

## Medium Definition Liposuction

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### Abstract

Medium Definition Liposuction is an alternative liposuction approach, without the need of external energy device (such as LASER or VASER), that avoids the eventual stigmata of some cases of High Definition liposuction. This approach uncovers the abdominal muscle outlines by enhancing the superficial muscle anatomy and topography, creating an athletic, natural look.

The ideal patient should have the Body Fat Index (BFI) of 18% or less with abdominal muscle hypertrophy. 50 patients underwent Medium Definition Liposuction (2016-2018) and were evaluated by the authors according Strasse Aesthetic Outcome Scale 1.

**Keywords:** Liposuction, High Definition, Medium Definition, Liposculpture

### Introduction

Abdominal muscle details start to be noticeable at about 18% or less Body Fat Index (BFI) in women and 10 to 15% of BFI in men. Most patients require intense exercise and strict dieting regimen to achieve abdominal wall muscle definition. Even so, most people will never achieve their desired amount of abdominal muscle aesthetic.

The aesthetic ideal of the abdomen - the “six pack” - is related to a delicate balance between muscle hypertrophy, skin-subcutaneous tightness, and skin thickness. Genetic factors related to body fat distribution may also be a contributing factor [1-3].

The concept of Medium Definition Liposuction is to achieve a fit and natural look in select patients who already participate in a consistent exercise routine. It is not necessary to be a true athlete, but rather, the aesthetic goal is to create an athletic aesthetic in patients who lack abdominal definition even following a regular and intense diet and exercise routine.

Some patients after VASER High Definition Liposuction have complications of unnatural appearance of their abdominal wall such as unpredictable fibrosis, retractions or disconnection between the skin and deeper abdominal muscles [4].

### Patient Selection

The main limitation of the Medium Definition technique is a lack of patients due to strict inclusion criteria. Careful patient selection is critical to achieve ideal aesthetic results and avoid disappointment in patients.

The ideal patient should follow a consistent exercise and diet routine. The patient has to have an overall athletic look with a

lack of abdominal definition [2,5]. 50 patients underwent Medium Def Lipo during a 2 year period (2016-2018).. Some patients had abdominoplasty or mini-abdominoplasty. The authors selected 68 patients according the following criteria:

1. No saggy skin
2. Abdominal muscle hypertrophy, palpable abdominal muscle intersections, but not necessarily any visible outline of the muscles.
3. Approximately 18% overall Body Fat or less.

### Technique

#### Skin Markings

Skin markings are guided by palpation of the muscular tendinous intersections of the rectus abdominis muscle, linea alba and linea semi-lunaris. The patient's individual anatomy must be taken into account, because there are several different tendinous intersections between the abdominal muscles among patients. This is fundamental to prevent an artificial disconnection between the subcutaneous etched shape and the muscle layer in the deeper plane (Figure 1).

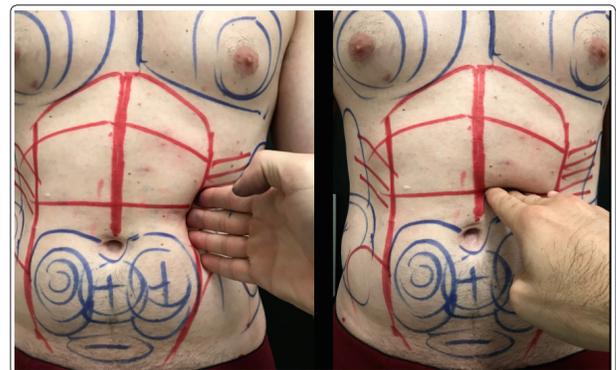


Figure 1: Skin markings based on muscle intersections

### Pre Liposuction Subcutaneous Solution Infiltration

The authors usually perform liposuction under general or regional anesthesia. In both situations, less tumescent fluid is used compared to the regular wet or tumescent liposuction approach. Medium Definition liposuction is preferentially performed when the abdominal muscle outlines are still visible. This amount of tumescent fluid is sufficient to prevent distortions, post operative swelling, and still prevent bleeding.

### Access sites for Liposuction Cannulas

Liposuction cannula access site systematic plan guided by the skin markings (Figure 2).

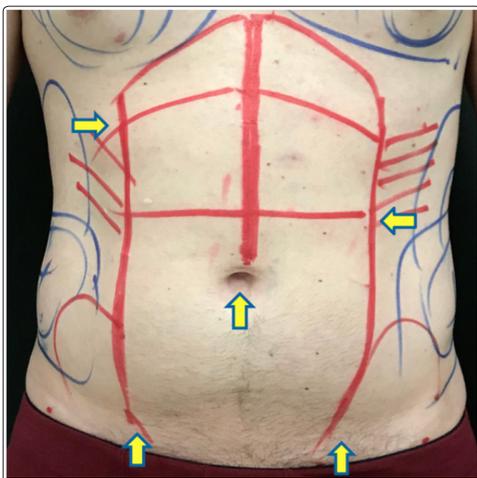


Figure 2: Liposuction access sites

### Cannulas

3 regular cannulas (3 mm, 3.5 mm, 4 mm caliber) are used to perform the liposuction according to the location of abdominal fat levels. The cannulas are perforated on one side of the tube (3 in line perforation) (Figure 3).

