

Variable Sculpting in Dynamic Definition Body Contouring: Procedure Selection and Management Algorithm

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Abstract

Background: Currently, corporal perception has evolved among different ethnic groups and a tendency to change from a slim to an athletic shape has been influenced by geography, culture, race, gender, and social media. Although exercise improves health status, physical appearance does as well in the long term. Patients often opt for an immediate solution for which high-definition (HD) liposculpture has been the best choice. However, they differ on their preference regarding muscular definition.

Objectives: The authors presented a new therapeutic algorithm for HD liposculpture in harmony with body biotypes and patients' preferences.

Methods: The authors reported their experience with 1772 consecutive patients, classified according to their body type in endomorph (217), ectomorph (195), and mesomorph (1360), and treated according to our new algorithm. Patients in general good health requesting HD liposculpture were included from June 2013 to September 2019. Pre- and postoperative photographs were taken to evaluate results.

Results: A total of 479 men and 1293 women were analyzed. Age ranged from 23 to 69 years in men and 18 to 57 years in women. Variable-degree HD liposculpture was successfully performed in all cases. Minor complications included port wound dehiscence (1.2%), seroma (4.1%), prolonged bruising (1.5%), and hyperchromia (10.4%). Superficial burns (0.7%), localized infection (0.4%), erratic skin adhesion (1%), and flap necrosis (0.4%) were also reported. A high-satisfaction index was reported in a nonstandardized patient survey.

Conclusions: The authors' new algorithm helps in the decision-making for HD liposculpture according to variable degrees of muscle definition due to patients' preferences.

Level of Evidence: 4

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Sculptors have created masterpieces with physical attributes and fine details that vary between different societies and throughout time. In the face, these include the shape of the nose, eye expression, and chin prominence, and in the body the depiction of the chest, abdominal contour, and the tone and shape of arms and legs. Those differences are a primordial feature among human beings, which define beauty and attraction. Anthropologists have

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classified individuals into larger common groups called biotypes, according to their morphology; however, they are categorized to a greater extent into several subdivisions that eventually make each person unique.¹ Sometimes our patients ask for a specific prototype of muscular definition or body sculpting similar to a public character (actors, models, singers, etc), so it is essential to guide these patients about what to realistically expect according to their physical attributes (biotype), age, skin, and other factors. High-definition (HD) liposculpture (described by Hoyos in 2003) has allowed us to reproduce and highlight the individual superficial anatomic structures in each biotype in a 360-degree fashion² following artistic concepts.³

The ideal body shape is not universal throughout human beings. Diverse variables are involved in the study of physical perception, and neither a universal statement regarding a physical beauty concept nor a single model for surgical planning can be inferred. Additionally, multiple variations within the same country also exist among socioeconomic and ethnic groups.⁴ TV advertisements and magazines encourage people to search for different ideal body shapes compared with their natural phenotypes.⁵ In some cultures, a thin body is associated with high socioeconomic status, stating that weight could be associated with beauty and success,⁶ whereas societies with economic struggles would rather prefer more voluptuous contours.⁷ The constant search for an ideal body figure has also been associated with eating disorders, depressive symptoms, anxiety, and stress, which might drive patients to irrational weight loss,⁸ usually due to constant exposure to unreal standards of beauty.⁹⁻¹¹

Athletic vs Slim Figure

Compared with the 1970s, the cultural idea of physical attraction has changed towards an athletic or fit body rather than super thin bodies,^{12,13} giving the perception of a healthier and muscular appearance. Professional women tend to select an athletic and muscular model when asked about ideal physique and since the 1980s, the likelihood to lose weight has been oriented toward exercising and keeping a healthy lifestyle.¹⁴ Within the male population, cultural preference has continued to favor a muscular biotype through time,¹⁵ but exhausting workout and strict diets need to be followed^{15,16} to achieve this outcome. A masculine shape usually includes a larger upper torso (V shape), whereas in women the goal is a curvaceous figure. In men, the desired V shape is defined by muscular anatomy in 2 groups: (1) the “power” or upper torso muscles (ie, pectoralis, deltoids, biceps, triceps, trapezius, latissimus dorsi in men) that will give volume; and (2) the “definition” muscles (ie, rectus abdominis, obliques, serratus,

infraspinatus, erector spinae) that yield the appearance of a slim and athletic body but do not need volumetric enhancement. For women, the hourglass figure depends of a small upper torso and a defined waistline in addition to a volumetric enhancement in the gluteal-hip area. The key is to avoid the masculine V shape.

Body Biotypes

The biotype was initially called somatic type by Sheldon in 1940 and classified into 3 groups: endomorph, mesomorph, and ectomorph, based on the development of embryologic follicles. These 3 groups are also subdivided into 7 subgroups according to their development from minimum (1) to maximum (7)¹⁶ (Figure 1).

- Endomorph: Individual characterized by excess of corporal and visceral fat percentage, underdeveloped muscular mass, and a typical posture. An overweight/obese patient can depict this biotype.
- Mesomorph: Individual with prominent muscular mass and bones. This biotype corresponds to the athletic or fit appearance, with a toned and defined body due to the musculature that resembles strength. Some variable degree of body fat can be present.
- Ectomorph: Represented by a general fragility, with poor development of the muscle mass in addition to delicate bones. This biotype is observed in very thin, usually tall individuals with low body fat percentage and high metabolic rate who struggle to gain weight.

Patient Dynamics

Our goal for all our patients is to give a toned, defined, athletic look but especially something that will be natural enough to “fool” the untrained eye. Biological, nonsurgical appearance is key for both short- and long-term results. Based on the patient “dynamics” linking the biotypes, gender, ethnic, age and skin laxity factors, generally 3 degrees of definition might be achieved. The degrees are based on mimicking the changes of real-life people when commencing to become fit.

