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مركز الجهاز الهضمي وعلاج السمنة وأمراض الأيض  
Gastrointestinal, Bariatric & Metabolic Center

**“RWG after LSG...  
Long BPL RYGB gastric bypass:  
The first 117 cases.”**

Ashraf Haddad, MD, FACS, FASMBS

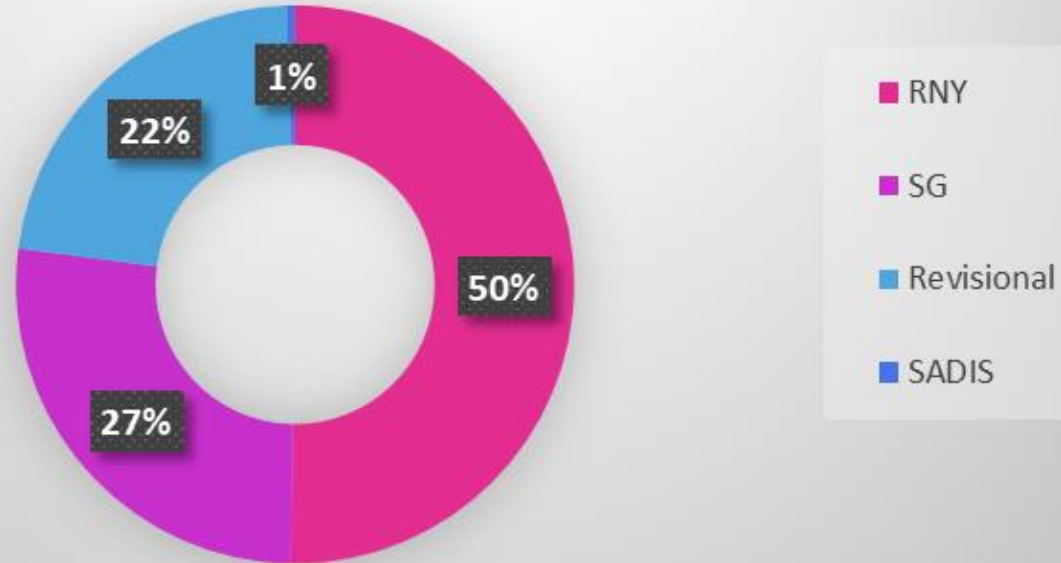
Laparoscopic, Advanced GI, and Bariatric Surgery

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Amman- Jordan

# Case mix disclosure

Case mix disclosure



# INTRODUCTION

- One anastomosis gastric bypass/mini-gastric bypass (OAGB/MGB) was first described in 2001 by Rutledge as a safe, effective procedure that meets the criteria of an “ideal” weight loss operation (1).
- The procedure has been gaining popularity worldwide.
- Multiple authors published on midterm outcomes and reported complications as well.

# Bile reflux

- The incidence of long term bile reflux has been reported to range from 0.4% to 4% (3-6, 10-12).
- Multiple authors have reported the need to re-operate on multiple patients for bile reflux (3- 9).

ORIGINAL CONTRIBUTIONS



# The IFSO Worldwide One Anastomosis Gastric Bypass Survey: Techniques and Outcomes?

Ashraf Haddad<sup>1</sup>  • Ahmad Bashir<sup>1</sup> • Mathias Fobi<sup>2</sup> • Kelvin Higa<sup>3</sup> • Miguel F. Herrera<sup>4</sup> • Antonio J. Torres<sup>5</sup> • Jacques Himpens<sup>6,7</sup> • Scott Shikora<sup>8</sup> • Almino Cardoso Ramos<sup>9</sup> • Lilian Kow<sup>10</sup> • Abdelrahman Ali Nimeri<sup>11</sup>

# Bile Reflux

- 45% of surgeons reported revising patients for bile reflux
- Mean age was 47 years
- The primary procedure was done at the same institution 76% of the time
- Pouch length was appropriate 70% of the time.

# Data On 339 operative Revisions

**LRYGB**

272 patients

80%

**Sleeve**

12 patient

4%

**Braun**

28 patients

8%

**Others**

27 patients

8%

Surg Endosc (2012) 26:1539–1547  
DOI 10.1007/s00464-011-2064-8

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# What is the best reconstruction method after distal gastrectomy for gastric cancer?

**Moon-Soo Lee · Sang-Hoon Ahn · Ju-Hee Lee ·  
Do Joong Park · Hyuk-Joon Lee · Hyung-Ho Kim ·  
Han-Kwang Yang · Nayoung Kim · Won Woo Lee**



- Endoscopy revealed that reflux after the R-Y anastomosis procedure was significantly less frequent than after the B-II procedure. One incident of Barrett's esophagus in a patient in the B-II with Braun anastomosis group was observed 12 months postoperatively.
- The frequency of reflux was lower in the R-Y group (10.3%) or the B-II group (75%) based on hepatobiliary scans ( $P < 0.001$ )

J Gastrointest Surg (2016) 20:1083–1090

DOI 10.1007/s11605-016-3138-7



ORIGINAL ARTICLE

# Comparison Between Billroth-II with Braun and Roux-en-Y Reconstruction After Laparoscopic Distal Gastrectomy

Chang In Choi<sup>1</sup> · Dong Hoon Baek<sup>3</sup> · Si Hak Lee<sup>2</sup> · Sun Hwi Hwang<sup>2</sup> · Dae Hwan Kim<sup>1</sup> ·  
Kwang Ha Kim<sup>3</sup> · Tae Yong Jeon<sup>1</sup> · Dong Heon Kim<sup>1</sup>

- At 1 and 2 years gastritis and bile reflux were significantly more frequent in the Billroth-II with Braun group.



Original article

Conversion of standard Roux-en-Y gastric bypass to distal bypass  
for weight loss failure and metabolic syndrome: 3-year follow-up  
and evolution of technique to reduce nutritional complications

Saber Ghiassi, M.D., M.P.H.<sup>a</sup>, Kelvin Higa, M.D.<sup>b,\*</sup>, Steven Chang, M.D.<sup>b</sup>, Pearl Ma, M.D.<sup>b</sup>,  
Aaron Lloyd, M.P.H.<sup>b</sup>, Keith Boone, M.D.<sup>b</sup>, Eric J. DeMaria, M.D.<sup>c</sup>

Original article

# Short-term results of long biliopancreatic limb Roux-en-Y gastric bypass—is it superior?

Rena C. Moon, M.P.H., M.D., Aaron Bornstein, D.O., Andre F. Teixeira, M.D.,  
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Obesity Surgery (2023) 33:1966–1973  
<https://doi.org/10.1007/s11695-023-06631-1>



ORIGINAL CONTRIBUTIONS



## Long Biliopancreatic Limb Roux-En-Y Gastric Bypass Versus One-Anastomosis Gastric Bypass: a Randomized Controlled Study

Mohamed AbdAlla Salman<sup>1</sup>  · Ahmed Abelsalam<sup>1</sup> · George Abdelfady Nashed<sup>1</sup> · Mohamed Yacoub<sup>1</sup> · Ahmed Abdalla<sup>1</sup>

- 62 patients equally allocated to OAGB BPL -200 cm- or long BPL RYGB – BPL 150 Roux 75 , with no dropouts during follow-up.
- At 6 months, there was no statistically significant difference between the two groups regarding postoperative BMI ( $P = 0.313$ ) and the EBWL ( $P = 0.238$ ). There was comparable remission of diabetes mellitus ( $P = 0.708$ ), hypertension ( $P = 0.999$ ), OSA ( $P = 0.999$ ), joint pain ( $P = 0.999$ ), and low back pain ( $P = 0.999$ ).
- **Seven** patients in the OAGB group experienced reflux symptoms ( $P = 0.011$ ), which were managed by proton pump inhibitors.





