Is Preoperative Weight Loss Necessary?

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I have the following potential conflict(s) of interest to report:

Research support	Nestle Healthcare Nutrition, Eli Lilly, Boehringer Ingelheim, Epitomee, Inc., UnitedHealth Group R&D, KVKTech, Weight Watchers, Regeneron
Consulting	Nestle Healthcare Nutrition, Eli Lilly, Optum Labs R&D, Novo Nordisk, Intuitive, Regeneron, Brightseed, Amgen, Almond Board
Advisory Board	Novo Nordisk, Nestle Healthcare Nutrition, Eli Lilly, Level2, Weight Watchers, Boehringer Ingelheim, Regeneron
Memberships	International Food Information Council- Assembly, The Obesity Society- president, American Diabetes Association, Society of Behavioral Medicine, Roundtable on Obesity Solutions, American Society for Nutrition, American Society for Nutrition Foundation- Board of Trustees Executive Committee

Objectives

- Discuss the history of preoperative weight loss
- What are the potential benefits of preoperative weight loss?
- What is the evidence for preoperative weight loss?
- Recommendations and Conclusions

History of *Required* Preoperative Weight Loss

- Insurance mandated weight loss attempt
  - Distorts the idea of stepped care approach to obesity treatment
- From a context of bias
  - “You need to demonstrate compliance”
  - “If you can’t do this now, you won’t be able to do it later”
  - “You need to demonstrate your motivation”
  - “If we’re making an investment in you, we need to make sure it pays off”

Required Preoperative Weight Loss = Weeding Patients Out

- Attrition for patients in MSWL = 27.6%
- Attrition for standard of care = 15.6%

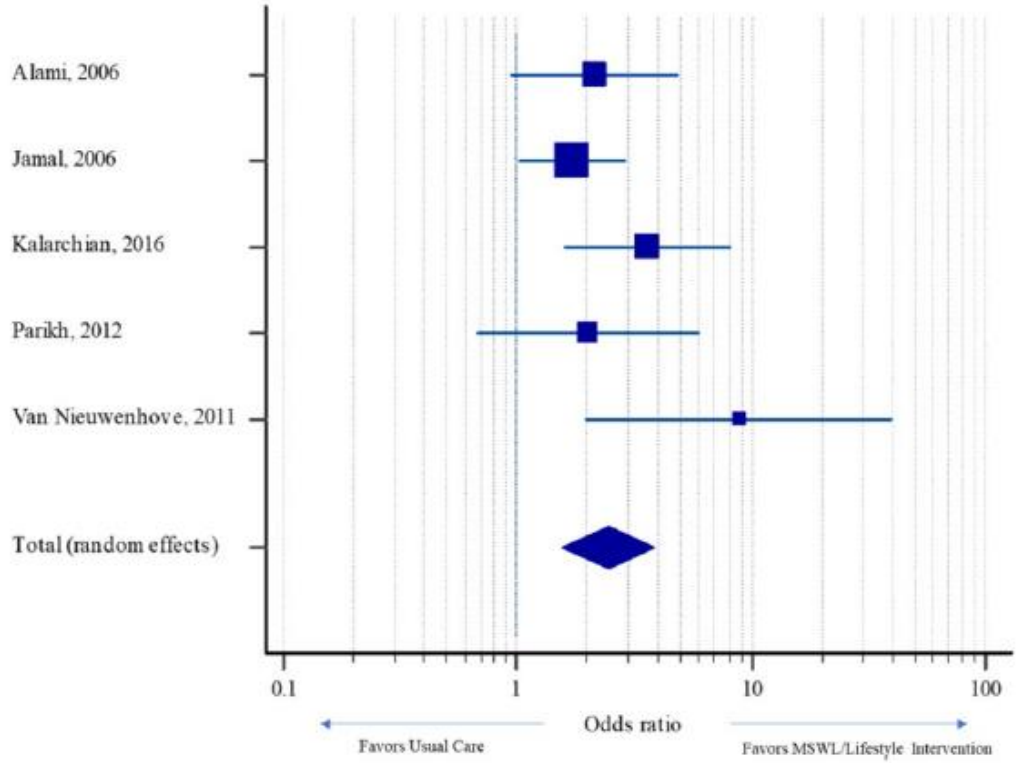
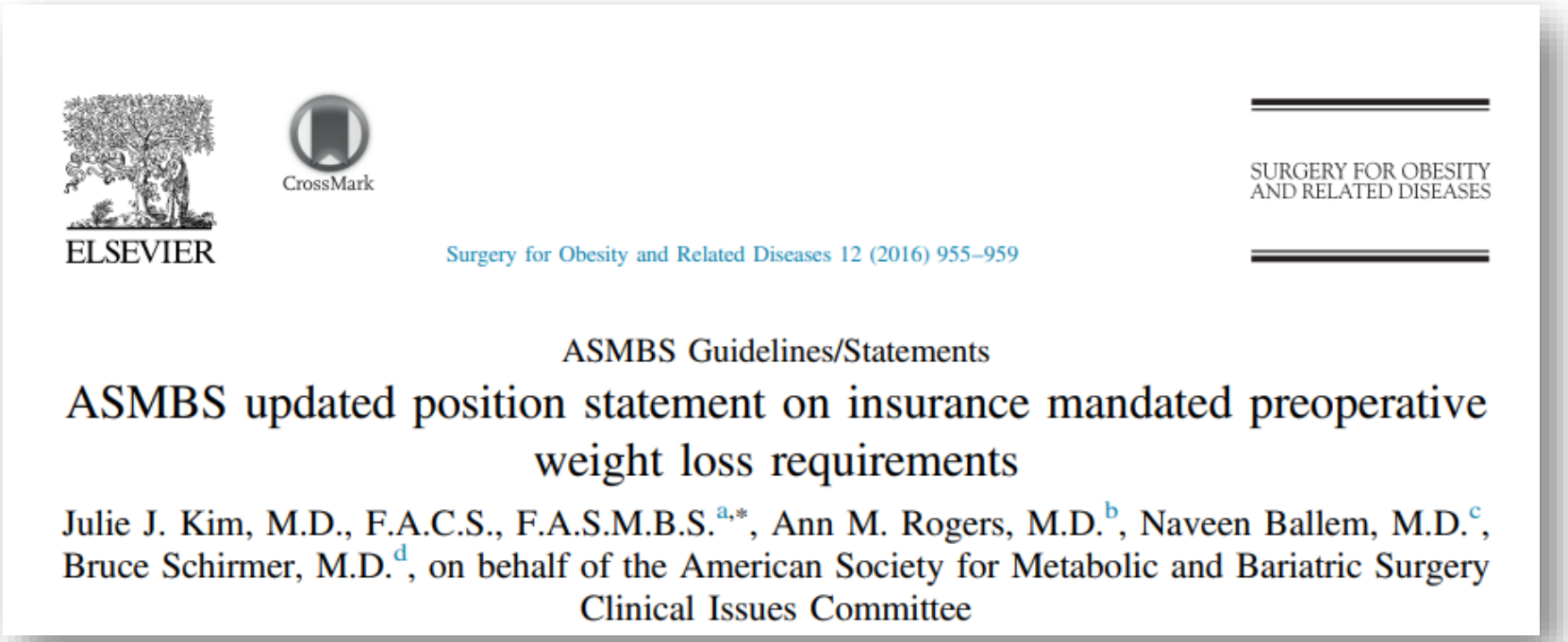


Fig. 4 Forest plot and meta-analysis of studies reporting patient attrition rates when randomized or enrolled in medically supervised weight loss (MSWL) programs or lifestyle interventions as compared to the standard of care

Kushner and Eagon. Obesity Surgery (2021) 31:5396–5408



ELSEVIER

CrossMark

Surgery for Obesity and Related Diseases 12 (2016) 955–959

SURGERY FOR OBESITY AND RELATED DISEASES

ASMBS Guidelines/Statements

ASMBS updated position statement on insurance mandated preoperative weight loss requirements

