Finally, a Safe, Effective and Painless Solution for Skin Flaccidity with Fotona V-Smooth and Robotic T-Runner Delivery

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The natural aging process combined with modern lifestyles brings noticeable, undesirable changes in the human body. Unwanted fat, cellulite and flaccidity are three of the top reasons for consultation in aesthetic medicine, especially when it comes to body contouring.

With respect to non-surgical, minimally invasive solutions, there has been significant progress in the treatment of localized adipocytes using energy-based devices such as lasers, radio-frequency (RF) and cryo-freezing devices. In our clinic, for example, we have had excellent results using the Fotona TightSculpting® procedure, which provides non-invasive transcutaneous lipolysis using a special PIANO (Nd:YAG) laser modality. We have had good success also with treating adipose, edematous and fibrotic cellulite using the same TightSculpting® technique.

Treatment of sagging or loose skin has remained one of the most difficult objectives in aesthetic medicine.

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Flaccidity

Various types of RF devices have been developed to deal with this challenge, but their energy penetration into the body is relatively slow and deep and therefore difficult to control. When attempting to achieve sufficiently high superficial skin temperatures – as required for skin tightening – the deeper lying tissues become unnecessarily heated with an RF device. Even more importantly, with RF devices it is not possible to heat the superficial tissue to high temperatures for only a short period of time in order to avoid damage. . For both of these reasons, RF treatments are performed either at very low and minimally effective parameters, or at levels where the risk of burns becomes unacceptably high.

This has changed with the development of the V-SMOOTH (Er:YAG) laser modality, delivered to the patient's skin in a highly controlled manner using the robotic T-Runner scanner.

With the Fotona V-SMOOTH modality and the robotic T-Runner scanner, aesthetic medical practitioners have finally obtained an effective, safe and painless solution for treating skin flaccidity.

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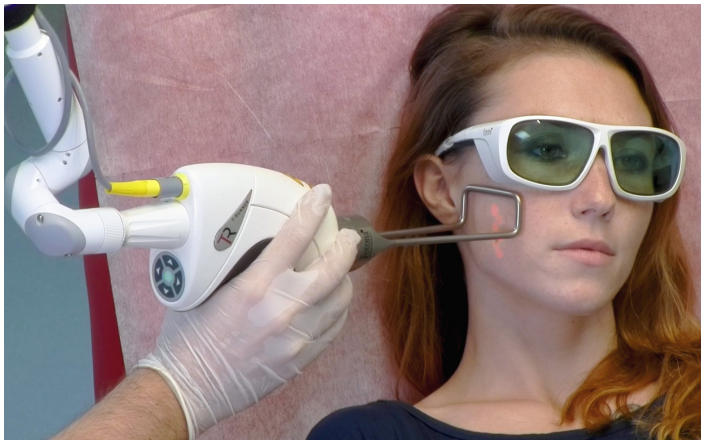
T-Runner body



T-Runner face

The Fotona V-SMOOTH modality is based on a recent scientific discovery that human skin can tolerate much higher temperatures without triggering irreversible tissue denaturation, provided that the temperature shock lasts for only a millisecond or less. The proprietary design of the V-SMOOTH modality, combined with the T-Runner robotic delivery, ensures that a precisely controlled sequence of high temperature sub-millisecond heat shocks is delivered safely to the skin surface.

The V-SMOOTH pulses are designed to trigger signals that drive skin regeneration.

The extremely short duration high temperature V-SMOOTH superficial heat shock pulses do not cause any irreversible damage to the skin, but send effective “danger signals” deeper into the skin.

There are two effects of treatment with V-SMOOTH:

- **An immediate effect**
  High temperature (yet safe) thermal contraction of collagen, shrinkage and tightening, accompanied by slight erythema.
- **A delayed effect**
  Improvement of the surface appearance of the skin due to the complete restorative reaction after 4 weeks and longer.

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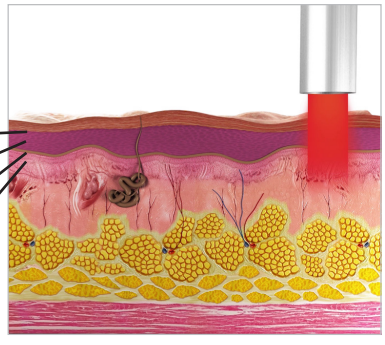
What is unique about V-SMOOTH?

