

CHAPTER 10

BODY CONTOURING

Body contouring is considered a component of Aesthetic surgery by utilization of techniques that will possibly enhance one's appearance. Additionally, these contouring procedures are utilized to improve one's general health, by the removal of chronically macerated, infected skin and subcutaneous tissues. There has been a dramatic rise in the number of body contouring procedures which correlates with the increased number of gastric bypass patients. These patients will generally have very dramatic weight loss, but have less elastic recoil of the skin. Massive weight loss patients are not simply left with familial fat bulges, but rather display aprons of excess skin. Two basic methods – liposuction and excisional surgery – are utilized for body contouring.

I. Liposuction

- A. Although liposuction may reduce cardiovascular risk, blood pressure, and fasting insulin levels, it should not be considered a weight loss procedure
- B. Best results are obtained when there is localized excess fat
- C. Generalized excess fat (mildly or moderately overweight) may still benefit, but assume potentially less dramatic results
- D. Skin elasticity is important for better results
- E. Men: If requesting abdominal wall liposuction need to be assessed carefully as fat excess in men tends to be intraabdominal. If requesting chest liposuction, consider a diagnosis of gynecomastia. Gynecomastia has three forms of histologic types: Glandular (amenable to suction assisted liposuction), Fibrous Type (ultrasound assisted liposuction), and Mixed.
- F. Cellulite: adipose deposits under the skin (superficial to Scarpa's fascia) that gives the skin a lumpy appearance and is predetermined by genetics. Contributing factors are hormones, pregnancy, and aging. Liposuction does not address cellulite and may worsen the appearance. Superficial liposuction should be approached with caution.
- G. The devices that are utilized in liposuction
 1. Suction: vacuum pumps for larger volumes and syringe suction for smaller volume
 2. Cannula: the instrument that is placed in the patient to remove the fat. The cannula will suck the collection of fat into the openings of the cannula, and when moved in and out, will amputate the fat. The fat then moves into the suction tubing and into the collection canister. These vary in length, diameter, and the configuration of the openings at the tip
 3. Collection Device: Usually a graduated canister, or for smaller volumes, a syringe. It is important to know how much is removed for symmetry and safety.
- H. Different Liposuction Techniques:
 1. Standard Liposuction: Cannula moved by the surgeon alone, suction applied by syringe or machine

2. Mechanical Assisted Liposuction (MAL): electric or pneumatic reciprocating cannula. These will cut the fat while suction is applied.
 3. Ultrasound Assisted Liposuction (UAL): Pizoelectrode in cannula causes cavitation of the adipose cell and disruption of the cell wall before suction. Increases risk for seroma and thermal injury of the skin. The surgeon will watch the total time of usage per site. Some devices combine the cavitation with suction, others require using a separate suction cannula after the ultrasound mode.
 4. Laser Assisted Liposuction (LAL): energy disruption of the adipose prior to suction. Care must be taken to avoid thermal injuries to the tissues.
- I. Precise and accurate preoperative markings essential to quality results – mark topographically, estimate volumes to remove, mark areas to avoid. Discuss asymmetries with patient prior. Markings should be done with patient standing.
 - J. Local Recommended doses: Lidocaine (<5mg/kg), Lidocaine with Epinephrine (<7mg/kg). Tumescant solutions of Lidocaine with Epinephrine with concentrations of 35-50mg/kg have been safely used due to slow absorption of anesthetic from fat, the persistent vasoconstriction from epinephrine, and lidocaine removed in the liposuction aspirate. Peak plasma concentrations of Lidocaine 10-12 hours after injection.

Operative Technique	Infiltrate	Estimate of Blood Loss (as a % of volume aspirated)
Dry	No infiltrate	20-45
Wet	200-300 cc's/area	4-30
Superwet	1 cc / 1 cc aspirate	<1
Tumescant	2-3 cc infiltrate per 1 cc aspirate	<1

(TABLE 10-1)

- K. Postoperative support garments often utilized
- L. It is recommended to admit patient to the hospital if removing greater than 5 Liters

II. Excisional Body Contouring Surgery

Designed to treat skin quality problems, laxity, panniculus formation, intertrigo, chronic back pain, upper extremity paresthesias, and cellulite

A. Breast

1. May involve breast reduction or mastopexy (breast lift procedure)
2. Significant excess skin may require continuation of the scar onto the lateral chest wall or onto the back to remove the “dog ears”
3. Repositions the nipple to the inframammary fold and re-supports ptotic breast tissue
4. The ptotic breast (descended breast) may be deflated or devoid of volume and must be approached accordingly. The patient may need a mastopexy/augmentaion. Some

surgeons stage this due to the added complexity. Other surgeons have described using de-epithelialized skin medially and laterally to create an internal bra to support the inelastic tissue envelope.

