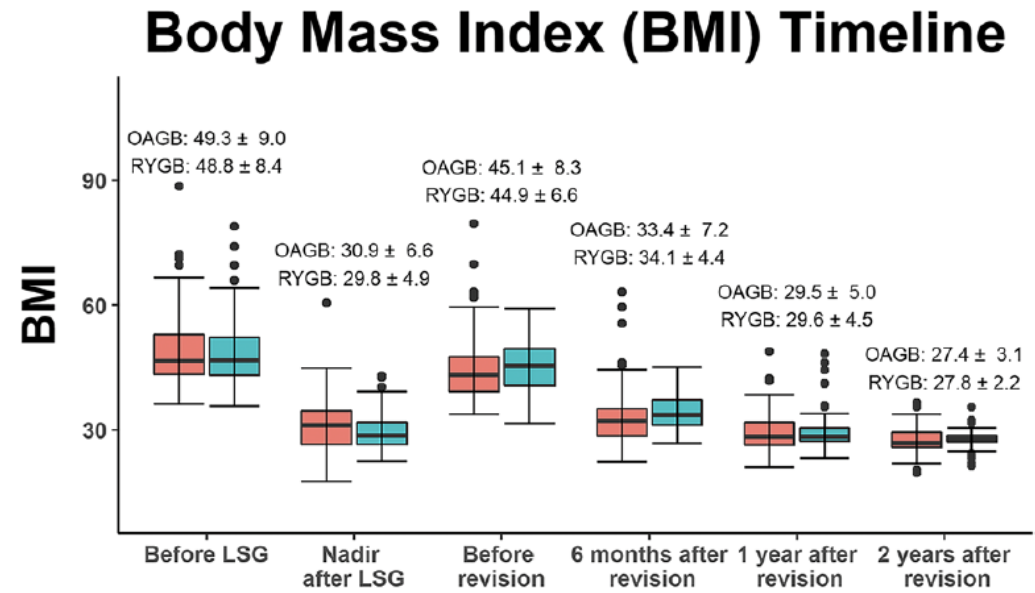
