CLASS I AND II OBESITY: NEW ASMBS/IFSO GUIDELINES

Systematic Review for the new ASMBS/IFSO Guidelines

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NIH National Institutes of Health
Turning Discovery Into Health

In a 1985 Consensus implications of obesity were established :

- increased risk for cardiovascular disease (especially hypertension), dyslipidemia, diabetes mellitus,

- Increased prevalances and mortality ratios of selected types of cancer

- socioeconomic and psychosocial impairment

A BMI of 40 kg/m² can be categorized as having "clinically severe obesity" , a term that is preferred to "morbid obesity"

A 1987 NIH consensus conference on surgery for obesity considered primarily intestinal (jejunoileal) bypass

The conference highlighted the undesirable side effects of this operation, and itsuse has all but disappeared

National Institutes of Health Consensus Development Conference
Draft Statement on

Gastrointestinal Surgery for Severe Obesity

25–27 March 1991

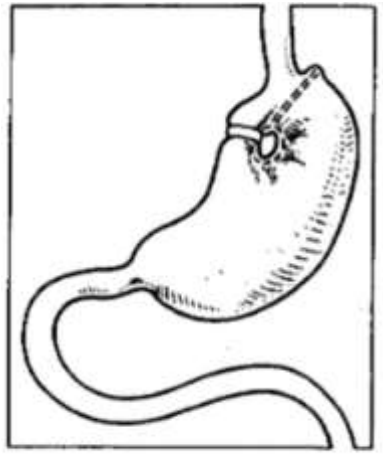


FIG. 1. Vertical banded gastroplasty

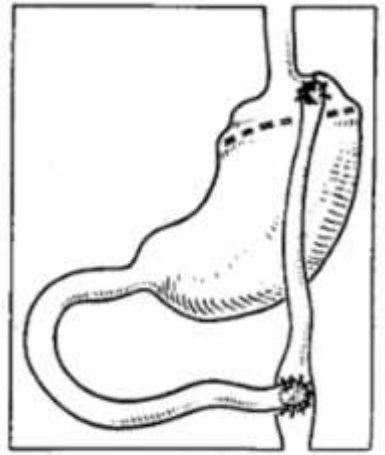
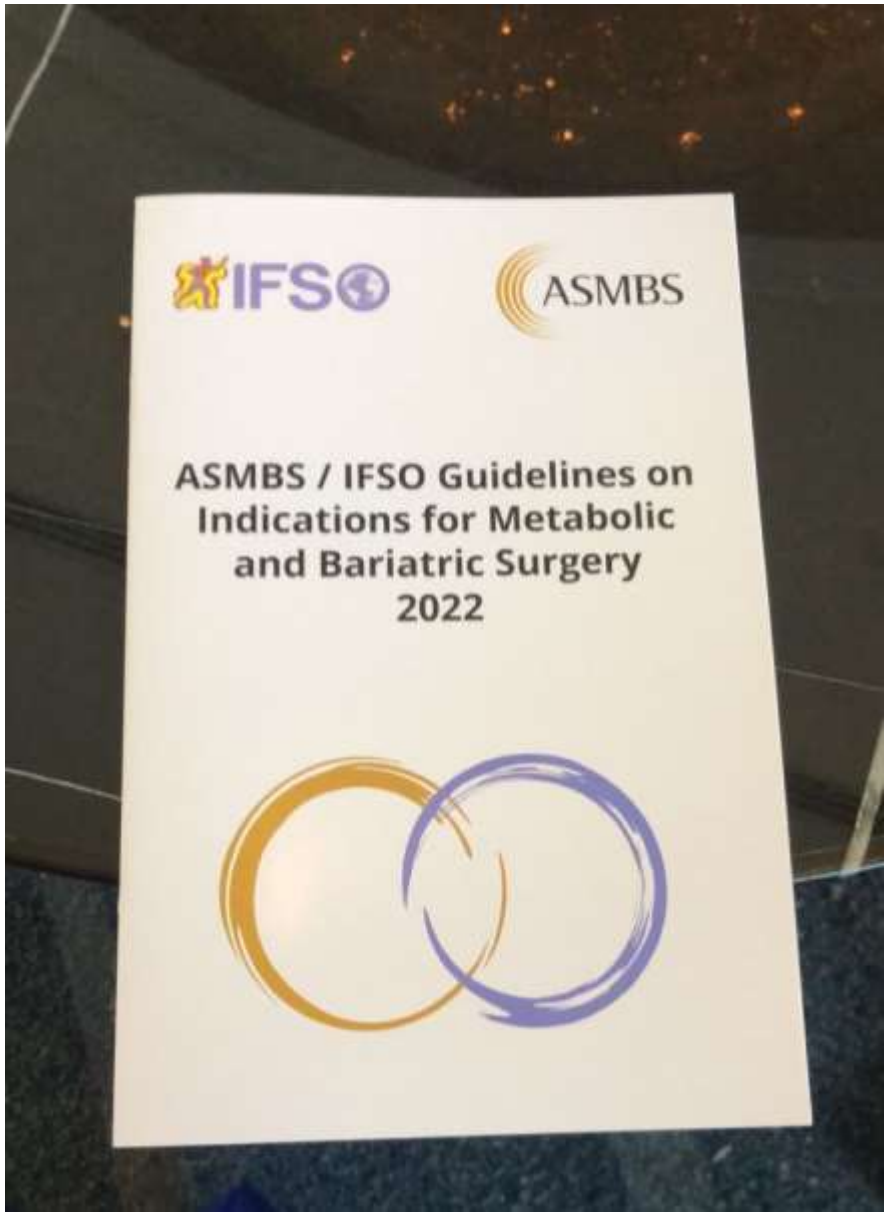


