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LASER ASSISTED HAIR REMOVAL IN COMBINATION WITH TOPICALLY APPLIED OPTICAL CLEARING AGENT

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Objective: To enhance the efficacy and treatment outcome of laser assisted hair removal in combination with topically applied optical clearing agents (OCA).

Material and Methods: 25 adult healthy subjects seeking laser hair removal (LHR) were recruited in an IRB approved study. Subjects receive a singled treatment with an Alexandrite laser in combination with cryogen spray cooling (Gentlelase, Candela, Wayland, MA). Four areas were evaluated: 1) control; 2) laser treatment alone; 3) laser treatment in combination with skin index matching lotion; 4), laser treatment in combination with OCA. Baseline hair counts and diameter were determined. Areas were photographed using linear and cross polarized lenses. OCA was applied 2 hours before the laser treatment. Laser treatment was performed at various fluences depending on the skin phototype. All treatment areas on an individual subject were treated at the same fluence. Pictures were obtained immediately, 1 day, 1 week, and 4 weeks post-treatment. Hair counts and diameters were determined 12–14 wks post-treatment.

Results: The areas treated for LHR with prior treatment of OCA had a significant reduction in the number and diameter of hairs as well as absence thereof epidermal side effects, when compared to all other evaluated sites.

Conclusion: Topically applied OCA increase the epidermal threshold for thermal injury. Additionally, the efficacy of laser assisted hair removal is enhanced due to a reduction in dermal scattering of the incident light.