

The Role of Noninvasive and Minimally Invasive Techniques in Open Surgical Interventions for the Purpose of Body Contouring

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KEYWORDS

• Radiofrequency • BodyTite • Ultrasound • VASER • Abdominoplasty • Thigh lift • Brachioplasty

KEY POINTS

- How and when to combine minimal invasive and noninvasive procedures with excisional techniques in body contouring surgery.
- What types of minimal invasive procedures to combine with excisional techniques in one stage surgery for altering the results and avoid possible side effects.
- What types of minimal invasive procedures to combine when choosing to stay away from excisional techniques.

INTRODUCTION

Using noninvasive and minimally invasive techniques in open body contouring surgery optimizes aesthetic results. Because of skin tightening, bipolar radiofrequency procedures (BodyTite, FaceTite, and AccuTite) can be alternatives to excisional techniques. Those technologies are also applicable as secondary procedures after excisional surgery and can treat neighboring areas.

Radiofrequency microneedling procedures like Morpheus 8 and Morpheus 8 Body tighten and improve skin quality. They are used in combination with ultrasound lipoplasty (Vaserlipo) and/or excisional procedures, providing optimal long-lasting results.

Ultrasonic-assisted lipoplasty (Vaserlipo) allows contour definition with vessel sparing that could be applied to excisional procedure. Vaserlipo combined with vibration-assisted liposuction defines contours during low tension closure of excisional body contouring surgery.

CLINICAL POINTS

Lower torso

- Bipolar radiofrequency in open surgery limits the size of the excision and scar length.
- Bipolar radiofrequency can be an alternative to excisional procedures. BodyTite and Morpheus 8 Body are alternatives of reverse abdominoplasty (**Fig. 1**). Mini-abdominoplasty with BodyTite and Morpheus 8 Body of the epigastrium is an alternative to mini-abdominoplasty with reverse abdominoplasty.
- Vaserlipo in combination with abdominoplasty provides optimal aesthetics.

Thighs

- BodyTite tightens skin and destroys fat. The procedure is an alternative to medial thigh lift. The aim is 50% to 70% improvement in aesthetics without excisional surgery.
- Vaserlipo provides optimal definition and minimizes contour irregularities. With good inner thigh skin elasticity, it is used as an isolated technique.

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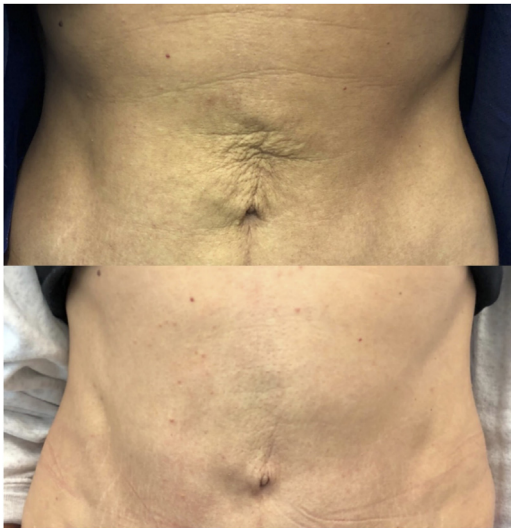


Fig. 1. BodyTite in combination with Morpheus 8 Body—before and 6 months after. BodyTite 1-sensor cannula, 20J were done on the skin above the umbilicus with parameters as follows – 40 energy; 40 °C external cut-off for tightening the skin. Morpheus 8 Body—burst mode – 7-5-3 mm/30 energy/3 stacks per place/25% to 30% of overlapping.

- Vibration-assisted lipoaspiration in combination with excisional technique and radiofrequency microneedling (Morpheus 8 Body) provides optimal contouring and skin tone with poor elasticity of the outer thigh and knee.

Upper limb

- BodyTite tightens the skin and destroys fat as an alternative to brachioplasty. The aim is to achieve 50% to 70% aesthetic improvement without excisional surgery.
- FaceTite and AccuTite in axilla and elbows with brachioplasty improve aesthetics.
- Morpheus 8 and Morpheus 8 Body with brachioplasty further tighten skin.
- Vaserlipo provides optimal definition in patients with preserved skin elasticity.
- Vibration-assisted lipoaspiration with excisional technique and bipolar radiofrequency (Morpheus8 Body, FaceTite, and AccuTite) optimizes contouring and elasticity
- Vaserlipo combines with Morpheus 8 Body in patients with poor skin elasticity, who refuse brachioplasty scar.

MINIMALLY INVASIVE AND NONINVASIVE TECHNIQUES WITH ABDOMINOPLASTY *Intraoperatively*

Radiofrequency procedures

Minimally invasive radiofrequency treatment cranial to skin excision is not recommended, because

of coagulation of vessels risking wound necrosis. It is safe to apply radiofrequency in adjacent areas like the flanks, with the ultimate goal of achieving 360° lower torso definition. This type of combination, together with vibration-assisted liposuction is 3-dimensional abdominoplasty. BodyTite causes fat destruction and collagen contraction, providing lasting results with significant skin shrinkage.¹

At the end of the operation, radiofrequency microneedling (Morpheus8 Body) could be applied to improve skin elasticity. Parameters are 7-5-3 mm Burst Mode depth with 30 kJ, 3 stacks per place, which can be repeated on the 45th and 90th postoperative days.