FIG. 2. Roux-en-Y gastric bypass

Following 2 days of presentations by experts and discussion by the audience, aconsensus panel weighed the evidence and prepared their consensus statement:

- Patients seeking therapy for severe obesity for the first time should be considered for treatment in a nonsurgical program
- Patients whose BMI exceeds 40 are potential candidates for surgery
- In certain instances, less severely obese patients (with BMI's between 35 and 40) also may be considered for surgery
- Patients should be selected carefully after evaluation by a multidisciplinary team
- Lifelong medical surveillance


IFSO
ASMBS
ASMBS / IFSO Guidelines on Indications for Metabolic and Bariatric Surgery 2022


IFSO 2022
FONTAINEBLEAU MIAMI BEACH
MIAMI
23-27 AUGUST, 2022
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ORIGINAL CONTRIBUTIONS

2022 American Society of Metabolic and Bariatric Surgery (ASMBS) and International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) Indications for Metabolic and Bariatric Surgery

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SURGERY FOR OBESITY AND RELATED DISEASES

Original article

2022 American Society for Metabolic and Bariatric Surgery (ASMBS) and International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO): Indications for Metabolic and Bariatric Surgery

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Major updates to 1991 National Institutes of Health guidelines for bariatric surgery

- Metabolic and bariatric surgery (MBS) is recommended for individuals with a body mass index (BMI) $\geq$35 kg/m^2, regardless of presence, absence, or severity of co-morbidities.
- MBS should be considered for individuals with metabolic disease and BMI of 30-34.9 kg/m^2.
- BMI thresholds should be adjusted in the Asian population such that a BMI $\geq$25 kg/m^2 suggests clinical obesity, and individuals with BMI $\geq$27.5 kg/m^2 should be offered MBS.
- Long-term results of MBS consistently demonstrate safety and efficacy.
- Appropriately selected children and adolescents should be considered for MBS.

(Surg Obes Relat Dis 2022;18:1345–1356.)