Original article

# Distal gastric bypass: 2-m biliopancreatic limb construction with varying lengths of common channel

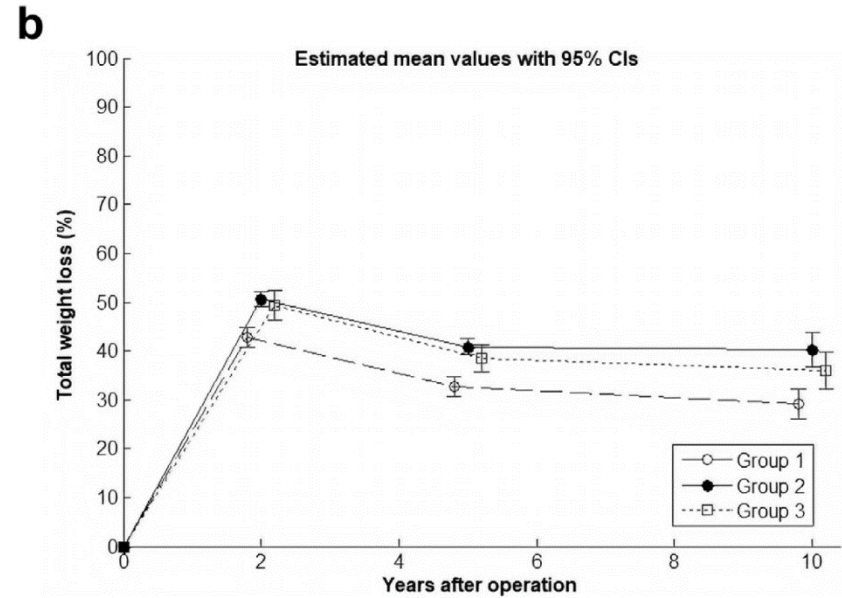
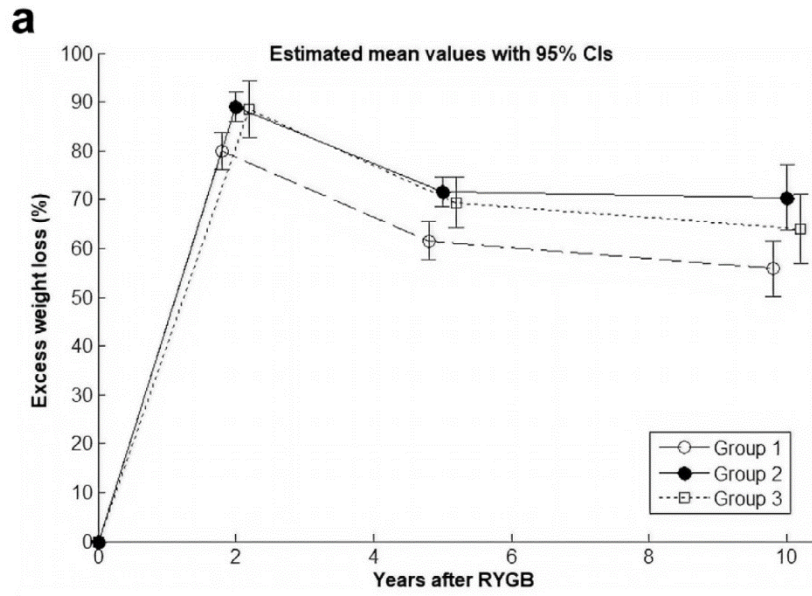
Kamran Shah, M.D.<sup>a,\*</sup>, Bent Johnny Nergård, M.D.<sup>a</sup>, Morten Wang Fagerland, M.Sc., Ph.D.<sup>b</sup>,  
Hjörtur Gislason, M.D., Ph.D.<sup>a</sup>

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Received 29 January 2019; accepted 2 May 2019

Table 1  
Length of different intestinal limbs in centimeters



2010, and floppy entero-entero anastomosis. Variations of limb lengths were done according to the table.

# Conclusion

- In the BPL-based DRYGB, better weight loss results are achieved but at the expense of significant protein malnutrition in a large number of patients and can even result in death.
- Higher risk of internal hernia in the group with CL of 150 cm compared with the standard RYGB.

