

What are the indications for bariatric surgery?

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EVIDENCE-BASED ANSWER

No studies evaluate the commonly used indications for bariatric surgery. Consensus guidelines suggest that the surgical treatment of obesity should be reserved for patients with a body-mass index (BMI) $>40 \text{ kg/m}^2$ or with BMI $>35 \text{ kg/m}^2$ and

1 or more significant comorbid conditions, when less invasive methods of weight loss have failed and the patient is at high risk for obesity-associated morbidity and mortality (strength of recommendation: **C**, based on consensus guidelines).

CLINICAL COMMENTARY

Assessing perioperative risk and long-term complications is critical

National data indicate that more than 5 million Americans have a BMI >35 . Thus the implications of recommending bariatric surgery are enormous. Patients who have undergone surgical treatment for obesity require lifelong monitoring and often nutritional supplementation, and the lifelong severe dietary restriction that follows bariatric surgery can be psychologically devastating. Psychological and behavioral factors must be care-

fully considered in presurgical evaluation. No standardized protocol exists for this assessment and few empiric data specify which factors predict successful surgical outcomes.

Great progress has been made in developing safer and more effective surgical procedures for promoting weight loss, yet the possibility of significant adverse effects remain. Assessing both perioperative risk and long-term complications is critical and requires a risk/benefit analysis in each case.

■ Evidence summary

Because of the nature of major surgery, there are practical and ethical barriers to true randomized controlled trials (RCTs) comparing bariatric surgery with placebo or to no intervention. However, multiple RCTs have compared the weight-reducing effects of different bariatric surgical techniques against each other.¹ All studies included patients who had a BMI $>40 \text{ kg/m}^2$, or a BMI $>35 \text{ kg/m}^2$ with at least 1 comorbidity, such as cardiovascular disease, sleep apnea, uncontrolled type 2 diabetes, or weight-induced physical problems interfering with performance of daily life activities. It is these study inclusion criteria that, by default, have become widely accepted indications for bariatric surgery. Weight loss in all RCTs was substantial, ranging from 50 to 100 kg over 6 months to

1 year. Comorbid factors associated with obesity showed either resolution or improvement after surgery in 91% of patients.

Patients with a BMI >40 have substantially more serious health consequences and a reduced life expectancy. Obesity significantly impairs quality of life, and the risk of morbidity and mortality increases with the degree of obesity.² Those who are extremely obese often do not have sustained benefit from more conservative treatment. The benefits of nonsurgical treatment are significantly limited by the failure to maintain reduced body weight.

A large literature of controlled and uncontrolled cohort studies show that surgery has produced the longest period of sustained weight loss.³ A recent meta-analysis proved bariatric surgery not only

efficacious for weight loss, but showed that a substantial majority of patients with diabetes, hyperlipidemia, hypertension, and obstructive sleep apnea experienced complete resolution or significant improvement of their comorbid condition after surgery.⁴

The possibility of significant adverse effects remains. The postoperative mortality rate for bariatric surgery is approximately 0.2%. Reoperation is required for up to 25% of patients within 5 years. Other complications are wound infection, staple failure, vitamin deficiency, diarrhea, and hemorrhage.³ The long-term health effects of bariatric surgery are not well known.

Recommendations from others

The NIH statement “Gastrointestinal Surgery for Severe Obesity” concluded that the benefits outweigh the risks and that surgical treatment is reasonable in those who strongly desire substantial weight loss and have life-threatening comorbid conditions.²

Clinical guidelines developed by the National Heart, Lung, and Blood Institute Expert Panel on the identification, evaluation, and treatment of obesity for adults recommend that bariatric surgery be an option for carefully selected patients with clinically severe obesity (BMI >40 or >35 with comorbid conditions) when less invasive methods of weight loss have failed and the patient is at high risk for obesity-associated morbidity and mortality.¹

The American Gastroenterological Association (AGA) medical position statement on obesity finds surgical therapy to be the most effective approach for achieving long-term weight loss. The AGA recommends surgery for patients with a BMI >40, or those with BMI >35 and 1 or more severe obesity-related medical complication (eg, hypertension, heart failure, or sleep apnea) if they have been unable to achieve or maintain weight loss with conventional therapy, have acceptable operative risks, and are able to comply with long-term treatment and follow-up.⁵

The American College of Preventive Medicine, in its policy statement on weight management counseling, recommends lim-

iting surgical therapy for obesity to severely obese patients, defined as BMI >40.⁶ ■

REFERENCES

1. NHLBI Obesity Education Initiative. *Clinical Guidelines on the Identification, Evaluation and Treatment of Overweight and Obesity in Adults: The Evidence Report*. NIH Publication No. 98-4083. Bethesda, Md: National Heart, Lung, and Blood Institute; 1998.
2. NIH conference. Gastrointestinal surgery for severe obesity. Consensus Development Conference Panel. *Ann Int Med* 1991; 115:956-961.
3. US Preventive Services Task Force. *Screening for Obesity in Adults: Recommendations and Rationale*. Rockville, Md: Agency for Healthcare Research and Quality, 2003.
4. Buchwald H, Avidor Y, Braunwald E, et al. Bariatric surgery: a systematic review and meta-analysis. *JAMA* 2004; 292:1724-1737.
5. American Gastroenterological Association. American Gastroenterology Association medical position statement on Obesity. *Gastroenterology* 2002; 123:879-881.
6. Nawaz H, Katz D. ACPM Practice Policy Statement. Weight management counseling of overweight adults. *Am J Prev Med* 2001; 21:73-78.

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FAST TRACK

Psychological and behavioral factors as well as an assessment of perioperative risk and complications must be considered before bariatric surgery