

LipLase: A non-invasive approach to achieving fuller, more youthful lips with laser therapy

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Fig. 1: Initial situation. **Fig. 2:** Result after three laser treatment sessions.

Introduction and background

Maintaining lip volume through collagen stimulation is essential for achieving youthful, plump lips. Using laser technology to stimulate collagen production can help sustain natural lip fullness over time. This not only leads to fuller, more well-defined lips, but also results in smoother and more hydrated lips.

With ageing, the following changes occur in the lips:

- The lips lose volume, lengthen and invert.
- The lower lip becomes thinner and rolls inwards.
- The commissures drop.
- The philtral columns flatten.
- The vermillion border thins.
- A partial loss of Cupid's bow occurs.
- Perioral and nasolabial folds become more noticeable.
- The lip curves diminish.
- The lips become drier.

One of the best procedures for non-invasive lip treatment without injectable fillers is LipLase (Fotona). The procedure uses a 2,940nm Er:YAG laser to promote collagen remodelling and the formation of new collagen, enhancing lip fullness. This procedure can be performed with the LightWalker laser system (Fotona)

using the PS04 handpiece and the Fotona SMOOTH mode.

The unique SMOOTH mode delivers a burst of six pulses over 250ms, gradually heating the connective tissue without ablation or damage to underlying tissue. The SMOOTH mode mechanism involves three phases:

1. photothermic interaction, during which laser light absorbed by the skin's water molecules is converted to thermal energy;
2. thermomechanical interaction, causing collagen fibrils to shrink, tightening the top skin or mucosal layers and pulling in deeper structures; and
3. new collagen fibre synthesis, which occurs three to four weeks post-treatment and typically lasts for six to eight months.

Clinical case

A 24-year-old female dental nurse with excellent oral hygiene was seeking to improve her upper lip definition, particularly at the Cupid's bow, while avoiding the "duck" look from injectable fillers (Fig. 1). The patient was informed about LipLase and agreed to the treatment. The lips were to be treated to enhance the vermillion zone and Cupid's bow.

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Treatment

The LipLase treatment is administered every two weeks, typically requiring three visits, though this varies with the patient's age and treatment goals. EMLA topical anaesthetic (Aspen) can be applied 15–20 minutes before the treatment if needed, and the lips are wiped clean before treatment.

In general, the LipLase parameters are as follows:

- Intra-oral (mucosal border): 2–4 SMOOTH mode bursts per spot, 8–9 J/cm² fluence and 1.5–2.0Hz frequency
- Extra-oral (vermillion zone): 2–4 SMOOTH mode bursts per spot, 3–6 J/cm² fluence and 1.5–2.0Hz frequency.

During the patient's first visit, EMLA was used. Intra-oral treatment involved four passes of two bursts of 9J/cm² fluence per spot. Extra-orally, eight passes of two bursts of 4J/cm² fluence per spot was used on both lips, followed by four more passes of one burst per spot on the vermillion border and Cupid's bow.

On the subsequent second and third visits, adjustments were made based on the patient's sensitivity and preferences. The patient no longer wanted to use EMLA. Intra-orally, we used the same fluence and followed the same protocol as for the first visit. Extra-orally, we reduced the bursts to one burst per spot and increased the fluence to 6.5 J/cm², passing over the lips eight times. We treated the vermillion border of the upper lip and Cupid's bow with 8 J/cm² fluence, moving the handpiece quickly over the area about six times.

Results and discussion

The patient was sensitive to the extra-oral component even with EMLA, leading to adjustments in the bursts and number of passes. If a patient is highly sensitive and prefers no anaesthetic, bursts can be reduced and passes increased.

Post-treatment, the patient experienced oedema and slight heat, which subsided with some cooling. Moisturising was recommended, especially in the first few days.

By the second visit, improved lip fullness and a more pronounced Cupid's bow were evident. After the third visit, the patient was very pleased with the desired “sexier” lip look achieved and managed dryness using lip gloss (Fig. 2). No complications were reported, and the lip fullness and Cupid's bow definition were maintained at the two-week follow-up.

Conclusion

LipLase using the LightWalker Er:YAG laser and the SMOOTH mode is a safe procedure providing fast and long-lasting results. Unlike injectable fillers, LipLase is non-invasive and natural, stimulating the patient's own collagen production. With tailored passes and treatments, ideal lip characteristics such as fullness, balance between the upper and lower lips, and a well-defined vermillion border can be achieved.

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about



Dr Statila Pyke is a laser and cosmetic dentist and the founder of Bright Smile Dental Coogee in Australia. She completed her BDS at the University of Oslo in Norway. During her studies, Dr Pyke pursued an exchange programme at Sheffield in the UK, gaining valuable experience in a hospital setting in performing extractions and fitting dentures, crowns and more. She furthered her education with a master's degree in dentistry from the University of Oslo in 2006 and obtained a BDS from the University of Sydney. Driven by a passion for advanced dental care, she established her dental practice shortly before completing her studies, combining her expertise in laser dentistry and cosmetic procedures to provide exemplary dental care.