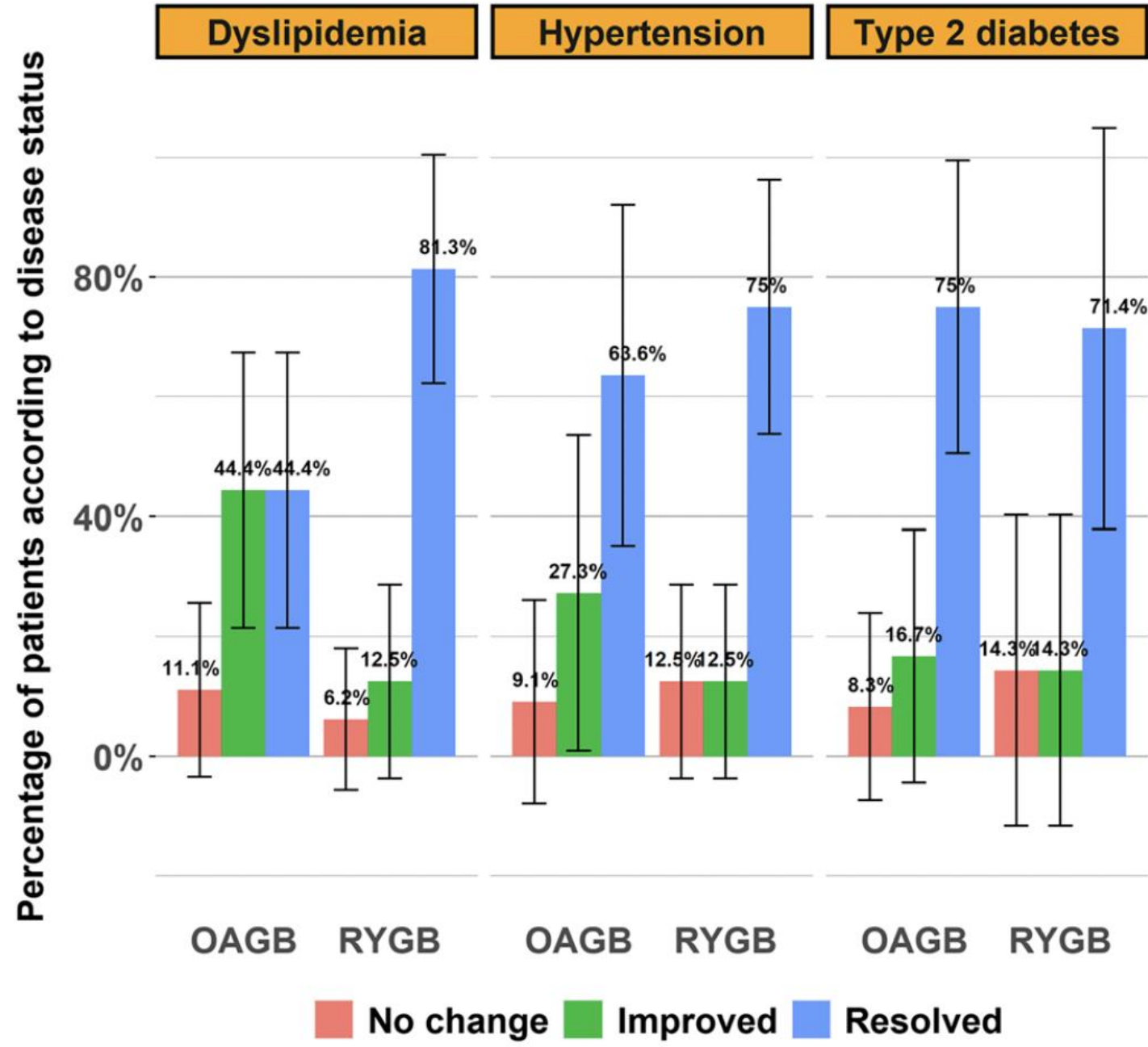


Fig. 2 BMI timeline and EBMIL after revisional surgery



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Conclusions

- Both revisional RYGB and OAGB are effective and safe.
- OAGB yields superior weight loss.
- RYGB preferred in patients with severe GERD.



Surgery for Obesity and Related Diseases 19 (2023) 111–117

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Original article

Conversion of gastric sleeve to Roux-en-Y gastric bypass: overall outcomes and predictors of below-average weight loss

Jonathan R. Zadeh, M.D.^{a,b,*}, Rafael Alvarez, M.D.^{a,b}, Leena Khaitan, M.D.^{a,b},
Mujjahid Abbas, M.D.^{a,b}

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Received 5 August 2022; accepted 21 October 2022

Aim: Assess short-term outcomes of revisional bariatric surgery after SG using MBSAQIP database.



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Methods

- Retrospective analysis of MBSAQIP (2020–2021).
- Patients: Adults undergoing revisional surgery after primary SG.
- Compared procedures: RYGB, OAGB, SADI-S, BPD-DS, re-sleeve.
- Outcomes: 30-day morbidity and mortality, leaks, bleeding, reoperations, readmissions.



Association Between Demographic Factors and Below Average %EWL at One Year After Conversion of SG to RYGB

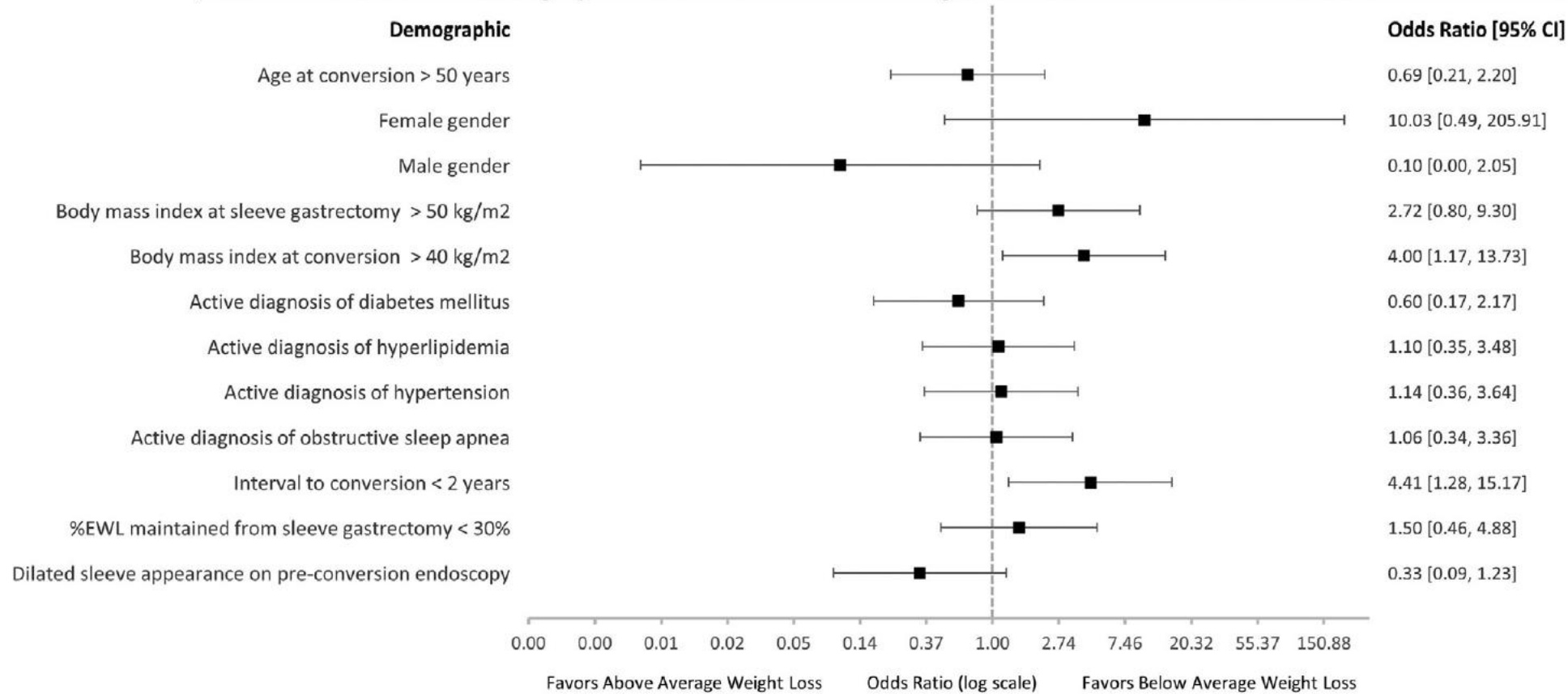


Fig. 1. Forest plot for odds of below-average %EWL at 1 year after conversion for studied demographics. %EWL = percent excess weight loss; CI = confidence interval; RYGB = Roux-en-Y gastric bypass; SG = sleeve gastrectomy.



Association Between Demographic Factors and Below Average %EWL at Two Years After Conversion of SG to RYGB

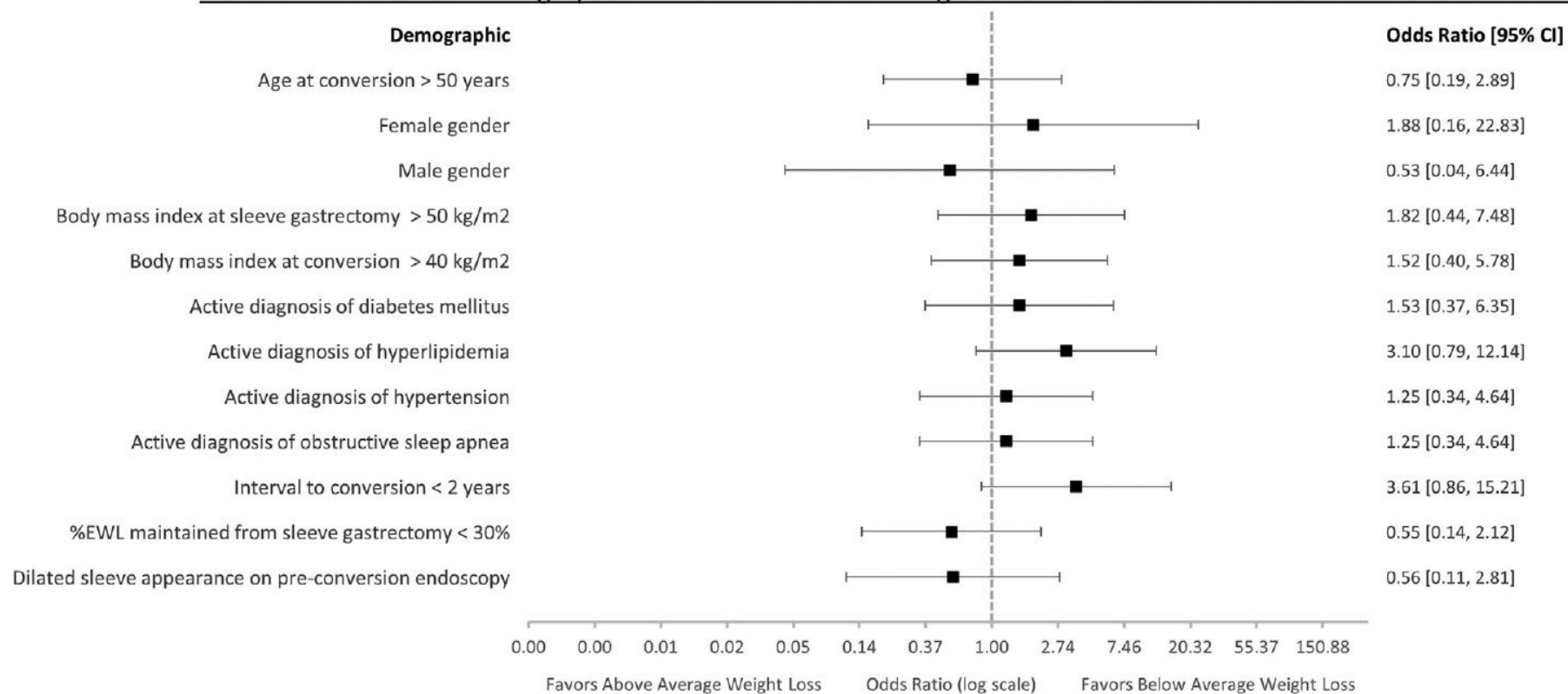


Fig. 2. Forest plot for odds of below-average %EWL at 2 years after conversion for studied demographics. %EWL = percent excess weight loss; CI = confidence interval; RYGB = Roux-en-Y gastric bypass; SG = sleeve gastrectomy.





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Table 1

Demographics for all SG to RYGB conversion patients as well as demographics for patients with below- and above-average %EWL at 1 and 2 years after conversion

Demographic	All SG to RYGB conversion patients (n = 62)	Patients with 1-yr %EWL below average (n = 26)	Patients with 1-yr %EWL above average (n = 21)	Patients with 2-yr %EWL below average (n = 17)	Patients with 2-yr %EWL above average (n = 19)
Average age at conversion (yr)	48	47.2	48.4	46.8	46.8
Average BMI at conversion (kg/m ²)	40.7	41.9	37.9	39.6	39.1
Average weight loss maintained from SG (%EWL)	31.21	30.57	36.85	32.88	31.63
Average interval from SG to conversion (mo)	48.8	40.2	51.9	32.5	49.1
Female/male (n)	58/4	26/0	18/3	16/1	17/2
Diagnosis of diabetes	27.42%	23.08%	33.33%	35.29%	26.32%
Diagnosis of hyperlipidemia	45.16%	50.00%	47.62%	58.82%	31.58%
Diagnosis of hypertension	43.55%	46.15%	42.86%	52.94%	47.37%
Diagnosis of OSA	53.23%	53.85%	52.38%	52.94%	47.37%
Average 1-yr weight loss after conversion (%TBWL)	41.53 %EWL (18.55 % TBWL)	23.17 %EWL	64.27 %EWL		
Average 2-yr weight loss after conversion (%TBWL)	30.78 %EWL (13.83 % TBWL)			7.58 %EWL	51.54 %EWL

SG = sleeve gastrectomy; RYGB = Roux-en-Y gastric bypass; %EWL = percent excess weight loss; BMI = body mass index; OSA = obstructive sleep apnea; %TBWL = percent total body weight loss.



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Conclusions

- Revisional surgery after failed SG is safe with acceptable morbidity/mortality.
- RYGB is the most frequent and has favorable safety outcomes.
- Malabsorptive procedures provide strong weight loss potential but with higher risks.
- Procedure choice should be individualized based on patient profile and indication.



