

Negative Pressure Wound Therapy (NPWT) compared to simple compression in lower limb split skin grafts.

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Background

- Lower limb excisions frequently require split-thickness skin grafting (STSG) due to limited skin laxity and large surgical defects.
- Traditional postoperative management involves bolster dressings, compression, bed rest, and prolonged hospitalisation to optimise graft take.
- NPWT has been utilised in recent times in lieu of traditional approaches to facilitate ambulatory care.
- There is limited evidence comparing graft outcomes between NPWT and traditional bolster dressings in lower limb oncological reconstruction.

Objectives

To compare initial skin graft take following lower limb STSG reconstruction after excision using NPWT versus traditional bolster dressing with compression.

Secondary Objectives

- Compare time to complete graft epithelialisation
- Compare postoperative complication rates
- Assess patient experience using wound QOL-017 and pain scale & EORTC QLQ Core Questionnaire
- Compare healthcare costs between treatment modalities

Methods

- Prospective randomised controlled trial
- 266 patients undergoing lower limb STSG reconstruction following oncologic excision for cutaneous malignancies
- 1:1 randomisation:
 - NPWT (n = 133)
 - Bolster dressing + compression (n = 133)
- Study duration: 2 years

Patient Randomised 1:1 → Pre-op education

Day 5–7
Initial graft review & assessment*

Day 11–13 / 18–20 / 25–27
Follow up assessment*

Weekly review until healed*

*Assessment: Take as a percentage, color, size, and peri-wound assessment. Photos to be taken with ruler in photo. Independent, blinded review of all grafts at each follow-up time point.

Results

Study yet to commence recruitment. No results available currently.

Expected outcomes:

- Faster graft healing with NPWT
- Improved patient mobility
- Reduced dressing requirements
- Reduced cost to patient and health system



Bolster dressing at initial application



NPWT device and foam dressing



Example of healthy, taken split skin graft

Conclusions

NPWT may improve lower limb STSG outcomes, improve patient experience and may reduce dressing requirements. Further evidence is required.

This trial will compare clinical and economic outcomes.

References

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