

## **Boosting Vitiligo Treatment with the 311-nm Ti:Sapphire laser (PALLAS Laser)**

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Vitiligo remains one of the most difficult skin diseases to treat. While narrow-band ultraviolet B phototherapy is effective for many patients, it can cause side effects such as erythema, itching, and hyperpigmentation, and has the disadvantage of unnecessary UV irradiation around the lesions. Laser treatments, on the other hand, can only be targeted to the lesion, which is an advantage for localized vitiligo. In fact, the majority of patients with vitiligo have lesions in a limited area, making laser therapy a versatile tool in the treatment of vitiligo. The 308-nm excimer laser is the most widely used laser for the treatment of vitiligo. In addition to the advantage of being able to selectively treat vitiligo lesions, excimer laser treatments are known to induce faster improvement with fewer treatments. However, due to the mechanical nature of the excimer laser, which utilizes a gaseous medium, maintenance of the laser is a significant cost.

Recently, a gain-switched 311-nm titanium:sapphire (Ti:Sapphire) laser that effectively outputs ultraviolet light at 311-nm, the wavelength of narrow-wavelength ultraviolet B phototherapy, has been developed. Compared to the 308-nm excimer laser, the 311-nm Ti:Sapphire laser can be expected to penetrate deeper into the skin, and it also has mechanical advantages that can lower maintenance costs including gas charging because it uses a solid-state medium. The 311-nm Ti:Sapphire laser was shown to have equivalent treatment efficacy to the 308-nm excimer laser in a 12-week, split-body randomized non-inferiority trial. In this session, we will discuss the role of laser therapy in the treatment of vitiligo and the efficacy and safety of the 311-nm Ti:Sapphire laser.