

# Bariatric and Metabolic Surgery in Patients with Low body mass index:

## An Online Survey of 543 Bariatric and Metabolic Surgeons

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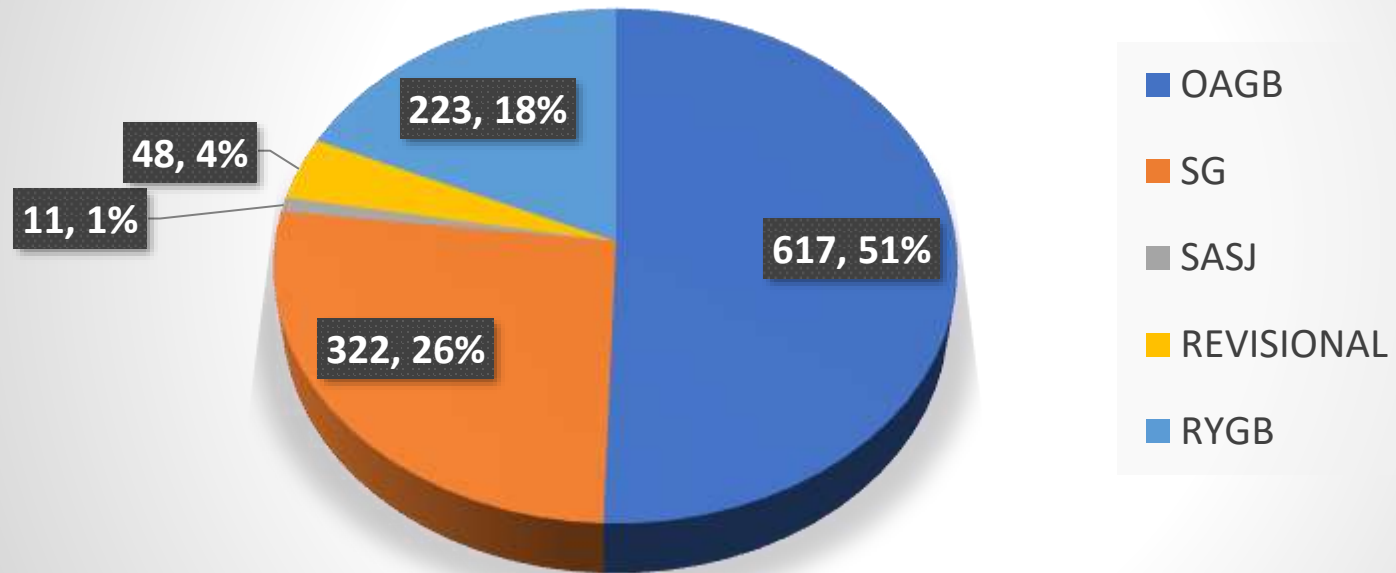
## CONFLICT OF INTEREST DISCLOSURE

**I have no potential conflict of interest to report**



# CASE MIX DISCLOSURE

My MBS Procedures Distribution  
N=1221



## BACKGROUND

- ❖ Major Differences Between 1991 NIH Guidelines and ASMBS/IFSO Guidelines 2022
- ❖ Obesity definitions using BMI thresholds do not apply similarly to all populations
- ❖ MBS recommended for individuals with BMI  $>35$  kg/m<sup>2</sup>, regardless of presence or absence of comorbidities
- ❖ Should be considered for individuals with metabolic disease and BMI 30-34.9 kg/m<sup>2</sup> who do not achieve substantial or durable weight loss or comorbidity improvement using nonsurgical methods
- ❖ BMI thresholds should be adjusted in the Asian population such that a BMI 25 kg/m<sup>2</sup> suggests clinical obesity, and individuals with BMI 27.5 kg/m<sup>2</sup> should be offered MBS
- ❖ Safety and efficacy of MBS in class 1 obesity has been proven by several studies

## OBJECTIVES

- ❖ To date there is paucity of data about appropriate type of surgery, optimal limb length, pouch size, appropriate size of bougie for SG and perioperative management in this group
- ❖ The aim of this global survey is to comprehend opinions of bariatric surgeons around the globe regarding MBS for patients with low BMI
- ❖ This study aimed to address controversies in these patients by using a worldwide survey.