Keywords: Obesity; Metabolic and bariatric surgery; IFSO; ASMBS; Criteria; Indications

guideline | AMERICAN DICTIONARY

guideline

noun [C]

US /ˈgaɪd.laɪn/

Cambridge Dictionary
Make your words meaningful

a piece of information that suggests how something should be done:

- *The article gives guidelines on how to invest your money safely.*

consensus

noun

/kənˈsensəs/

Cambridge Dictionary
Make your words meaningful

Add to word list

the feeling of most people

consenso

- *The consensus of opinion is that we should go ahead with the operation.*

*(Translation of **consensus** from the PASSWORD English-Italian Dictionary © 2014 K Dictionaries Ltd)*

ANALYSIS

RATING QUALITY OF EVIDENCE AND STRENGTH OF RECOMMENDATIONS

GRADE: an emerging consensus on rating quality of evidence and strength of recommendations

Guidelines are inconsistent in how they rate the quality of evidence and the strength of recommendations. This article explores the advantages of the GRADE system, which is increasingly being adopted by organisations worldwide

Box 1 | Advantages of GRADE over other systems

- Developed by a widely representative group of international guideline developers
- Clear separation between quality of evidence and strength of recommendations

Box 2 Quality of evidence and definitions

High quality— Further research is very unlikely to change our confidence in the estimate of effect

Moderate quality— Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate

Low quality— Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate

Very low quality— Any estimate of effect is very uncertain

Strong recommendation The panel is confident that the desirable effects of adherence to the recommendation outweigh the undesirable effects.

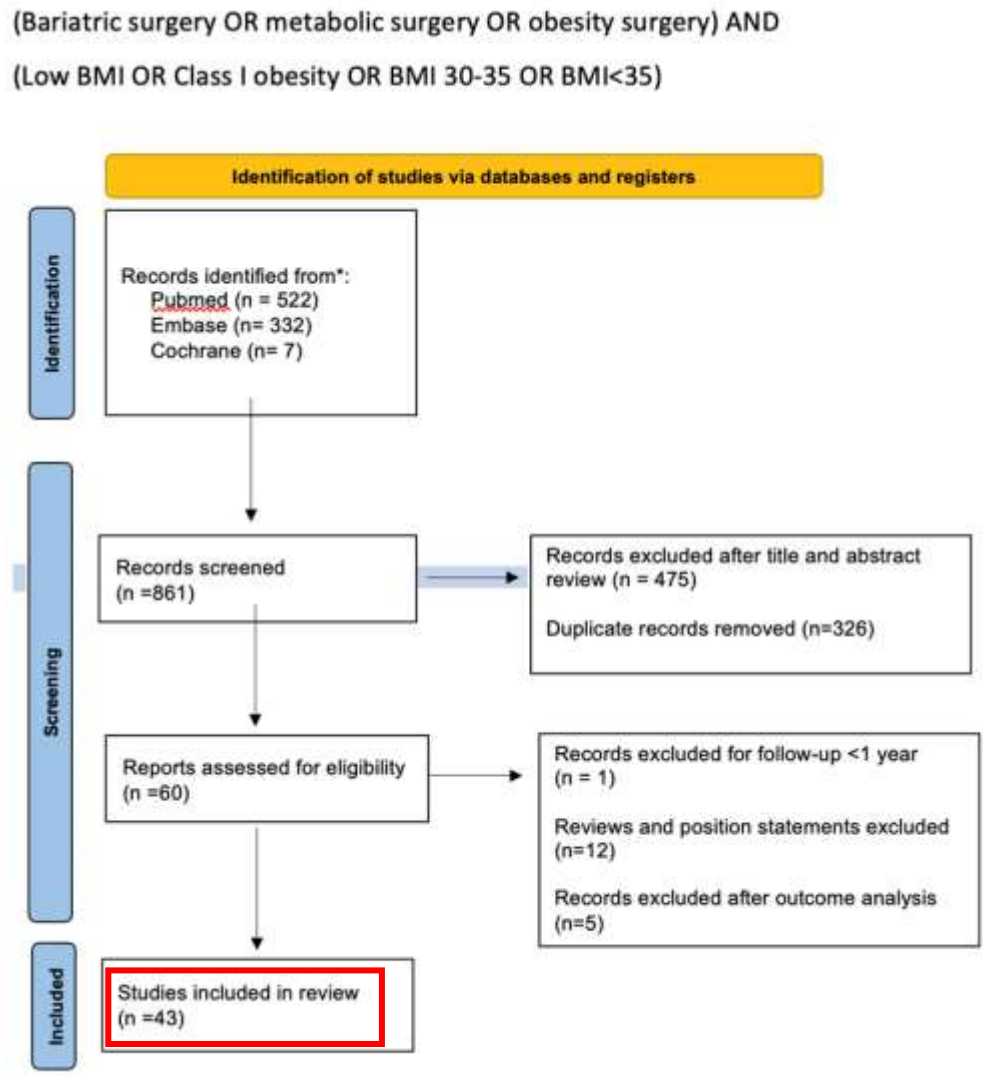
Weak recommendation: The desirable effects to adherence to the recommendation probably outweigh the undesirable effects, but the panel is less confident.

