

Treating cellulite: TightSculpting

At the Teknon Medical Center, Barcelona, Spain, in the Laser Platform of the Institute of Fotomedicine, we practise laser medicine in dermatology, surgical and gynaecology applications. For unwanted fat removal, we use radiofrequency, cryolipolysis and laser lipolysis. Three years ago we started using a novel laser protocol based on the use of two different wavelengths.

The protocol is 'TightSculpting', which is a two-step procedure, each with a different laser wavelength and pulse duration, using the same laser machine (SP Dynamis, Fotona). The first step is the use of an innovative ultra-long pulse of Nd:YAG (1064nm) – PIANO mode, that delivers the photothermic effect into the deep dermis, transmitting the energy to the hypodermis (fat layer) of the skin. This raises the temperature in the fat to around 45 degrees celsius for a period of more than 10 minutes per treated area. We have shown that this can accelerate fat metabolism, reducing fat deposits with time; other activities such as exercise and dietary factors can also help this process. With this deep thermal energy deposit, we can homogeneously tighten deep structures and produce a lifting effect. This is what we call sculpting by laser, which can be done with the help of a manual handpiece or a robotic scanner. Both show in real-time the temperature increase (MatrixView) allowing the treatment to be carried out under safe parameters, with air cooling directly applied to the treated area to increase patient comfort.

The second step is the laser tightening effect, this procedure uses an Er:YAG laser (2940nm) in a unique long pulse duration, that produces a non-ablative effect on the skin surface, allowing the energy to further penetrate the superficial dermis. This unique pulse is called SMOOTH mode. The Er:YAG produces a burst of pulsed delivery of several subablative micro-pulses. SMOOTH mode tightens collagen and elastin, remodelling the dermis to create new collagen from the release of heat shock proteins.

This is a 30-40 minute procedure, the patient usually does not need previous preparation, apart from drinking half a litre of water. The procedure should immediately be followed by 20 minutes of exercise (stationary bike, vibrating platform, or just walking around the office building or climbing stairs, etc.), drinking a further half litre of water more, and manual drainage of the treated area (usually by massage). This protocol is repeated every two weeks for eight sessions.

For this procedure the ideal patient should have a body mass index (BMI) between 20 and 25, but we can treat unwanted fat areas in a broader range of patients. Effects tend to be maintained over a long period, if the patient sustains a healthy lifestyle, good nutrition and exercise. The effects of this protocol can be seen from day one, as the skin tightens; in the long-term patients have a reduction in circumference in fatty areas from 3-5cm (some have improved up to 10cm).

With this protocol we have a skin tightening and localised fat destruction option which is safe, comfortable, and requires no incisions, anaesthesia, consumables or downtime.

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Before and after patient photographs demonstrating results with TightSculpting.

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Declaration of competing interests: None declared.