Julie J. Kim, M.D., F.A.C.S., F.A.S.M.B.S.[a,*], Ann M. Rogers, M.D.[b], Naveen Ballem, M.D.[c], Bruce Schirmer, M.D.[d], on behalf of the American Society for Metabolic and Bariatric Surgery Clinical Issues Committee

"Overall, there is no evidence of any kind that insurance mandated preoperative weight loss or preoperative weight loss in general has any clear impact on postoperative outcomes or weight loss"

What are the potential benefits of preoperative weight loss?

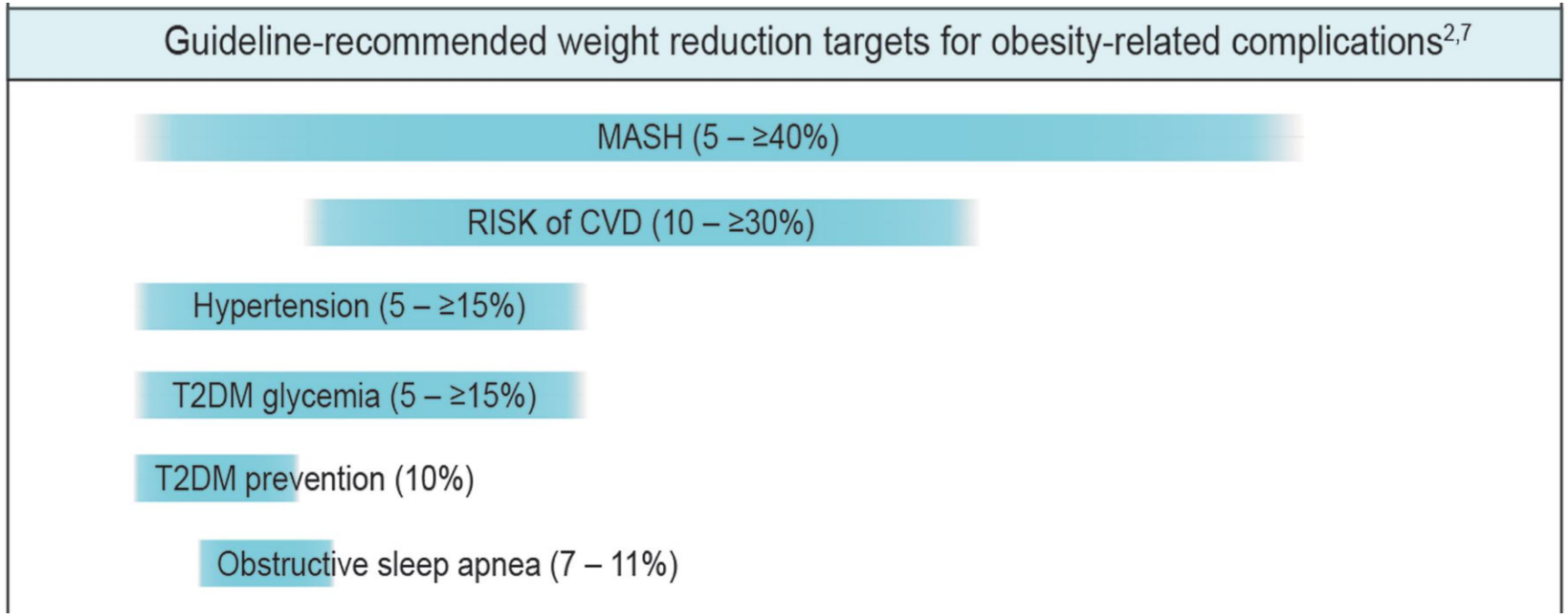
- Reduction in size makes surgery easier
  - Less operative time
  - Fewer complications
  - Decreased morbidity/mortality

"VLCD treatment led to weight loss (−2.8 to −14.8 kg) and to liver size reduction by 5% to 20% of the initial volume…The effect of VLCD on surgical risks is not clear. "

Holderbaum et al. SOARD p237-244 February 2018

What are the potential benefits of preoperative weight loss?

