

DOE and MLA Handpieces Improve Efficacy of Scar and Pore Treatments

By Cindy J. Papp, Contributing Editor

Treating scars and enlarged pores has traditionally been a challenge for dermatologists, due to side effects or treatments that provide subpar results, until now. One system now offers both diffractive optical element (DOE) and micro lens array (MLA) handpieces using a picosecond laser beam with a pulse duration of 300 ps to provide targeted treatment with little to no side effects. These handpieces provide customizable treatments in multiple sizes and depths to effectively treat scars, enlarged pores, fine lines, wrinkles, skin rejuvenation and even tattoos with safety and efficacy.

“Fractional lasers are well known to decrease scars and pores by stimulating fibroblasts in the dermis and inducing the formation of new collagen. But they have the disadvantage of leaving numerous fine scabs on the face,” explained dermatologist Dong Kee Yu, MD (Korea). “With the DOE and MLA handpieces available on the PICOHI laser system from Hironic (Korea) downtime is shorter than treatment with a fractional laser, and results are further improved through laser induced optical breakdown (LIOB).”



Before (left), immediately after first treatment with the PICOHI laser system (middle) and ten days post treatment (right)
Photos courtesy of Hironic

According to Dr. Yu, the DOE handpieces induce LIOB for deep, dermal cavitation. The MLA handpieces are arranged with a small convex lens and generate LIOB at all layers of the skin without damage to the surrounding tissue. “The 300 ps pulse duration of PICOHI is more advantageous to creating LIOB than 450 ps and 750 ps pico lasers,” Dr. Yu reported. “The shorter pulse energy and LIOB induces generation of new collagen for long-term

results.” He added that understanding the features of each handpiece and how they work makes it easy to determine how to use them to treat scars and enlarged pores.

Implementation of a stable 300 ps pulse duration ensures only the targeted area is treated, as high peak power and short pulse duration increase LIOB activity for an improved skin rejuvenation effect with a rapid recovery time. “The 1064 nm wavelength is commonly used to treat freckles,” noted Dr. Yu. “In my experience, this laser in combination with the DOE and MLA handpieces, provides a more dramatic improvement for freckles and pigmentation. The PICOHI system is also being used to improve acne scars, pores and skin texture by utilizing the strong LIOB formation.”

In Dr. Yu’s opinion, treating pigmentation with PICOHI works because the phenomenon of LIOB through short pulse duration also improves the overall environment of the dermis. “Improving the environment of the dermis helps remove abnormal melanin pigmentation

quickly, while increasing collagen production,” he explained. “My patients notice a brighter and fresher complexion as the diffused reflection is decreased.”

“Treating scars and pores with DOE and MLA handpieces is even more effective when combined with poly DL-type lactic acid (PDLLA),” Dr. Yu continued. “While PDLLA

slowly stimulates the fibroblasts over several weeks, PICOHI stimulates the fibroblasts in pulse form according to the treatment cycle.”

Adding the PICOHI system, along with the DOE and MLA handpieces, provides a way for today’s dermatologists and aesthetic physicians to address a variety of indications more efficaciously, which translates to greater benefits for their patients.



Dong Kee Yu, MD
Dermatologist
Korea



SCAN
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Experience, the new photoacoustic effect

PICOHI™ 300



1

Next generation pico laser
Real 300ps pulse duration

Stable technology providing pulse duration of 300ps

2

Non-photothermal effect,
Photomechanical effect treatment

Upgraded from photothermal effect treatment,
photomechanical effect treatment allows selective
treatment on targeted areas

3

Various handpieces for
improving of skin rejuvenation

DOE & MLA handpieces can provide various types of treatment
in multiple sizes and depths depending on the treatment area.

