

Delayed (14-30 Days) Percutaneous Repair of Achilles Tendon Ruptures Offers Equally Good Results As Compared With Acute Repair

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This article evaluated post-operative outcomes of Achilles tendon ruptures fixed percutaneously either acutely (<14 days) or delayed (14-30 days). 42 patients were in the study with 21 in each group. All patients underwent the same technique with a Bunnel suture in the proximal stump and Kessler in the distal stump. Patients were immediately placed in a below knee cast after surgery for 3 weeks followed by a functional brace that had 5 wedges with physical therapy. Over the course of a couple months, wedges were sequentially removed, and concentric and plyometric exercises were introduced. After 5 months at the patient's discretion, return to activity was permitted. Patients were assessed at 6 weeks, 3 months, 6 months, and at a year. Tendon elongation, functional outcomes using the Achilles Tendon Rupture Score (ATRS), return to sports, calf circumference, muscle power, and complications were all measured.

No significance was found between the two groups at 1 year using the ATRS (Acute 91.2 +/- 2.2 vs. Delayed 91.1 +/- 2.4; P=.84). There was also no significance in tendon elongation at the 12 months final follow up (Acute -3.7 +/- 1.9 vs. Delayed -3.9 +/- 2.0; P=.69). Calf circumference did not statistically differ between the injured limb and contralateral limb of the two groups while the plantarflexory strength did. When asked about patient performance at the 12-month mark, 52% in the acute group and 62% in the delayed surgical repair group stated that their physical performance of activity was improved for the same before injury (P=.55). There were no wound complications postoperatively but the acute group did have 2 patients where the knots were prominent and subsequently removed at 10 weeks. Neither group experienced a rerupture. There were some limitations in this study. The follow up was only 12 months, the population was from a referral center so it was hard to estimate the rate of delayed presentation, and ultrasound wasn't used to determine if the two ends could be placed back together in the acute presentation group. Strengths of the study include that the same surgeon performed the procedure in each group and that the post-operative protocol was homogenous.

This article was great in that it demonstrated that a percutaneous repair can be used in both acute and delayed cases and produce similar results after a year follow up. This further adds to the foot and ankle literature that percutaneous Achilles repairs are safe for acute Achilles tendon injuries without further augmentation. As long as the learning curve is achieved with this procedure, patients are less likely to have wound complications, less infection rates, and achieve similar functional results to that of open procedures. Our institution incorporates a similar post-operative

protocol of all Achilles ruptures where immobilization is first achieved for a couple of weeks followed by ROM exercises in a boot and physical therapy. With a correct anatomical repair followed by an aggressive post-operative protocol, patients are able to return to activity in a safe, timely manner.