## METHODS

- ❖ A voluntary, online questionnaire-based survey (<https://www.surveymonkey.com/r/LOWBMI>) was conducted
- ❖ The 35 items of the questionnaire were designated by 17 experienced bariatric surgeons from 10 countries based on existing controversies and challenges regarding the perioperative management of patients with BMI under 35 kg/m<sup>2</sup>.
- ❖ The questionnaire was divided into four parts, which included multiple choice questions concerning: definition, indications and contraindications, preoperative investigations, surgical details and postoperative management
- ❖ The survey was made accessible on September 10<sup>th</sup> 2021 and closed for analysis on December 8<sup>th</sup> 2021
- ❖ The survey link was widely shared by authors with surgeons in their network, various social media platforms

## RESULTS

- ❖ A total of **543** bariatric surgeons from 65 countries participated in this survey.
- ❖ In terms of number of metabolic surgeries performed by individual respondents, the following were found: 153 (27.92%) had performed < 200 procedures, 109 (19.89%) between 201 and 500 procedures, 63 (11.50%) between 501 and 1000 procedures and **finally 223 (40.69%) more than 1000 procedures.**

## Definition and indications of MBS in patients with low BMI as reported by the participants of the survey

Questions	Responses (percentage) the most reported answer was bolded						
	What is your lowest BMI cut off for performing MBS in cases do not have obesity related disease?	25 kg/m <sup>2</sup> (1.45%)	27.5 kg/m <sup>2</sup> (6.51%)	30 kg/m <sup>2</sup> (22.89%)	32.5 kg/m <sup>2</sup> (13.98%)	<b>35 kg/m<sup>2</sup></b> <b>(26.27%)</b>	37.5 kg/m <sup>2</sup> (3.37%)
What is your lowest BMI cut off for performing MBS in cases who suffer from obesity related disease?	25 kg/m <sup>2</sup> (3.13%)	27.5 kg/m <sup>2</sup> (18.07%)	<b>30 kg/m<sup>2</sup></b> <b>(33.73%)</b>	32.5 kg/m <sup>2</sup> (13.01%)	35 kg/m <sup>2</sup> (31.33%)	37.5 kg/m <sup>2</sup> (0.48%)	40 kg/m <sup>2</sup> (0.24%)
Should bariatric surgery be proposed to patients with class 1 obesity without obesity related comorbidities?	<b>Yes</b> <b>(52.29%)</b>	NO (47.71%)					
Do you consider special ethnicities for definition of class 1 obesity?	Yes (35.51%)	<b>NO</b> <b>(64.49%)</b>					

## Definition and indications of MBS in patients with low BMI as reported by the participants of the survey

Questions	Responses (percentage) the most reported answer was bolded					
Do you offer MBS in cases with class 1 obesity (you can choose more than one answer)?	None of the above (6.99%)	<b>Suffering poor control T2DM</b> <b>(88.43%)</b>	<b>Have other obesity related disease such as HTN, sleep apnea, &amp; etc.</b> <b>(71.81%)</b>	Have recently had LAGB removed for complications (46.02%)	Have tried dieting off and on for long time (44.34%)	Have severe GERD (47.95%)
Do you think insurance should consider low BMI for coverage?	Irrespective of BMI (15.66%)	BMI > 30 (20.00%)	<b>BMI &gt; 30 with comorbidities</b> <b>(50.84%)</b>	I do not have any idea (13.49%)		
Would you offer bariatric surgery in cases with class 1 obesity less than 18 years old?	Yes (31.57%)	<b>NO</b> <b>(68.43%)</b>				
Would you consider bariatric surgery in cases with class 1 obesity older than 65?	<b>Yes</b> <b>(55.90%)</b>	NO 44.10%				

