

The use of light-emitting diode therapy in the treatment of photoaged skin.

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Abstract

BACKGROUND:

Light-emitting diode (LED) therapy is an increasingly popular methodology for the treatment of sun damage. Combination use of light wavelengths reported to stimulate collagen synthesis and accelerate fibroblast-myofibroblast transformation may display a composite rejuvenative effect.

OBJECTIVE:

To clinically assess reduction in sun damage signs following a 5-week course of LED therapy and to assess subject's perception of the treatment.

METHODS:

Thirteen subjects with wrinkles or fine lines in the periorbital and nasolabial region and those presenting Glogau scale photodamage grade II-III received nine 20-min duration light treatments using the Omnilux LED system. The treatments combined wavelengths of 633 and 830 nm at fluences of 126 and 66 J/cm², respectively. Sun-damage reduction was assessed at 6, 9, and 12 weeks by clinical photography and patient satisfaction scores.

RESULTS:

The majority of subjects displayed "moderate" (50%) or "slight" (25%) response to treatment at investigator assessment. Treatment of the periorbital region was reported more effective than the nasolabial region. At 12-week follow-up, 91% of subjects reported improved skin tone, and 82% reported enhanced smoothness of skin in the treatment area.

CONCLUSION:

Good response to LED therapy has been shown in this modest sample. Larger trials are needed to assess optimum frequency of light treatments and overall treatment time.

PMID:

17760698

[PubMed - indexed for MEDLINE]