Short Case series of Large leg wounds treated by Progressive closure to achieve delayed primary healing.

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Abstract -
Wounds larger than 2 cms are difficult to approximate primarily without tension and always have a risk of soft tissue devitalisation.[1,2] Local rotation/ free flaps, full thickness skin grafts are the usual methods employed for coverage of large defects.[2] These have unpredictabilities involved in terms of loss of vascularity and require a plastic/ microvascular surgeon. We present our technique of progressive closure of large skin wounds that presented with or without fracture to our ER. In the OR, after initial debridement & fracture fixation, mattress stay sutures were taken. In some cases, a gauze soaked in 0.9% NS and Betadine was used with larger gaps of 5-6cm to reduced the skin tension. Leg elevation was given over BB splint and IV Antibiotics for 48 hrs. The wound was reassessed in a clean side room after 48 hrs to check the reduction of swelling and loosening of sutures. A second set of mattress sutures were taken in between the previous sutures under local anaesthesia to allow further approximation and the initial sutures were cut. Wounds were assessed after every 48 hrs till complete approximation was achieved. Suture removal was performed in the OPD two weeks after the final approximation. This technique harnesses the viscoelastic properties of the skin to bring closure by biological and mechanical creep with cosmetically superior wound closure.

Images







Images of open wound post trauma. The subsequent images show gradual approximation of the skin edges using biological and mechanical creep with the help of gradual tensioning of sutures.

References:

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