SCAR MANAGEMENT Principles

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The remodelling and maturation phase of wound healing results in scar formation. The immature scar is at first pink, hard, raised and often itchy . As the collagen matures, the scar becomes almost acellular as the fibroblasts and blood vessels reduce. The external appearance of the scar becomes paler, while the scar becomes softer, flattens and its itchiness dimin - ishes. Most of these changes occur over the first 3 months but a scar will continue to mature over 1–2 years, and sometimes more. Tensile strength will continue to increase but would not be expected to ex ceed around 80% that of normal skin. There is well-established evidence for managing scars with pressure/compression therapy , silicone sheets and gels, 14 intralesional corticosteroid injection and surgery . Other treatment modalities include massage therapy , psychologi - cal counselling, laser therapy , radiotherapy , cryosurgery and intralesional injection of other products. Prevention of adverse scar formation is better than treat - ment, so it is important to correctly manage wounds (Table 3.2). Optimal surgical management starts with careful planning, tissue handling and meticulous technique. For example, plac - ing incisions along relaxed skin tension lesions where possi - ble, and avoiding straight-line incisions across flexion creases. Early debridement reduces the risk of infection and allows for earlier /uni00A0 wound closure. Dirt-ingrained (tattooed) scars ar e usu - ally preventable by proper initial scrubbing and cleansing of the wound (Figure 3.16). It is important to recognise normal - e pre - .

Figure 3.16 Dirt-ingrained scar.

anatomical landmarks to avoid misaligned scars, such as at the lip vermilion border where even a 1-mm discrepancy is noticeable at a distance. Skin closure should be without tension and allow for postoperative oedema typically associated with injury and healing. Wounds should be sutured in layers unless they are very small. Deep dermal absorbable sutures hold the skin edges together to allow subsequent subcuticular or skin sutures. Large and deep wounds also require closure of the fascial layer, for example Scarpa’s fascia in the abdomen. Sub cuticular suturing avoids skin suture marks. If skin sutures are used, suture marks may be minimised by using monofilament sutures that are removed in a timely fashion depending on ana tomical location. For example, sutures are typically removed by 5 days in the face versus 10–14 days in the lower limb. Following wound closure, scar prevention measures include tension relief, taping , hydration and ultraviolet protection. Silicone sheeting or gel is widely accepted as the first-line pro phylactic and treatment option for hypertrophic and keloid scars. The management of hypertrophic and keloid scars is di ffi cult and international recommendations from 2014 are 15 summarised in Figur es 3.17 and 3.18 . Later scar treatment includes intralesional cortico steroid injections, typically using triamcinolone

acetonide 10–40 /uni00A0 mg/mL every 4–6 weeks until the scar has flattened. Antonio Scarpa , 1747–1832, Professor of Anatomy , Pavia, Italy . Revisional scar surgery may be appropriate . For example, for correcting alignment of scars.

(red, slightly raised) (red/raised, itchy) Silicone gel or sheeting Apply prevention algorithim (i.e. silicone gel or sheeting, hypoallergenic paper tape or onion extract cream) corticosteroid injection (repeat monthly) PDL If persists for >1 month, treat as a linear hypertrophic scar Pressure therapy a PDL or fractional laser therapy Surgical excision + postoperative silicone gel or sheeting Figure 3.17 Management algorithm for hypertrophic scars.

Light grey indicates initial management strategies; dark grey indicates secondary a b management options. Preferred initial option. 2.5–20 mg/mL (face); 20–40 mg/mL (body). include bleomycin, mitomycin C, laser therapy and cryotherapy. e stabilisation. Combination and alternative therapies include massage, physical therapy, corticosteroids, tension-relieving surgical interven tion, excision, grafting or /f_l ap coverage, hydrocolloid dressings, antihistamines and laser therapy.

5-FU, 5- /f_l uorouracil; PDL, pulsed-dye laser. (Redrawn with permission from Gold MH, McGuire M, Mustoe TA part 2–algorithms for scar prevention and treatment. Dermatol Surg hypertrophic (red/raised) Admission to a specialty d burn unit (2 months) Intralesional Silicone gel or sheeting, b pressure garments and/or onion extract cream a or fractional Fractional laser therapy laser therapy Combination or alternative e therapies Severe scars Surgical excision + corticosteroids 5-FU +

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Revision #1
Created 2025-12-31 15:12:50 UTC by Omar Ayman
Updated 2025-12-31 15:12:50 UTC by Omar Ayman