

# Dose Optimization with a Picosecond 755nm Alexandrite Laser For Tattoo Removal

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## Study Design:

- 18 subjects Fitzpatrick Skin types III-V.
- Parameters: 1.3-4.1 J/cm<sup>2</sup> and 5-10 Hz.
- Half of the tattoo was treated with the best tolerated fluence based on test spots; and the other half was treated with escalating doses over the four treatments to a max fluence based on clinical response, not exceeding 4.1J/cm<sup>2</sup>.
- Subjects received 4 treatments at 1 month intervals and were evaluated 1 month after their last treatment.
- A subset of subjects consented to biopsies 24 hours post their 1st test spot on normal skin.

## Results:

- Adjacent un-tattooed skin and Melanin Index (MI) response were predictive of the best tolerated fluence on the tattoo.
- Significant tattoo clearing was seen at fluences in the 1.3-2.0 J/cm<sup>2</sup> range.
- Acute tissue response as observed in biopsies showed that changes seen were confined to the epidermis.

## Conclusion:

- Dose escalation increases safety by minimizing side effects with less downtime and blistering.
- Blue and green inks which were problematic with other devices are often eliminated in one treatment.

Pre-Treatment



Post 1 Treatment



Pre-Treatment



Post 2 Treatments

