# Skin surgery after massive weight loss

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Recent review date: 6/2024

Next review date: 10/2025

Policy contains: Body contouring; brachioplasty; massive weight loss; obesity; rhytidectomy; thighplasty.

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## Coverage policy

Surgical excision of redundant skin of body areas (e.g., brachioplasty and thighplasty) following massive weight loss is clinically proven and, therefore, may be medically necessary when all of the following criteria are met (American Society of Plastic Surgeons, 2017; Mechanick, 2013):

- A plastic surgeon performs the surgical procedure to modify the skin envelope, subcutaneous layer, and/or investing fascia.
- Surgery will correct functional impairment caused by excessive skin and subcutaneous tissue redundancy.
- A functional impairment is defined as a direct and measurable reduction in physical performance of an organ or body part, resulting in difficulties in physical and motor tasks, independent movement, or performing basic life functions.
- There is photographic documentation of any of the following chronic or recurring conditions related to excess tissue and skin folds:
- Intertrigo (bacterial or fungal infections).
- Cellulitis.
- Folliculitis.
- Skin ulceration.
- Skin or subcutaneous abscesses.
- Monilial infection or fungal dermatitis.
- Skin necrosis.

- Documentation of failure of at least three months of conservative nonsurgical management by a physician other than the operating physician.
- Maintenance of a stable body weight during the most recent six months or longer.
- If massive weight loss occurs as a result of bariatric surgery, the procedure should not be performed for at least 12 to 18 months after the bariatric surgery.

Note: This policy does not apply to abdominoplasty or panniculectomy.

Limitations

All other indications for excising redundant or excessive skin after massive weight loss are not medically necessary, including, but not limited to:

- Improving cosmesis in the absence of a functional impairment.
- Relieving neck or back pain, as there is no evidence that reduction of redundant skin and tissue results in less spinal stress or improved posture or alignment.
- Repairing a diastasis recti.
- Minimizing the risk of hernia formation or recurrence.

Alternative covered services

- Analgesics.
- Antibiotics.
- Cortisone ointments.
- Drying agents.
- Topically applied skin barriers and supportive garments.

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## Background

Obesity and its associated medical morbidities carry substantial health risk. Treatments for obesity, including bariatric surgery, often result in massive weight loss. Definitions of massive weight loss vary and include loss of 100 pounds (approximately 45.45 kilograms) or more, 50% or greater loss of excess weight, or loss of an amount greater than 100% of the person's ideal body weight (Constantine, 2014; Michaels, 2011). Complications after bariatric surgery are common, ranging from 23% to 70%, mostly wound-related (Macarawung, 2022).

A sudden change in body mass index can lead to redundant skin and soft tissue with poor tone. Surplus skin and malpositioned adipose deposits result in musculoskeletal strain from increased tissue weight and can cause functional limitation with walking, maintaining adequate hygiene, bowel and bladder habits, and sexual activity, as well as psychological issues associated with poor body image (Giordano, 2015). Bariatric surgery is associated with various metabolic complications and deficiencies that can disturb wound healing and are not typically found in other causes of massive weight loss, such as diet and exercise or post-pregnancy (Giordano, 2015). Reshaping procedures may relieve these symptoms.

The term “body contouring” refers to any surgical procedure used to modify the skin envelope, subcutaneous layer, and/or investing fascia to rid the functional and esthetic impairment from skin after massive weight loss (Giordano, 2015). Several surgical techniques, each with its own modifications, may be used to address the needs of these patients, including (Giordano, 2015):

- Rhytidectomy (face and neck lift)
- Brachioplasty (arm lift) with or without liposuction
- Mastopexy (breast lift) with or without mammoplasty
- Body lift:
- Belt lipectomy (or lower body lift in which the lower body is treated front and back in its entirety)
- Upper body lift that treats excess skin folds in the back
- Thighplasty

Skin redundancy and quality, lipodystrophy, and adherent folds, as well as the presence of varicose veins, lymphedema, and overall scar evaluation must be considered with these complex and extensive procedures. The extent of the procedures and the patient’s health and comorbidities will determine the facility setting, the type of anesthesia needed, recovery time, and physician follow-up visits. Patients may be seen intermittently for one to two years as final body contour continues to mature (American Society of Plastic Surgeons, 2017).

## Findings

Guidelines support surgery for functional impairments of excess skin 12 to 18 months after bariatric surgery, with a stable weight close to normal for at least two to six months, or at the 25 $kg/mg^2$ (kilograms of body weight divided by height in meters squared) to 30 $kg/mg^2$ weight range (American Society of Plastic Surgeons, 2017).

In a broad analysis of post-bariatric surgery body contouring, systematic reviews and meta-analyses have indicated varying degrees of health improvements and complications. A systematic review/meta-analysis encompassing 29 studies (n = 1,578) highlighted that 9.9% of brachioplasty patients experienced abnormal scarring with re-intervention rates for aesthetic and nonaesthetic purposes at 7.46% and 1.62%, respectively (Aljerian, 2022). Other reviews showed significant enhancements in health-related quality of life, including improvements in body image, physical, psychological, and social functioning (Jiang, 2021; Toma, 2018; Gilmartin, 2016). Notably, a systematic review/meta-analysis of 25 studies disclosed a 31.5% rate of surgical complications, particularly in individuals with a BMI over 30 kg/m2, with seroma being the most frequent issue (Marouf, 2021).

Complications following body contouring in post-bariatric patients are notably higher compared to non-bariatric cases. A substantial meta-analysis involving 253 studies identified a 1.60 risk ratio of developing complications post-surgery (Hasanbegovic, 2014). Specific procedures such as circumferential contouring of the lower trunk reported a 37% complication rate, with wound dehiscence and hematomas as common issues, although the reliability of evidence was mostly low (Carloni, 2016). Additionally, augmentation-mastopexy revealed a 13.1% overall complication rate with a reoperation rate of 10.7% (Khavanin, 2014), and a mixed review documented 6.3% minor and 6.8% major wound complications (Fischer, 2013).

Weight management outcomes and desire for body contouring surgeries also reflect varied patient experiences post-bariatric procedures. A study showed superior weight loss outcomes in patients who underwent post-operative body contouring compared to controls, with metrics like body mass index, total body weight loss, or excess weight loss being significantly better (ElAbd, 2021). Conversely, patients who desired but did not receive

contouring surgeries reported lower body satisfaction and more depressive symptoms, even five years post-bariatric surgery (Buer, 2022).

In 2024, the findings section was reorganized. Researchers found no new relevant studies to add to the policy.

## References

On May 11, 2024, we searched PubMed and the databases of the Cochrane Library, the U.K. National Health Services Centre for Reviews and Dissemination, the Agency for Healthcare Research and Quality, and the Centers for Medicare & Medicaid Services. Search terms were [ccp.11_policy_search_terms] We included the best available evidence according to established evidence hierarchies (typically systematic reviews, meta-analyses, and full economic analyses, where available) and professional guidelines based on such evidence and clinical expertise.


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## Policy updates

6/2022: initial review date and clinical policy effective date: 7/2022.

6/2023: Policy references updated.

6/2024: Policy references updated.