



## 89th Annual Meeting Abstracts

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### **Post-Massive Weight Loss Body Contouring Complications and Pre-Operative Risk Reduction: A Review of the Plastic and Bariatric Surgery Literature and a Novel Pre-Operative Risk Stratification System**

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**Purpose:** As the number of obese patients achieving massive weight loss (MWL) increases, it is clear that the comprehensive management of obesity includes both weight loss and plastic surgery. MWL patients (patients who have lost 50% of excess weight) comprise a group of individuals who will need surgical revision of excess skin that has become a disease process itself. MWL patients have a high rate of post-operative complications after body contouring surgery (BCS). Most of these complications involve wound healing.

**Methods:** We conducted a comprehensive review of plastic surgery and bariatric surgery literature. A PubMed search for "obesity", "BMI" and "timing of body contouring surgery", "body contouring surgery", "wound complications", and "post-operative complications" yielded 26 papers. Additionally, "nutritional deficiencies" and "diet induced weight loss", "roux-en-y gastric bypass surgery", "laparoscopic band surgery" and "biliopancreatic diversion" yielded 20 studies. A PubMed search for "DVT prophylaxis" and "plastic surgery" yielded 5 papers. All studies except for 3 were retrospective. Data including the most common post-operative complications in MWL patients undergoing BCS, as well as identification of the risk factors for these complications was collected and analyzed.

**Results:** Several factors were consistently identified as risk factors for post-operative wound complications. Body mass index either pre-weight loss or post-weight loss, weight of specimen resected, ASA class, total change in BMI and co-morbidities were all found to correlate with increased risk of post-operative complications. It is important to distinguish between patient characteristics that can be altered versus those that are unchangeable. By acknowledging the pre-existing co-morbid conditions of a patient, we can form expectations regarding outcome. This allows the surgeon to anticipate which patients will be at a higher risk of post-operative complications. These qualities include BMI max and current or resolved co-morbidities such as asthma, COPD, diabetes, obstructive sleep apnea, hypothyroidism and osteoarthritis. After recognizing the unchangeable history of a patient, we can then focus on patient characteristics that are changeable. To that end we have created the following set of recommendations, along with a worksheet that can be applied to clinical practice in order to evaluate the MWL.

**Conclusion:** Our goal is to reduce post-operative complications by providing plastic surgeons with an easy to use, comprehensive set of pre-operative criteria that can be used to optimize a patient for body contouring surgery. We created a risk stratification system identifying risk factors for post-operative complications, which will afford the plastic surgeon an opportunity to clearly communicate expected outcomes with patients in order to assist with decision-making. This pre-operative checklist will aid not only in discussion and decision-making between patient and surgeon, but will also give the patient and surgeon the opportunity to affect change by reducing pre-operative risk factors and allowing the patient to contribute to his/her own improved results. Assessment and optimization should include: Max BMI, change in BMI, current BMI, time to plateau, ASA Class, nutritional deficiencies and previous/current co-morbidities. This process can be aided by a multidisciplinary approach including internists, bariatric surgeons, nutritionists, endocrinologists and psychiatrist/psychologists.

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