In addition to the indirect heat shock signaling, skin regeneration is in part also enhanced by the direct regeneration mechanism caused by direct heating of deeper skin layers as a result of the slow deeper temperature build-up during the delivery of a several-hundred-milliseconds long V-SMOOTH sequence of sub-millisecond laser pulses. The uniqueness of V-SMOOTH is that it allows an operator to adjust the pulse duration of the non-ablative Fotona SMOOTH® (Er:YAG) laser pulses. By varying the Fotona SMOOTH® mode duration with V-SMOOTH, the operator can vary the ratio between the actions of the direct and indirect regeneration processes. When deep penetration depths are desired, with the most pronounced slow deep thermal regeneration based on the long-exposure biochemical process, it is most advantageous to use the longest duration Fotona SMOOTH® mode (625 ms). On the other hand, when the operator wants to enhance the heat shock triggering component based on the short-exposure biochemical process, then it is more advantageous to use the shortest Fotona SMOOTH® mode (125 ms).

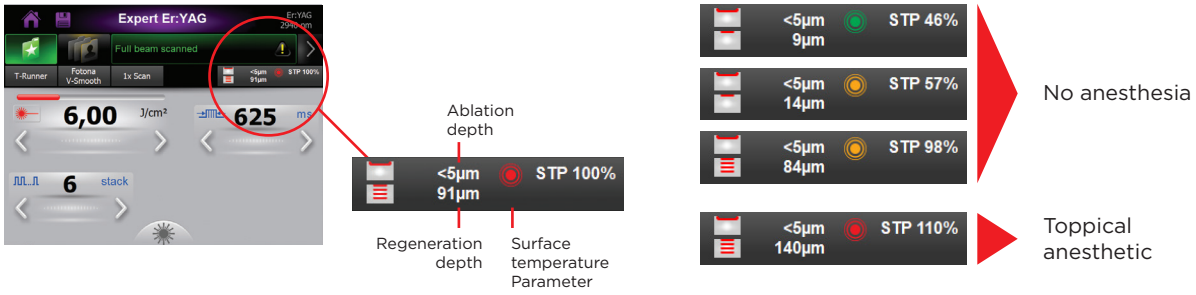
V-SMOOTH with T-Runner enables the achievement of critical temperatures and the precise depth of penetration needed for optimal regeneration procedures, minimizing the risk of burns and making the procedure reproducible. The results are excellent and long lasting, the treatment is comfortable, the risk of complications is minimal, and patient satisfaction is very high.

	FotonaSmooth duration (ms)	N stacks	Cumulative fluence (J/cm²)	STP (%)
Superficial tightening	125	1	0.7 - 1.1	47 - 78
Intermediate tightening 1	375	2	2.4	84
Intermediate tightening 2	500	6	4.8	86
Deep tightening	625	6	4.8 - 5.4	78 - 89



T-runner: robotic scanner for V-SMOOTH

The Fotona T-Runner is a robotic scanner designed for the optimal delivery of V-SMOOTH pulses with perfectly controlled speed, accuracy and most importantly, the possibility of targeting either superficial or deep skin laxity, thus optimizing the collagen regeneration process. The delivery of V-SMOOTH pulses is so well controlled that the laser system can determine and report the level of superficial heat shocking to the operator. This is accomplished by displaying the value of the STP surface temperature parameter, which tells the operator how hot and therefore how uncomfortable the treatment will be based on the combination of 3 parameters: V-SMOOTH fluence, pulse duration and the pulse stacking number. For values of STP below 90-100%, patients do not require anesthesia.

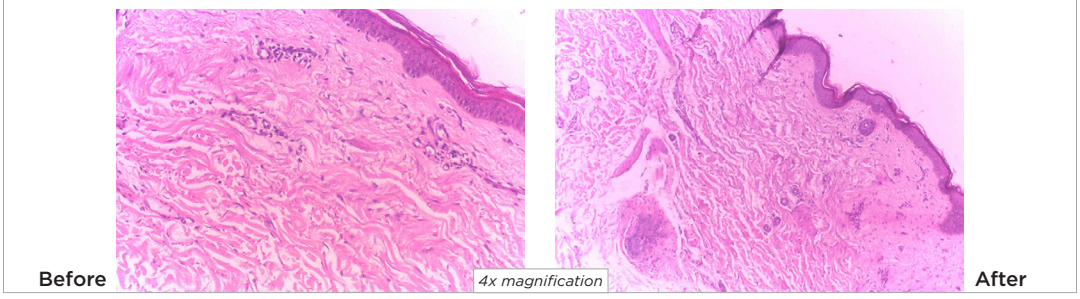


T-Runner can operate in two modalities:

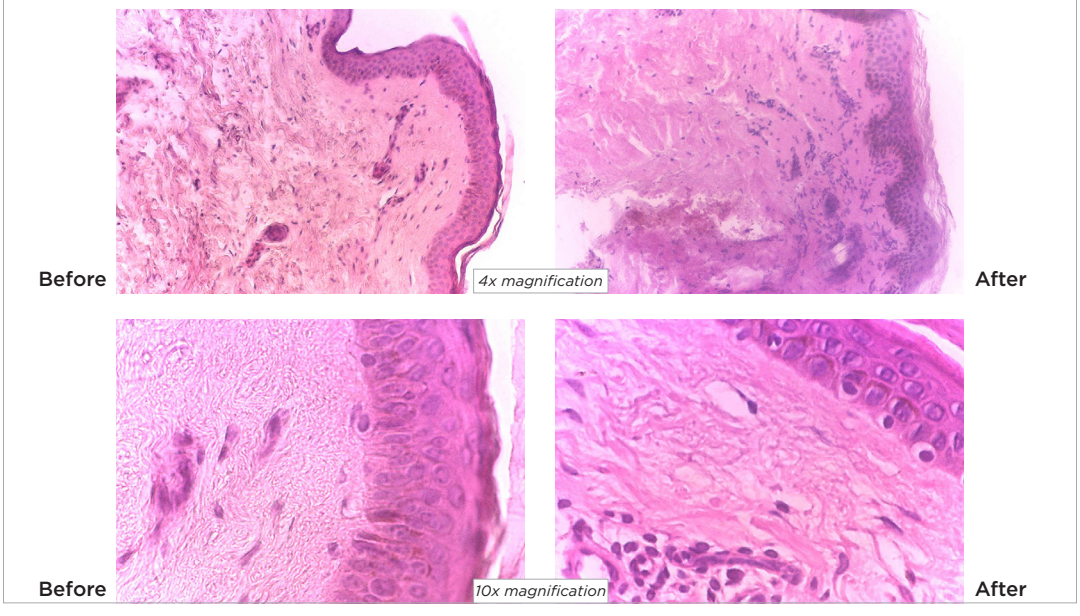
- T-Runner body modality uses a longer spacer and provides the largest scan area to quickly and uniformly cover the skin on the belly, buttocks, thighs and legs.
- T-Runner face modality uses a short spacer that is adapted for smaller facial and neck treatments.

T-Runner face *T-Runner body*

Standard Er:YAG laser treatment



Fotona V-SMOOTH treatment with T-Runner



In comparison to the standard Er: YAG treatment, histological samples following the Fotona V-SMOOTH treatment with T-Runner show improved thickness of the epidermis (acantosis), significant basal cells hyperplasia , increase in the number of papilas, diffuse presence of white cells in the dermis with more compact collagen and elastin fibres. Also, the fibrilar component of the dermis appears more organized and compact, with white cells infiltration (restorative reaction) and new vessels formation.

Clinical experience

In our clinic we perform most treatments using this amazing new technology with parameters that do not require anesthesia. We typically work with between 4–4.8 J/cm^2 within 6 stacks and 500–625 ms, performing several (4-6) consecutive passes and using the patient's pain threshold and/or the erythema of the skin as the treatment end-point. Namely, the more passes we make, the more skin irritation and erythema we observe. Only in cases of severe flaccidity (post-bariatric surgery, significant weight loss, post lipo, etc.) do we indicate anesthetic cream to be able to use higher fluences and a longer pulse. We perform four 20-minute sessions every 2 weeks and prescribe the use of a post-treatment compression garment 12 hours per day for the duration of one month, with high tensile activity cream at night (DMAE) and an appropriate nutritional plan that includes two liters of water per day. To maintain the results we recommend one session every 4 months.

Experts predict that the facial rejuvenation industry will increase its market revenue from $17 billion per year in 2018 to around $25 billion per year in 2025.

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After the weight loss

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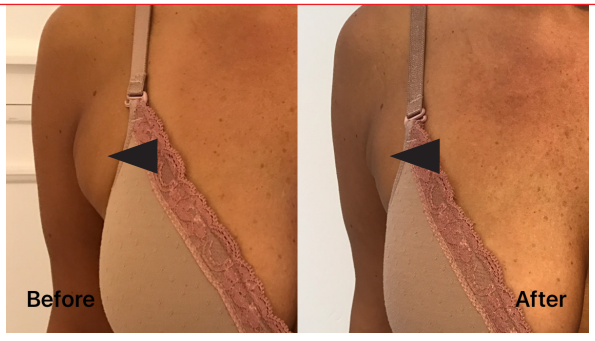

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After 3 months

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6 passes *Courtesy of A. Gaspar*

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V-SMOOTH with the state-of-the-art T-Runner scanner for sub-ablative long-pulse treatment is a unique new concept to safely and effectively address sagging, lax skin.

Indications for T-Runner with V-SMOOTH

- Flaccidity (body & face)
- Flaccid cellulite
- Chronic stretchmarks
- Post bariatric surgery
- Post lipolysis
- After pregnancy
- Severe weight loss

Results and benefits of V-SMOOTH with T-Runner

- Improved skin elasticity, firmness and surface appearance
- Stimulation of microcirculation (flaccidity & cellulite)
- Treatment of all body areas
- No pain
- No complications or adverse effects
- 85-100% patient satisfaction

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