Acute Achilles Rupture - Open Repair

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Introduction:
There has been much debate over the last several decades regarding non-operative vs. open repair for acute tears of the Achilles' tendon. The first description of open repair was in the early 20th century (Abrahamsen Level-4) and gained further acceptance in the second half of this century as surgical technique improved. However, because of high rate of wound complications (20%) reported (Wills), and a satisfactory report of cast immobilization (Lea and Smith, level 4 evidence) despite a 11% re-rupture rate, led to a resurgence of closed management. Reduced complication rates and improved functional outcomes reported by Cetti (Level-1 evidence) prompted many surgeons to again advocate surgical repair.

Indications: Active and athletic individuals who wish to maximize likelihood of gaining pre-operative function. Contraindications include: arterial insufficiency, poor skin and soft tissue quality, poorly controlled co-morbidities (e.g. diabetes), and inability to comply with the planned post-operative protocol.

Surgical Technique:
1. Performed 7-14 days post injury.
2. Patient placed prone on the operating table.
3. Posteromedial longitudinal incision carried sharply to paratenon (no undermining).
4. Identify paratenon and carefully retract and protect for later closure over the repair.
5. Posterior compartment fasciotomy to facilitate paratenon closure over the posterior aspect of the repair and to increase space for serous drainage to accumulate.
6. Tendon repair with non-strangulating locking (Krackow) stitch with braided #2 or #5 polyesther suture. Suture knots are placed anterior to the repair to avoid skin irritation.
7. Tensioning the repair is critical. Draping the contralateral limb to compare resting tension is helpful.
8. Tendency is to over tighten. V-Y lengthening can be done through separate incision if more length is needed post repair.
9. Layered closure with paratenon closure done first.

Post-operative Care:
Splint for 10-14 days in 10-15 degrees equinas. Sutures out at 2 weeks if wound well healed and home range-of-motion exercises begun. At 4-6 weeks pool exercises or stationary bike with low resistance. If repair solid, begin weight bearing with limited dorsiflexion. At 6 weeks, transition to shoe or boot with ¼ inch heel lift with isotonic resistive exercises. At 12 weeks, increased resistive exercises, running but no high impact athletics. Pay attention to symptoms of overuse.

References: