



Simultaneous Hyperpigmentation, Pores and Rhytids Treatment with Multi-pulse Nd:YAG Laser

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Introduction:

Our practice is highly focused in the management of hyperpigmentary lesions, of which we have treated more than 2500 patients in the last 2 years. Many of these patients show interest in simultaneously addressing other cosmetic concerns, such as rhytids and dilated pores. We present here a typical case of this combined treatment protocol. Generally, tackling this type of patient would require several laser systems, but thanks to the versatility of our StarWalker system, we can achieve excellent results by taking advantage of its outstanding laser pulse diversity.

In daily practice, we often observe many cases of periorbital rhytids, especially of the lower eye lid, in which performing a blepharoplasty of this area will not effectively solve the problem. Usual treatments include the use of CO2 laser (limited to patients of phototype I-III) and chemical treatments, both painful, requiring anesthesia, with long recovery times that may last from 7 to 10 days and with frequent complications. However, taking advantage of the wide selection of pulses of our Fotona Nd:YAG system allows us to correct these skin conditions in both low and high Fitzpatrick skin phototypes with very short recovery time, no pain and no need to postpone daily activities.

Laser	StarWalker MaQX - Nd:YAG (1064 nm)			
	Step 1	Step 2	Step 3	Step 4
Wavelength	Q-sw 1064 nm	1064 nm	Q-sw 1064 nm	Q-sw 1064 nm
Fluence	1.5 - 2.5 J/cm ²	14-20 J/cm ²	20-30 mJ/px	8-15 mJ/px
Frequency	3-5 Hz	2-4 Hz	1-1.5 Hz	2-4 Hz
Handpiece	R28	R28	FS20A	FS20A
Spot size	4-7 mm	4 mm	9x9 mm	9x9 mm
Mode	MaQX-1	FRAC3	MaQX-10	MaQX-1/MaQX-2
Passes	4-6	6-10	2-4	2-4
Cooling	Post treatment			
Tx Interval	4-6 sessions, once every 2 weeks			



Dr. Edher Oncebay and Dr. Johanna Rosario are Peruvian medical graduates from the Cayetano Heredia Peruvian University and the Universidad Nacional José Faustino Sánchez Carrión respectively. They currently work in their private practice, Biosense Clinica Laser in Lima, Peru, with Fotona's StarWalker MaQx and SP Spectro laser systems. They are strongly committed to research of pigmentary disorders.

CLINICAL CASE:

Before starting the procedure, we apply sub-palpebral ocular cups (COX IIH) for patient eye protection. No other pre-treatment preparation is necessary. Laser pulses are applied maintaining a safety distance of +/- 3mm from the lower eyelid border.

The first step is to apply the Q-Switch Nd:YAG MaQX 1 pulses that deliver a photoacoustic subcellular effect focused on reducing hyperpigmentation. Fluence levels depend on the patient's phototype; the higher the skin phototype, the lower the selected fluence will be. Treatment is stopped if the treated area presents marked erythema or edema. Laser passes are performed in a horizontal and homogenous manner.

The second step requires the use of low fluence, short FRAC3 pulses that will promote skin rejuvenation through the stimulation of new collagen formation.

The third and fourth steps described in the chart above involve the use of a fractional Q-Switch handpiece to stimulate extracellular matrix remodeling, renewal of fibroblasts, stimulation of collagen production and non-thermal rejuvenation of dermal and epidermal tissue. It is noteworthy to mention that in step 3, continuous long trains of 10 tightly connected Q-Switched pulses are used to provide a high-peak-power attenuating result that allows us to produce very deep nonablative tissue effects.

Post-op treatment requires the application of cold compresses and epithelizing cream. Erythema may be present and last between 2 and 5 days. Though petequeal bleeding is rare, it may appear immediately during treatment, although this could be avoided by performing fluence test calibration spots on the inner forearm.

Individual scabs may be observed and last between 2 to 7 days. Cicalfate cream should be applied 3 times a day for 7 days. In some cases, topical treatment with specific eye lid products (K-oX eyes) and antioxidants (Flavo C serum) are to be applied after the second week post treatment.

The following pictures show a typical case at 30 days post final treatment. Further improvement, especially in the rhytids, is expected in the following months thanks to tightening by new collagen development.



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