Ultrasound procedures

Ultrasound lipoplasty is possible in the area cranial to the excision and the flanks. As VASERlipo spares subdermal vasculature, it does not significantly compromise healing.² Vaserlipo and the subsequent vibration-assisted liposuction may precede or follow skin excision. The excision precedes superficial ultrasound lipoplasty, allowing more precise definition. When VASERlipo is performed with vibration-assisted aspiration on the back, it should precede excision because of increased risk of excess compression of the epigastric flap. This combination is 4-dimensional abdominoplasty, with the desired effect of excision of excess subcutaneous skin with muscular definition.

Vibration-assisted liposuction

Vibration-assisted liposuction is used as part of 3-dimensional abdominoplasty, after BodyTite in the flanks. Vibration-assisted liposuction is performed on the same area plus or minus vibration-assisted liposuction cranial to the abdominal excision.

It is also used as part of 4-dimensional abdominoplasty, in which ultrasound treatment is performed, followed by aspiration and definition of the flanks, after which excess of skin and subcutaneous fat the abdomen is excised, followed by superficial VASERlipo of the flap and flanks.³

SECONDARY PROCEDURE

Radiofrequency Procedures

BodyTite, FaceTite, and AccuTite correct residual contour irregularities and skin laxity. Use the specified tip depending on the area of the surgical defect. For large deformity, use the BodyTite cannula, and for small deformity, use the FaceTite and AccuTite cannulas. The goal is 70°C internal probe for destruction of subcutaneous fat with sublethal damage to the connective tissue and 40°C external probe for additional safe tightening of

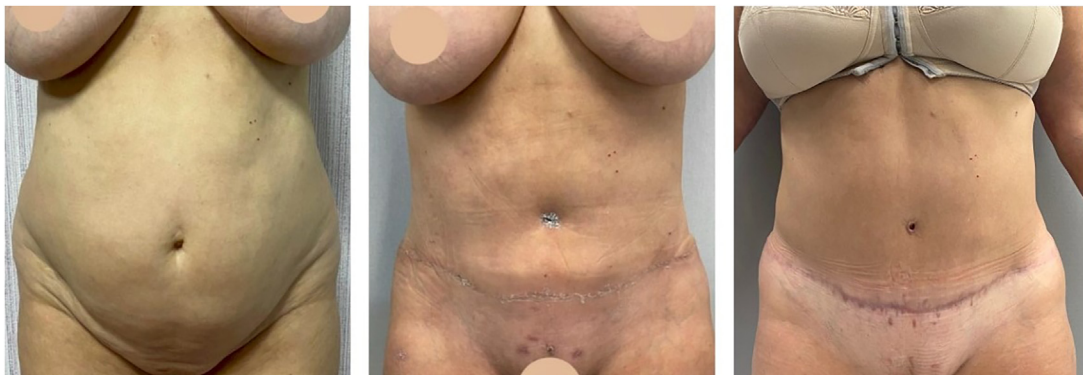


Fig. 2. Before, 3 months, and 1 year after 3-dimensional abdominoplasty—abdominoplasty with muscle plication + BodyTite radiofrequency lipolysis of the flanks and vibration-assisted liposuction of the flanks and abdomen (cranially from the navel, the liposuction is sparing with N4 long curved cannula of Mercedes type).

the skin. Usually deposit 8 to 10 kJ of energy per 10 cm².^{4–6} After 6 months, the procedure is for contour irregularities from 3-dimensional and 4-dimensional abdominoplasty, overjumping scar to subcutaneous excess, skin excess cranial to umbilicus and in dog-ears.

For Morpheus8 Body, the parameters are 7–5–3 mm Burst Mode depth with 30 kJ, at 3 stacks. The procedure is performed 45, and possibly 90 days postoperatively, mainly in the epigastrium.

EVOLVE X is a noninvasive technique with radiofrequency energy that provides skin tightening, fat melting, and stimulation of the underlying musculature.⁷ The procedure requires several sessions. Start after the 45th postoperative day, after open surgery.

Myostimulation—trueSculptfleX relies on electrical muscle stimulation for toning and tightening of the muscles in up to 8 areas. Electrostimulation of individual muscle groups is recommended after the fourth to sixth postoperative month, because

of the need for complete resorption of postsurgical edema. After several sessions, muscle definition is improved 10% to 15%.

3-DIMENSIONAL ABDOMINOPLASTY

3-dimensional abdominoplasty further improves aesthetics. BodyTite and vibration liposuction of the abdomen and flanks are added to classic, extended, or high lateral tension abdominoplasty^{8–20} (Figs. 2–5). Best candidates for 3-dimensional abdominoplasty are patients with subcutaneous excess in the abdomen and flanks with poor skin elasticity. These patient are older.

Position Prone

Infiltrate Klein solution. In the lower back and flanks, use bipolar radiofrequency lipolysis of subcutaneous fat at a depth of 3 to 6 cm, depending on pinch test. The purpose is to achieve 70°C heating (even reaching a destruction of 50% of

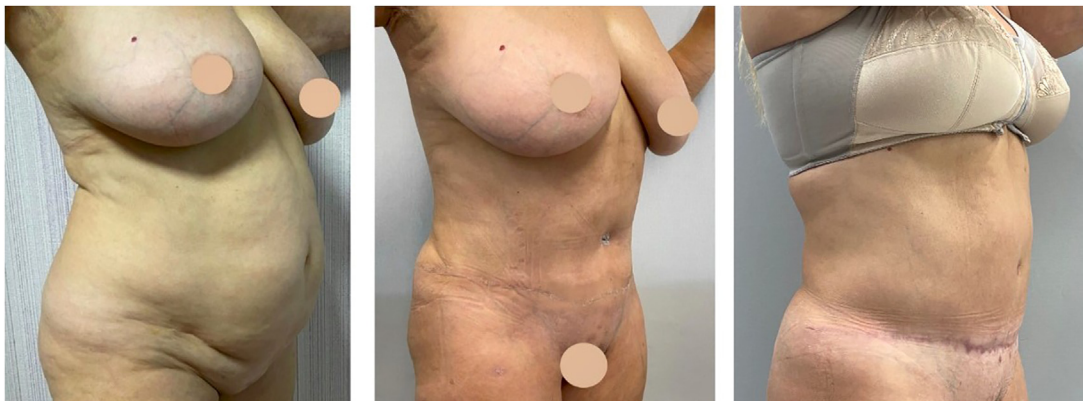


Fig. 3. Before, 3 months, and 1 year after 3-dimensional abdominoplasty—abdominoplasty with muscle plication + BodyTite radiofrequency lipolysis of the flanks and vibration-assisted liposuction of the flanks and abdomen (cranially from the navel, the liposuction is sparing with N4 long curved cannula of Mercedes type).

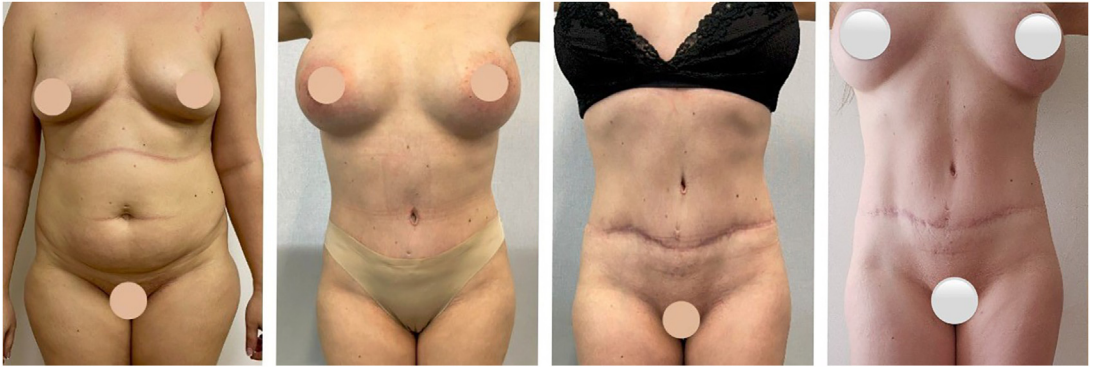


Fig. 4. Before, 3 months and 1 year after 3-dimensional abdominoplasty–abdominoplasty with muscle plication + BodyTite radiofrequency lipolysis of the flanks and vibration-assisted liposuction of the flanks and abdomen (cranially from the navel, the liposuction is sparing with N4 long curved cannula of Mercedes type). 1-stage augmentation mammoplasty was performed with BodyTite radiofrequency lipolysis and vibration-assisted liposuction of the hips with N3 and N4 long curved cannula of Mercedes type.

the fat cells will enable 50% less fat deposits in the area). Apply superficial bipolar radiofrequency at 1 to 2 cm for skin contraction. Optimal energy is 8 to 10 kJ per 10 cm. After the radiofrequency, proceed to vibration-assisted liposuction with 3 and 4 mm Mercedes type of cannulas.

Position Supine

Infiltrate Klein solution. Aspirate with vibration-assisted liposuction with N4 straight and curved cannula in the flanks and epigastrium. Skin incision is according to the preoperative markings. Centrally

elevate epigastric flap with preservation of lateral rectus perforating vessels and umbilicus. If necessary, plicate diastasis of rectus abdominis, obliquus abdominis, and lower abdomen transversely. Excise excessive lower abdominal skin and subcutaneous fat. Perform pull-through umbilicoplasty. Apply Baroudi plication sutures. Close surgical incision under appropriate tension with drains.

4-DIMENSIONAL ABDOMINOPLASTY

High-definition Vaserliposculpting in the abdomen with/without the flanks area is added (**Figs. 6–8**).



Fig. 5. Before and 1 year after 3-dimensional Abdominoplasty–abdominoplasty with muscle plication + BodyTite radiofrequency lipolysis of the flanks and vibration-assisted liposuction of the flanks and abdomen. One-stage augmentation mammoplasty was performed with BodyTite radiofrequency lipolysis and vibration-assisted liposuction of the hips with N3 and N4 long curved cannula of Mercedes type. Postoperative scars in the lower back and buttock area from gluteoplasty procedure done 6 months after the combination of procedures from above.

