

CLINICAL INQUIRIES

How does tissue adhesive compare with suturing for superficial lacerations?

■ Evidence-Based Answer

Tissue adhesives are effective and yield results comparable to those with conventional suturing of superficial, linear, and low-tension lacerations. The cosmetic outcome is similar; wound complications, such as infection and dehiscence, may be lower with tissue adhesives. Wound closure of superficial lacerations by tissue adhesives is quicker and less painful compared with conventional suturing (strength of recommendation: A, systematic reviews of randomized trials).

■ Evidence Summary

Multiple studies and reviews have compared tissue adhesives with sutures or adhesive strips for wound closure. A Cochrane review found 10 studies, which included 970 patients in the emergency-room setting. Review of these articles found no significant difference in cosmetic appearance between tissue adhesive closure and standard suture closure with a 3-month follow-up period in acute, linear wounds under low tension. Wound erythema (number needed to treat [NNT]=10) and dehiscence rates (NNT=25) were lower for tissue adhesives.¹ In the 6 studies that reported time data, treatment with tissue adhesive took 4.7 fewer minutes. In all 6 studies that reported patients' perception of pain, pain was significantly less with tissue adhesive (weighted mean difference=13.7 mm [on 100-mm scale]; 95% confidence interval [CI], -20.0 to -6.9).

A multicenter, randomized trial studied 924 wounds (383 traumatic, 541 surgical) and reported no difference in cosmetic appearance upon grading by both a clinician and the patients themselves.² This study was not included in the Cochrane review because of the inclusion of surgical wounds. In a clinical trial reported after the Cochrane review, Holger and colleagues³ studied tissue adhesives against standard wound closure using either nylon or absorbable gut sutures. The study included 145 patients, 84 of whom had at least a 9-month follow-up. No significant difference was noted in a visual analog grading scale,

with a 10- to 15-mm difference (out of 100 mm) considered significant.³ Tissue adhesive closure was, on average, 5.7 minutes faster than standard wound closure with sutures for superficial lacerations. Pain outcomes in the studies showed that closure with tissue adhesive was less painful due to the lack of a need for anesthesia.⁴

■ Recommendations from Others

No major guidelines were found regarding the use of skin adhesives for wound closure.

■ Clinical Commentary

Skin adhesives offer reduced pain and less time spent closing the wound

Skin adhesives should be considered for closure of superficial cuts because skin adhesives are comparable to sutures in both cosmetic outcome and complication rates. Additionally, skin adhesives offer the patient benefits of reduced pain and less time spent in closing the wound. Although the cost of the tissue adhesives is higher than conventional sutures, follow-up visits for suture removal are not needed, reducing medical service time during the wound check visit.

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