Obesity Surgery (2021) 31:4846–4852  
<https://doi.org/10.1007/s11695-021-05651-z>



ORIGINAL CONTRIBUTIONS



# Comparing a Short Biliopancreatic Limb to a Long Biliopancreatic Limb in Patients with a Roux-en-Y Gastric Bypass with 4 Years Follow-up

Leontien M. G. Nijland<sup>1</sup> · Joris M. van Sabben<sup>1</sup> · Hendrik A. Marsman<sup>1</sup> · Ruben N. van Veen<sup>1</sup> · Steve M. M. de Castro<sup>1</sup>

- This retrospective cohort study consisted of 574 patients who underwent a primary RYGB procedure between March 2015

%EWL	3 months	278 (97)	46	± 14	277 (96)	48	± 16	.135
	6 months	275 (96)	60	± 17	279 (90)	65	± 19	.001
	9 months	270 (94)	69	± 20	273 (95)	78	± 21	<.001
	12 months	262 (92)	73	± 20	271 (94)	81	± 21	<.001
	18 months	215 (75)	76	± 22	224 (78)	84	± 22	<.001
	24 months	208 (73)	73	± 23	219 (76)	83	± 22	<.001
	36 months	172 (60)	70	± 23	184 (64)	80	± 21	<.001
	48 months	139 (49)	65	± 24	121 (42)	70	± 23	<.001

Obesity Surgery (2022) 32:779–785  
<https://doi.org/10.1007/s11695-021-05874-0>



ORIGINAL CONTRIBUTIONS

# One Anastomosis Gastric Bypass Versus Long Biliopancreatic Limb Roux-en-Y Gastric Bypass

Mohamed Y. Ibrahim<sup>1</sup> · Abdelmoneim S. Elshennawy<sup>1</sup> · Arsany Talaat Saber Wassef<sup>1</sup> · Ayman Salah<sup>1</sup> · Ahmed M. Hassan<sup>1</sup> · Sameh Mikhail<sup>1</sup>

OAGB 200 cm  
RYGB 150 BPL, 60  
roux

**Table 4** Postoperative quality of life in the two studied groups measured by Gastrointestinal Quality of Life Index

	OAGB ( <i>n</i> = 30)	LPRYGB ( <i>n</i> = 35)	p value
After 3 months	91.8 ± 11.2	97.1 ± 5.6	0.015
After 6 months	98.3 ± 12.3	123.1 ± 11.6	<0.001
After 12 months	101.2 ± 11.3	131.6 ± 6.5	<0.001

Data are presented as mean ± SD

Data are presented as number (%)

Obesity Surgery (2021) 31:170–178  
<https://doi.org/10.1007/s11695-020-04868-8>



ORIGINAL CONTRIBUTIONS



# Short or Long Biliopancreatic Limb Bypass as a Secondary Procedure After Failed Laparoscopic Sleeve Gastrectomy

Marko Kraljević<sup>1</sup>  • Julian Süssstrunk<sup>2</sup> • Thomas Köstler<sup>2</sup> • Ioannis I. Lazaridis<sup>1</sup> • Urs Zingg<sup>2</sup> • Tarik Delko<sup>1</sup>



	PRYGB (n = 12)		Type 2 DRYGB (n = 8)		Long BPL RYGB (n = 20)		OAGB (n = 12)		
Weight loss/BMI changes at 1 year									
BMI (kg/m <sup>2</sup> )	25.8 (24.4–28.2)		29.6 (26.6–36.4)		31.8 (27.6–38.0)		33.0 (27.1–40.9)		
Additional ΔBMI (kg/m <sup>2</sup> )	4.1 (2.6–5.3)*	p = 0.006	5.2 (2.7–6.0)	p = 0.115	8.4 (7.1–11.3)*	p < 0.001	7.5 (5.3–11.9)*	p < 0.001	
Additional EWL							21.2 (16.7–25.7)*	p < 0.001	
TWL (%)							37.6 (29.5–42.9)*	p < 0.001	
Weight loss/BMI changes at 3 years									
BMI (kg/m <sup>2</sup> )							32.4 (26.5–40.8)		
Additional ΔBMI (kg/m <sup>2</sup> )							9.8 (5.7–12.2)*	p < 0.001	
Additional EWL (%)							38.7 (20.6–49.3)*	p < 0.001	
TWL (%)							36.3 (30.0–44.2)*	p < 0.001	
Weight loss/BMI changes at 5 years									
BMI (kg/m <sup>2</sup> )							34.6 (29.6–36.8)		
Additional ΔBMI (kg/m <sup>2</sup> )	4.3 (1.7–5.5)	p = 0.146	4.6 (1.5–5.6)	p = 0.245	8.0 (5.8–16.0)*	p < 0.001	9.4 (5.5–11.9)*	p < 0.001	
Additional EWL (%)	23.7 (9.9–30.6)	p = 0.373	21.8 (6.3–27.0)	p = 0.156	33.8 (19.9–44.5)*	p < 0.001	33.2 (20.3–45.6)*	p < 0.001	
TWL (%)	31.3 (30.8–39.8)	p = 0.122	31.6 (21.5–37.3)	p = 0.121	45.0 (36.8–50.8)*	p < 0.001	34.9 (32.7–40.7)*	p < 0.001	

The long BPL type procedures (long BPL RYGB, OAGB) resulted in a significant long-term additional %EWL (33.8%; 33.2%) at 3 years

BMI body mass index; %EWL excess weight loss; %TWL total weight loss

# Basic Data

- May 2011- Jan 2023

• 117

Data	Mean
Age	40.4
weight	129 kg
BMI	45
M:F	80% F

# Preop Endoscopy

- Donor 20/117 11/11

- Findings

Finding	N(%)
Grade A esophagitis	39 (43%)
Grade B esophagitis	12 (13%)
Grade C esophagitis	2 (2%)
Grade D esophagitis	1 (1%)
Barrets Esophagus	2 (2%)
Hiatus Hernia	20 (22%)
Others	1 Nissen wrap

# Preop DM

- **32/117** had DM

Diabetes	N(%)
New Dx	5 (4%)
Established Dx	25 (21%)
Insulin Resistance	7 (6%)

**11 patients on preop insulin**

# Medical Problems

Comorbidity	N(%)
Hyperlipidemia	55 (47%)
OSA	14 (12%)
CAD	6 (5%)
GERD	63 (54%)
Mobility	
<i>Wheelchair bound</i>	1 (1%)
<i>Uses cane/assistance</i>	2 (2%)

# Previous Procedures

● 1 procedure	N	2 procedures	N
● Band	19	Band and re-band	1
● RYGB	1	Band to OAGB	3
● LSG	6	Band to LSG	8
● VBG	2	Nissen-P to Nissen sleeve	1
● Endo sleeve	3	Nissen	1

ES

# Indications

Indication	number
Primary	69
Recurrent weight gain	27
Complications $\pm$ RWG	21

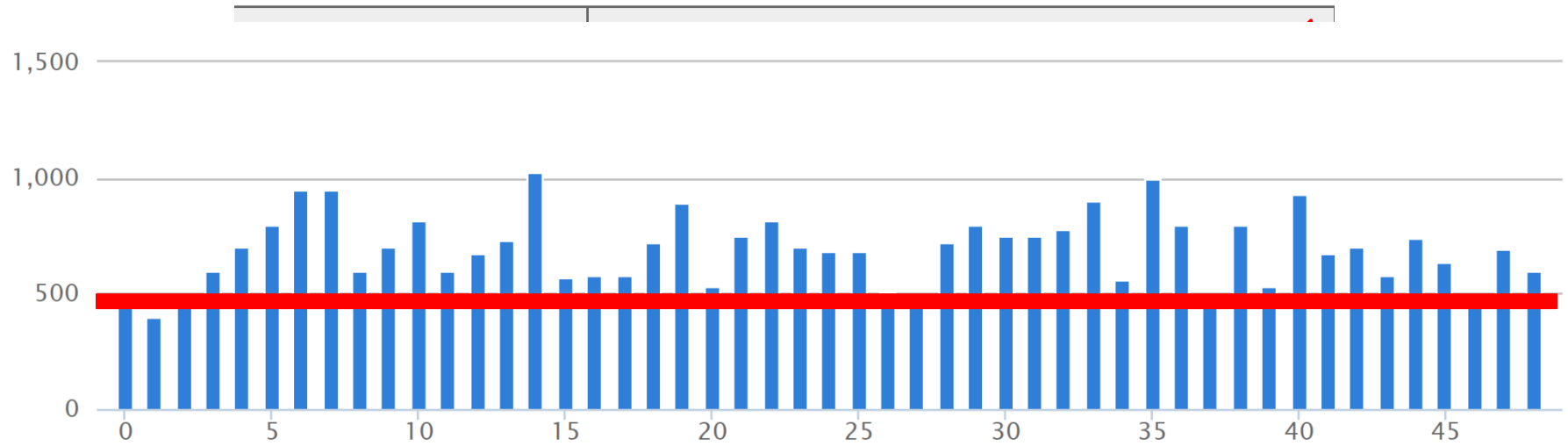
# Operative Procedure

- All p  
 Lapar

Bypass Approach	Number
Antecolic Antegastric	114
Retrocolic Retrogastric	1
Retrocolic Antegastric	1
Supramesocolic Approach	1



# Total Small Bowel Length



<b>Sum</b>	33850
<b>Count</b>	49

# Biliopancreatic Limb Length

## Result

<b>Mean (Average)</b>	132.222222222222	←
<b>Median</b>	100	
<b>Range</b>	430	
<b>Mode</b>	100, appeared 81 times	←
<b>Geometric Mean</b>	122.12468623567	←
<b>Largest</b>	500	←
<b>Smallest</b>	70	←
<b>Sum</b>	15470	
<b>Count</b>	117	

# Roux Limb Length

## Result

<b>Mean (Average)</b>	102.56756756757
<b>Median</b>	100
<b>Range</b>	160
<b>Mode</b>	100, appeared 102 times
<b>Geometric Mean</b>	101.4992424306
<b>Largest</b>	230
<b>Smallest</b>	70
<b>Sum</b>	11385
<b>Count</b>	111

# Operative Data

- Operative time: mean **152** min(**90**-420 min)
- Average length of stay **1.74** days (1-11 days)

# 30 days Outcome

1. One patient had GI bleeding/ resolved spontaneously
2. One patient had bleeding → take back to OR and Tx → transient ARF
3. One patient had leak → stent → repositioned once → was conversion from sleeve
4. One patient had leak → managed conservatively with the already existing drain → was a revision from a Nissen-P
5. one trocar site hernia → take back

# 90 days readmission

- 2 patients had G-J stenosis
- 1 Dehydration
- 1 had DKA

# Long-term Complications

- 1 had marginal ulcer died at another hospital 24 months later after hysterectomy POD#2 (GYN missed the diagnosis)
- 1 had marginal ulcer → revised to esophagojejunostomy.
- 2 had dumping (no surgical intervention needed)

EBWL	Number	%EBWL
1 month	90	22.8%
3 months	44	42.7%
6 months	52	55.3%
1 year	67	71.7%
2 years	7	55%
3 years	1	50%



