A New Paradigm for Optimal Tattoo Removal Using Three Picosecond Laser Wavelengths

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Study Design:

• Prospective study with 44 subjects (53 tattoos)
• Fitzpatrick skin types I-VI.
• Picosecond (PS) treatments done at 1-2 month intervals with: 755 nm, 532 nm or 1064 nm

Results:

• Blinded evaluation was performed at end of study.
• 31 tattoos with red, yellow, and/or orange pigments, responded best to the 532 nm PS and cleared 75-100% after an average of 2 treatments.
• 17 tattoos containing blue, purple, and/or green pigments responded best to the 755 nm PS laser and exhibited 75-100% clearance after an average of 2 treatments in 88% of subjects.
• 7 tattoos containing black ink responded equally in the 755 nm and 1064 nm PS after 1-2 treatments.

Conclusion:

• The picosecond laser is a safe and efficient tool for tattoo removal; however it is not a colorblind laser, and still requires multiple wavelengths. To clear ink most efficiently, the combination of at least 755 nm and 532 nm is needed, and the 1064 nm wavelength may be preferable for black inks in darker skin types V and VI. Tattoo clearance was higher with picosecond vs. nanosecond laser technology.