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Surgical Endoscopy (2025) 39:459–464
<https://doi.org/10.1007/s00464-024-11280-1>



2024 SAGES ORAL



1- and 2-year outcomes and predictors of weight loss after gastric sleeve to Roux-en-Y gastric bypass conversion: a retrospective cohort study

Jayson S. Marwaha^{1,5} · Miskir Belayneh² · Grace C. Bloomfield² · Narica Clarke^{1,5} · Chaitanya Vadlamudi^{1,3,4} ·
Ivanesa L. Pardo Lameda^{1,3} · Yewande R. Alimi^{1,3,5,6}





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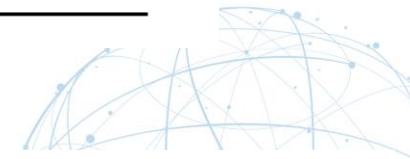
Characteristic	Average %EWL 1 year after conversion		Average %EWL 2 years after conversion	
	Below average (n=49)	Above average (n=50)	Below average (n=31)	Above average (n=32)
Demographics				
Age (years) (mean, SD)	43 (9)	47 (10)	45 (10)	44 (10)
Female (no., %)	47 (96)	46 (92)	28 (90)	30 (94)
African American (no., %)	43 (88)	34 (68)	26 (84)	26 (81)
Comorbidities (no., %)				
DM	6 (12)	5 (10)	4 (13)	4 (13)
HTN	22 (45)	24 (48)	13 (42)	18 (56)
HLD	1 (2)	10 (20)	1 (3)	6 (19)
Smoking history	12 (24)	12 (24)	6 (19)	6 (19)
CKD	0 (0)	3 (6)	1 (3)	2 (6)
CAD	0 (0)	1 (2)	0 (0)	1 (3)
CHF	0 (0)	0 (0)	0 (0)	0 (0)
NAFLD	1 (2)	1 (2)	0 (0)	1 (3)
Surgery				
Interval (months) (mean, SD)	53 (26)	61 (30)	56 (25)	59 (33)
BMI at conversion (mean, SD)	45 (10)	44 (19)	46 (10)	42 (7)
Sleeve %EWL (mean, SD)	34 (20)	26 (23)	31 (21)	29 (24)
1-Year post-conversion %EWL (mean, SD)	–	–	26 (22)	54 (20)
2-Year post-conversion %EWL (mean, SD)	19 (26)	54 (25)	–	–



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Factor	Below-average 1-year %EWL		Below-average 2-year %EWL	
	OR (95% CI)	<i>p</i>	OR (95% CI)	<i>p</i>
Age (years)	1.0 (0.9–1.0)	0.04	1.0 (0.9–1.1)	0.6
Race (African American)	0.4 (0.1–1.0)	0.06	0.7 (0.2–2.6)	0.6
Sex (female)	1.0 (1.0–1.0)	0.9	1.6 (0.2–12.9)	0.3
Area deprivation index	1.0 (0.9–1.2)	0.8	1.0 (0.8–1.2)	0.8
Interval between procedures (months)	1.0 (0.9–1.0)	0.2	1.0 (0.9–1.0)	0.7
Pre-conversion BMI	1.0 (0.9–1.0)	0.7	1.1 (1.0–1.2)	0.08
%EWL after sleeve	1.0 (0.9–1.0)	0.06	1.0 (1.0–1.0)	0.7
Alimentary limb length (cm)	1.0 (0.9–1.0)	0.7	1.0 (1.0–1.0)	0.7
Weight regain after sleeve	0.6 (0.1–2.4)	0.5	0.9 (0.2–5.6)	0.9