B. Arms

1. Brachioplasty: Indicated for moderate to severe skin laxity of the arms with or without associated arm fat deposits.
2. Mild skin laxity with fat deposits – consider liposuction instead of excision
3. If skin laxity and fat deposits, combination of both.
4. Mark with arms abducted 90 degrees
5. May require incision onto the flank if excess extends onto the trunk
6. Longitudinal (arm) incision line marked approximately 4 cm above and parallel to the medial bicipital sulcus toward medial epicondyle
7. Inferior excision line estimated by pinch test or shift test, but final determination done in the operating room (tailor-tacking).
8. Some surgeons close the skin as they cut each segment to prohibit edema and inability to close the arm. This is a dreaded complication that may require skin grafting.
9. Avoid injury to the Medial Antebrachial Cutaneous Nerve (MABC)
10. Axillary fascial anchoring sutures utilized to gain long term support. Pioneered by Lockwood.
11. Gently compression with ace wraps often done. Patients instructed to elevate arms postoperatively. Some surgeons use drains while others do not.

C. Abdomen - Panniculectomy vs. Abdominoplasty

1. Panniculectomy - excision of excess apron of tissue alone. Does not plicate rectus abdominus diastasis. Does not involve umbilicus repositioning.
 - a. Usually performed to improve hygiene issues
 - b. Tissue under panniculus frequently macerated, ulcerated or infected
2. Abdominoplasty – excision of excess abdominal skin and fat, and usually involves plication of the fascia for abdominal wall tightening / contouring, and transposition of the umbilicus. If the excess of skin is minor, the umbilicus may be floated to a slightly lower position.
3. Abdominoplasty – Anterior vs. Circumferential (Belt Lipectomy)
4. Anterior Abdominoplasty: Patient marked standing. Look for clinical hernias.
 - a. Removal of tissue frequently from the umbilicus to the pubis.
 - b. The tissue is undermined up to costal margins.
 - c. The abdominal wall fascia is usually plicated for rectus abdominus diastasis. May also plicate laterally to contour the waist.
 - d. The umbilicus is preserved on its stalk and delivered through the flap after caudal mobilization of the flap.
 - e. The closure involves the superficial fascial system and skin separately.
5. Circumferential Abdominoplasty (Belt Lipectomy or Lower Body Lift):
 - a. Benefits patients with abdominal, flank, and posterior trunk skin excess and laxity.
 - b. The abdominal tissue is undermined and plicated as noted above.

- c. The excess lateral and posterior skin measured and marked preoperatively by pinch testing and the final excision volume is determined intraoperatively similar to brachioplasty (tailor-tacking).
 - d. No direct or discontinuous undermining is performed over the buttocks
- D. Medial Thigh Lift
 - 1. Classic medial thigh lift plagued with problems such as inferior migration and widening of the scars, lateral traction deformities of the vulva, and early recurrence of the deformity
 - 2. Results improved with suspension of the superficial fascial system to Colles fascia along the pubic ramus
 - 3. May combine with liposuction at the same time, or liposuction prior in a staged fashion
 - 4. Performed via a longitudinal elliptical excision along the medial thigh
 - 5. Must change to a superficial dissection over the femoral triangle to prevent lymphedema
 - 6. Closed similar to brachioplasty to prevent complications
- E. Back
 - 1. Direct excision of back rolls can be achieved
 - 2. Excisions may be combined with Breast procedures as some patients have excess that courses laterally that is not breast tissue.
- F. Buttock
 - 1. Excision may be superior or inferior aspect of the buttock
 - 2. Inferior excision may be camouflaged in the gluteal creases
 - 3. Inferior tissue excision may lead to flattening of the buttock and an inferior buttock scar as opposed to crease
 - 4. Excision may be combined with the lower body lift

III. Additive Body Contouring Procedures

- A. Breast: Can augment with alloplastic technique (silicone or saline implant) or autologous source (fat injection).
- B. Buttock: As above for breast. Can also auto-augment during lower body lift with dermoglandular flaps
- C. Other sites: Fat grafting in larger volumes increasingly used for many sites

CHAPTER 10 — BIBLIOGRAPHY

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