



LASERS

REVIEW OF NEW CLINICAL APPLICATIONS FOR 308 NM EXCIMER LASER IN SKIN

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Introduction: The 308 nm excimer laser, a type ultraviolet B energy, was invented by Nikolai Basov in 1970. It is now widely used in the field of dermatology since 1997, and it is U.S. FDA approved for psoriasis, vitiligo, atopic dermatitis and leukoderma. The majority of its clinical applications for dermatologic conditions have been discovered in the past three decades.

Objective: To determine efficacy and adverse effects, as well as new clinical applications of 309 nm excimer laser.

Material and Methods: Review of studies searchable on Pubmed, ClinicalKey and Medline from 2008 to 2018 describing the clinical uses of excimer laser.

Results: A total of 68 published articles meeting our search criteria were found; 33 clinical trials, 3 meta-analyses, 5 prospective studies, 3 retrospective studies and 24 case reports/series. The excimer laser was used in the treatment of 19 different dermatologic conditions. The majority of the articles were studying the use of excimer laser on vitiligo and psoriasis. Other studied dermatologic conditions include alopecia areata, atopic dermatitis, CD30+ lymphoproliferative disease, mycosis fungoides, lichen planus, idiopathic guttate hypomelanosis, nevus depigmentosus, pityriasis alba, leukoderma, dyschromatosis symmetrica hereditaria, striae distensae, folliculitis, prurigo nodularis, granuloma annulare, langerhans cell histiocytosis, morphea and lichen sclerosis. The clinical efficacy and tolerability for excimer laser therapy in 19 different dermatologic conditions will be summarized.

Conclusion: The 308 nm excimer laser produces therapeutic responses with minimal side effects in a wide array of dermatologic conditions. Larger scale studies are needed to research long-term safety profile of this treatment modality.

