CLINICAL EVALUATION OF A 1064nm AND 1320nm SEQUENTIALLY FIRING LASER FOR LIPOLYSIS

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Background and Objectives

Liposuction has been the standard for removing fat. Alternatively, a novel dual wavelength laser lipolysis technique can be used to simultaneously remove unwanted fat and produce skin tightening. The new generation of this laser lipolyis system allows individual as well as sequential firing of the 1064nm and 1320nm wavelengths. The combination of wavelengths in the Multiplex mode allows for a more uniform delivery of laser energy which increases the efficacy and safety profile of the system. The primary objective of this multicenter study was to evaluate the safety and efficacy of the sequentially emitting Nd:YAG 1064nm and 1320nm wavelengths for laser lipolysis followed by aspiration for unwanted fat removal and skin tightening.

Neck treated with SmartLipo Multiplex – 1064nm and 1320nm visible removal of fat and skin tightening

Study Design and Methods

A total of 38 patients (at two clinical sites) with unwanted fat underwent a single laser lipolysis treatment using a 1064nm/1320nm combination laser. The average age of the patients was 44.9 years with 62% having Fitzpatrick skin type II. Treatment areas (including abdomen, neck, and thighs) were divided into 5x5 cm sections and treatment was applied in the fatty layer for lipolysis and sub dermally for skin tightening. Collaginous changes have been reported at temperatures above 40°C, thus an infrared thermal camera was used to guide treatment endpoints of 40°C - 42°C. Lipolysed fat was removed using a 2.5 mm aspiration cannula. Triglyceride levels were taken. Patients were evaluated at 1 day, 1 week, and 1 month post treatment. Subject questionnaires and photographs were taken.

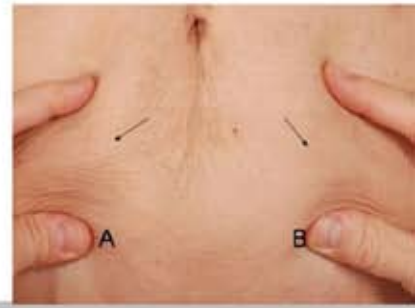
Abdomen treated with SmartLipo Multiplex 1064nm and 1320nm

Results and Conclusions

Treatments were well tolerated with no significant lasting adverse effects. Triglyceride levels were normal in the subset of subjects measured. Photographic evaluation showed improvement in contour and skin laxity. In one patient superficial energies were delivered to only one side. The skin tightening was improved vs. the untreated area (photo below). Subject evaluation logs (scale of 5:severe to 1:very mild) comparing day 1 vs. day 7, discomfort was reduced from 3.3 to 0.9, and redness from 2.1 to 0.77. A total of 71% of patients rated satisfaction of the results at 1 week to be good or excellent and 82% rated improvement in skin tightening at one month to be good or excellent. At the one month evaluation 94% of subjects treated would recommend the laser lipolysis. **Conclusions:** With appropriate parameters and technique, sequentially emitting wavelengths are safe and effective in laser assisted lipolysis.

Side A=Untreated for superficial skin tightening

Side B=Treated superficially 10W 1064nm/10W 1320nm



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