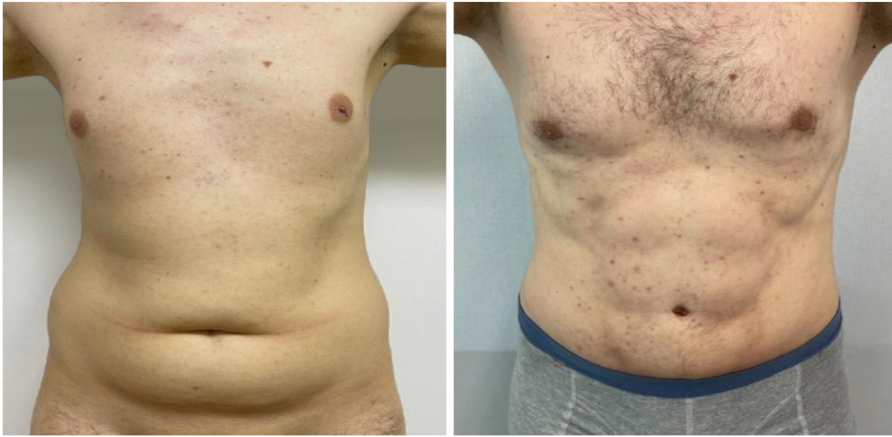


Fig. 6. Before and 6 months after ultrasound liposuction with abdominoplasty – 4-dimensional abdominoplasty.

Best candidates for 4-dimensional abdominoplasty have subcutaneous excess in the abdomen and flanks and preserved skin elasticity and desire definition. These most often include healthy young patients.

Start prone for VASERlipo of back and flanks.

- Vaser with 2 ring cannula at 80% pulse mode for superficial treatment, at 1 minute per 100 mL of infiltrated solution and until overcoming resistance; switched to 80% continuous mode in deep subcutaneous fat²¹⁻²⁵
- Vibration-assisted liposuction for definition and lipoaspiration, with straight, curved and angled 3 and 4 mm cannulas of Mercedes type

Turn supine.

- Incise along marking, depending on habitus, preference of underwear
- Elevate flap with preservation of umbilicus to the costal margin and 4 to 5 cm wide midline tunnel to the xyphoid
- If necessary, plicate diastasis of rectus abdominis, obliquus abdominis, low transverse fascia
- Excise excess skin and subcutaneous fat
- Suture pull through umbilicoplasty
- Infiltrate of Klein solution; VASERlipo analogous to the flanks, but defining muscle
- Place Baroudi sutures
- Close incision with redistribution of tension and drains



Fig. 7. 1 year after ultrasound liposuction with abdominoplasty–4D Abdominoplasty.



Fig. 8. (A, B) Before, 6 months after, and 1 year after ultrasound liposuction with abdominoplasty—4-dimensional abdominoplasty.

Thigh Lift Combined with Minimal and Noninvasive Procedures

Assess skin laxity. The presence of cutaneous-subcutaneous excess suggests postpregnancy, massive weight loss, and/or aging, which requires excisional techniques with or without liposuction.^{26–28} With an accompanying adiposity and preserved skin elasticity, the procedures can be non- and/or minimally invasive.

With adiposity and compromised skin elasticity, options are:

VASERlipo with radiofrequency intra- and post-operatively with anticipation of excisional procedure later because of insufficient skin retraction

VASERlipo with excisional technique; VASERlipo with excisional technique and then Morpheus 8 Body to improve skin quality

Minimally Invasive Techniques with Medial Thighplasty

VASERlipo should be used with 2 ring probe continuous mode at 60% for inner and outer thigh areas, the banana roll area, the knees (and distant areas), followed by vibration-assisted liposuction using Mercedes type cannulas N3 и N4 long, short and curved (**Fig. 9**).

Excision of the available skin excess should be performed with medial thighplasty.

Using Morpheus8 Body, stay at least 1.5 cm away from the incision side; 7-5-3 mm Burst Mode depth with 30 kJ, no overlapping.

No BodyTite should be used in the inner thigh because of risk of compromising the blood supply.

For young patients with loose skin with potential for definition combinations for treating inner thighs are:

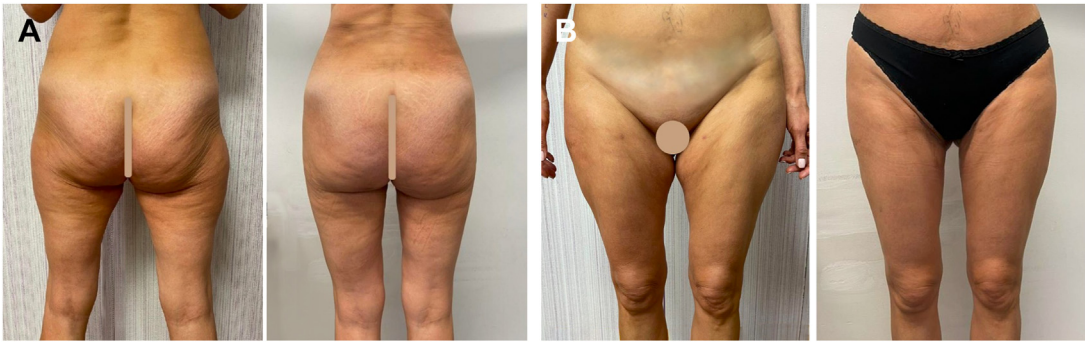


Fig. 9. (A, B) 1 year after vibration-assisted liposuction and 1-time excision (medial thigh lift) in the area of the inner thighs + vibration-assisted liposuction and BodyTite of the outer thighs.

VASERlipo (for definition) + Vibration-assisted liposuction (for lipoaspiration) + Excision (for removal of skin excess) + Morpheus 8 Body (for additional skin tightening caudal to the level of excision) – provides contouring and definition of the area + removal of the skin excess and tightening of the residual skin.

For thin and poor skin elasticity combinations for treating inner thighs are:

Vibration-assisted liposuction (for lipoaspiration) + Excision (for removal of skin excess) ± Morpheus 8 Body (for additional skin tightening caudal to the level of excision) – provides contouring and definition of the area + removal of the skin excess and tightening of the residual skin. This option is a more tissue-friendly option, and less risky.

Combined minimally invasive techniques include

- VASERlipo with 2 ring probe (continuous mode on 60% for deep) or inner and outer thigh areas, the banana roll area, the knees (and any distant area), followed by vibration-assisted liposuction using Mercedes type cannulas N3 и N4 long, short and curved
- To tighten skin–BodyTite 20W cannula with 1 sensor/20 power/40 external cut-off/8-10 kJ energy per 10 cm² of treated area then 7-5-3 mm burst mode depth Morpheus8 Body with 30 kJ, 3 stacks per place
- Additional tightening of the banana roll, with a FaceTite cannula can also be used for more suitable parameters
- Treat inner thigh with VASERlipo and Morpheus8 Body because of the thinness of the skin and adipose

Combination option for inner thighs includes

- 1 VASERlipo (for possible definition) + vibration-assisted liposuction (for lipoaspiration) + Morpheus8 Body – provides contouring

and definition of the area and tightening of the skin

- 2 vibration-assisted liposuction (for lipoaspiration) + BodyTite + Morpheus8 Body – provides contouring of the area, tightening of the skin, long-lasting results regarding the reduction in fat deposits (**Fig. 10**)
- 3–BodyTite + Morpheus8 Body – provides optimal tightening of the skin and is a possible surgical excision in moderately loose skin (**Fig. 11**)

Secondary surgery

Radiofrequency procedures include

- BodyTite, FaceTite, AccuTite, used after 9 months to correct contour irregularities and/or additionally tighten the skin
- Morpheus8 Body: 7-5-3 mm burst mode depth with 30 kJ, 3 stacks, 30% to 40% overlap; EVOLVE X: for noninvasive contouring EvolveX requires several sessions with 15% to 20% improvement; the interventions start after the tenth postoperative day; the procedure contributes not only to the faster recovery, but also tightens underlying muscles and skin, with additional fat resorption

Brachioplasty Combined with Minimally Invasive Procedures

Brachioplasty excises cutaneous-subcutaneous excess plus or minus the lateral surface of the chest with/without accompanying liposuction.²⁹⁻³² Radiofrequency and VASERlipo are added for additional definition and/or the contouring of neighboring areas.

The magnitude of excess is essential. Cutaneous-subcutaneous excess with predominant skin laxity suggests massive weight loss and/or aging, and requires excisional techniques

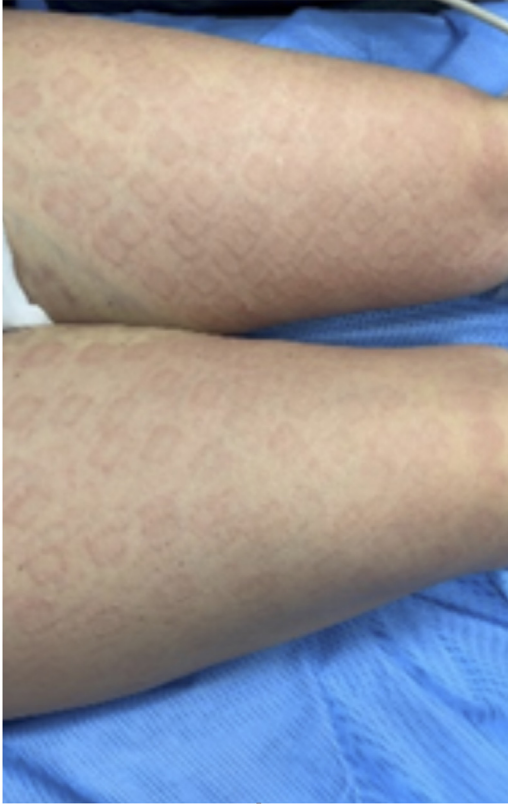


Fig. 10. Intraoperatively –vibration-assisted liposuction with BodyTite of the inner thighs in combination with Morpheus8 Body of the thighs and knees–40W cannula/70 internal cut-off/40 external cut-off: the purpose is to achieve 8-10 kJ energy per 10 cm² of treated area, as–depending on the preoperative pinch test–it is worked at 2 or 3 cm ± 7-5-3 mm burst mode, 3 stacks per place, with 30 kJ, 30% to 40% overlapping.

with or without lipoaspiration procedures and with or without radiofrequency. Dominant fat component and preserved skin elasticity respond to minimally invasive techniques, such as VASERlipo and radiofrequency. For adiposity with compromised skin elasticity, 3 options exist in terms of surgery:

1. VASERlipo with radiofrequency intra and post-operatively with later excision for insufficient skin retraction
2. Lipoaspiration combined with excision
3. Lipoaspiration combined with excision and radiofrequency–Morpheus 8 Body and Morpheus 8 to improve skin quality.