- When men start training, they lose weight, start losing body fat, and gain muscular mass. The areas more prone to see quick changes are the upper abdomen, pectorals, and arms. In women, the same changes occur but include toned legs and buttocks.
- In a second stage, men tend to increase upper torso mass and define the lower torso, finally reaching a full “6-pack” abdominal definition. In women, defined arms and legs, full semilunaris and midline in the abdominal area, and increasing mass of the gluteal region develop.

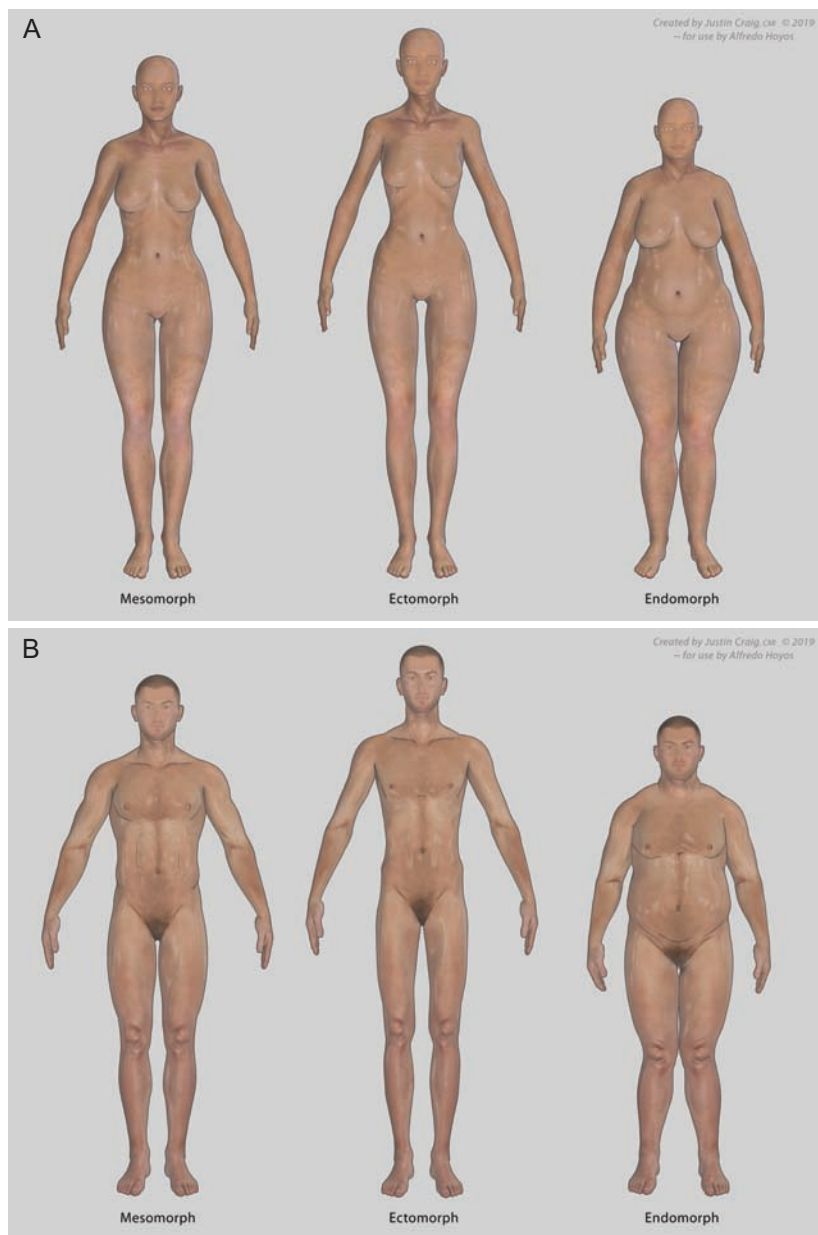


Figure 1. Female (a) and male (b) body biotypes: endomorph (right), ectomorph (middle), and mesomorph (left).

- In a third stage (bodybuilder level), in men other minor muscle groups become defined (eg, serratus anterior muscle), muscular mass in the whole body increases, and very low body fat occurs. Women start to reflect masculine features such as upper torso volumetric augmentation and a full 6-pack.

In addition to biotypes, other factors play a decisive role in surgical decision-making: older patients (50-65 years) and people with skin laxity and/or stretch marks are prone for a slighter definition than usual. Ethnic preferences

also exist. For example, Asian women tend to prefer more modest definition, whereas African American women tend to prefer a more athletic or curvaceous figure. Caucasian women tend to prefer a slim to athletic figure, and Latin women tend to prefer a curvaceous to athletic trend.

Fashion and the advent of social media and its influence on worldwide lifestyle as in the physical perception of the general population has drastically changed in the last decade. Accounts with beauty and workout content are the most popular,^{17,18} leading us to constantly cope with

patients with unrealistic expectations asking for perfect digitally modified bodies.

Muscular Dynamics

The original HD concept is based on the effect of the muscles and bony structures among the visible superficial anatomy of the human body to create an athletic but natural effect.³ The evolution of this concept is the “dynamic definition.” Hoyos dynamic definition (HD²) involves all the previously mentioned concepts that may affect the surgical definition options. The HD² concept also includes a muscular definition that follows the pattern of particular muscle movements by creating “dynamic zones” at specific anatomical landmarks, predicting the form of the muscles in motion. These are important to obtain more natural results (muscular dynamics).^{19,20}

METHODS

We retrospectively revised our medical records and found 1772 consecutive patients who underwent HD body contour surgery and were classified according to the surgeons’ concept of 1 of the 3 biotypes (endomorph, mesomorph, and ectomorph) from June 2013 to September 2019, including 479 men (27%) and 1293 women (73%) in general good health. Additional demographic information can be found in Table 1. The guiding principles of the Declaration of Helsinki were strictly applied and adhered to in this study. Informed consent was procured from all patients.