GoodFellows

IFSO

Search Strategy

- *In PubMed, Embase and Cochrane Library, an advanced search was performed*
- *Exclusion criteria were non-English language, non-original article or published before 2000, follow-up less than 12 months and number of included patients less than 10.*
- *PRISMA flowchart for reporting meta-analysis was used.*



First Author year)	Study design	Number of surgical patients	BMI	Comparison to non surgical treatment	number of non surgical patients
Ling et al (2022)	retrospective multicenter	71	25<BMI<32.5	YES	142
Yi et al (2022)	retrospective multicenter	177	BMI<35	NO	N/A
Ke et al (2022)	Retrospective	75	BMI<35	YES	609
Du et al (2022)	Retrospective	143	BMI<35	NO	N/A
Wang (2021)	Retrospective	26	BMI<35	NO	N/A
Widjaja et al (2020)	Prospective	18	BMI<30	NO	N/A
Bhandari (2017)	Prospective	30	30<BMI<35	YES	60
Xiao et al (2016)	Prospective	83	BMI<35	NO	N/A
Kular et al (2015)	Retrospective	128	30<BMI<35	NO	N/A
Lee et al (2015)	Prospective	80	BMI<30	Comparison to obese patients	429
Ren et al (2014)	Prospective	69	30<BMI<35	NO	N/A
Seki et al (2020)	Retrospective	118	30<BMI<35	NO	N/A
Amin et al (2019)	Prospective	106	30<BMI<35	YES	103

Asian population

- ***7 retrospective (2 multicenter, 54%) and 6 (46%) prospective papers between 2014 and 2022***
- ***1124 Asian patients with BMI < 35***
- ***2 articles on individuals with BMI < 30***
- ***4 papers compared outcomes of surgery with results of medical or lifestyle interventions***

Intervention	operative time (min)	length of stay (days)	weight loss	Complication Clavien Dindo 1-2	Complications Clavien Dindo 3-4
RYGB	Not Reported	Not Reported	93% achieved %EWL > 50%	26.8%	7.3%
RYGB, SG	Not Reported	Not Reported	2 Δ BMI	Not Reported	Not Reported
RYGB, SG	Not Reported	Not Reported		Not Reported	Not Reported
RYGB	Not Reported	Not Reported	21.9 % TWL ; 84 % %EWL	6-40%	0%
SADI-S	90	3	24 % TWL	38.46%	0%
SG	105	3.1	5.4 Δ BMI	55%	0%
RYGB	Not Reported	Not Reported	7 Δ BMI	Not Reported	Not Reported
RYGB, SG	114	6	60-67% EWL	21.6%	0%
OAGB	49	2.2	78% EWL	3.1%	1.6%
RYGB, SG, OAGB	Not Reported	Not Reported	4 Δ BMI	11.2%	2.5%
RYGB	Not Reported	Not Reported	59-68 % EWL	Not Reported	Not Reported
SG	126	3.1	18.5% TWL	0%	1.6%
SG	Not Reported	Not Reported	99.60% EBMIL	Not Reported	Not Reported