Operation

There are several radiofrequency procedures:

- BodyTite: ± in combination with Vibration-assisted liposuction of the upper arms and in neighboring areas; the parameters are 20W cannula/70 internal cut-off/40 external cut-off/for 8-10 kJ energy per 10 cm² and a depth of 2 or 3 cm; the techniques are respectively stamping (melting the fat cells by reaching 70°C internal cut-off) and lining (tightening the skin by reaching 40°C external cut-off (**Fig. 12**))
- To further tighten: 20W cannula with 1 sensor/40 power/40 external cut-off to achieve 8-10 kJ energy per 10 cm² of treated area, working at a depth of 1-2 cm (**Fig. 13**); Do not use BodyTite for the upper arms in cases of excisional and/or combined lipoaspiration-excisional techniques, because of risk of compromising blood supply
- FaceTite: use in neighboring area (axilla) for overall aesthetics of the upper limb; use in combination with all options of brachioplasty; FaceTite handpiece set at 70 internal cut-off/40 external cut-off for 6-8 kJ energy. The



Fig. 11. Before and 6 months after. Patient with previous liposuction performed in another clinic, loose skin and irregularities, who does not wish to have a postoperative scar. 6 months after BodyTite 20W cannula with 1 sensor/40 power/40 external cut-off/8-10 kJ energy per 10 cm² of treated area + Morpheus8 Body–7-5-3 mm mode depth with 30 kJ, 30% to 40% overlapping, 3 stacks per place. One can notice the tightening effect on the skin and the still-present unevenness from the previous procedure on the left. The patient is satisfied with the result, given her knowledge that it is impossible to correct the unevenness without excision.

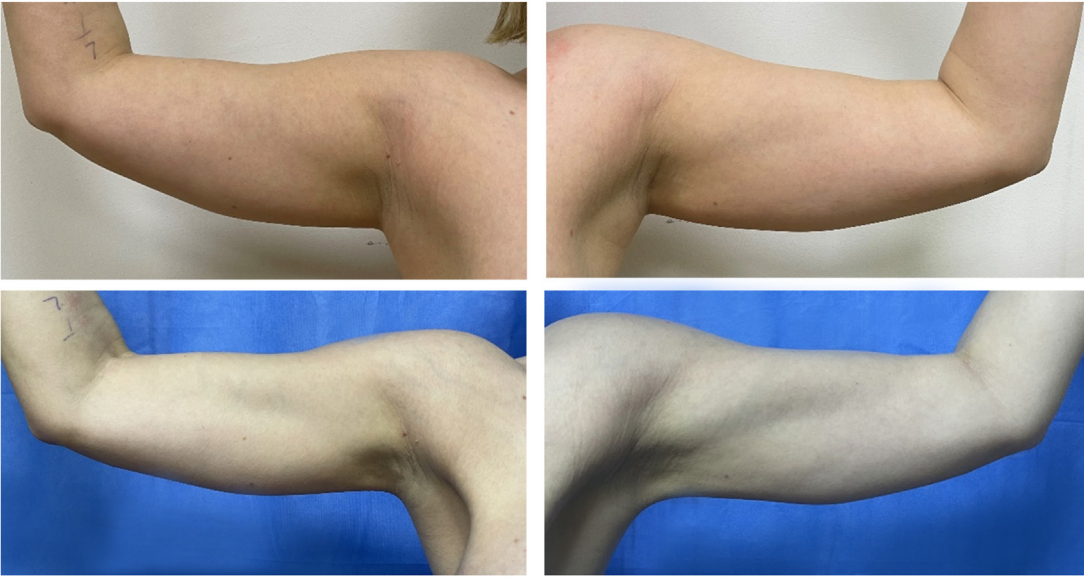


Fig. 12. Before and 6 months after. BodyTite with vibration-assisted liposuction—20W cannula/70 internal cut-off/40 external cut-off/10 kJ energy per side, it was worked at a depth of 2 cm. The work techniques are lining (tightening the skin by reaching 40°C external cut-off) and stamping (melting the fat cells by reaching 70°C internal cut-off). The procedure ended with lipoaspiration of liquefied subcutaneous fat using a 4 mm long curved cannula –120 mL lipoaspirate per side.

- procedure ends with lipoaspiration of liquefied adipose (**Fig. 14**)
- AccuTite: use in neighboring area with the aim of overall improvement of the upper limb; use in combination with all options of brachioplasty; the parameters are: AccuTite handpiece/70 internal cut-off/40 external cut-off to achieve 6-8 kJ energy (see **Fig. 14**)

- Morpheus8 Body: at the end of the operation, extensive bipolar radiofrequency microneedling improves skin elasticity of the surrounding skin (see **Fig. 14**); set 7-5-3 mm burst mode depth with 30 kJ, 3 punches per site, (30% to 40% overlapping when without excision of skin and no overlapping when close to the excision side—stay at least 1.5 cm away),



Fig. 13. Before and 6 months after. BodyTite- 20W cannula with one sensor/40 power/40 external cut-off/10 kJ energy per side, working at a depth of 2 cm. The work technique is lining (tightening the skin by reaching 40°C external cut-off).