Basic, Moderate, and Extreme Algorithm

After classifying patients by each anatomic biotype, the degree of muscle definition and type of procedure was chosen after explaining the magnitude of definition that could be achieved in each case: basic (B), moderate (M), and extreme (X) as follows (Supplemental Figures 1 and 2).

- Endomorph: Due to the fact that a considerable amount of adipose tissue is present, B and M definition can be successfully offered, but X definition is only suitable for those who have a great underlying muscular composition (endomorph-mesomorph). If the patient lacks this specific feature, undesirable outcomes may occur.
- Ectomorph: Because patients are already slim, the 3 categories for definition can be offered (B, M, X). However, fat grafting is almost always needed because volume projection is a main feature of M and X definition; moreover, muscle mass and bony structures are not prominent in these patients.

Table 1. Patient Demographics

	Men (n = 479)	Women (n = 1293)	Total (n = 1772)
BMI, kg/m ²			
<22	13	36	49
22-25	301	812	1113
25-30	143	388	531
>30	22	57	79
Biotypes			
Ectomorph	68	127	195
Mesomorph	355	1005	1360
Endomorph	56	161	217
Ethnicities			
Latin American	327	802	1129
European	34	122	156
North American	87	293	380
African American	13	31	44
Asian	18	45	63
History			
Smoking	82	193	275
Alcohol	214	417	631
Exercise	163	531	694
Special features			
Skin laxity	82	337	419
Infra-umbilical striae	11	176	187
No external oblique palpation	15	281	296

- Mesomorph: These individuals have pronounced development of muscle and bone structure, which makes them poor candidates for B definition, because this would cause deterioration rather than an improvement in their anatomical landmarks. On the other hand, M and X definition is readily achievable and relatively easy to perform.

Race, gender, ethnicity, and environment are determinants in what procedures people request from a plastic surgeon. The role of the algorithm is to ease the decision-making process for the surgeon according to the patient’s anatomic features. After the patient was classified and the

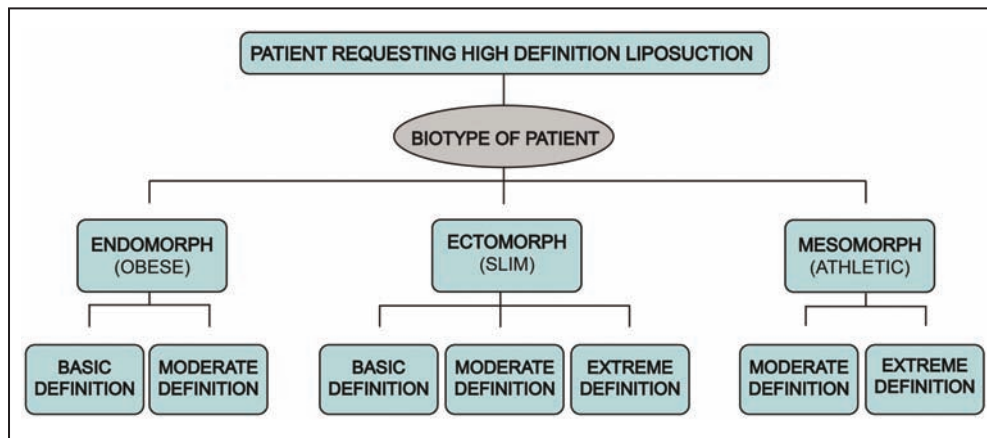


Figure 2. General algorithm for adequate patient selection and management in variable-degree, high-definition liposuction.

surgical plan developed (Figure 2), we started our general protocol for HD² liposculpture procedures as follows.

Preoperative Markings

We followed a color code to mark the different zones and spaces to be treated with superficial and/or deep liposuction as well as the smooth transition zones. The markings must be always made in a standing position, allowing gravity and muscles to start in a resting anatomical position. Then, depending of which zone was subject for treatment, we asked the patient to make a voluntary contraction of the corresponding muscles to mark specific “dynamic zones” and also negative spaces (eg, triceps and biceps contraction; rectus abdominis and serratus contraction; pectoral major contraction; calves, hamstrings, and quadriceps contraction; etc.).

General Operative Technique

After sedation, analgesia, and general anesthesia, we began surgery by placing ports over hidden incisions and wetting solution (1000 mL of saline and 1 mL of epinephrine 1:1000) was infiltrated. We followed a ratio of infiltration to total lipoaspirate volume of approximately 2:1 to 1.5:1. As soon as infiltration of wetting solution was complete and once sufficient time elapsed for vasoconstriction (approximately 20-30 min), the superficial subcutaneous fat was treated first in VASER mode. We usually started with a 3.7-mm 2-grooved probe utilizing an amplitude of 80%. If excessive resistance was experienced, we increased the energy to 90% or selected an alternative probe. Fat emulsification continued until no resistance was encountered. Once we completed the superficial layer, continuous mode was used to emulsify the deeper fat. Approximately 60 to

90 seconds of ultrasound delivery per 100 mL of tumescent fluid infiltrated was usually employed, but the endpoint is primarily determined by the decreased resistance of tissues rather than timing.

After emulsification was completed, we started liposuction. We utilized 4.0 mm and 3.0 mm connected to PowerX (Solta Medical–Bausch Health Companies, Inc.) or Microaire (MicroAire Surgical Instruments, LLC) systems to increase aspiration efficiency. Thorough liposuction was performed in the deep layer, and after debulking, the 3.0-mm cannula was employed to treat the superficial plane. Controlled deformities were created by sculpting the underlying muscle anatomy following the preoperative markings (lights, shadows, negative spaces, and dynamic zones). In HD body sculpting, additional superficial lipoplasty is performed with small cannulas (3.0 mm) to define muscle groups and create shadows by removing almost all of the fat in the subdermal layer.