Asian population

- ***8 articles reported results after RYGB, 5 after LSG, 2 after OAGB and 1 after SADI-S***
- ***Medium follow-up of 33.4 (12-84) months.***
- ***Operative time and length of stay appeared comparable to BS in BMI>35.***
- ***Satisfactory weight loss***
- ***Zero mortality***
- ***Clavien- Dindo complications 3-4 ranged from 0% to 7.3%.***
- ***Remission from TD2M and HTN ranged from 38% to 100% and from 30% to 83%***

First Author (year)	Study design	number of surgical patients	BMI	Comparison to non surgical treatment	number of non surgical patients
Billeter AT et al (2022)	prospective	20	25<BMI<35	NO	N/A
Chaturvedi et al (2022)	retrospective/simulation	347	30<BMI<35	NO	N/A
Altieri et al (2022)	Retrospective	1296	30<BMI<35	NO	N/A
Singh et al (2022)	Retrospective	20	30<BMI<35	NO	N/A
Baldwin et al (2021)	Retrospective	30	BMI<35	NO	N/A
Gupta et al (2020)	Retrospective	132	30<BMI<35	NO	N/A
Varban et al (2020)	Retrospective	1073	BMI<35	NO	N/A
Aulestia et al (2020)	Prospective	16	30<BMI<35	NO	N/A
Gamme et al (2019)	Retrospective	9094	30<BMI<35	Comparison to Class II	9094
Feng et al (2019)	Retrospective	8628	30<BMI<35	NO	N/A
Vitiello et al (2019)	Retrospective	56	30<BMI<35	YES	20
Noun et al (2016)	Prospective	541	30<BMI<35	NO	N/A
Maiz et al (2015)	Retrospective	1119	BMI<35	NO	N/A
Maiz et al (2015)	Retrospective	1119	BMI<35	NO	N/A
Kaska et al (2014)	Retrospective	30	30<BMI<35	Comparison to Class II	82
Walker et al (2014)	Prospective	52	30<BMI<35	NO	N/A
Boza et al (2014)	Prospective	100	BMI<35	NO	N/A
Scopinaro et al (2014)	Retrospective	10	30<BMI<35	NO	N/A
Serrot et al (2011)	Retrospective	17	30<BMI<35	YES	17
Gianos et al (2011)	Retrospective	42	30<BMI<35	YES	17
Choi et al (2010)	Retrospective	66	30<BMI<35	Comparison to Class II	438
Varela et al (2011)	Retrospective	10	30<BMI<35	Comparison to Class II	20
Scopinaro et al (2011)	Retrospective	40	25<BMI<35	NO	N/A
De Maria et al (2010)	Retrospective	235	BMI<35	NO	N/A
Parikh at al (2010)	Prospective	93	30<BMI<35	NO	N/A
Sultan et al (2009)	Prospective	53	30<BMI<35	NO	N/A
Cohen et al (2006)	Retrospective	33	30<BMI<35	NO	N/A
Angrisani et al (2004)	Retrospective	225	BMI<35	NO	N/A
Cevallos (2021)	Prospective	51	30<BMI<35	NO	N/A
Espinosa (2018)	Prospective	23	30<BMI<35	NO	N/A

Non-Asian population

- ***9 retrospective (31%) and 20 (69%) prospective papers between 2004 and 2022***
- ***23452 non-Asian patients***
- ***2 articles on individuals with BMI < 30***
- ***4 papers compared outcomes in low BMI with severe obesity***
- ***3 studies made a comparison with lifestyle intervention***

