

Cryotherapy Systems for Wart Removal: A Review

Context

Warts, a common skin condition, are caused by the human papilloma virus (HPV). Infection with HPV is spread through skin-to-skin contact and, in some cases, the virus will remain dormant and not produce a visible wart. In Canada, it is estimated that 10% to 30% of adults are infected with HPV, with the highest rates of infection among those younger than 25 years of age. Risk factors for the development of warts include the exposure of bare feet in public areas such as changing rooms and swimming pools, and having a suppressed immune system. In addition, people employed in certain meat-handling occupations are at increased risk of developing these warts on their hands.

Technology

Warts are commonly treated using cryotherapy, which is the application of a cold substance — typically liquid nitrogen — to the skin to destroy abnormal tissue, interrupt the vascular supply, and stimulate the immune system. The liquid nitrogen can be applied as a spray, with a cotton swab, or with a melamine foam sponge.

Issue

Cryotherapy using liquid nitrogen is an effective and established treatment, although the optimal method of application is unclear. A review of the clinical and cost-effectiveness of, and related guidelines for, methods for cryotherapy application will help inform decisions regarding this treatment for wart removal.

Methods

A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

Key Messages

- Based on limited evidence, melamine foam sponge applicators used in cryotherapy for the treatment of warts, compared with cotton swab applicators:
 - may be more likely to result in a reduction in wart size after one treatment
 - may require fewer treatments to achieve complete remission
 - may lead to fewer adverse events.
- No cost-effectiveness information on the different cryotherapy systems was found.
- Guidelines suggest that cryotherapy with liquid nitrogen be applied every two to three weeks, for up to three months, as first-line treatment for warts.

Results

The literature search identified 117 citations, with no additional articles identified from other sources. Of these, 8 were deemed potentially relevant and 2 met the criteria for inclusion in this review — 1 clinical trial and 1 set of guidelines.

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