

The Exposed Achilles: Healing the Surgical Wound Complication in the Weekend Warrior

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Statement of purpose

Operative repair of Achilles tendon ruptures is a mainstay of treatment for this injury especially in patients who live active lifestyles. While surgical repair of the Achilles allows for return to activity, it is not without chance of complications, especially wound complications. Wound complication rates are documented from 7-13%¹. Several factors contribute to this higher risk of wound complications given local soft tissue trauma from the injury, superficial tendon location with little subcutaneous tissue layer^{1,2}. Additionally, the typical midline surgical incision approach is in a vascular watershed region².

In this case presentation we present a case of surgical wound after repair of an acute achilles rupture in an active patient. Given the patients active lifestyle as well as occupational duties healing this wound quickly was a high priority for this patient

By presenting this case, it is our hope to guide wound specialists in treating wounds in an atypical wound, patient-the physically active individual needing to return to full function.

Case Presentation

A 56 YO male with PMH of Crohn's, and asthma incurred an acute achilles tendon rupture while playing basketball. He underwent open surgical repair of the tendon with no intraoperative or immediate postoperative complications.

At 2 week follow up the tendon repair was noted to be intact; however, near complete dehiscence of the surgical incision was noted with a fibrotic wound bed without signs of infection (Figure 1). Excisional debridement of the wound was performed, and the patient was referred to a wound care center for further evaluation and treatment.

At 1 week follow up patient noted concern significantly more pain to the site and drainage. He admitted to noncompliance with being non weight bearing. Clinical exam noted significant increase in peri-wound erythema and purulent drainage. He was admitted to the hospital for IV antibiotics and underwent 2 stage surgical intervention.

The first surgery was with incision and drainage and placement of antibiotic beads to allow for stabilization of the infection. After clinical resolution of infection was noted 2 days later, he underwent a second surgical intervention consisting of wound bed preparation and skin substitute placement (Kerecis) with application of NPWT device (Medela)

Initial Evaluation and Treatment



Figure 1. Initial presentation of wound after surgical repair of achilles rupture.



Figure 2. Wound 3-week Post op. Notice marked increase in erythema and purulent drainage.



Figures 3 After staged surgical intervention skin substitute (Kerecis) was placed on wound with NPWT device (Medela). Patient was discharged home and was to continue to follow up in wound care clinic.

Continued Treatment and Follow Up.



Figure 4 Continued wound treatment 2 months after surgery



Figure 5 Continued granulation and improvement after treatments



Figure 6 Wound nearly resolved



Figure 7 Wound fully healed

Management of this wound continued with weekly visits to the wound care clinic with periodic wound debridement as well as application of skin substitute (Kerecis) as well as application of negative pressure wound therapy device (Medela). While patient was not fully compliant with using CAM boot as well as modifying activity he ultimately healed fully. As of a year follow up, he has been wound free without recurrence; additionally, he denies any limitations in ADLs, occupational duties or participation in recreational activities.

Discussion

Management of surgical wounds secondary to dehiscence of achilles tendon repair provide unique challenges to the wound care given the watershed nature of the that tissue region in addition to generating granular tissue over the relatively avascular achilles tendon exposed in the wound bed.

Patients presenting with this issue tend be younger (20-39YO) and physically active as the mechanism of injury is overwhelmingly sports related³. While it is certainly advantageous this demographic is younger and more active, this patient population can pose unique challenges to the clinician vs the older less healthy wound patient population as these patients will be wanting to return to work and activity ASAP. The need to balance return to activity with weightbearing and other treatment regimen compliance should be a priority consideration for the clinician.

With our patient through aggressive wound care and adjunctive therapies of skin substitute to facilitate tissue regrowth and NPWT to optimize the wound bed this patient made a full recovery with no lasting sequela or limitations in activity. It is our hope this can provide guidance to clinicians who encounter this type of wound in their practice.

References

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