- Improve metabolic health prior to surgery



Gudzune et al. Endocrine Practice 2024

What are the potential benefits of preoperative weight loss?

- The patient will ultimately lose more weight

Does the evidence support these expectations?

- Perioperative complications
- OR: 0.73;CI: 0.64 to 0.97; p < 0.001 up to 90 days after surgery
- 1.2% difference in event rates

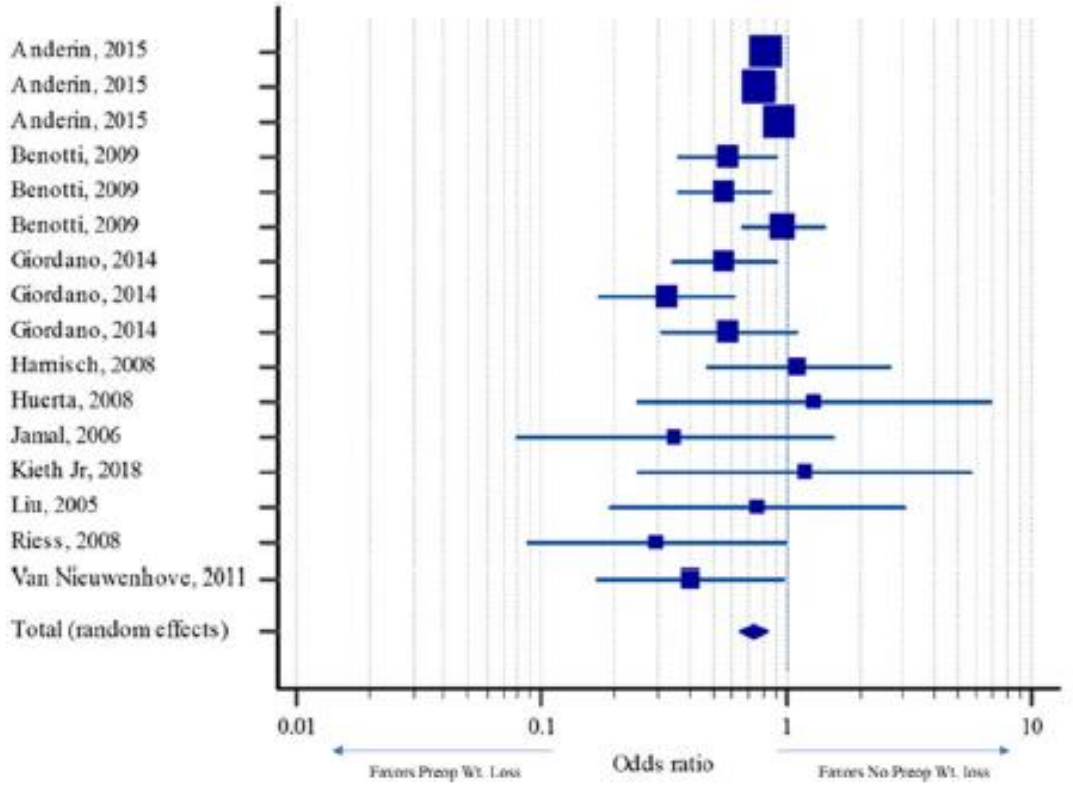


Fig. 3 Forest plot and meta-analysis of studies evaluating perioperative complications (perioperative to 90 days) for cohorts undergoing preoperative weight loss versus no preoperative weight loss

Kushner and Eagon. Obesity Surgery (2021) 31:5396–5408

Does the evidence support these expectations?