## Preoperative management of MBS in patients with low BMI as reported by the participants of the survey

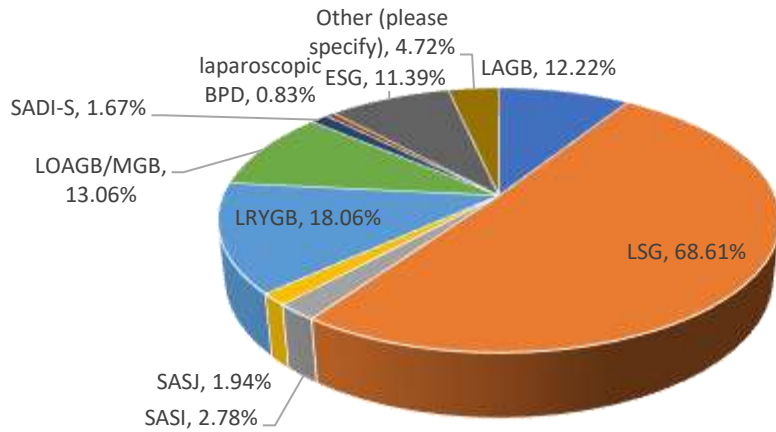
Questions	Responses (percentage) the most reported answer was bolded	
Should all cases with class 1 obesity undergo preoperative eating disorder and psychological assessment anyway?	<b>Yes</b> (84.56%)	NO (15.44%)
Do you consider nutritional assessment for all cases with class I obesity?	<b>Yes</b> (91.90%)	NO (8.10%)
Do you prefer performing body composition studies preoperatively in this group (for example: fat mass and muscle mass)	<b>Yes</b> (65.82%)	NO (34.18%)
Should all patients in this group have MDT evaluation?	<b>Yes</b> (82.28%)	NO (17.72%)
Do you consider pharmacotherapy (for example Liraglutide) for this group before recommend to MBS?	<b>Yes</b> (64.81%)	NO (35.19%)
Non-surgical therapies including diet and exercise and pharmacotherapy are effective and durable in long term weight reduction and resolutions of comorbidities for class 1 obesity?	Agree (38.99%)	<b>Disagree</b> (61.01%)
Surgical interventions should be considered just after failure of nonsurgical treatments?	<b>Agree</b> (81.01%)	Disagree (18.99%)

## Surgical management of MBS in patients with low BMI as reported by the participants of the survey

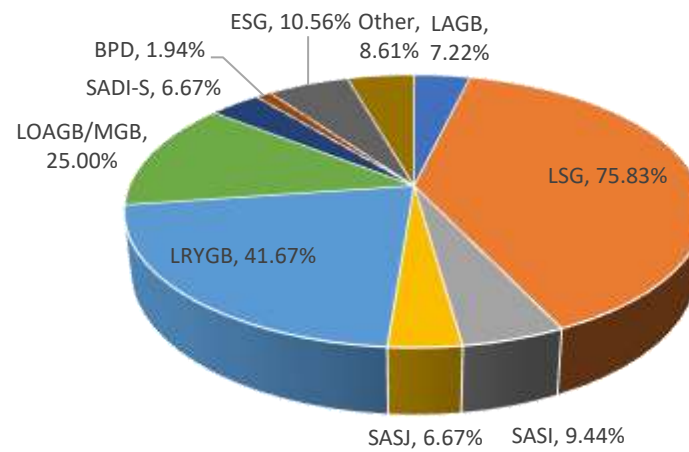
Questions	Responses (percentage) the most reported answer was bolded			
	Do you recommend intragastric balloon for this group?	Yes (50.83%)	No (49.17%)	
Do you recommend endoscopic intervention for this group?	<b>NO</b> (68.61%)	Yes, Endoscopic plication (7.50%)	Yes, Endoscopic sleeve gastroplasty (22.22%)	Other (1.67%)
Is a reversible MBS such as RYGB/OAGB preferred to an irreversible BS such as SG in class I Obesity?	Yes (35.00%)	<b>NO</b> (65.00%)		
Do you think MBS is cost-effective in this group?	<b>Yes</b> (84.72%)	NO (15.28%)		

# Procedure of choice for different age groups

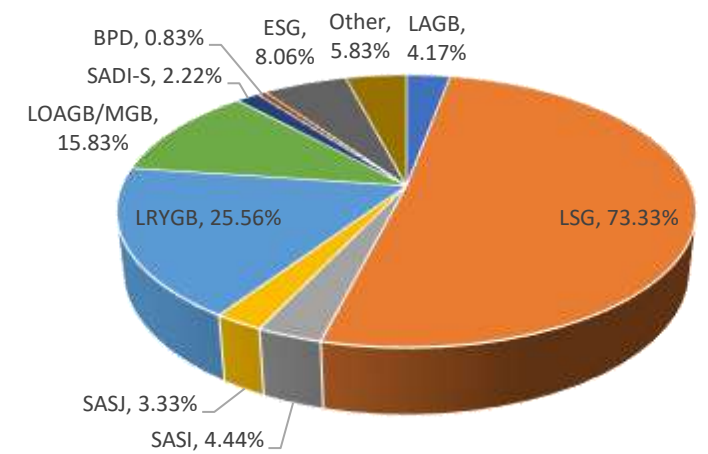
Procedure of choice for adolescents with low BMI under 18 years old