B: Basic-Definition Liposculpture

Basic-definition liposculpture is determined by definition of big muscles and reduction of the subdermal adipose tissue in some basic areas. It resembles the fat reduction after some months of regular diet and exercise. Most women request this type of definition. The procedure is focused on general fat volumetric reduction and superficial deposits over the arms and upper abdomen (Figure 3).

- Women: Upper rectus abdominis, upper semilunar line. Posterior: sacral dimples. Arms: volumetric reduction, shadow below posterior deltoid. Legs: internal curves, volumetric reduction. Fat grafting: gluteal area, breasts, calves (if needed) (Figure 4).
- Men: vertical rectus abdominis, semilunar line, obliques. Posterior: erector spinae. Arms: anterior posterior deltoid. Fat grafting: gluteus maximus and medius,

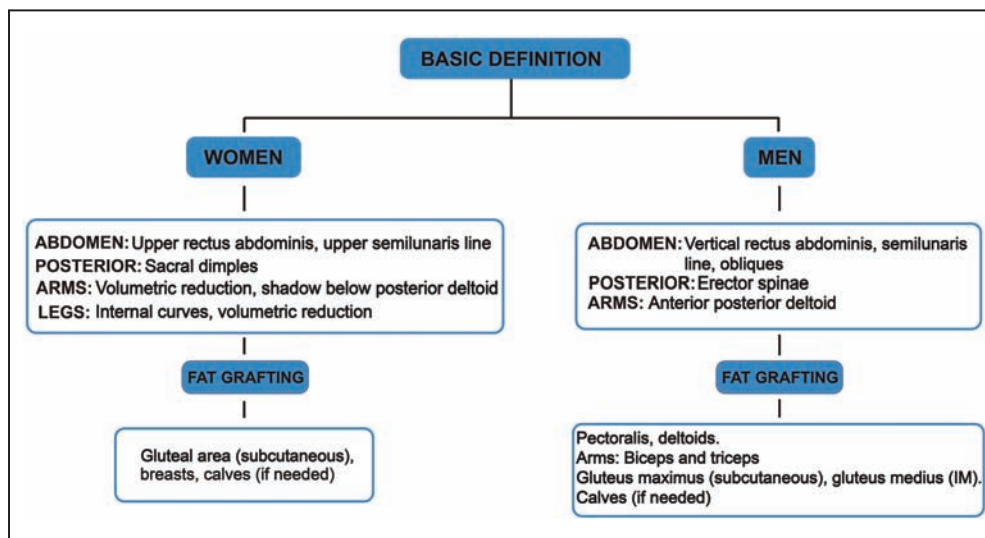


Figure 3. Basic-degree definition algorithm: specific muscle groups for sculpting and fat transfer sites.

pectorals, deltoids, calves (if needed). Arms: biceps and triceps (Figure 5).

M: Moderate-Definition Liposculpture

Moderate-definition liposculpture is the most requested degree of definition by men because it enhances the muscles that are commonly difficult to define from exercise alone. Women also request this procedure when seeking specific features such as oblique muscle definition. It implies full definition of the midline and semilunaris lines. Specific muscle groups such as obliques, erector spinae, biceps, triceps, and lower latissimus dorsi were defined (Figure 6).

- Women: vertical rectus abdominis, semilunaris line, external obliques. Posterior: erector spinae. Arms: volumetric reduction, posterior deltoid. Legs: internal curves, iliotibial line, volumetric reduction. Fat grafting: gluteal area, breasts, calves (if needed) (Figure 4).
- Men: Whole rectus abdominis: transverse insertions, external obliques, pectoralis. Posterior: erector spinae, upper and lower trapezius. Arms: anterior posterior deltoid, biceps, triceps. Fat grafting: gluteus maximus and medius, pectorals, deltoids, calves (if needed). Arms: biceps and triceps (Figure 5).

X: Extreme-Definition Liposculpture

Extreme-definition liposculpture is focused on specific muscles not defined previously. Lean muscle mass was exposed, and additional muscular details were done over

the superficial layer to expose even more of the underlying anatomy. Sharp edges were preferred with a strong contrast between light and shadow. After the aforementioned muscles were defined, the secondary muscle groups were treated: serratus, trapezius, rhomboids, biceps femoralis, and quadriceps (Figure 7).

- Women: Whole rectus abdominis: transverse insertions, semilunaris line, external obliques. Posterior: erector spinae, upper and lower trapezius. Arms: volumetric reduction, anterior posterior deltoid. Legs: internal curves, iliotibial line, vastus lateralis line, sartorius line, volumetric reduction. Fat grafting: gluteal area, breasts, calves (if needed) (Figure 4).
- Men: whole rectus abdominis, transverse insertions, external obliques, pectoralis, serratus. Posterior: erector spinae, upper and lower trapezius. Arms: anterior posterior deltoid, biceps, triceps. Fat grafting: gluteus maximus and medius, pectorals, calves (if needed), deltoids, trapezius. Arms: biceps and triceps (Figure 5).

