

White Paper

Smartlipo TriPlex™ for Body Contouring and Treatment of Cellulite Using Three Wavelengths – A Case Study

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ABSTRACT

When a patient presents with excess fat and cellulite, lipo-sculpture should be considered to deliver optimal treatment outcomes in both the removal of fat and the tightening of the skin. This case study supports on-going work to achieve cosmetic treatment goals of cellulite reduction and skin tightening using the Cellulaze/ Smartlipo Triplex workstation.

INTRODUCTION

Lipo-sculpture is a complex procedure that addresses lipid and dermal abnormalities in several anatomical sites. This procedure is often recommended to improve the look and feel of skin, address underlying tissue malformations, and create normal harmony between body features. Lipo-sculpture differentiates itself from traditional liposuction because it offers tightening of skin in addition to the mechanical removal of underlying sub-dermal fat, whereas liposuction can sometimes result in excess skin and an uneven skin surface.

The introduction of the Smartlipo TriPlex with Cellulaze™ laser workstation allowed for the treatment of both fat and skin abnormalities in concert, making true lipo-sculpture possible. This workstation is unique as it performs as a Smartlipo TriPlex for lipolysis and as a Cellulaze, the world's first mini-

mally invasive laser for the treatment of cellulite. This advanced system of laser technology delivers three different wavelengths to address adiposity, skin laxity, and hemostasis. The combination of these wavelengths aid in reducing downtime. The 1440 nm laser targets fat, the 1320 nm laser results in skin tightening through tissue coagulation, and the 1064 nm laser coagulates the tiny blood vessels to reduce post-op bruising, swelling and discomfort, thus providing a quicker recovery time. This combined treatment enables the clinician to “sculpture” the body by addressing problems associated with both skin and the fat in one procedure.

METHODS

A 23 year old female presents with excess fat and cellulite of the lateral and posterior thighs. She is in good health with no significant medical problems and is not on any medications. She does not smoke. She has Fitzpatrick Skin Type II and a BMI of 27.

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PRETREATMENT



Figure 1: Patient presenting with excess fat and cellulite of the lateral and posterior thighs.

Physical presentation, photograph review, and analysis of clinical findings reveal the following cosmetic abnormalities (Figure 1):

- Third degree cellulite of lateral and posterior thighs
- Excess fat deposits on lateral thighs, also known as saddle bags deformity
- Visible asymmetry between the gluteal lines (right gluteal line is lower and more oblique than the left)
- Deep transverse lines in the lower gluteal regions
- Lack of definition between the buttocks and back of the thighs due to fat deposition in upper thighs

After detailed consultation, the patient is offered cellulite reduction and laser assisted lipolysis as a single stage procedure.

MARKING

Prior to the procedure, the area that will be treated is marked to highlight contour defects as these may disappear when the patient lies down. The complete area is marked in blue (Area 1). The area with cellulite and maximum fat deposit is marked in green (Area 2) and the deep gluteal lines are marked in red (Area 3) (Figure 2). Further marking identifies superficial dimples and fatty bulges of cellulite within the green area. The total surface area on each thigh is equivalent to twelve 5x5 cm squares.

MARKINGS

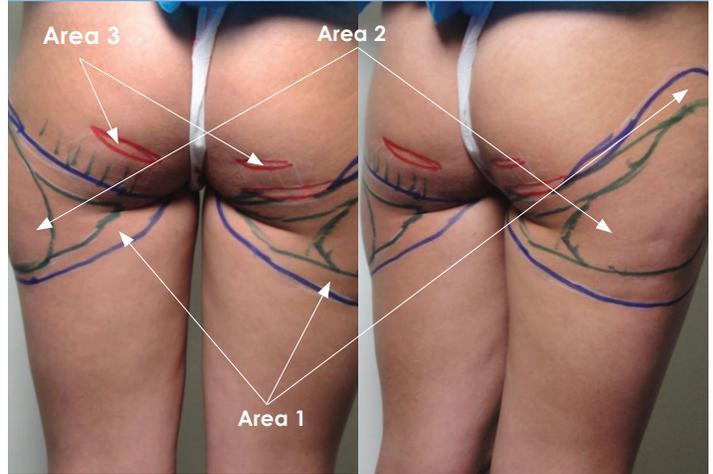


Figure 2: Marking identifies the areas of cellulite, fat deposits, and gluteal lines (prior to marking the 5x5 cm squares).

PROCEDURE

The procedure is a minimally invasive, office based surgery that is performed under local anesthesia. Pre-operative medications include an oral sedative (3mg Lorazepam), analgesia (400mg Ibuprofen and 2 tablets of Co-codamol 30/500mg) and antibiotic (Flucloxacillin 500mg). During the procedure, the patient is in prone position. Areas for three incisions are marked on each thigh and injected with 1% lidocaine with adrenaline prior to incising. A total of 600ml of local anesthetic solution is then infiltrated into each thigh through these incisions i.e. 50ml/each 5x5cm square. The local anesthetic solution is formulated with a liter of normal saline, 40ml of Lignocaine 1%, 10ml Sodium Bicarbonate 8.4%, and 1ml of Adrenaline 1/100,000.

LASER TREATMENT

The area with maximum cellulite and fat deposit (Green- Area 2) is treated first with the 1440nm wavelength at 12.5 watts using a 1000 μ m Cellulaze side-firing fiber. This area is equivalent to four 5x5cm squares. A total of 1000 Joules was delivered into each square. The superficial dimples and fatty bulges of cellulite are treated first; each dimple or bulge receives 200-300 joules depending on size. Dimples are thermally subcised with energy delivered horizontally and fatty bulges are treated with energy delivered toward the fat. Remaining energy is delivered into the deep fat (saddle bag deformity).

Thermal subcision of the connective tissue (septae) within the deep transverse lines in lower gluteal regions is achieved through the side-firing capability of Cellulaze technology. Each line received 300-400 joules depending on its length.

At this stage, the laser treatment is converted from Cellulaze to Smartlipo by changing the fiber and settings on the Triplex workstation. The traditional 1000 μm fiber is used and the lipolysis setting used is 7.5 watts of 1440 nm for adipose disruption combined with 12.5 watts of 1064 nm for blood vessel coagulation. The treatment protocol for laser lipolysis was applied on the treated area outside the central green marking but within the blue marking, Area 1 (equivalent of eight 5x5 cm squares). Each square received 750 joules within the deep fat layer.

Lastly, superficial laser energy was delivered to tighten the skin of the entire treated area (twelve 5x5 cm squares) with 12 watts of 1320 nm and 12 watts of 1064 nm. Each square in the central green area received 1000 joules while the rest of the squares received 750 joules. The ThermaGuide temperature was set at 48-52°C for deep treatment and at 45-48°C for superficial treatment.

LIPOSUCTION AND DRESSING

The disrupted fat is mechanically aspirated out of the treated area and additional fat is aspirated from the central green area. More fat is aspirated from the back of the right thigh to re-design the gluteal line. A total of 450ml of aspirate is aspirated from each thigh. All wounds are covered with antiseptic dressing and absorbent pads are applied on top. A pressure garment covering the entire treated area is applied at the end of the procedure.

The patient is sent home with oral analgesia and antibiotic for one week. Post-operative instructions are also given.

RESULTS

The patient is reviewed at one week, six weeks and four months post-surgery. Side effects include mild post-operative edema, numbness, and ecchymosis, all of which resolve within the first two weeks.



Figure 3: Post treatment photo shows the disappearance of cellulite and visibly tighter looking skin.



Post treatment photo demonstrates the disappearance of saddlebags, thigh contour improvement, and symmetrical transverse lines in lower buttocks.



Visible improvement at 4 months post treatment in the definition between the thighs and buttocks.

Clinical and photographic evaluation at four months post-op show significant improvement in the cosmetic result (Figure 3).

- Near complete disappearance of cellulite
- Improvement of skin texture
- Better contour of thighs
- Disappearance of saddle bags deformity
- Symmetrical gluteal lines
- Improvement of the transverse deep line in lower gluteal regions.
- Loss of fat deposit at back of the thigh
- Increase definition between buttocks and thighs.

The patient post treatment evaluation shows high satisfaction due to the significant and visible improvement of the treated areas. In addition to being satisfied with the cosmetic results, the patient noted a shorter downtime and quicker recovery than expected.

Visible improvement at 4 months post treatment in the definition between the thighs and buttocks.

CONCLUSION

The Cellulaze/ Smartlipo Triplex laser workstation provides a complete solution for body sculpting. This advanced system is proven successful for treating both cellulite and lipodystrophy in as little as one procedure.

In addition to body contouring, the outcomes demonstrate skin tightening as well as an improvement to skin texture which is not available through traditional liposuction. Post procedure downtime is minimized as the treatment itself lessens post-op bruising, swelling and discomfort. Side effects are minimal.

The Cellulaze/ Smartlipo Triplex can be used to help patients achieve their cosmetic treatment goals. Treatment using this workstation laser leads to patient satisfaction, and visible cosmetic results.

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