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Excimer 308-nm laser treatment

Excimer 308-nm laser is a laser light source that delivers a specific wavelength (308 nm) of [ultraviolet B](#) (UVB) radiation. This new technology is a further development of narrowband UVB that delivers energy at a wavelength between 311–312 nm and has proven to be beneficial in the treatment of [psoriasis](#). The disadvantages of narrowband UVB include the irradiation of the whole body (even if the psoriasis is limited to certain areas of the body) and the need for very high number of treatments (usually between 15–40 sessions).

The UV ray generated by the excimer laser is delivered via a hand held wand that focuses on the psoriatic lesion. Compared with [narrowband UVB](#), in the treatment of psoriasis:

- Healthy skin surrounding the areas of psoriasis is not exposed to radiation.
- A higher dose of radiation can be used to induce a visible reaction in the psoriatic plaque.
- In some cases a shorter course of treatment is effective.

When to use excimer 308-nm laser treatment

There appears to be some controversy about the use of excimer laser as the first-line treatment of moderate psoriasis. Most clinical studies on the use of excimer laser therapy have focussed on patients with localised psoriasis involving less than 10 or 20% of the body. They then highlight the advantages of this treatment compared to other forms of laser treatment such as narrowband UVB. However, in reality patients with localised psoriasis would typically not be considered for UV therapy since this would expose unaffected skin to the adverse effects of phototherapy.

Further controlled studies are needed to compare excimer laser therapy with conventional psoriasis treatments (topical treatment with creams and ointments) and other laser treatments. Studies are also required to determine the short and long term effectiveness and safety, establish optimal dosage regimens, and define appropriate patient selection criteria.

At this stage excimer laser therapy is an option for the treatment of psoriasis in a select group of patients. This includes patients with localised, refractory plaque psoriasis (e.g. patients with thick, scaled plaques on the knees and elbows, which are resistant to any conventional treatment).

Side effects

Excimer laser therapy causes blisters if the dose is too high, however these are confined to the areas being treated. The aim of treatment is to deliver a dose that induces visible redness in the psoriatic lesion (supraerythematous dose) but which does not induce a blister or second-degree burn.

Other side effects included erythema (redness), hyperpigmentation and erosions (sores). In most cases these were tolerated well and didn't require stopping of treatments.

Long term exposure to ultraviolet radiation ultimately causes [skin ageing](#) and [skin cancer](#). Although the risk from excimer laser therapy is unknown, research to date suggests it is less risky than narrowband UVB as it doesn't expose the whole body to UV radiation.

What does the treatment involve?

Patients attend 1–2 times weekly. The amount of UV delivered is carefully calculated and monitored. Some

patients have long remission periods after a single treatment. The average length of treatment appears to be about 7 weeks. A number of different regimens exist depending on the individual's [skin type](#), age, skin condition and other factors.

Related information

References:

- Gerber W, Arheilger B et al. Ultraviolet B 308-nm excimer laser treatment of psoriasis: a new phototherapeutic approach. British Journal of Dermatology 2003: 149; 1250-8 [Medline](#)
- Houseman TS, Pearce DJ, Feldman SR. A maintenance protocol for psoriasis plaques cleared by the 308 nm excimer laser. J Dermatolog Treat 2004 Apr; 15(2): 94-7

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