

# Duct tape for warts in children

## Should nature take its course?

Ran D. Goldman MD FRCPC

### Abstract

**Question** I continue to see families in my practice with complaints of having common warts. Despite trying to convince them that no therapy is needed, children and parents ask for advice and therapy. Is duct tape truly effective for common warts, and how is it applied?

**Answer** Common warts (*verruca vulgaris*) are extremely common in children and are caused by the human papillomavirus. These benign lesions will resolve spontaneously and no therapy is recommended. Evidence for duct tape effectiveness is limited, but because this therapy is safe and well tolerated, parents can try it at home, as well as try using salicylic acid patches. With duct tape therapy, apply a small piece of duct tape directly on the wart once every 4 to 7 days; then remove the tape, clean the area with soap and water, and remove the dead skin using an emery board. Apply another piece of tape 12 hours later. Repeat this cycle for 4 to 6 weeks.

## Ruban adhésif pour les verrues chez l'enfant

La nature devrait-elle suivre son cours?

### Résumé

**Question** Je continue de voir des familles à ma clinique qui se plaignent d'avoir des verrues vulgaires. Même si j'essaie de les convaincre qu'aucune thérapie n'est nécessaire, les enfants et les parents demandent des conseils et des traitements. Le ruban adhésif est-il vraiment efficace pour les verrues vulgaires, et comment faut-il l'appliquer?

**Réponse** Les verrues vulgaires sont très fréquentes chez les enfants et sont causées par le virus du papillome humain. Ces lésions bénignes disparaissent spontanément et aucun traitement n'est recommandé. Les données probantes concernant l'efficacité du ruban adhésif à conduits sont limitées, mais parce que ce traitement est sans danger et bien toléré, les parents peuvent l'essayer à la maison, de même que les timbres d'acide acétylsalicylique. Pour le traitement avec du ruban adhésif, appliquez un petit morceau de ruban directement sur la verrue une fois tous les 4 à 7 jours; ensuite, enlevez le ruban, nettoyez la surface à l'eau et au savon, puis enlevez la peau morte avec une lime-émeri. Appliquez un autre morceau de ruban 12 heures plus tard. Répétez ce cycle pendant 4 à 6 semaines.

Common warts (*verruca vulgaris*) are extremely common among the pediatric population, occurring in 5% to 10% of all children, most commonly among those aged 12 to 16, and are caused by the human papillomavirus.<sup>1</sup> Although most of these benign lesions will resolve spontaneously without treatment within 2 years, patients and parents frequently seek treatment.<sup>1</sup>

### Available wart therapy

Various therapies have been studied for the treatment of warts. Salicylic acid as a peeling agent is administered on warts for a period of at least 2 to 3 months. This keratolytic therapy slowly destroys virus-infected epidermis and likely intensifies the local immune response owing to acid irritation. There are over-the-counter patches with recommended concentrations of salicylic acid available. A 2012 systematic review, which

included 6 studies with almost 500 participants (children and adults), comparing salicylic acid with placebo showed a modest increase in the chance of clearance of warts with salicylic acid for all sites (risk ratio [RR] of 1.56 [95% CI 1.20 to 2.03]), which was higher on the hands (RR=2.67 [95% CI 1.43 to 5.01]) than on the feet (RR=1.29 [95% CI 1.07 to 1.55]).<sup>2</sup>

Liquid nitrogen (cryotherapy) spray or application with a cotton ball is aimed at freezing the area, damaging cells and vascular supply. Immune-mediated processes have also been identified as part of the reason for its mechanism of action.<sup>3</sup> In the systematic review, 7 studies with almost 750 participants found cryotherapy to have a similar effect to placebo (RR=1.45 [95% CI 0.65 to 3.23]) for cure of warts, and only after multiple treatments was cryotherapy documented to be more effective (RR=1.90 [95% CI 1.15 to 3.15]).<sup>2</sup> Some adverse

effects include pain, blistering, scarring, skin irritation, skin pigmentation changes, and crust.

