Negative Pressure Wound Therapy as a Dressing for Split-Thickness Skin Grafts: Our Experience.

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PURPOSE: Split-thickness skin grafts (STSGs) are valuable tools for covering large soft-tissue wounds. Etiologies of STSG failure/loss include fluid accumulation under the graft, infection, and “shear” at the tissue interface. Graft immobilization is one of the mainstays of postoperative care to mitigate these risks. Negative pressure wound therapy (NPWT) improves overall graft survival, with fewer episodes of secondary grafting. NPWT may accomplish this by more optimally immobilizing the graft, thereby limiting shear, eliminating fluid accumulation in the wound bed and decreasing bacterial contamination. NPWT simultaneously allows greater patient mobility and potentially decreases length of hospital stay. This represents a validation study of these concepts.

CONCLUSION: We have utilized NPWT with STSG yielding 83% take. NPWT removes degradation products from the wound bed, allows graft conformation to irregular surfaces, and enhances neovascularization. NPWT maintains a moist environment, while at the same time avoiding fluid accumulation in the wound bed. We found skin graft take on irregular and mobile surfaces was dramatically enhanced and care was facilitated. Future studies could analyze the postoperative care costs associated with a traditional bolster dressing versus NPWT in matched patient groups treated with STSGs.