



AB123. The wrinkle test in lower limb trauma: no longer necessary?

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Background: Timing of definitive foot and ankle surgical fixation is often determined by soft tissue coverage. The “wrinkle test”, noted on pinching the skin around fracture has often been used for determining timing of surgical fixation. Wound complications are lower in ankles fractures repaired within a week compared to those repaired after one week. Timing does not appear to be an issue in calcaneal fractures. Earlier intervention, despite soft tissue swelling, does allow for easier anatomic reduction and fixation. We propose that zinc-based Unna compression bandaging post-operatively can manage swelling and soft tissue oedema and reduce wound complications in high-energy foot and ankle trauma

Methods: A prospective single-centre cohort study. Patients with closed, high-energy foot and ankle trauma; trimalleolar ankle, calcaneal, pilon and revision Achilles tendon repairs were repaired as soon as possible, despite soft tissue

swelling. After fixation, soft tissue swelling managed with Unna compression bandages. Outcomes included wound complications and successful reduction and fixation.

Results: A total of thirteen (n=13) patients were prospectively recruited, six calcaneal (n=6), three pilon (n=3), three trimalleolar ankle fractures (n=3) and one revision Achilles tendon repair (n=1). Mean time to surgical fixation was 5 days (+/-2.35). Anatomic reduction and satisfactory fixation was achieved in all cases and no evidence of hardware failure. One wound complication was noted, 7.6% of cases. This was in a high-energy pilon fracture, fixed two days after injury.

Conclusions: Earlier fixation allows for easier reduction and fixation. Delaying surgery in complex foot and ankle trauma due to poor soft tissue condition has been typical orthopaedic practice in the past. This prospective study demonstrates that complex foot and ankle trauma can be fixed as soon as possible and soft tissue issues can be prevented successfully with zinc-based compression Unna bandages, showing 7.6% rate of wound complications. This occurred in a high-energy pilon fracture with significant periosteal stripping noted at fixation.

Keywords: Ankle; calcaneal; pilon; compression bandage; wound issues

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