

SUCCESSFUL HEALING IN A CONSECUTIVE SERIES OF DIABETIC FOOT ULCERS (DFUs) TREATED WITH DERMAGRAFT®

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Purpose: We have reviewed the experience of one busy podiatric surgeon (CZ) in 20 consecutive patients treated with Dermagraft, to illustrate the results of DFU healing one may achieve using this modality.

Methods: DFUs were considered for Dermagraft treatment when glycemic control was optimized, the wounds were free of infection or heavy colonization on clinical grounds, the affected extremity has sufficient arterial circulation for healing and the wound was free of nonviable tissue. All patients who met these criteria were referred to the wound clinic for treatment. Off loading was achieved using removable cast walkers. Clinic charts from the most recent 20 patients treated with Dermagraft for DFU were reviewed.

Results: Using a regimen of appropriate patient selection, frequent wound debridement, and up to eight weekly applications of the living dermal substitute or until full wound closure, 18 patients (90%) were completely healed when followed to 12 weeks. Between one and eight applications of Dermagraft (median, 3; mean, 4) were required for complete wound re-epithelialization.

Conclusions: Our results suggest the effective acceleration of healing that Dermagraft induces when used within a proper clinical algorithm. We believe that Dermagraft should be considered early in the treatment course, as soon as it has been determined that the patient is at high risk for delayed healing and underlying risk factors (diabetic control, bioburden, etc.) have been optimized.

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Factor	Total (n=20)	Healed (n=18)	Unhealed (n=2)	P-Value
Age, years	55.7 (50.0-61.5)	56.0 (49.6-62.4)	53.5 (50-57)	0.64
Sex				
M	12 (60.0%)	11 (61.1%)	1 (50%)	0.77
F	8 (40.0%)	7 (38.9%)	1 (50%)	
Diabetic	20 (100%)	18 (100%)	2 (100%)	1.00
Insulin Required	16 (80%)	15 (83.3%)	1 (50%)	0.37
Wound Duration				
< 3 Months	10 (50%)	9 (50%)	1 (50%)	0.37
3 to 12 Months	6 (30%)	6 (33.3%)	0 (0%)	
> 12 Months	4 (20%)	3 (16.7%)	1 (50%)	
Initial Wound Size, cm ²	1.89 (0.62-3.14)	1.86 (0.47-3.3)	2.1 (0.84 -3.4)	0.45
Infected Wound				
Y	1 (5%)	0 (0%)	1 (50%)	0.16
N	19 (95%)	18 (100%)	1 (50%)	
Wound Location				1.00
Plantar Foot	5 (25%)	5 (27.8%)	0 (0%)	
Plantar Heel	4 (20%)	4 (22.2%)	0 (0%)	
Plantar Midfoot	3 (15%)	1 (5.6%)	2 (100%)	
Plantar Hallux	5 (35%)	5 (27.8%)	0 (0%)	
Pantar Metatarsal	2 (10%)	2 (11.1%)	0 (0%)	
Dorsal Midfoot	1 (5%)	1 (5.6%)	0 (0%)	
# of Dermagraft Applications				0.45
1	3 (15%)	2 (11.1%)	1 (50%)	
2	6 (30%)	6 (33.3%)	0 (0%)	
3	2 (10%)	2 (11.1%)	0 (0%)	
4	3 (15%)	3 (16.7%)	0 (0%)	
6	2 (10%)	2 (11.1%)	0 (0%)	
8	4 (20%)	3 (16.7%)	1 (50%)	

Table I: Demographics of the study group, comparing patients who were healed vs. those who were not healed after the treatment period.

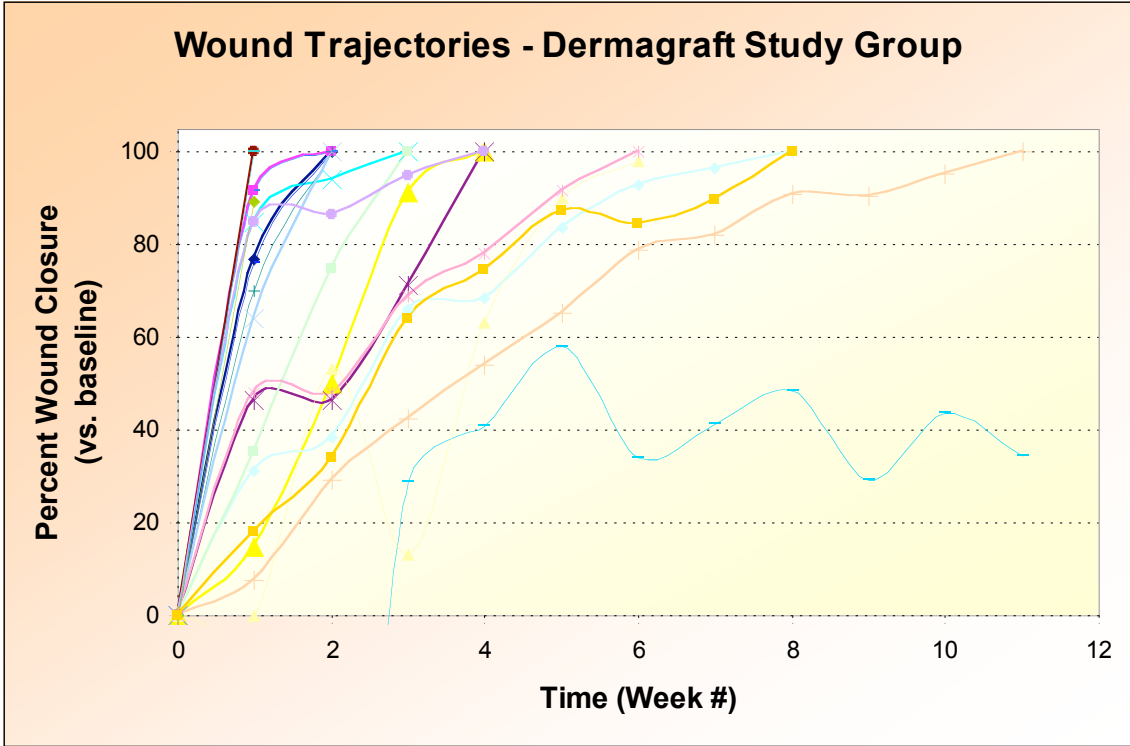


Figure I: Wound surface area vs. time for the entire study group.