Cimetidine, cantharidin, podophyllin resin, carbon dioxide laser, and heat have also been studied.<sup>4</sup>

### Duct tape occlusion therapy

In 1978 Litt described treatment of subungual and periungual warts with a safe, easy, simple, painless, inexpensive, and highly effective “trick.”<sup>5</sup> He suggested occlusion of only 1 wart to cure all warts. Ordinary white adhesive tape was labeled “WART TAPE,” wrapped around a finger for a week, and then removed for 12 hours. The author reported an 80% cure rate after 4 weeks of treatment.<sup>5,6</sup>

In a study conducted in pediatric and adolescent clinics at a military medical centre, 21 of 26 (85%) children in the duct tape group versus 15 of 25 children (60%) in the cryotherapy group had complete resolution of their warts ( $P=.05$ ), and most warts responded to therapy within a month.<sup>7</sup> In a randomized placebo-controlled trial in 3 primary schools in the Netherlands, when duct tape or placebo were administered 1 night a week for 6 weeks, complete resolution of the treated wart was documented in 16% of the children in the duct tape group compared with 6% in the placebo group ( $P=.12$ ). Those treated with duct tape had a greater reduction in size compared with the placebo group ( $P=.02$ , 95% CI -1.7 to -0.1).<sup>8</sup> However, the negative statistical significance despite a much larger rate of cure in the duct tape group was criticized as being due to a small sample size.<sup>9</sup>

A proposed combination of topical imiquimod, previously used to initiate immune response to treat external anogenital warts, with duct tape was offered in one case from Korea, which showed successful therapy.<sup>10</sup>

Application of duct tape is practical for parents to use at home and reduces the need to visit a clinic for children's warts. One study found compliance with duct tape to be better than with cryotherapy.<sup>7</sup> Adverse events associated with duct tape use are minimal and include skin irritation from the glue. Tolerability is also better

with duct tape than with cryotherapy. In one randomized controlled trial, 15% of those in the duct tape group stopped treatment early either because of a skin reaction to the treatment or because the tape did not stick well.<sup>8</sup> From the perspective of families and medical systems, duct tape therapy for warts is also cheaper.

### Recommendation

With the clear pathway for spontaneous resolution of warts within 1 to 2 years, it is acceptable to recommend no intervention. However, if parents or children ask to apply “something,” one can recommend either over-the-counter salicylic acid patches or duct tape. When using duct tape for warts, apply a small piece of duct tape directly to the wart once every 4 to 7 days; then remove the tape, clean the area with soap and water, and remove the dead skin using an emery board. Apply another piece of tape 12 hours later. Repeat this cycle for 4 to 6 weeks. 

#### Competing interests

None declared

#### Correspondence

Dr Ran D. Goldman; e-mail [rgoldman@cw.bc.ca](mailto:rgoldman@cw.bc.ca)

#### References

- Messing AM, Epstein WL. Natural history of warts. A 2-year study. *Arch Dermatol* 1963;87:306-10.
- Kwok CS, Gibbs S, Bennett C, Holland R, Abbott R. Topical treatments for cutaneous warts. *Cochrane Database Syst Rev* 2012;(9):CD001781.
- Vlahovic TC, Khan MT. The human papillomavirus and its role in plantar warts: a comprehensive review of diagnosis and management. *Clin Podiatr Med Surg* 2016;33(3):337-53. Epub 2016 Mar 29.
- Drake LA, Ceilley RI, Cornelison RL, Dobs WL, Dorner W, Goltz EW, et al. Guidelines of care for warts: human papillomavirus. Committee on Guidelines of Care. *J Am Acad Dermatol* 1995;32(1):98-103.
- Litt JZ. Don't excise—exorcise. Treatment for subungual and periungual warts. *Cutis* 1978;22(6):673-6.
- Walbroehl G. Treating periungual warts with adhesive tape. *Am Fam Physician* 1998;57(2):226.
- Focht DR 3rd, Spicer C, Fairchok MP. The efficacy of duct tape vs cryotherapy in the treatment of verruca vulgaris (the common wart). *Arch Pediatr Adolesc Med* 2002;156(10):971-4.
- De Haen M, Spigt MG, van Uden CJ, van Neer P, Feron FJ, Knottnerus A. Efficacy of duct tape vs placebo in the treatment of verruca vulgaris (warts) in primary school children. *Arch Pediatr Adolesc Med* 2006;160(11):1121-5.
- Van Cleave J, Kemper AR, Davis MM. Interpreting negative results from an underpowered clinical trial: warts and all. *Arch Pediatr Adolesc Med* 2006;160(11):1126-9.
- Kim SY, Jung SK, Lee SG, Yi SM, Kim JH, Kim IH. New alternative combination therapy for recalcitrant common warts: the efficacy of imiquimod 5% cream and duct tape combination therapy. *Ann Dermatol* 2013;25(2):261-3. Epub 2013 May 10.



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