# Treatment of Facial Scars Combining Er:YAG and Nd:YAG using the SP Dynamis Laser

**Dr Maya Habre**

Introduction:

Wound healing is a multistep and complex process in which aberrations can result in unpleasant scars. Proper wound management can help avoid such an outcome. Among available modalities, laser therapy has been commonly used for the treatment of mature scars more than one year after formation. In contrast, early laser treatment during the first few weeks of wound healing is a relatively recent concept. Here, we present a highly effective treatment modality combining Er:YAG and Nd:YAG lasers, delivered with the SP Dynamis laser system.

| Laser | SP Dynamis | |
|---|---|---|
| | **Step 1** | **Step 2** |
| Wavelength | Nd:YAG (1064 nm) | Er:YAG (2940 nm) |
| Handpiece | R33 | FS01 |
| Pulse duration | 0.6 ms | VLP (1000 usec) |
| Fluence | 15 J/cm$^2$ | 60 J/cm$^2$ |
| Mode | Frac3 | Turbo 3 |
| Frequency | 2 Hz | 1.4 Hz |
| Passes | multiple | 3 passes |
| Spot size | 9 mm | 9x9 mm; 81 pixels, pixel size 250 um |
| Cooling | yes | No |
| Sessions | 1–4 sessions every 4 weeks | |

*Dr Maya Habre is the chief of the dermatology division at Saint George Hospital - University Medical Center in Beirut, and an associate professor of clinical dermatology at Saint George University of Beirut. She continued her training in the Hotel Dieu de France Hospital, Beirut and then pursued a specialized medical degree at the Henri-Mondor Hospital, France. She has been a user of the SP Dynamis for 10 years and has presented many abstracts/talks in international congresses about lasers.*

## CLINICAL CASE:

A healthy 26-year-old female presented with multiple upper facial wounds sustained during a car accident. Laser sessions were started one month post-accident using a two-step protocol. The procedure was performed after the application of topical lidocaine anesthesia for 30 minutes, to decrease pain induced by the second step. A healing cream and silicone gel with SPF50 were applied after each session and between sessions. Minimal downtime was noticed.

### Procedure:

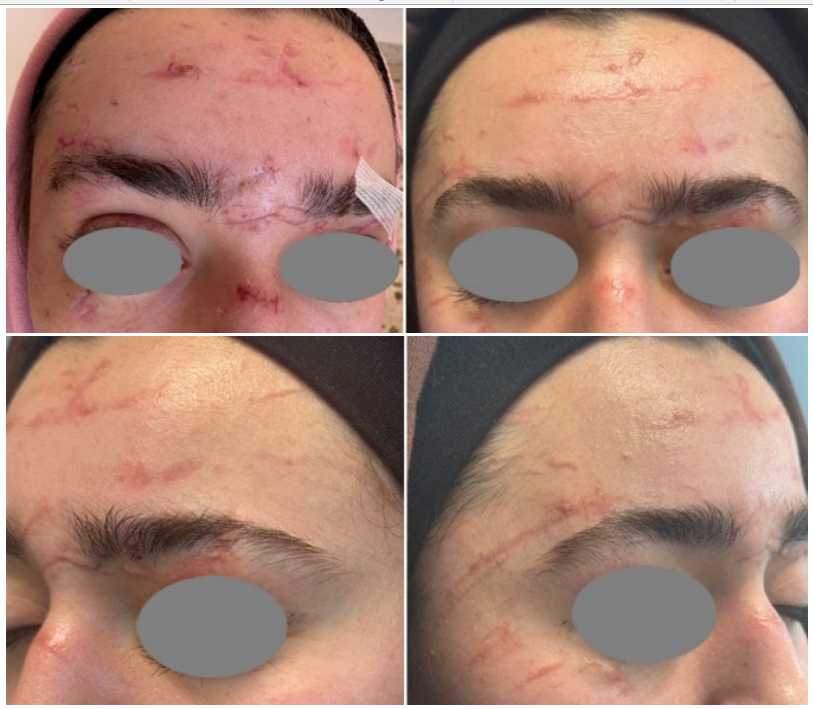
Step 1 used short FRAC3 Nd:YAG pulses (0.6 ms) with an R33-T handpiece and a 9 mm spot size to modulate inflammation and treat the scar's vascular component. Five passes were applied to the affected area using a homogeneous, non-stacking technique.

Step 2 used the fractional Er:YAG handpiece (FS01), applying 3–5 passes over the scar area for extracellular matrix restructuring and collagen fiber rearrangement.

### Post-Procedure Care:

Erythema, edema, and pain may persist for around 2–3 days. A mild corticosteroid cream was advised to be used for two days until the erythema subsided. Epithelialization cream should start immediately after treatment, three times daily for 7 days. Photoprotection with a sunscreen SPF50 was applied directly and daily after the session. Typically, 1–4 sessions spaced every 4 weeks are required, achieving progressively improved results.

Before: One-week post-accident showing multiple lacerations on the upper facial area.



After: Patient at six months post-accident, showing marked improvement in scar erythema, thickness, and overall appearance after 4 sessions.