Fat Grafting Technique

Fat grafting was performed utilizing a 3-mm cannula in small amounts as the cannula moved in a retrograde motion. This must be performed multiple times, in multiple tunnels, and at different tissue levels. Large 60- and 20-mL syringes and 3- to 4-mm Toomey cannulas were utilized for this purpose. The subcutaneous and intramuscular

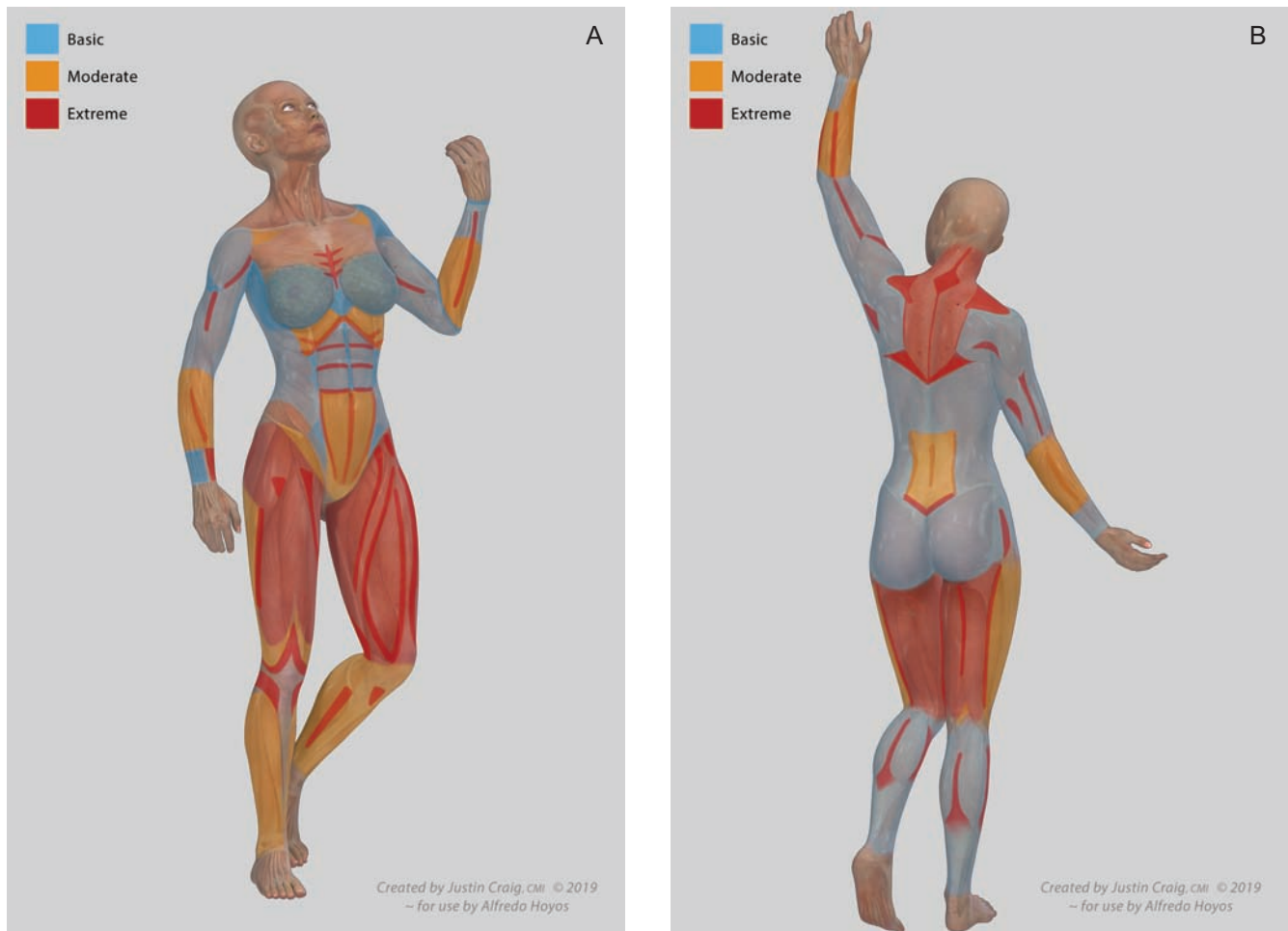


Figure 4. Female variable degrees of definition. (A) Anterior and (B) posterior views illustrating the areas to treat for each type of definition. Basic (blue), moderate (orange), and extreme (red).

planes received the fat in multiple fine strokes to ensure small parcels remained rather than large boluses. The gluteal area was only grafted in the subcutaneous layer, following the expansion vibration lipofilling technique within a closed system. Bilateral comparison was always performed to ensure symmetry. Finally, some incisions were left open for lymphatic drainage in slope points, and Blake drains (ETHICON, Inc., Johnson & Johnson) were placed in the subcutaneous space. The remaining incisions were sutured with inverted deep dermal sutures. Garments and foam were placed immediately, and the patient was transferred to recovery from anesthesia.

We routinely utilize mild compression anti-deep vein thrombosis stockings in the early postoperative period and up to 7 days after surgery. Antibiotic prophylaxis consists of 1 g cefazolin administered 30 minutes before

incisions; 8 mg ondansetron, 75 mg diclofenac, and 50 mg tramadol were also administered to all patients during the procedure.

