



LASERS

COMPARISON OF PICOSECOND AND NANOSECOND LASER TREATMENT FOR TATTOO REMOVAL IN CHINESE

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Introduction: For many years, quality-switched (QS) laser technology functioning on the principle of selective photothermolysis was used to remove tattoo pigment. In the last two years, the availability of the picosecond 755 nm and 1064/532 nm lasers in China provided additional tattoo removal options. Herein, we describe our experiences with these technologies.

Objective: To evaluate and compare the safety and effectiveness of the 755nm picosecond laser, 1064/532nm picosecond laser and 1064/532nm nanosecond laser in removal of tattoos in Chinese.

Methods: A total of 10 subjects were recruited in the study, each with one previously untreated tattoo. Each tattoo was divided equally into 3 parts for a total of 30 tattoos treated. Each part was respectively treated with the 755nm picosecond laser, 1064/532nm picosecond laser and 1064/532nm nanosecond laser. Tattoos were photographed for evaluation at baseline and at two months after a single treatment, to evaluate for the extent of tattoo pigment removal, degree of pain and adverse effects.

Results: The 755nm picosecond laser and 1064/532nm picosecond laser appears to reduce tattoo pigment more effectively and rapidly than the 1064/532nm nanosecond laser for tattoos after a single treatment ($P < 0.05$). There was no significant statistical difference between the two picosecond lasers for black tattoo removal ($P > 0.05$). On the whole, the picosecond laser appears to be more effective than the nanosecond laser for tattoo pigment removal with milder adverse reactions. No statistical differences were observed in pain degree amongst the three laser types.

Conclusion: Our results show that the picosecond laser is more effective than the nanosecond laser in tattoo removal, and has less adverse effects. The 1064/532 nm and 755 nm picosecond lasers were comparable in removal of black tattoos with similar degree of pain for subjects, and demonstrates respective wavelength advantages that are unique in





the treatment of other tattoo colors.

