



Green Toning: Q-switched Nd:YAG and KTP Laser Toning for Photodamaged Skin

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Introduction:

Chronically sun-exposed skin frequently develops mottled dyschromia, ephelides, solar lentigines, erythema, rough texture, and other visible signs of photodamage. These changes are commonly seen on areas such as the face, neck, décolleté, dorsal hands, forearms, and scalp, where cumulative ultraviolet exposure contributes to both diffuse background pigmentation and discrete superficial brown macules.

A combined laser-toning approach may help improve uneven pigmentation while maintaining a mild treatment endpoint and allowing for minimal downtime. The following clinical note describes a two-step protocol using 1064 nm Nd:YAG toning followed by 532 nm KTP toning for improvement of photodamage-associated pigmentation.

Laser	Fotona StarWalker® MaQX	
	Step 1	Step 2
Wavelength	1064 nm (Nd:YAG)	532 nm (KTP)
Handpiece	R28	R28
Spot size	8 mm	8 mm
Mode	MaQX-1	MaQX-1
Fluence	2 J/cm ²	0.3 J/cm ²
Frequency	10 Hz	10 Hz
Passes	2000 pulses	3-5 passes
Sessions	3 sessions, 4 weeks apart	



Dr. Ivana Bogataj Tancer is an aesthetic doctor specialized in ENT and cervicofacial surgery, with a strong focus on advanced laser technologies. She currently works with select clinics throughout Slovenia and serves as an international trainer and expert lecturer for Fotona, educating physicians worldwide in state-of-the-art laser treatments.

CLINICAL CASE:

An adult male patient with Fitzpatrick skin type II presented with chronic scalp photodamage and multiple brown macules on the bald scalp, clinically consistent with solar lentigines and diffuse UV-associated dyschromia.

In the first step, 1064 nm Nd:YAG toning was performed with the R28 handpiece using an 8 mm spot size, fluence of 2 J/cm², and frequency of 10 Hz. A total of approximately 2000 pulses were delivered over the affected scalp with continuous movement and clinical monitoring. The desired endpoint after Nd:YAG toning was slight erythema around the pigmented areas. In the second step, 532 nm KTP toning was performed using the R28 handpiece with an 8 mm spot size, fluence of 0.3 J/cm², and frequency of 10 Hz for 3-5 gentle passes over the affected areas. After KTP toning, the endpoint was mild darkening of the pigmented lesions without frosting.

Cooling was used for patient comfort during both steps. The treatment was well tolerated, and no anesthesia was needed.

The patient was advised to use strict photoprotection, including high-SPF broad-spectrum sunscreen and physical sun protection.



Three procedures were performed at 4-week intervals. Photographs were taken at baseline and 1 month after the third procedure. At follow-up, the scalp showed visible lightening of mottled pigmentation and solar lentigines, with a more even overall skin tone.