- Perioperative complications and 30-d mortality
  - Retrospective study
  - Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) data registry from 2015–2018

Table 3
Postoperative complications in PWL and non-PWL cohorts

	PWL (n = 459,500) n (%)	Non-PWL (n = 89,097) n (%)	*P* value
Leak	1654 (.36)	387 (.43)	.001
Bleed	4273 (.9)	776 (.9)	.09
Reoperation	5529 (1.2)	1059 (1.2)	.7
Reintervention	5678 (1.2)	1107 (1.2)	.9
Readmission	17,016 (3.7)	3392 (3.8)	.1
Cardiac	312 (.1)	48 (.1)	.1
Pneumonia	848 (.2)	196 (2)	.03
AKI	604 (.1)	100 (.1)	.1
Deep SSI	1215 (.3)	202 (.2)	.04
Wound disruption	233 (.05)	31 (.03)	.047
Sepsis	500 (.1)	73 (.08)	.02
Unplanned intubation	568 (.12)	148 (.17)	.001
Clostridioides difficile	467 (.13)	77 (.11)	.2
Serious complications	15,587 (3.4)	2956 (3.3)	.3
Mortality	386 (.08)	98 (.11)	.02

PWL = percent weight loss; AKI = acute kidney injury; SSI = surgical site infection.

Mocanu et al. SOARD 2021, Pages 1846-1853

Does the evidence support these expectations?

- 30-d Mortality
  - Cohort study of 480,075 patients
  - Underwent bariatric surgery from 2015-2017
  - MBSAQIP registry

Table 4. Association of Weight Loss Percentage With Intraoperative or 30-Day Postoperative Mortality

Table 4. Association of Weight Loss Percentage With Intraoperative or 30-Day Postoperative Mortality

Model	OR (95% CI) by weight loss percentage				*P* for trend
	0% (n = 86 063)	>0% to <5.0% (n = 240 424)	5.0%-9.9% (n = 118 142)	≥10.0% (n = 35 446)	
Deaths, No. (%)	105 (0.1)	230 (<0.1)	129 (0.1)	47 (0.1)	NA
Model 1[a]	1 [Reference]	0.73 (0.58-0.93)	0.67 (0.52-0.87)	0.65 (0.46-0.93)	.02
Model 2[b]	1 [Reference]	0.77 (0.61-0.98)	0.71 (0.54-0.93)	0.58 (0.41-0.82)	.003
Model 3[c]	1 [Reference]	0.76 (0.60-0.96)	0.69 (0.53-0.90)	0.58 (0.41-0.82)	.003

Abbreviations: NA, not applicable; OR, odds ratio.

[a] Model 1 was adjusted for age, sex, race/ethnicity, and highest recorded preoperative body mass index.

[b] Model 2 was adjusted for covariates included in model 1 plus *Current Procedural Terminology* principal operation, history of bariatric surgery, whether the bariatric surgery was a revision or conversion, and whether the patient underwent emergency surgery during the hospital admission.

[c] Model 3 was adjusted for covariates included in model 2 plus smoking status and comorbidities (ie, 0, 1, or ≥2 conditions).

Sun et al. JAMA Netw Open. 2020;3(5)

Does the evidence support these expectations?

