

The Comparative Cutaneous and Histological Changes of Skin Types I-VI Over 24 Hours with Fractional Picosecond 532nm, 1064nm, and 755nm

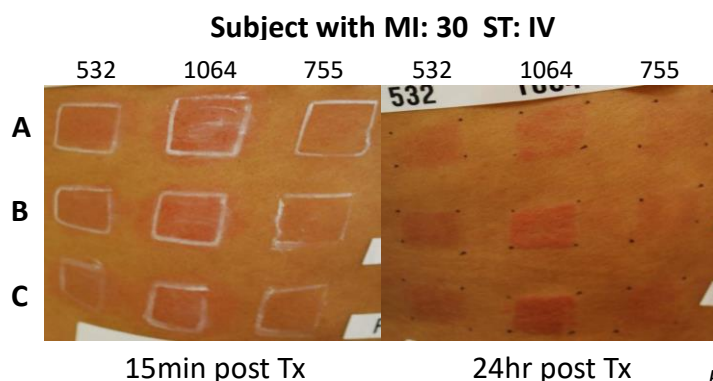
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Study Design:

- Prospective study to evaluate clinical and histological changes with fractional 532nm, 1064nm and 755nm over 24 hours in 8 female patients, skin types I-VI.
- Each patient received 1 treatment and photographs were taken 15-minutes and 24-hours post treatment and 3.5mm punch biopsies were taken from each treatment site.
- Total of 3 passes per treatment with manufacturers' recommended fluences for each wavelength for each device.

Results:

- Erythema seen immediately after treatment at all wavelengths.
- At 24 hours, erythema with small areas of petechial hemorrhage was seen at 1064nm and to a lesser extent in 532nm.
- No petechia seen in 755nm sites with only faint erythema at 24 hours.
- LIOBs form consistently with 755nm, while 532nm demonstrates LIOBs at higher energies sometimes accompanied with epidermal necrosis and dermal hemorrhage. 1064nm shows LIOBs often accompanied by dermal hemorrhage.



Treatment Parameters Used

	532nm	1064nm	755nm
A	0.2 mJ/dot	1.3 mJ/dot	0.25 J/cm ²
B	0.24 mJ/dot	1.7 mJ/dot	0.4 J/cm ²
C	0.28 mJ/dot	2.1 mJ/dot	0.71 J/cm ²

Photos and data courtesy of E. Tanghetti, MD & J. Jennings, MD

Conclusion:

- It remains to be seen whether individually or combined picosecond fractional 532nm & 1064nm will match the widely reported clinical efficacy with epidermal and dermal remodeling that has been established with the fractional picosecond 755nm. There was a commonly observed problem with dermal hemorrhage with the 532nm and 1064nm wavelengths.

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