Intervention	operative time (min)	length of stay (days)	weight loss	Complication Clavien Dindo 1-2	Complications Clavien Dindo 3-4
RYGB	Not Reported	Not Reported	8.3 Δ BMI	5%	5%
RYGB, SG	Not Reported	Not Reported	Not Reported	Not Reported	Not Reported
RYGB, SG	Not Reported	Not Reported	30% BMI loss	Not Reported	Not Reported
SG	Not Reported	Not Reported	18% TWL ; 70.3 % %EWL	Not Reported	0%
RYGB, SG	Not Reported	Not Reported	20-21 % TWL ; 83-94 % %EWL	Not Reported	Not Reported
LAGB to RYGB	Not Reported	Not Reported	44% EWL	7.8%	23.4% <30 days; 50% >30 days
SG	Not Reported	3	22 % TWL ; 71% %EWL	0.7%	3.4%
OAGB	70	2	87.6% EWL	0%	0%
RYGB, SG	82	1.6	not reported	0.9%	3.9%
RYGB, SG	80	1.6	not reported	0.6%	0.7%
LAGB, RYGB, SG	Not Reported	Not Reported	69% BMI loss	0%	7%
SG	74	1.7	24% TWL	1.8%	0%
RYGB, SG	70	3	107% EWL	3.8%	0.7%
RYGB	Not Reported	Not Reported	5 Δ BMI	20%	3%
LAGB to RYGB	105	3	3 Δ BMI	5%	20%
RYGB	110	3	93 % EWL	5%	9%
BPD	Not Reported	Not Reported	6 Δ BMI	40%	40%
RYGB	Not Reported	Not Reported	70 % EWL	11.7%	11.7%
LAGB, RYGB, SG	Not Reported	Not Reported	7-8 Δ BMI	Not Reported	Not Reported
AGB	Not Reported	Not Reported	40% EWL	4.5%	1.5%
AGB	118	1.3	20% TWL	0%	0%
BPD	Not Reported	Not Reported	5 Δ BMI	0%	2.5%
AGB, RYGB	Not Reported	Not Reported	4 Δ BMI	10%	1.3%
AGB	Not Reported	Not Reported	54% EWL	1%	3.2%
AGB	Not Reported	Not Reported	69.7% EWL	7.6%	1.9%
RYGB	56	3	81%	0%	0%
AGB	Not Reported	Not Reported	5.2%	2.8%	0%
RYGB	Not Reported	Not Reported	25 % TWL ; 74% %EWL	0%	1.9% <30 days; 7.8% >30 days
RYGB	168	3.2	24% TWL	13%	0%
RYGB	Not Reported	Not Reported	8.3 Δ BMI	5%	5%

Non-Asian population

- ***17 articles reported results after RYGB, 11 after LSG, 1 after OAGB, 2 after BPD, 7 after AGB and 2 after conversional surgery from AGB to RYGB***
- ***medium follow-up of 29.3 (12-120) months***
- ***Operative time and length of stay appeared comparable to BS in BMI>35.***
- ***Satisfactory weight loss***
- ***Zero mortality***
- ***Clavien- Dindo complications 3-4 ranged from 0% to 40%***
- ***Remission from TD2M and HTN ranged from 33% to 100% and from 28% to 100%***

Conclusion

Bariatric surgery is **safe and effective** in patients in Class I obesity both in Asian and non-Asian patients

Better metabolic outcomes are reported in class I obesity after surgery than after lifestyle intervention with results comparable to those in severely obese patients.

Satisfactory remission rates of obesity related diseases, especially T2DM, are reported after MBS in individuals with BMI <35 kg/m^2.

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- BMI thresholds should be adjusted in the Asian population such that a BMI $\geq$25 kg/m^2 suggests clinical obesity, and individuals with BMI $\geq$27.5 kg/m^2 should be offered MBS.
- Long-term results of MBS consistently demonstrate safety and efficacy.
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