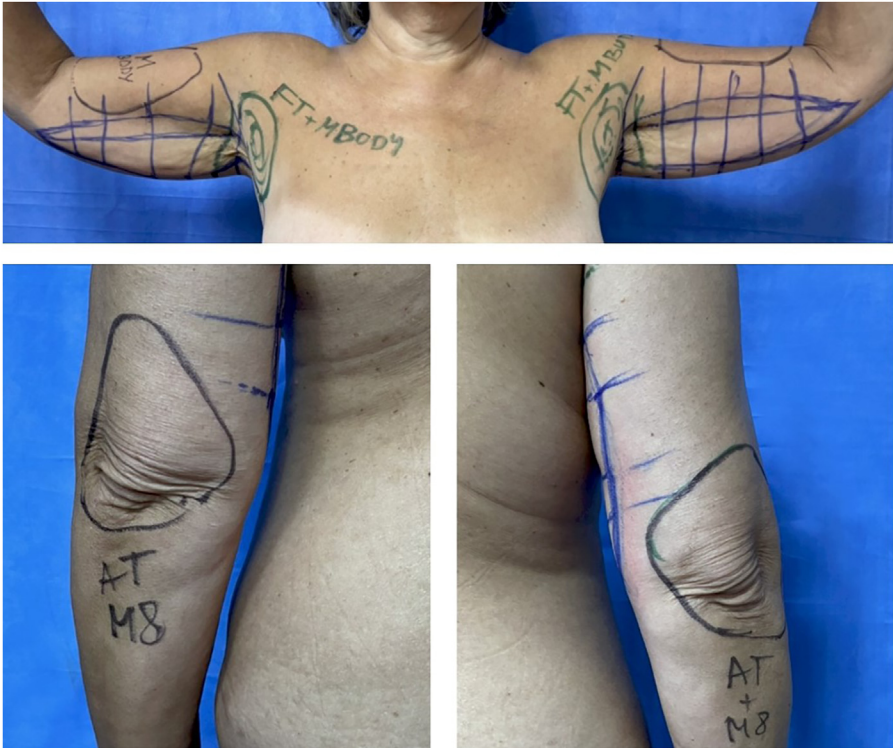


Fig. 14. Preoperative marking in a patient with brachioplasty in combination with vibration-assisted liposuction in the upper arm area; FaceTite with vibration-assisted liposuction and Morpheus8 Body in the armpit area (area marked with FT + MBODY); AccuTite in combination with Morpheus8 (area marked with AT + M8) for tightening and improving skin quality in the elbow area; Morpheus8 Body (area marked with MBODY in the armpit area) circularly in the upper arm area.

and the procedure can be repeated on 45th and 90th postoperative day

VASERLipo removes adiposity of the arms and axilla. Use the following cannulas: Mercedes type N3 and 4, long and short curved and bent types. Liposuction in combination with brachioplasty should be performed primarily in the excision site (see **Fig. 14**)

Bipolar radiofrequency may be combined with vibration-assisted liposuction. For normal weight patients, with fat deposits of the upper arm with minimal to no skin excess and potential for good skin contraction, several options exist:

1. Infiltrate Klein solution
2. BodyTite
3. Vibration-assisted liposuction as needed
4. Morpheus8 Body in burst mode
5. Treat neighboring areas FaceTite, AccuTite and Morpheus8 Body

Excisional surgery includes brachioplasty combined with vibration-assisted liposuction and bipolar radiofrequency of both upper arms and in neighboring areas (see **Fig. 14**; **Fig. 15**):

1. Infiltrate Klein solution
2. Vibration-assisted liposuction of excision site
3. Excision of the cutaneous-subcutaneous excess with segmental closure skin excision from distal to caudal; the excision is made along the preoperatively marked internal ellipse. Undermining the posterior flap and advancing it anteriorly with subsequent fixation to Lockwood fascia and layered closure
4. FaceTite with vibration assisted liposuction, followed by Morpheus8 Body of the axillas
5. AccuTite followed by Morpheus8 in the elbow area
6. Morpheus8 Body in burst mode of axilla, at least 2 cm from the closure for the upper arm

Secondary Surgery

Radiofrequency procedures include BodyTite, FaceTite, and AccuTite, which are used after 6 months to correct contour irregularities and/or additionally tighten the skin. Use the specified tip depending on the size of the surgical defect and reach 70°C for destruction of subcutaneous fat deposits and 40°C for additional tightening of the skin;

