

SDC 2. Summary of Findings Associated with DRT by Surgery Type

<i>Burns & Scars</i>
<ul style="list-style-type: none">• Most frequently treated reconstructive sites using DRT: neck, hand/wrist, lower extremity and axilla<ul style="list-style-type: none">○ Variability in functional and cosmetic outcomes observed○ Significant improvement in ROM observed in reconstructive patients○ Complication rate 13%; most commonly infection, graft loss, hematoma formation and contracture¹¹• DRT used for reconstructive procedure of hands<ul style="list-style-type: none">○ Favourable cosmetic and functional outcomes consistently attained○ Wound site skin flexible and supple, and not adhering to deeper layers¹³• DRT used for reconstructive procedure of various anatomical sites<ul style="list-style-type: none">○ Satisfactory results for acute burns resurfacing but very good with secondary reconstruction○ Cases of local infection at graft site recorded¹⁴• DRT used for reconstructive procedure of upper extremities<ul style="list-style-type: none">○ Overall results satisfactory with no complications of infection○ Good appearance and pliable skin obtained¹⁷• DRT used in release of contracture followed by resurfacing of tight or painful scars<ul style="list-style-type: none">○ Improved ROM, softness, and appearance compared to preoperative states○ Pruritus and dryness: main complaints¹⁸• DRT used in contracture release procedures in neck, axilla, trunk, elbow, knee and hand<ul style="list-style-type: none">○ ROM or function rated as good or excellent○ Postoperative complications rarely necessitated regrafting¹⁹
<i>Limb Salvage</i>
<ul style="list-style-type: none">• DRT used for wounds with complex soft-tissue loss

- Most useful in management of complex soft-tissue loss and threatened extremities, as result of tendon, joint, or bone exposure
- Local infections managed by silicone unroofing followed by topical sulfamylon liquid dressings²³
- DRT used in patients with complex diabetic foot wounds
 - Good wound healing and excellent limb salvage outcomes among diabetic patients treated in multidisciplinary setting
 - Major amputation required in 11.2 % of patients²⁵
- DRT used in patients with diabetic foot ulcers
 - Progressive wound healing over time; 70% patients achieved complete wound closure by week 12
 - No infection reported²⁶
- DRT used in patients undergoing surgical treatment for diabetic foot syndrome
 - Complete wound healing occurred in 86.7% patients; average healing time 74.1 +/- 28.9 days
 - No patients underwent major amputation²⁷
- DRT for treatment of complicated foot lesions vs control
 - DRT group healed within a mean time of 83.5 days and control group healed within a mean of 139 days ($p = .028$)
 - No major amputation carried out at 1-year follow-up in DRT group versus 15% in control group²⁸

Reconstruction Following Trauma or Oncologic Excision

- DRT used in reconstructive surgery after skin tumor resection
 - DRT successful for different tumor locations (scalp, face, trunk, upper limbs, lower limbs, hands, feet), types (basal cell carcinoma, squamous cell carcinoma, malignant melanoma, dermatofibrosarcoma protuberans, lymphoma, precancerous carcinoma), or sizes (below 5 cm longest length to above 10 x 10 cm²)
 - Infection only variable significantly associated with graft failure³¹

- DRT used in lower extremity soft-tissue reconstruction
 - Most wounds localized between knee and ankle (50.8 percent) or foot (46.1 percent)
 - 70%t of wounds successfully healed at 180 days
 - Tendon exposure ($p < 0.05$), bone exposure ($p < 0.01$), and bone excision ($p < 0.04$) associated with reconstructive failure³⁶
- DRT used for soft tissue reconstruction overlying tendons with loss of paratenon in upper and lower extremity soft tissue defects
 - All patients healed with an average split-thickness skin graft take rate of 92.5%
 - 32 patients not lost to follow-up achieved an average ROM of 91.2%³⁷
- DRT used in management of complex traumatic degloving injuries
 - Complete take of grafts with excellent cosmetic and functional results³⁸
- DRT used for reconstruction of large scalp defects with exposed skull bone
 - Cosmetic results rated good by patients and independent observer
 - Complications observed in 13% of cases, including infections (4%)⁴³
- DRT used for post-cancer scalp reconstruction in poor flap candidates
 - Average skin graft take 94.5% in full-thickness wounds
 - Preoperative scalp irradiation associated with major complication and delayed graft healing⁴⁷

DRT = Dermal Regeneration Template, ROM = range of motion