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Abdominal Contour Procedures: Evaluating the Options

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Society has long regarded individuals with a youthful physique, including a narrow waistline and slim abdomen, favorably. Images in the media are a constant source of reinforcement for this appearance and the desire to appear ''fit.'' Popular culture showcases surgery as an accepted and even expected adjunct to physical fitness in achieving physical improvement [1]. The result is a desire to achieve this goal and a demand for information regarding the various surgical techniques available, along with a concomitant increase in the number of these surgical procedures performed.

Liposuction is one procedure in a continuum of techniques available for addressing abdominal contour, and it is the one with which patients are most familiar and most likely to request. Advising patients of the many available methods involves an understanding of the scope of each technique and an accurate assessment of individuals' anatomy and their expectations and perceptions of what a successful result represents. Ultimately a successful outcome is predicated on reconciling patients' anatomy with their goals. This article outlines the various surgical methods of abdominal contouring and fosters an understanding of how to select the appropriate procedure.

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Anatomy

Fundamental to understanding the techniques available to improve abdominal contour is a grasp of the etiology of acquired abdominal contour deformities, which can be attributed to the effects of pregnancy, aging, weight fluctuance, lifestyle, medications, hormones, genetics, embryonic development, and previous incisions [2,3]. An in-depth assessment of candidates focuses on the treatable soft tissue layers of skin, fat, and muscle. Abdomens vary in size, shape, and configuration, and this should be considered during surgical planning [4–14]. During initial consultation, the circumferential aesthetic units of the abdomen are examined with the patient in standing, sitting, supine, and lateral hip flexed positions (Fig. 1). Differences in intrinsic anatomy, including body proportions and umbilical variations, are noted. Similarly, all scars and hernias are noted because these may influence the choice of procedure significantly and suggest the need for further evaluation by other specialists [15,16].

Each layer of soft tissue is evaluated systematically, and the findings are recorded. Evaluation of the laxity, tone, and contractility of the skin is important because ultimately the quality and condition of the skin more than any other factor influence the decision to perform an open procedure and determine the length of the incision when an open procedure is selected. When discussing skin excision procedures, it is important to convey to patients that although excess tissue is removed, the remaining skin still may be damaged, subjecting it to relaxation over time. This phenomenon might account for a patient's

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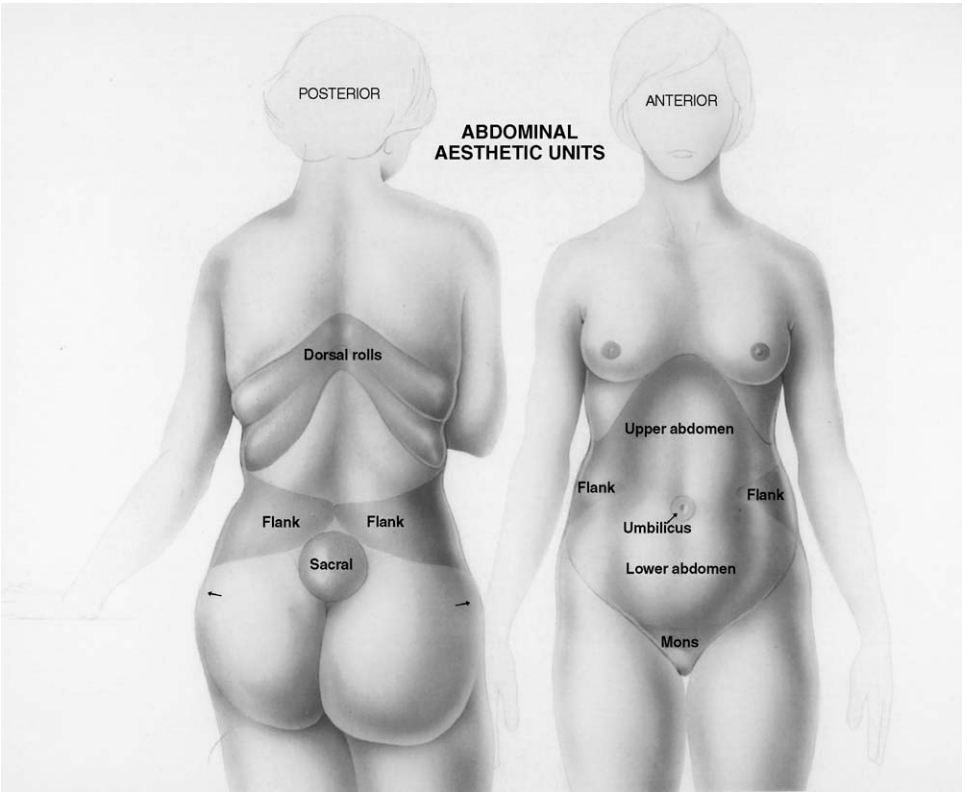

Fig. 1. Abdominal aesthetic units. (*From* Matarasso A. Classification and patient selection in abdominoplasty. Oper Tech Plast Surg 1996;3:7–14; with permission.)

concern at a later time that the operative result should have been "tighter." The degree of subcutaneous fat accumulation is determined in each of the aesthetic units of the abdomen. Because patients often perceive the abdomen as including all of these areas, it is important to educate patients about these aesthetic units and point out which will be addressed by the proposed procedure. A distinction between subcutaneous and visceral adipose tissue must be made because none of the techniques of abdominal contouring are designed to address excess visceral adipose tissue. Attempting these techniques on a patient with excess visceral adipose tissue may yield an unfavorable outcome in the eyes of the physician and an unexpected outcome in the eyes of the uninformed patient (Fig. 2) [12]. It is important to assess the ability of the skin to adapt to a new contour, which ultimately is related to its laxity, tone, and contractility. Performing liposuction below damaged skin can have a tendency to worsen the appearance of skin that benefited from the subcutaneous fullness to which the fat contributed.

Finally, the extent and level of the muscular diastasis is determined. This muscular diastasis creates a propensity toward an upper abdominal bulge in men and a lower abdominal bulge, from umbilicus to pubis, in women. Although exercise strengthens the muscle and diet reduces the fat, the muscular diastasis, when involved in the pathology of the acquired abdominal contour deformity, must be repaired to ensure a flatter, nonbulging abdomen. Similar to skin condition, the presence of muscular diastasis is important in determining whether an open procedure is warranted in an individual's treatment plan.

Patient evaluation and counseling

To achieve a result considered favorable by the physician and the patient, an accurate understanding of what the patient regards as a successful outcome is necessary. Many individuals considering an abdominal contouring procedure regard a perfectly flat abdomen with little to no excess subcutaneous fatty