

Executive Summary

The growing number of high-risk patients being referred for bariatric surgery in the United States has grown exponentially. The evolving advancement of surgery for morbidly obese patients necessitates a need for bariatric surgeons to persistently consider how the procedure can be more effective, safe, and efficient. Maximizing and demonstrating the positive patient outcomes is paramount. Employing a multi-disciplined medically-supervised Very Low Calorie Diet (VLCD) or Low Calorie Diet (LCD) program has been shown to deliver proven benefits to patients in all three distinct perioperative periods (preoperative, intraoperative, and postoperative) of bariatric surgery.

Introduction

In their clinical practice guidelines for the perioperative nutritional, metabolic, and nonsurgical support of the bariatric surgery patient, The Obesity Society (TOS), the American Society for Metabolic and Bariatric Surgery (ASMBS) and the American Association of Clinical Endocrinologists (AACE) acknowledge that bariatric surgery remains a safe and effective intervention for select patients with obesity. However, they also stress that a team approach to perioperative care is mandatory with special attention given to nutritional and metabolic issues.¹

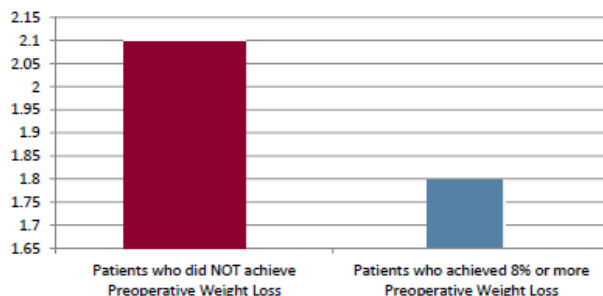
As such, a protocol for bariatric surgery based on the established guidelines for medical evaluations and clearances should include a defined patient education curriculum, as well as VLCD and LCD nutrition recommendations, in all three distinct perioperative periods.

Preoperative, Intraoperative and Postoperative Benefits

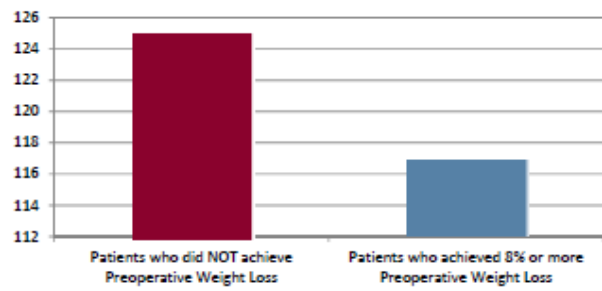
Numerous benefits to preoperative weight loss have been noted in several studies over the past decade. A reduction in the size of the liver after four weeks of dieting and an increase in ease of surgical exposure are well documented.²

A recent study found that patients who lose at least eight percent of excess weight prior to bariatric surgery achieve greater weight loss after surgery. In addition, it also showed a reduction in hospital length of stay (1.8 days vs. 2.1 days) for patients who achieved that target weight loss (eight percent or greater), and the average operative time was shorter (117 minutes vs. 125 minutes).³

Length of Hospital Stay Days



Average Operative Time Minutes



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Further, patients who consumed a liquid diet presented a positive effect on reducing visceral fat (VF) and greater weight loss than a normal diet. A VLCD presented benefits offering a protective effect during the preoperative stage.⁴

When bariatric surgery is inadvisable, the most common reason cited is non-alcoholic fatty liver disease (NFLAD). Bariatric surgical candidates can reduce their liver size using a VLCD, resulting in a much higher likelihood of being eligible for bariatric surgery. Many patients entering into a VLCD program present with elevated transaminases, typically due to fatty liver. Research shows that fatty liver responds well to weight loss and biopsies demonstrate improvement in hepatic fatty liver infiltration. Since the majority of patients who enter into a program present with elevated transaminases resulting from fatty liver, a VLCD is beneficial. Pre-bariatric surgery patients also benefit from a VLCD. Studies have shown a 30 percent reduction in liver volume, with 80 percent of the decrease within the first two weeks. Most VLCD recommendations are for two weeks, with optimal combinations of liver size and visceral fat loss around 12 weeks.^{4,5,6,7}

Many studies have shown that preoperative weight loss also can reduce the difficulty of surgery and postoperative complications. In a randomized, multi-center study, patients undergoing laparoscopic gastric bypass procedures (LRYGBP) had fewer postoperative complications following a two-week VLCD. Surgeons, who were blinded as to who received the diet, also rated the operations as easier in those who received the diet. As a result, reduced postoperative complication rates suggest that a VLCD regimen should be recommended before bariatric surgery.⁶

Up to 18 months subsequent to surgery, when many physical and metabolic changes occur that help facilitate weight loss, there is a “key window” of opportunity, according to a 2018 study. Following that time period patients must rely on diet, exercise, and lifestyle management to maintain their weight loss.

Study coauthor John David Scott, MD, FACS, FASMBS says: “We call it the honeymoon period of bariatric surgery...After a year or year and a half, your body starts to figure out what it can and can’t do, and your behaviors may change a little bit, so the odds that you are going to lose a significant amount of weight after that time period are definitely decreased. Therefore, the more weight you can lose during that honeymoon period, the better, because that effort will help establish a set point, in terms of where your steady weight is going to be further down the road.”

Conclusion

Preoperative weight loss before bariatric surgery provides numerous benefits to the patient and to the surgeon. In summary, incorporating preoperative weight loss into a bariatric treatment plan can:

- Reduce the size of the liver and increase likelihood of candidacy for bariatric surgery
- Improve operability in patients
- Increase postoperative weight loss at one year
- Increase postoperative weight loss for the long-term
- Reduce surgical complications
- Decrease operative time and facilitate the procedure

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Using a medically-supervised VLCD for as little as six weeks prior to surgery has been shown to achieve an average weight loss of three to five pounds weekly and can be used to obtain the recommended five to 10 percent weight loss associated with the above outcomes. In fact, even as little as three percent sustained weight loss can reduce the risk for the development of type 2 diabetes as well as result in clinically meaningful reductions in triglycerides, blood glucose, and other risk factors for cardiovascular disease.⁸ Complemented with ongoing medical monitoring and nutritional, behavioral, and exercise education, a complete VLCD program supports the goals of bariatric surgery programs and can be integrated into any treatment plan.

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