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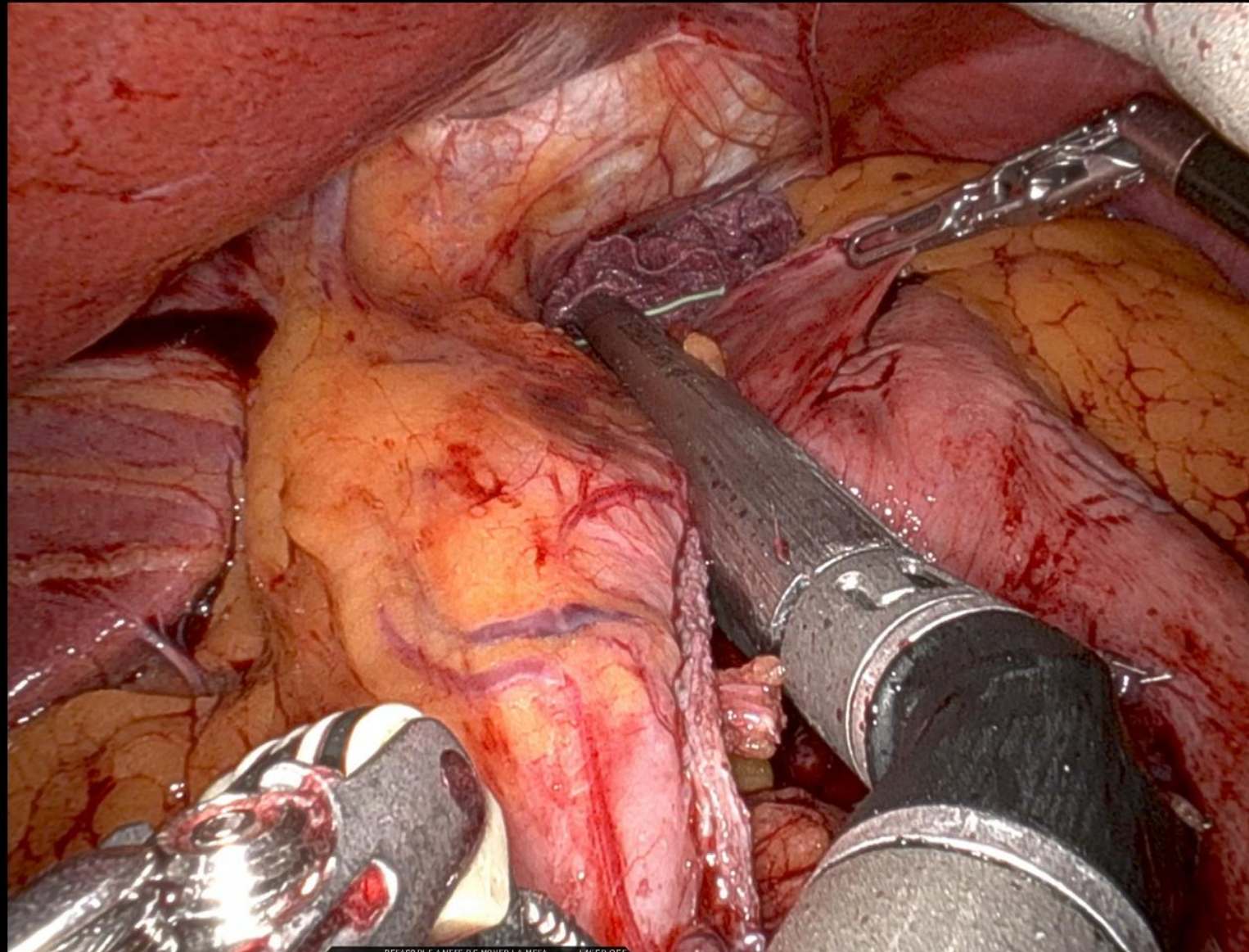
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Conclusion

the average %EWL is around 40% for sleeve-to-bypass conversions.

Excess weight loss after gastric sleeve and pre-conversion BMI do appear predictive of revisional success, and alternative interventions could be discussed with patients with BMI > 40 kg/ m².





1 L FENESTRATED BIPOLAR FORCEPS COAG

2 DESACOPLE ANTES DE MOVER LA MESA LASER OFF 1x 30°

3 HARMONIC ACE MIN MAX

4 R PROGRASP FORCEPS

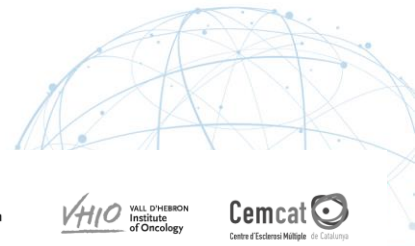


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THM

- Revisional bariatric surgery is challenging.
- Need accurate technical skills and optimization of movements and outcomes.
- Robotic platforms, although their Young age, can offer good results and promising expectations.
- Need more good clinical data





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THM

- The integration of robotic systems offers unparalleled precision, reduced operative risks, and potentially shorter hospital stays, underscoring the significant benefits over conventional laparoscopic methods.
- The emerging nature of this technology, variety in technology → limited number of studies



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THM

- We need to highlights the need for extensive research to fully establish its long-term efficacy, costeffectiveness, and impact on patient quality of life.
- Ileal surgery Will remain minortitary, however, SG might increase its “use” as a revisonal procedure
- Robotic may play a role on this situation



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