PicoWay raises the bar in state-of-the-art benign pigmented lesion and tattoo removal.

By Ilya Petrou M.D.

Widely viewed as a quantum leap in tattoo removal therapy, picosecond technology is proving to be the most effective, efficient and safest technology currently available for the removal of the broadest range of tattoo colors as well as benign pigmented lesions. As a global leader in the medical device industry, Syneron Medical Ltd. raises the bar in this market niche with the introduction of the PicoWay®, a novel picosecond technology-based laser device that not only distinctly discerns itself from its closest competitors but also the former gold standard Q-switched laser technology.

"Patients are extremely satisfied with the PicoWay. Those who had previous treatments with Q-switched technology are amazed at how fast their tattoos clear, how quickly they heal after treatment and the lower level of treatment discomfort," said Arielle N.B. Kauvar, M.D., Clinical Professor of Dermatology, New York University School of Medicine, and Director of New York Laser & Skin Care, New York, NY.

In stark contrast to other picosecond laser devices on the market which use a single wavelength to address the multitude of tattoo color inks, the PicoWay utilizes two different wavelengths, namely the 532 nm and 1064 nm wavelengths, which enable a more effective and efficient clearing of a broader spectrum of tattoo colors and types on all skin types. In addition, the PicoWay achieves this superior clearance with an unprecedented speed of treatment that remains unrivaled among any other currently used technology or device.

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“The key developments with the PicoWay laser are the dual wavelengths as well as the ultra short, ~500 picosecond pulses. With PicoWay, we can treat a wide range of Fitzpatrick Skin Types and tattoo ink colors. The dual wavelengths of 532 nm and 1064 nm enable treatment of a broad spectrum of colors including dark ink colors such as black and blue, as well reds, purples, yellows, oranges and even some greens,” Dr. Kauvar said.

With a recently received CE mark and a projected FDA clearance in late 2014, the PicoWay is geared to take the cosmetic industry by storm, offering patients the fastest and most effective removal of tattoos of all types and colors and pigmented lesions on any skin type. The PicoWay is expected to gain quick popularity among physicians and their patients because the state-of-the-art innovative laser system can achieve this excellence in tattoo ink and pigmented lesion removal in significantly fewer treatment sessions, with better clearance and less discomfort compared to the once celebrated Q-switched nanosecond laser systems.

The PicoWay device has set a new standard for the treatment of tattoos. “In our practice, we can now offer patients a realistic expectation of complete ink clearance in as few as 5 to 6 treatment sessions, with significantly less pain and a shorter healing time - generally 1 week compared to 2 weeks for Q-switched lasers. Tattoo ink clears approximately twice as fast as with Q-switched/nanosecond domain lasers, and we can safely treat at intervals as short as 2 weeks,” Dr. Kauvar said.

One of the fundamental differences between the PicoWay and traditional Q-switched lasers is the length of the pulses that are employed. While traditional Q-switched lasers use nanosecond technology where the pulses are in the billionth of a second, the PicoWay utilizes picosecond technology where the pulse durations are in the trillionth of a second, 100 times shorter than nanosecond pulses. The shorter pulse duration of picosecond technology results in a superior efficacy and efficiency of tattoo ink removal as well as an enhanced treatment comfort and safety for all Fitzpatrick Skin Types.

The PicoWay has been proven to efficiently remove the entire spectrum of colors, including some greens and according to Dr. Kauvar, the only truly resistant color seems to be certain light blues and mint greens. With the exception of these colors however, most tattoos are completely removed within 5-6 treatments.

“PicoWay is definitely a game changer. There is a huge segment of the population that currently has one or more professional tattoos, as much as 25 percent of the population under age 40, and approximately half of those are unhappy with their tattoos. Knowing that you
can remove your tattoo in 5 to 6 treatments over a 3 to 4 month period rather than 15 or more sessions over 1 to 2 years makes tattoo removal a realistic possibility for so many people who previously would not consider this option," Dr. Kauvar said.

Traditional Q-switched nanosecond lasers largely rely on the action of selective photothermolysis where the tattoo ink or the melanin in pigmented lesions are targeted and subsequently broken down into smaller sized particles via a photothermal effect, after which they are phagocytized and removed from the body. The PicoWay, in contrast, with its high peak power and ultra-short pulse duration enables a unique mechanism of action that creates the strongest photomechanical impact, stronger than any other picosecond technology-based device currently available, and breaks down the targeted tattoo ink or melanin in pigmented lesions into even smaller fragments than can then be more efficiently and easily removed from the body over time, without any increased risk of adverse events.

“The 1064 nm is perfectly safe in all phototypes, with treatments delivered on a biweekly basis. We have used the 532 nm wavelength in skin types I-IV without witnessing any hypopigmentation,” Dr. Kauvar said.

A significant benefit in using a shorter pulse and higher energy is that less energy is required to cause a stress fracture in the targeted tattoo particles. The use of less energy should result in a more rapid healing time as well as potentially less textural changes in the targeted skin, leading to superior cosmetic outcomes. PicoWay’s unique mode of picosecond action enables a full flexibility to adjust the wavelength, energy, spot size and repetition rate, allowing for individualized treatments that ensure excellent clinical outcomes.

“PicoWay is definitely emerging as the standard of care in tattoo removal and in my opinion, there is currently no other technology available that is as safe and effective for this indication. As more experience is gained using this technology for pigmented lesions, we will definitely see additional advantages to using this technology for other indications,” Dr. Kauvar said.

PicoWay Results

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