RESULTS

We successfully performed HD² liposculpture in 1772 consecutive patients according to our algorithm for variable degrees of definition; the patients had been assigned to ectomorph, mesomorph, and endomorph groups according to their anatomic attributes (Table 1). We analyzed a total of 479 men and 1293 women. All procedures were performed by the main author in the same facility; however, a second plastic surgeon advised with his opinions and comments at a patient's first appointment and during surgery and follow-up. Patient ages

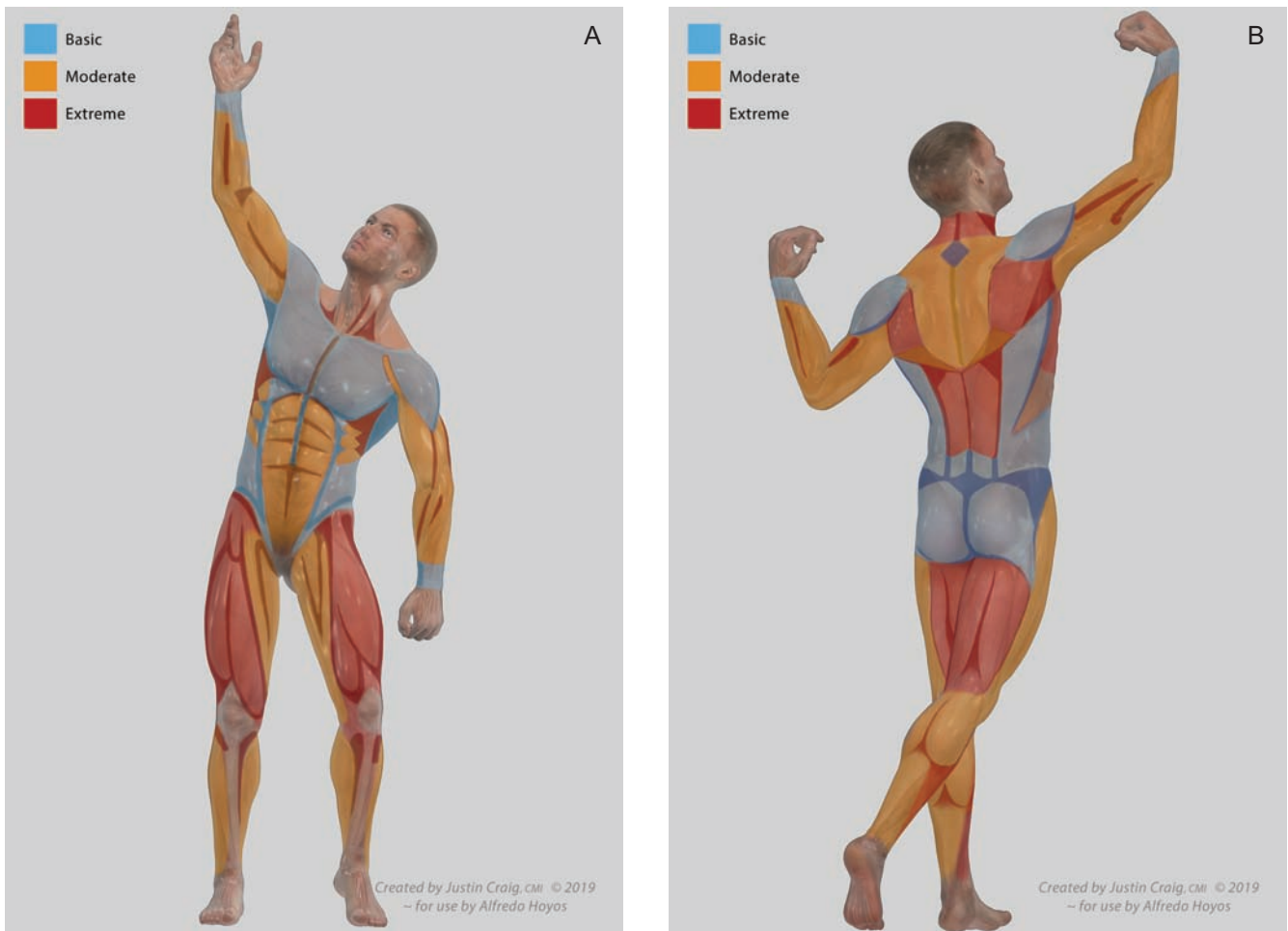


Figure 5. Male variable degrees of definition. (A) Anterior and (B) posterior views illustrating the areas to treat for each type of definition. Basic (blue), moderate (orange), and extreme (red).

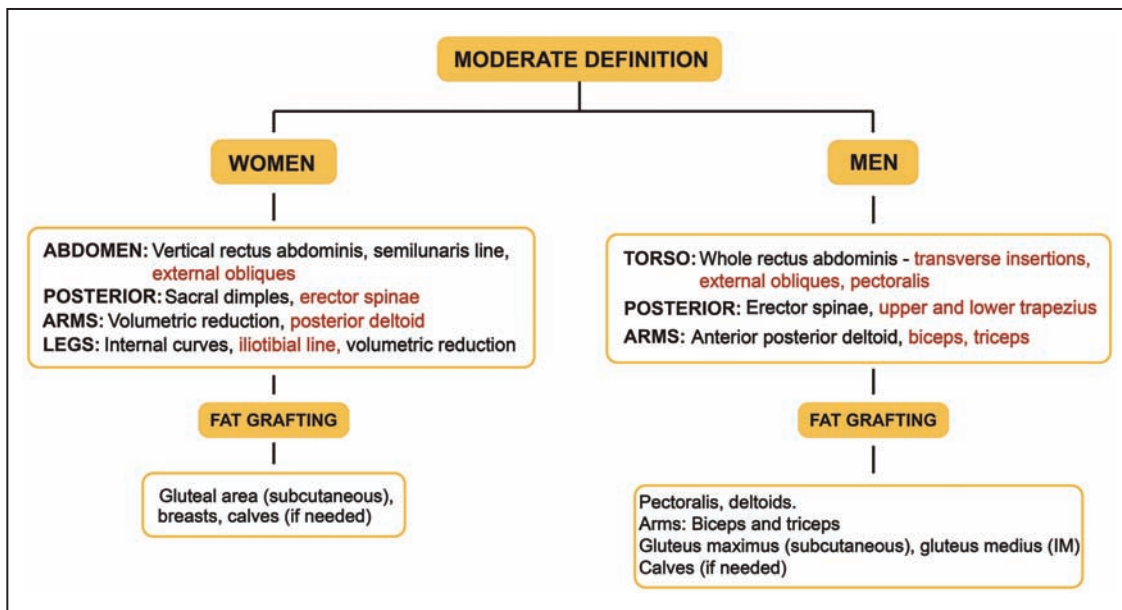


Figure 6. Moderate-degree definition algorithm: specific muscle groups for sculpting and fat transfer sites.

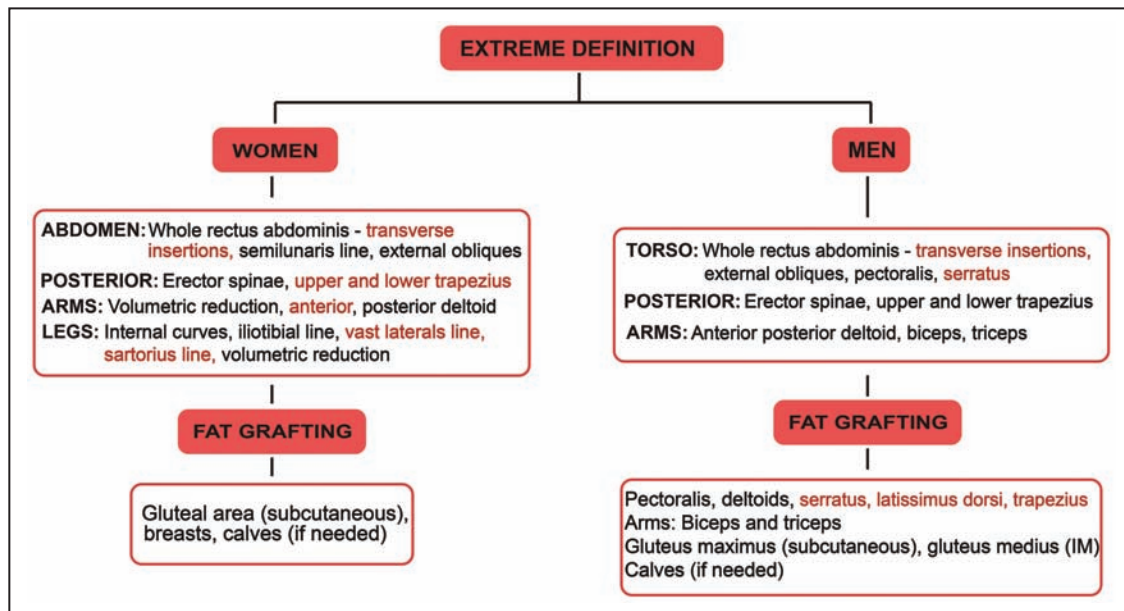


Figure 7. Extreme-degree definition algorithm: specific muscle groups for sculpting and fat transfer sites.

Table 2. Fat Grafting

Location	Men			Women		
	n = 412	Range (mL)	Average (mL)	n = 854	Range (mL)	Average (mL)
Pectorals	401	100-300	150	—	—	—
Breast	—	—	—	47	40-300	100
Deltoids	243	50-200	80	—	—	—
Biceps	11	50-70	50	—	—	—
Abdomen	34	70-240	100	24	12-80	40
Buttocks	345	100-750	300	776	200-1000	450
Calves	33	100-280	120	16	40-200	100

ranged from 23 to 69 years in men (mean, 42.5 years) and 18 to 57 in women (mean, 37.4 years). Infiltration volumes ranged from 1200 to 14400 mL (mean, 7010 mL). Liposuction volumes ranged from 500 to 9700 mL (mean, 4240 mL). Fat grafting volumes and locations are summarized in Table 2. Patients were followed-up for a mean of 7 months (range, 2 months to 2 years), and complete follow-up photographs were taken in most cases at 24 to 48 hours, 1 month, and 6 and 12 months postoperative. Additional procedures were required to “retouch” some adipose areas after HD lipoplasty in 43

patients (2.4%). Minor complications were present in 382 cases (21%), including port wound dehiscence (1.2%), seroma (4.1%), prolonged bruising/hematoma (1.5%), and hyperchromia (10.4%). They were solved by physical means, external therapy, and expectant management. Superficial burns were reported in 12 patients (0.7%), consisting of small port burns acquired during fat emulsification. These were solved by topical treatment with collagenase and petroleum jelly. Localized infection, associated with early wound dehiscence, was reported in 6 patients (0.4%). First-generation cephalosporins were

Table 3. Complications Summary

Description	Men	Women	Total
Hyperchromia	52	133	185
Seroma	18	54	72
Retouch HD	7	36	43
Anemia	7	28	35
Hematoma/bruising	5	21	26
Dehiscence	6	16	22
Erratic skin adhesion	2	15	17
Burn	4	8	12
Necrosis	1	6	7
Infection	2	4	6
Total	97	285	382

prescribed for 5 days with successful resolution. Flap necrosis, reported in 7 patients (0.4%), required enzymatic debridement, dressings, and healing by secondary intention. Erratic skin adhesion was present in 17 patients (1%) and was associated with incorrect utilization of the foam vest and garments. Massage and external ultrasound therapy helped solve this issue in addition to encouraging patients to correctly utilize the postoperative clothing. Although blood transfusions were unnecessary, approximately 35 patients (2%) developed acute anemia in postoperative labs. No venous thromboembolism, systemic infections, or deaths were reported (Table 3).

Of the 1772 patients included, 1489 (84%) were followed-up to 12 months, and all of them provided feedback on satisfaction by answering our nonstandardized survey. The results were as follows: above expectations, 1132 (76%); good results, 238 (16%); average, 91 (6%); below expectations, 28 (2%). None of the patients reported poor results. The satisfaction index was 92% considering “above expectations” and “good” answers as the optimum results.

For foreign patients, our trained staff (registered nurses) conducted follow-up telephone assessments and virtual meetings with the main surgeon in some cases. Late postoperative photographs were sent through email to complete medical records. Male and female cases with basic (Figure 8; Supplemental Figure 3), moderate (Figure 9; Supplemental Figure 4), and extreme (Supplemental Figures 5, 6) definition are presented.

DISCUSSION

HD liposuction has significantly progress in recent years to become a reproducible, safe, and efficient technique for body contouring. However, several factors play a significant role in patient selection and decision-making for treatment options, including patient desires, body biotype, skin quality, age, and muscle mass. Employing an easy algorithm, the body contouring surgeon should be able to achieve natural, athletic, and customized long-term results.

One of the most common requests from men seeking liposculpture is a well-defined abdomen (6-pack), but they ignore the fact that a defined abdomen must match an enhanced chest and arms. On the other hand, women look for a flat and somewhat defined abdomen, but they often do not realize that other anatomical regions such as the arms, legs, and buttocks are also important. The surgeon should guide the patient about the possible degrees of definition according to the aforementioned factors, because not all patients are candidates for all types of definition. Two of the major components in variable definition are the muscular dynamics (body biotype and metabolic state) and the patient dynamics (age, race, skin laxity, patient socio-cultural factors, and expectations). When performing HD liposculpture, the surgeon must consider the natural sequence of the body sculpting process regarding muscular groups: arms and pectorals are more prone to definition before the abdominal muscles, and in women the tone of the legs must match the arms and the posterior torso.

One of the most common problems after HD liposuction is a nondesired or unnatural result. This happens in most cases because the surgeon usually does not acknowledge the patient biotype, following the inaccurate concept of “one type of definition fits all.” Another common misunderstanding among patients and surgeons is that HD is not only about the rectus abdominis but also other muscle groups that are key for natural and exceptional outcomes; this requires a 360-degree approach.

The HD² concept, described in 2012 by Hoyos, denotes a multilayer liposuction and fat grafting based on muscular motion and biomechanics, creating concave and convex zones in certain body regions such as arms, pectorals, and buttocks.^{19,20} This experience forms the basis for the present variable degrees of definition algorithm: basic, moderate, and extreme. If the patient has an endomorphic (overweight) biotype or does not want much definition, then a B or M definition liposculpture will be performed where the surgeon must focus the procedure



Figure 8. Female basic definition in this 32-year-old woman. (A, C, E) Note the preoperative endomorph biotype with extra fat deposits over the flanks and hypogastrium. (B, D, F) The postoperative photographs (taken 10 months after surgery) show a new defined rectus abdominis muscle and a new arm contour with reduced volume.

towards volume extraction and subsequently expose the underlying anatomy of specific muscle groups in a mild to moderate fashion. The purpose of our manuscript is to describe a new algorithm that helps in the decision-making

for HD liposculpture in different anatomic groups for endomorph, ectomorph, and mesomorph patients. The satisfaction index among patients supports this useful method we have utilized in the recent years to help the surgeon



Figure 8. Continued.

perform a procedure focused and in agreement with the patient expectations. Regarding the ectomorphic (thin) and mesomorphic (athletic) biotypes, a moderate- to extreme-definition liposculpture can be performed because the main objective will be to reproduce a muscular and athletic appearance; then the liposculpture will be oriented in both volume extraction and defining specific muscle groups that harmonize in proportion with the rest of the patient's morphology. Consequently, when patients perceive their surgical results as proportional to their natural physique and actually meeting their expectations, they will definitely be willing to continue with a healthy and active lifestyle to maintain and improve their long-term appearance. This new algorithm has facilitated the process to plan a HD procedure focused on the patient's anatomic characteristics and expectations about the procedure itself.

On the other hand, the algorithm can be subject to duality since some patients do overlap between groups of mesomorphs and endomorphs. In fact, some endomorphs may request an extreme definition, which, according to this algorithm should not be offered in order to avoid postoperative unnatural results. Additional studies are needed to examine these issues and possibly subdivide the initial algorithm in the future.

Some challenges in body contouring surgery that effect our ability to achieve optimal results in all patients after HD² liposculpture still exist, including skin laxity and the

presence of intra-abdominal fat. Strategies to address these issues need to be developed.

CONCLUSIONS

When performing HD² liposuction, specific factors such as patients' age, gender, ethnicity, skin quality, and expectations play a determining role when analyzing natural, athletic results. Favorable outcomes have been observed after classifying patients and applying the variable degree of definition algorithm to HD² liposculpture, as more aesthetic, natural, and stable long-term results have been achieved. A high satisfaction rate was reported with this new process of treatment planning; however, further studies need to be performed to compare rates of complications and potential individual concerns among different populations. The combination of HD² with fat transfer in variable-definition liposculpture is an excellent option for all biotypes in addition to being a relatively fast procedure with minimal time of recovery, few scars, and generally a low rate of complications.

Supplemental Material

This article contains supplemental material located online at www.aestheticsurgeryjournal.com.



Figure 9. Male moderate definition. (A, C, E) This 37-year-old man with a mesomorph biotype and poor definition of the torso. (B, D, F) Note the new athletic and muscular definition of the upper torso (taken 10 months after surgery), with improved chest projection, 6-pack, and oblique definition. Also, the deltoid and the arms have a more muscular contour.

Disclosures

Dr Hoyos was an unpaid consultant and speaker for the product development team of the Sound Surgical Technologies (SST) system and cannulas (now VASER, Solta Medical—Bausch Health Companies, Inc., Pleasanton, CA) until May 2013. He receives royalties for liposuction kits named after him. Drs Perez and Domínguez-Millán declared no potential conflicts of

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Figure 9. Continued.

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