# Lab Value

	Hb	Cr	Albumin	HbA1C
Baseline	13.5	0.74	4.3	6.0
1year	13.2	0.72	4.4	5.4

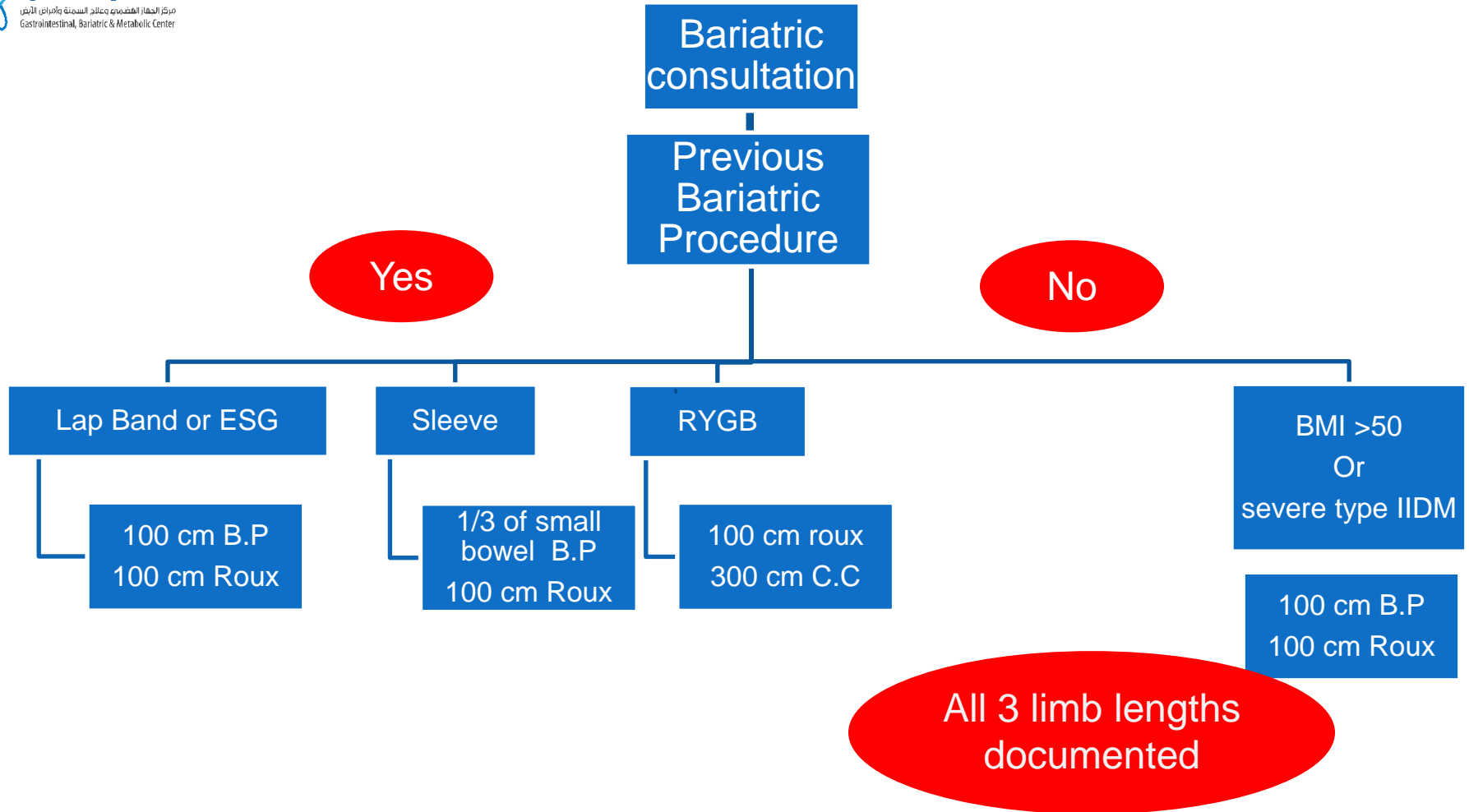
# Trace Minerals

	Iron (n=49)	Zinc (n=42)	Copper (n=29)
1year	72.5	74.6	96.5

# Resolution of medical illnesses

- 1 patient had GERD ( Previous band to sleeve)
- 1 year follow up on 13 DM patients
- **5** on oral hypoglycemics

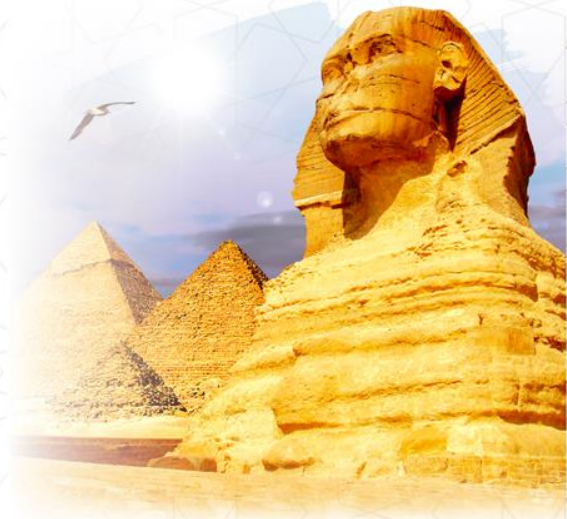
Making sense  
of all of this..



# 3<sup>rd</sup> IFSO MENAC | 20<sup>th</sup> ESBS Meeting

12-14 December 2024 | Cairo, Egypt

[ifsomenac2024.com](https://ifsomenac2024.com)



*In collaboration with*

