

Duct tape idea comes unstuck



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Concept of natural recovery casts doubt over positive trial results for wart treatment

CLINICAL SCENARIO

Krystal, a 21-year-old office worker saw me recently for common warts on her hand. She mentioned that her mother had suggested that she use duct tape as a treatment.

I recalled that in a recent discussion on the group GPs Down Under, duct tape had its advocates.

What is the evidence?

CLINICAL QUESTION

What is the effect of applying duct tape on the recovery of common warts?

THE RESEARCH EVIDENCE

STEP 1: THE COCHRANE LIBRARY

The library has a systematic review that is up-to-date to May 2011 on topical treatments for warts, including duct tape.¹

STEP 2: TRIPDATABASE & PUBMED

I conducted a search using the TripDatabase PICO search tool (Participant: “warts”, Intervention: “duct tape”, Comparator: “placebo”, Outcomes: blank).

There did not appear to be a more appropriate or newer paper.

Given the age of the Cochrane review, I used PubMed to search for any studies published after 2011. There were no new primary studies.

A newer systematic review on wart treatments was identified, but this mostly references the Cochrane review in the section on duct tape.²

Let's look at the Cochrane systematic review by Kwok et al. (2012)¹ in detail.

CRITICAL APPRAISAL

I will use the systematic reviews' critical appraisal sheet from the Centre for Evidence Based Medicine.³

WHAT PICO QUESTION DOES THE SYSTEMATIC REVIEW ASK?

In people of any age and gender with clinically observed non-genital viral warts (**Participants**); what is the effect of any local interventions aimed at eradication, including duct tape (**Intervention**); compared with placebo or an alternative wart treatment (**Comparator**); on the primary outcomes of clinical cure at end of treatment period, participant satisfaction, and quality of life measures (**Outcome**).

IS IT CLEARLY STATED?

Yes.

IS IT UNLIKELY THAT IMPORTANT STUDIES WERE MISSED?

Yes. The authors searched multiple electronic databases in a detailed fashion. Although this systematic review is up-to-date only to 2011, no new papers were identified in the more recent systematic review for duct tape.²

WERE APPROPRIATE CRITERIA USED TO SELECT ARTICLES FOR INCLUSION?

Yes. The authors only included randomised trials of topical treatments.

WERE THE INCLUDED STUDIES SUFFICIENTLY VALID FOR THE QUESTION?

Unclear. The authors formally assessed the risk of bias of the included studies using a clearly described process (p. 6).¹

Three articles were identified that studied the effect of duct tape. All three



studies are small and only two compared duct tape to placebo.^{4,5}

Although these were considered at low risk of bias, only one was in primary care.⁴

WERE THE RESULTS SIMILAR BETWEEN STUDIES?

Somewhat. There was moderate heterogeneity measured ($I^2 = 48\%$) between the two small studies included in the meta-analysis for duct tape vs placebo. One demonstrated a benefit,⁴ and one did not⁵.

THE RESULTS

Pooled together the two studies that compared duct tape with placebo^{4,5} had 198 participants (p. 15)¹.

On wart cure rate:

- No statistically significant effect was found favouring duct tape, though there are broad confidence intervals;
- RR 1.43, 95% CI 0.51 to 4.05

- One study indicated problems with duct tape,⁴ including:
 - > Most child participants (81%) indicating the duct tape not sticking
 - > Skin reactions to the duct tape

DISCUSSION AND CONCLUSION

There is limited experimental evidence on common wart recovery after using duct tape as a treatment.

The earlier and encouraging study that demonstrated some benefit from the duct tape was a study in children,⁴ and also involved a weekly soak and pumice stone treatment.

The later study that did not demonstrate benefit was in adults, and the intervention only involved duct tape versus placebo tape⁵. This may be more externally valid in terms of how patients typically use duct tape.

Pooled together, the estimate of the effect has substantial imprecision.

Nonetheless, it seems unlikely that there is a dramatic beneficial effect.

Many cutaneous warts resolve without treatment; two-thirds of them by two-years.⁶

Like many historical wart cures, it is possible that the oft-claimed association between duct tape and wart recovery is simply because of the natural history (see Stat Facts) of common warts.

My interpretation is that there is no compelling evidence that duct tape occlusion is an effective treatment over placebo.

Given that there are known effective wart treatments,¹ and that no treatment is a valid choice, duct tape should not be routinely recommended as an evidence-based wart therapy.

After I explained the options, Krystal opted to try an over-the-counter salicylic acid product. ■

References at medobs.com.au



Stat Facts

NATURAL RECOVERY AND CONTROL GROUPS

Control groups are important in experiments of new therapies to reduce the likelihood that the observed effect is due to another factor. One of the most important factors is natural recovery – that the participant would have improved regardless of the tested treatment. Therapies that appear effective in uncontrolled settings are commonly observed to have no benefit when tested experimentally. Association does not imply causation.