



ViruLite is held in place over the cold sore for the duration of the treatment. It has an alarm to signal the start and end of the treatment. It is powered by a PP3 9V battery

Light relief for cold sores

The 1072nm infra-red wavelength has proven to work well for treating cold sores. The ViruLite is an inexpensive solution for treatments, writes **Seung Yoon Celine Lee MD**

Herpes simplex labialis (HSL), commonly known as “cold sores”, is a highly prevalent viral infection of the skin that manifests itself as grouped vesicles, erythema, and related discomfort, typically caused by herpes simplex virus type I (HSV I). The most common site of infection is the lips and perioral area, although vesicles can occur on

the perinasal, periorbital, and other parts of the face when the infection is severe. Recurrent HSL infections of the perioral area occurs in up to one-fifth of young adults and is reported to persist in up to 40% of the US population.

Transmission is via personal contact with a virus-shedding individual. The disease is predominantly acquired in early childhood, the virus remaining dormant in nerve tissue, before reactivation. Recurrences may be induced by intrinsic and extrinsic factors such as high fever, immune suppression, emotional stress and ultraviolet light and quite often can be triggered by trauma, such as fractional resurfacing and chemical peels.

The conventional treatment of choice for HSL is topical and/or systemic Acyclovir, which is an effective antiviral agent. However, it has a short half-life, which necessitates frequent application of the topical, or administration of the systemic, agent.

The need to apply the Acyclovir cream five times a day can be bothersome to some patients and may result in non-compliance. Furthermore, because the anti-viral agents work more effectively when they are applied or administered from the onset of HSL, delay of treatment can prolong the duration of the lesion and discomfort from the disease. The cosmetically undesirable appearance after using the cream on the vesicles may be problematic to some patients actively involved in social activities.

For patients undergoing cosmetic procedures who are predisposed to HSL infection, prophylactic acyclovir is costly and carries the risk of nephrotoxicity by crystallisation within the tubules of the nephrons if hydration is not sufficiently provided.

Famciclovir and Valacyclovir, the derivatives of Acyclovir, have a longer half-life but are much more expensive than Acyclovir. These problems of conventional treatments for HSL highlight the need for new treatment modalities that are effective, easier to use and more convenient for the patient.

Recently, it has been demonstrated that low-level light therapy (LLLT) utilising 1072nm infrared light from laser diodes halved the healing time of HSL episodes compared with topical Acyclovir. Follow-up studies have shown that a commercially available over-the-counter device, ViruLite, which uses light emitting diodes (LEDs) emitting 1072nm infrared light has been effective for the treatment of HSL.

Two in vivo studies have demonstrated that irradiation with 1072nm infrared light three times a day for two days (three min-

utes per treatment session) significantly reduces the healing time of HSL infection compared with a placebo device ($p=0.048$ and $p=0.014$). Consumer feedback has demonstrated that ViruLite, if used in the tingle phase, will help prevent the vesicle eruption, making the device suitable for all stages of the infection, from prodromal stages to papule formation.

An ex vivo study found that the 1072nm wavelength enhances the cell viability of peripheral blood mononuclear cells. The study showed 1072nm increased the inducible isoform of nitric oxide synthase (iNOS) that makes nitric oxide (NO) a potent inhibitor of apoptosis, suggesting that 1072nm not only displays classic LLLT mechanisms of wound healing in hypoxic tissue but also confers a cytoprotective effect on immune cells.

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