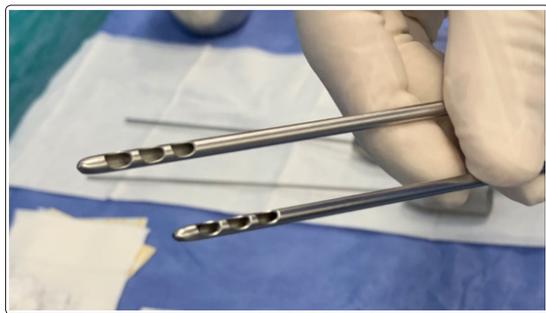


Figure 3: Liposuction cannulas (3 and 3.5mm)

### 3 D Sculpting

The abdominal musculature is topographically visualized according to the skin markings guided by the palpation of the linea alba, linea semilunaris, and the tendinous intersections of rectus abdominis muscle. These landmarks are enhanced with localized superficial liposuction to deepen the natural grooves or furrows, creating curves, light, and shadow effects on the skin [5-7].

The authors start debulking the deeper layers of fat just above the abdominal muscles with 4mm cannulas and continuing to the mid-lamellar layer and between muscle groups with 3.5mm cannulas.

Superficial liposuction, to define the abdominal muscle that are outlined and marked, is then performed. Each treatment area undergoes liposuction by using a 3 mm cannula. It is very important to remove all the fat in the intersection areas, creating a delicate transition zone between the abdominal muscular intersections, to define the superficial anatomy landmarks. Creating smooth transition surfaces and avoiding sharp edges is key during this portion of Medium Definition Liposuction.

To induce extra skin tightening at the intersection areas, the authors perform a subdermal pass with the 3 mm cannula with the cannula holes facing up towards the skin. This cannula only has perforations on 1 side of the end of the liposuction cannula, with the perforation holes facing towards the skin.

Drains are not needed with this technique and are not routinely used. Another key technique to create an aesthetic Medium Definition abdominal muscle outline is the proper use of localized and continuous pressure after surgery, mainly in the transition zones between abdominal muscle groups. This is achieved by utilizing specialized post surgical compression directly over the areas of liposuction. This way, the authors can create a guided and well controlled fibrosis in specific predetermined areas. (Figure 4 & 5).



Figure 4: Gauze and cotton customized handcrafted pads



Figure 5: Evolution during the abdominal pads utilization (48h to 6 weeks)

Generally, the more local compression is made in the skin after surgery, the deeper the outline of the abdominal muscle and the more “etched” the area will be long term. Customized hand crafted cotton and gauze pads are made in the operating room and placed on specific places on the abdomen to produce diverse pressure points at the end of the procedure for 30 days.

These handcrafted pads are covered by a semi rigid cardboard placed over the anterior abdomen. A traditional liposuction compression garment is then placed over the cotton pads and cardboard. The use of this “mold” is critical to achieve the best long term aesthetic result, and should be used by the patient for at least 1 month.

## Aesthetic Surgery Outcomes

All the 50 patients underwent an evaluation, through digital photograph, by two independent Seniors Plastic Surgeons, using an objective grading system for aesthetic outcomes proposed by Strasser (1) , after , 6 months or longer postop.

According to the Strasser Scale, 38 patients (75%) were considered to have Very Good and Excellent results. 10 patients (20%) were considered good and 2 patients (5%) had regular and poor results.

## Complications

The most frequent post op complications were due to the lack of visible muscle outlines after 6 months post op (n=8) and palpable irregularities in the midline (n=7).

## Discussion

Medium Definition Liposuction aims to create a fit, natural look in select patients who already have a regular exercise routine, tight abdominal skin, muscular hypertrophy, and low body fat. The idea is to create an athletic aesthetic in patients who lack abdominal definition in relation to their whole body [2,5,8].

This approach is an alternative liposuction technique that prevents the eventual fibrosis, retractions and distortions found in the current High Definition liposuction with external energy devices such as LASER or VASER [9-11].

The aesthetic result is individualized to each patient, following their unique muscle outlines created according by their individual anatomy. This is achieved by total fat removal in abdominal muscle transition zones, and then guided fibrosis by customized pad pressure post op for 1 month.

The use of Strasser Scale was used to validate overall aesthetic results. The end result is based on identification of imperfections or flaws that deviate from the ideal. All potential post surgical flaws can be classified under one of five possible flaw categories: malposition, distortion, asymmetry, contour deformity and scar. According to the scale, most results were considered very good or excellent , which means that the Medium Definition Lipo approach is a safe technique with few undesirable fibrosis, retractions or distortions. The authors believe that this low incidence of complications is due to the non use of external energy devices combined with liposuction.

The authors consider the lack of muscle definition a after surgery as a complication (to varying degrees). Even so, this occurrence did not compromise the overall aesthetic outcome, given the fact that the overall abdominal look appeared more athletic with less palpable and visible fat. This finding was very important, demonstrating that a high degree of abdominal definition is not necessary for a beautiful, athletic and natural result.

## Conclusion

Medium Definition Liposuction is safe and reproducible, resulting in a pleasant and natural athletic look, with low risk of distortions (Figure 6&7). This method uses traditional liposuction cannulas without the the need for Laser or Vaser.



Figure 6: Pre and post op (8 weeks)



Figure 7: Pre and post op (18 months)

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