# The Immediate Clinical and Thermal Findings Associated with the Use of a Picosecond Alexandrite Laser with a Flat and a Fractional Optic

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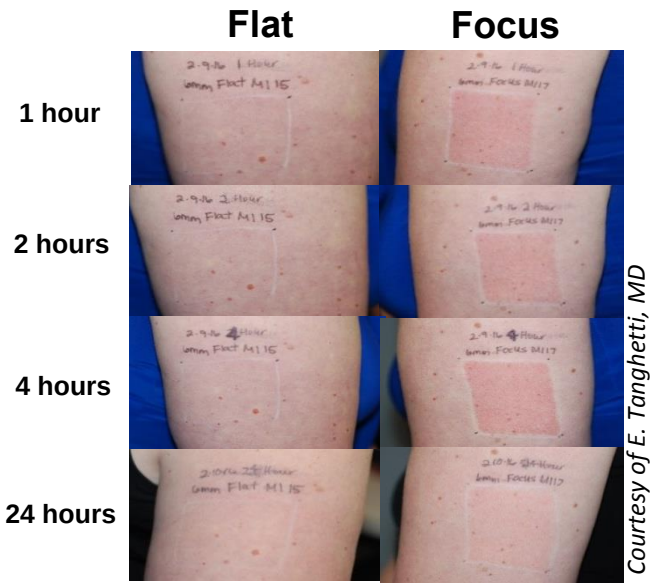
## Study Design:

- Investigation of the clinical and thermal changes associated with the use of a 755nm wavelength laser with fractional optic and flat optic with identical energy settings.
- 10x10cm areas treated with 4 passes of flat and Focus.
- Use of a thermal camera system to monitor immediate and delayed temperature rise over 24 hours.




Progression pictures of treated upper arms showing the compared effect of the PicoSure Flat and Focus optic.

## Results:

- Beginning at 15 minutes there was a 4-6°C increase in the area treated by the fractional optic, accompanied by a brisk urticarial response.
- The flat optic at the same energy only showed a 2°C temperature rise with a slight erythematous response.

## Conclusion:

- There was no difference in the heat generated by different treatment techniques (4 passes over small area vs. entire Tx area)
- The fractional optic generates an intra-epidermal injury that appears to mediate a dermal response with vascular dilation and the production of inflammatory factors resulting in temperature rise and clinical response.
- The flat optic at the same energy had less immediate erythema as well as a smaller rise in temperature.

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