- Weight loss

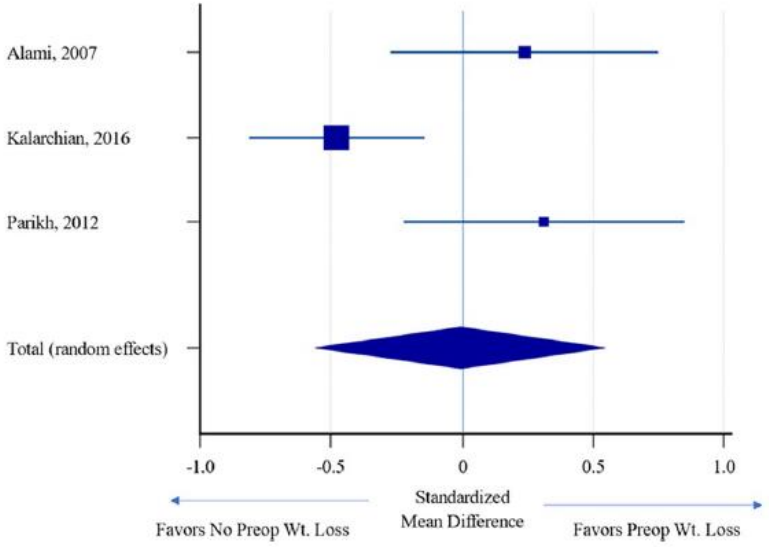


Fig. 1 Forest plot and random effects meta-analysis of randomized control trials measuring mean excess weight loss with a structured preoperative weight loss program as compared to standard care. SD, standard deviation; N, number; SMD, standardized mean difference; CI, confidence interval

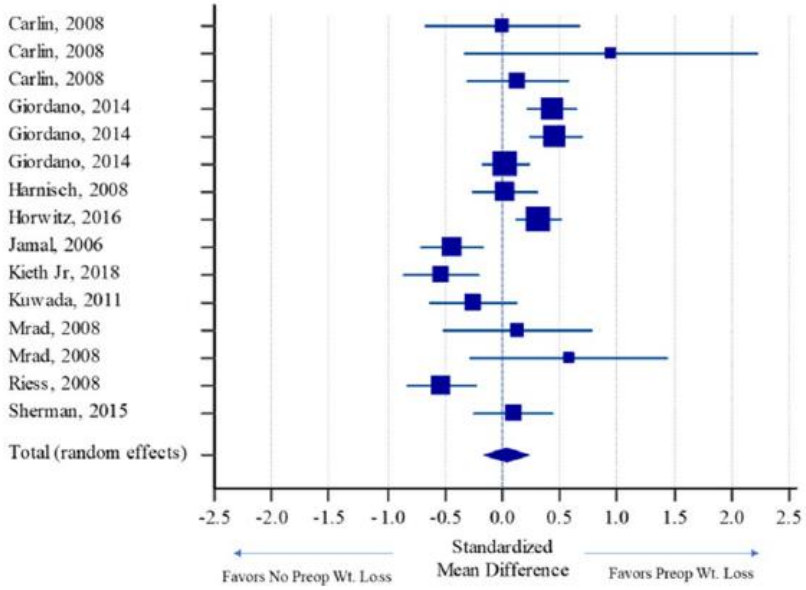


Fig. 2 Forest plot and meta-analysis of prospective and retrospective cohort studies included evaluating mean percent excess weight loss (%EWL) at 12 months for cohorts undergoing preoperative weight loss versus no preoperative weight loss

Kushner and Eagon. Obesity Surgery (2021) 31:5396–5408

Recommendations

- Requiring weight loss prior to MBS has no evidence base to support this recommendation as a blanket treatment strategy
  - Predicating advancement to MBS based on achievement of a weight loss goal is a biased approach

- Using a directed intervention to support health improvement and improve preparation for MBS is reasonable

Recommendations

- You can incorporate weight reduction prior to MBS as part of a comprehensive treatment strategy
  - Phase 1 (Initiation): healthful diet + physical activity program + AOM
  - Phase 2 (pre-surgery prep): VLCD/meal replacement + AOM
  - Phase 3: MBS + postop dietary plan
  - Phase 4: resumption of AOM (as needed)

Determination of need for preop weight loss

- Will weight loss
  - Improve technical execution?
  - Improve metabolic health?
  - Be part of a comprehensive, multi-modal treatment strategy?

Conclusions

- Requiring weight reduction to “qualify” for MBS is based in a biased concept of obesity
  - There is no consistent evidence supporting benefits for required weight reduction
- A treatment plan that includes medically supported weight loss in the runup to MBS can be a viable approach to supporting optimal obesity treatment
  - Initiating weight loss prior to MBS has no evidence of harm and may be associated with improvements in operative, perioperative, and mortality outcomes

Future Considerations

More to learn about combination therapy: shift our perspective from separate interventions that patients “succeed” or “fail” to a combination of tools that can be used to achieve specific treatment targets