

8th International Conference and Exhibition on

LASERS, OPTICS & PHOTONICS

November 15-17, 2017 | Las Vegas, USA

Robotic irradiation of medical lasers

Yongsoo Lee

Oh & Lee Medical Robot, Inc., South Korea

Studies on laser emission made the application to human skin possible. However, even though the significance of irradiation has been recognized through adverse effects, such as post-laser burns and spotty hypopigmentation, few studies have been performed on laser irradiation. Excessive overlap of laser beams over a short period of time causes burns, while excessive overlap over a long period of time (days) results in spotty hypopigmentation, even with carefully-set emission parameters. This small fraction of adverse effects may be preventable through the use of robotic laser irradiation. Last April, in San Diego, CA, USA, a comparative study on manual and robotic irradiation was presented at the 37th Annual Conference of the American Society for Laser Medicine and Surgery. This study entitled as “Comparative Analysis of the Evenness of Laser Irradiation by a Robot vs. Human Hand: A Pilot Study of the Implication on the Effectiveness and Safety of Energy-Based Medical Devices”, demonstrated that robotic irradiation was more consistent and even compared with manual irradiation at frequencies of 10 Hz and 30 Hz. Moreover, the inconsistency of manual irradiation at frequencies of 10-30 Hz was demonstrated, while the robot demonstrated no statistical inconsistency at 10-30 Hz. Truly even laser beam irradiation of three-dimensional surfaces, such as the human face requires a high degree of precision and consistency, as the curvature varies from one point to another. Studies on laser irradiation have been nearly impossible, because of the inaccuracy and inconsistency of the human hand. As inconsistency and imprecision can be overcome with robotic irradiation, new study subjects have arisen for investigation of the effects of irradiation patterns on clinical outcomes. Robotic irradiation would enable us to achieve quicker and better outcomes, as well as to prevent the adverse effects described above.

Biography

Yongsoo Lee has completed his Medical degree at Yonsei University, South Korea. He is the Co-founder and Co-CEO of Oh and Lee Medical Robot, Inc. and affiliated to Yonsei YL Laser Dermatology and Plastic Surgery in South Korea. He has published many papers in respected journals and has served as an Editorial Board Member of medical journals. He also served as the sole Editor of “*Scars and Scarring: Causes, Types and Treatment Options*,” published by Nova Biomedical, New York, USA.

exusia@naver.com

Notes: