Prevention and Management of Complications in Body Contouring Surgery

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KEYWORDS

• Complications • Body contour • Infection • Hematoma • Seroma • Dehiscence
• Delayed wound healing • Plastic surgery

KEY POINTS

- Avoid complications before they occur with careful preoperative patient selection, screening, consent, and management of patient expectations.
- Perioperative chemoprophylaxis and antibiotic use can help prevent major complications in body contouring.
- Intraoperative details such as patient positioning, operating room temperature, fluid status, and communication with the operating room team can avoid intraoperative complications.
- Most complications are minor, and can be managed conservatively.
- Wound dehiscence, if identified early, can be treated quickly with minimal long-term sequelae and improved scar quality.
- Seroma often resolves with serial aspirations; however, patients must be seen frequently.
- Recurrent skin laxity is common in body contouring after massive weight loss. Revisions can often be delayed until second-stage procedures are performed.

INTRODUCTION

Body contouring after massive weight loss has increased in popularity over the past 10 years, with more than 40,000 procedures performed annually.[1] Many of these cases are caused by weight loss after bariatric surgery. After weight loss, deformities are severe and often involve more than one body area. Many patients choose to have multiple procedures, and may increase the risk of complications.[2] Several studies have documented higher complication rates in patients who have body contouring after massive weight loss, with complications being even higher in those who have lost weight via bariatric surgery.[3–11]

Complications in body contouring surgery after bariatric surgery are common and approach 50% in most of these studies. In self–weight loss patients, the rate of complications is slightly lower, at around 30%, but still high. How complications are defined in the literature is inconsistent, and thus the true rate of complications in this population is uncertain. However, most of these complications are minor wound healing problems that can be managed conservatively and rarely require return to the operating room. Many of these complications are preventable or at least of lesser severity with careful preoperative, intraoperative, and postoperative planning and monitoring.

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PREOPERATIVE EVALUATION

A careful preoperative evaluation is the best way to avoid long-term complications. Understanding the patient's weight loss history can give insight into any potential problems that may be encountered and help determine surgical candidacy. Care should be taken to ask how patients lost their weight, what was their maximum weight before weight loss, current weight, and lowest weight. Patients should be asked about any weight fluctuation over the past month or 3 months. After bariatric surgery, most patients reach a nadir and then plateau at a slightly higher weight.[12] Identifying how patients are progressing in their weight loss is important for predicting long-term results and satisfaction. Patients should ideally be at least a year out from their bariatric procedure and weight stable for 3 months.[6,13–15]

Several studies have suggested a body mass index (BMI) cutoff (eg, 32 kg/m^2 or 35 kg/m^2) at which patients should not be operated on; however, these guidelines are suggestions and not supported by significant outcomes data.[16,17] Although complications do increase with increasing BMI, there is no set cutoff point because all patients present with different body morphologies and should be evaluated individually. Some women presenting for breast contouring may have significant gynoid morphology with most of their weight in their thighs, which does not exclude them from a breast procedure. Some postbariatric patients may have a large pannus that is disproportionate to the rest of their body.

Nutritional status can also be assessed before surgery and helps to avert postoperative complications. Bariatric procedures such as the Roux-en-Y gastric bypass have malabsorptive and restrictive components.[18–20] Many patients have aversions to animal proteins after this procedure, and they may have reduced intake of protein overall. Careful preoperative assessment by a dietitian can calculate protein intake. Goals should be around 70 to 100 g a day around the time of surgery to avoid wound healing problems. Patients who present after surgery with wounds that do not heal should be assessed for nutritional deficiencies. Preoperative albumin and prealbumin studies may be helpful in patients who report low-protein diets or frequent episodes of dumping syndrome. Patients having gastric bypass are prone to iron deficiency anemia, folate, calcium, and B_{12} deficiencies. Patients who are not on routine supplementation may need to be tested or revisit with their bariatric surgeons.

A careful medical history should be performed to assess for medical comorbidities that existed before weight loss and may still be present after weight loss.[21] A single past medical history often lists many medical issues that have since resolved with weight loss, such as diabetes, sleep apnea, and hypertension. Common medical conditions that often do not resolve as frequently include arthritis, anxiety, and depression. Preoperative clearances may be required for any outstanding medical conditions. Smokers are referred to their primary care physicians for assistance with smoking cessation. All patients are tested for smoking with a urine cotinine test a few weeks before surgery. Anyone with a positive test is not booked for surgery and must wait 3 months until a negative test is obtained. Patients are made aware of the increased risk of wound healing problems and infection with smoking.[22,23] Any current medications that could interfere with surgery, such as aspirin-containing drugs, anticoagulants, steroids, or immunosuppressive agents, are assessed. Herbal medications are also reviewed because many are associated with bleeding risks.[24]

A past surgical history is obtained to identify anything that may increase the risk of complications, such as prior cancer surgery, history of nonhealing wounds or infections, scars on the abdomen, and prior plastic surgery such as liposuction to the areas to be treated. Large open cholecystectomy scars are important to identify early because they may change the surgeon's plan with regard to scar placement or the degree of undermining that can be performed in a given area.[25,26]

PERIOPERATIVE INTERVENTIONS

Before surgery, it is critical to be aware of several important patient safety issues. Avoiding thromboembolic events with sequential compression devices or chemoprophylaxis may be indicated depending on the type of procedure, duration of procedure, and patient risk factors. Risk of thromboembolic events has been described as being as high as 9.7% in the literature, with most articles citing risk below 3%.[16,27–30] Caprini risk scores can be calculated before surgery to determine the need for a particular thromboembolic prevention protocol.[31,32] Various treatment methods for chemoprophylaxis exist, including the use of subcutaneous heparin before surgery, or the use of low-molecular-weight heparin the morning after surgery. There are few data in the body contouring literature to support a particular recommendation. Patients with a history of deep venous thrombosis or pulmonary embolism may benefit from the use of a temporary inferior vena cava filter.

Patients undergoing large body contouring procedures are at risk for hypothermia. Hypothermia in body contouring has been associated with