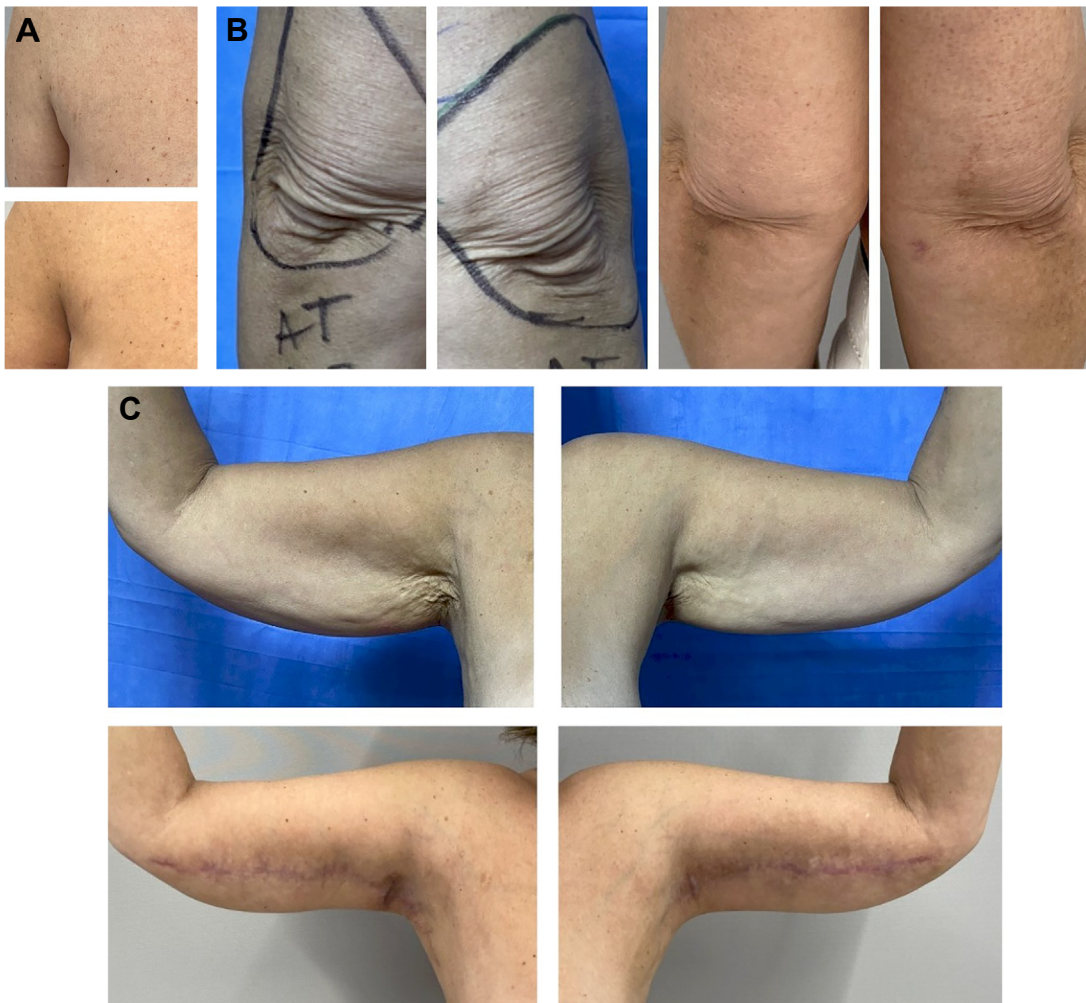


Fig. 15. (A) 1 year after brachioplasty in combination with vibration-assisted liposuction in the upper arm area; FaceTite with vibration-assisted liposuction and Morpheus8 Body in the armpit area; AccuTite in combination with Morpheus8 for tightening and improving skin quality in the elbow area; Morpheus8 Body (circularly in the upper arm area). The combination provides removal of excess skin and fat deposits in the armpit area + tightening and improvement of skin quality with removal of excess fat in the armpit area + tightening and improvement of skin quality in the elbow area + tightening and improvement of skin quality circularly in the armpit area. (B) 1 year after FaceTite with vibration-assisted liposuction and Morpheus8 Body in the armpit area (area marked with FT + MBODY). (C) 1 year after AccuTite in combination with Morpheus8 (area marked with AT + M8) for tightening and improving skin quality in the elbow area.

in each case, the goal is to achieve 8 to 10 kJ of energy per 10 cm² of treated area. Morpheus8 Body can be repeated after the 45th postoperative day.

SUMMARY & KEY POINTS

Using minimally invasive and noninvasive techniques alone or combined with excisional procedures leads to better aesthetic results in body contouring:

- Bipolar radiofrequency BodyTite, FaceTite, and AccuTite improve skin elasticity in areas neighboring the excision.
- Bipolar radiofrequency Morpheus8 Body improves skin elasticity not only in neighboring areas, but also about the excision.
- VASERlipo allows not only contouring, but definition of the muscle groups in treated areas and in neighboring areas when combined with excisional procedures.
- Noninvasive radiofrequency and electrostimulation procedures –EVOLVE X and trueSculptflex – applied during the postoperative period expedite the recovery and optimize aesthetics.

CLINICS CARE POINTS

Based on the author's clinical experience

- In obese type of patients, there could be an improvement through noninvasive interventions (radiofrequency, ultrasound, and muscle electrical stimulation devices) or minimally invasive techniques (radiofrequency and ultrasound types of liposuction, vibrational type of liposuction), and/or surgical excisional procedures with or without minimally invasive techniques in the treated area and/or other neighboring body areas. In those type of patients, if minimally invasive techniques are applied as isolated procedure, overdoing the area could often lead to irregularities and sagging skin. Having said that, asking the patient to reach optimal body weight could lead to better results, but if surgery is the choice made, then excisional procedures should be included in the surgical plan.
- In massive weight loss patients, surgical excisional procedures are always the first choice of treatment. All different types of technologies could be applied in neighboring body areas and/or during the postoperative period with the aim of optimizing the final result. Often patients visit the author's clinic after massive weight loss, asking for a minimally invasive or noninvasive solution for the sagging skin. This should be avoided from the surgeon, and the patient should receive adequate information on which is the best possible solution for his or her problem.
- Combination of radiofrequency, ultrasound procedures, vibrational type of liposuction, excisional surgical procedures should be done with precision and adequacy regarding what, when, and where to combine. Based on the author's practical experience, excisional procedures could be combined with ultrasound definition in the same stage of treatment because of the vessel-sparing nature of the ultrasound-based liposuction procedures. When performing excisional procedures, radiofrequency techniques could be used in neighboring areas, considering the ablative effect of radiofrequency-based liposuction devices, thus eliminating possible wound healing problems at the incision site. Combination in 1 body area from above is possible, but when the radiofrequency procedure is less invasive, meaning Morpheus 8, and Morpheus 8 Body. When combining ultrasound for definition with radiofrequency for tightening, the surgeon should be careful regarding possible overheating and thermal injury of the skin, and/or undesirable fibrosis.

DISCLOSURE

International trainer for INMODE radiofrequency-based procedures.

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