Prospective Randomized Controlled Trial: Fibrin Sealant Reduces Split Skin Graft Donor Site Pain

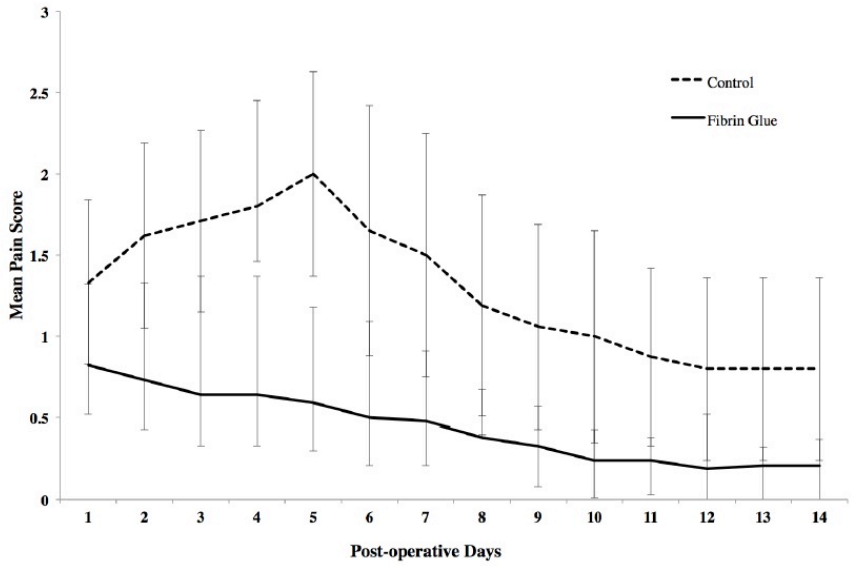
Background: Pain at split skin graft donor sites is common. Fibrin sealant has been demonstrated to reduce time to hemostasis at wound sites, and patients receiving this treatment were noted to report less pain, triggering this study, which aimed to evaluate pain and incapacity with and without fibrin sealant.

Methods: Fifty patients requiring split skin grafts were prospectively randomized to receive either Mefix only (Mölnlycke Health Care Ltd), or the fibrin sealant TISSEEL (Baxter Healthcare Ltd) plus Mefix, as primary donor site dressings. External secondary dressings were the same. Patients were blinded with regard to treatment group. Using visual analogue scales (scored 0-5), patients were asked to rate their donor site pain and incapacity for 14 days post-operatively. Secondary endpoints were length of hospital stay and duration of requirement for dressings.

Results: Fifty patients were recruited and 43 (86.0%) completed self-reported pain and incapacity scores. Twenty-two received TISSEEL plus Mefix and twenty-one received Mefix only (controls). Patients using TISSEEL plus Mefix reported significantly less pain (mean score 0.41 vs. 1.46, $p<0.001$), and significantly less incapacity (mean score 0.44 vs. 1.54, $p<0.001$). Patients allocated to the TISSEEL group recorded shorter lengths of stay and faster time to discontinuation of dressing, though statistical significance was not achieved.

Conclusions: Patients whose split skin graft donor sites were dressed with TISSEEL plus Mefix experienced significantly less pain and incapacity than patients with Mefix dressings. This resulted in a shorter inpatient stay for patients treated with TISSEEL.

Figure 2. Mean Daily Post Operative Pain Score, with 95% Confidence Intervals.



	TISSEEL and Mefix Score (95% CI)	**Mefix-only** Score (95% CI)	p-value
Primary End Points			
Mean Daily Pain [n=43]	0.42 (0.20 – 0.63)	1.46 (0.96 – 1.96)	$p < 0.001$
Mean Daily Incapacity [n=41]	0.44 (0.16 – 0.71)	1.54 (1.08 – 2.01)	$p < 0.001$
Secondary End Points	Days (95% CI)	Days (95% CI)	
Time to Dressing Removal [n=32]	20.00 (10.45 – 29.55)	32.71 (14.9 – 50.5)	$p = 0.16$
Time Discharge from Hospital [n=41]	3.30 (1.60 – 5.00)	5.10 (3.08 – 7.11)	$p = 0.16$

CI = Confidence Intervals