SKIN STRETCHING FOR PRIMARY CLOSURE OF ACUTE BURN WOUNDS (273)

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Introduction: In burn care, a well-acknowledged problem is the suboptimal scar outcome from skin grafted burn wounds. With the aim of improving this, we focused on a new technique: excision of the burn wound followed by primary closure, thereby using a skin stretching device to stretch the adjacent healthy skin. The short- and long-term effect of Skin Stretch was compared to split skin grafting (SSG) in a randomized controlled trial.

Methods: Patients with burn wounds were randomized for SSG or primary wound closure using Skin Stretch. Follow-up was performed at 3 and 12 months postoperatively. The scar surface area was calculated and the scar quality was assessed, using subjective and objective measurement methods.

Results: No significant differences between the SSG and the Skin Stretch group were found for scar surface area. In the Skin Stretch group, a significant reduction of the surface area from 65.4 cm² (13.6-129.1) to 13.4 cm² (3.0-36.6) was found at 3 months (p = 0.028) and at 12 months postoperatively (65.4 cm² (13.6-129.1) to 33.0 cm² (8.9-63.7), p = 0.046, Wilcoxon signed ranks test).

Conclusions: Skin Stretch for primary closure of acute burn wounds is a suitable technique and can be considered for specific circumscript full-thickness burn wounds. However, future research should be performed to provide additional scientific evidence.

Figure 1