Procedure of choice for low BMI patients, 18-65 years old



Procedure of choice for adolescents with low BMI older than 65



## Surgical management of MBS in patients with low BMI as reported by the participants of the survey

Questions	Responses						
	(percentage) the most reported answer was bolded						
What should be the alimentary limb (AL) and Bilio-Pancreatic limb (BPL) length for RYGB in this group? (you can choose more than one answer)	None of the above (8.89%)	BPL of 50cm (18.89%)	<b>BPL of 50-100 cm (48.89%)</b>	BPL of >100cm (18.89%)	AL of 50cm (6.67%)	<b>AL of 50-100cm (38.61%)</b>	AL of >100cm (25.83%)
Do you think gastric pouch volume and gastrojejunostomy(GJ)size should be larger than standard to allow eat better to prevent malnutrition in this low BMI group? (you can choose more than one answer)	None of the above (11.67%)	GJ of <30mm (29.17%)	<b>GJ of 30-45mm (40.28%)</b>	GJ of >45mm (6.94%)	Pouch volume of <30cc (10.28%)	<b>Pouch volume of 30-50cc (45.00%)</b>	pouch volume of >50cc (20.28%)
What should be the BilioPancreatic limb (BPL) length for OAGB in this group?	100cm (14.17%)	120cm (13.61%)	<b>150cm (33.89%)</b>	180cm (11.39%)	One third of whole small bowel length (13.33%)	Other (13.61%)	
In class 1 obesity, Laparoscopic Sleeve Gastrectomy should be based on what bougie size?	32-36 fr (21.39%)	<b>36-40 fr (63.61%)</b>	40-44 fr (10.28%)	44-48 fr (2.22%)	Other (2.50%)		
Do you agree that for patients who have lost enough weight after their bypass surgery to reverse to normal anatomy?	Yes (11.67%)	<b>NO (88.33%)</b>					
Is single incision surgery (SILS) suitable and safe for this patients?	Yes 41.94%	<b>NO (58.06%)</b>					

## Postoperative management of MBS in patients with low BMI as reported by the participants of the survey

Questions	Responses (percentage) the most reported answer was bolded					
What should be the post-operative follow-ups and para-clinical assessments interval in this group of patients?	<b>Similar follow up as other groups (87.08%)</b>	Shorter interval (10.39%)	Longer interval (2.53%)			
How long would you recommend immediate postoperative anti-coagulant duration in this group?	<b>During hospital stay (25.56%)</b>	1 week (24.16%)	2 weeks (18.26%)	3 weeks (4.78%)	4 weeks (11.24%)	Not routine need (just in selected patients) (16.01%)
Is postoperative vitamin supplementation recommended for all patients?	<b>Yes (92.70%)</b>	NO (7.30%)				
Which factor may be more accurate for reporting weight loss outcomes in class 1 obesity cases?	<b>EWL% (57.02%)</b>	TWL% (28.09%)	EBMIL% (13.48%)			
Ideal body weight in class 1 obesity should be defined based on BMI of...?	20 kg/m <sup>2</sup> (10.39%)	<b>25 kg/m<sup>2</sup> (56.46%)</b>	30 kg/m <sup>2</sup> (11.24%)	I have no comment (15.17%)		
Weight loss Failure after 18 months of MBS in class I obesity patients is defined as:(You can choose more than one answer)	None of the above (1.97%)	EWL < 25% (19.66%)	<b>EWL &lt;50% (51.97%)</b>	BMI > 25 kg/m <sup>2</sup> (12.92%)	BMI > 30 kg/m <sup>2</sup> (24.72%)	weight regain > 10% of best the lowest weight achieved (21.91%)

## CONCLUSION

- ❖ This survey provides interesting information regarding interventional procedures used throughout the world for the management of patients with class 1 obesity
- ❖ Precise analysis of these results is useful for identifying different aspects for future research and consensus building
- ❖ This would provide the opportunity to establish guidelines for this subgroup of patients in the near future



Thank you for your attention.



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Fellowship in advanced minimally invasive and bariatric surgery

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