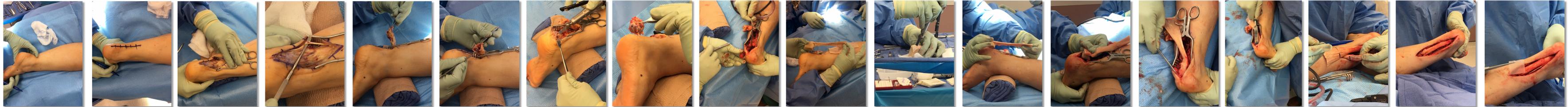


# Achilles Bone Block Allograft for Neglected Achilles Tendon Rupture Repair

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Intra-op: Rupture/ Excision/ Tendon Transfer/ Allograft Implantation Process

## Purpose

Achilles tendon rupture is a highly debated topic in relation to options of treatment, and with prolonged negligence, an Achilles tendon rupture repair becomes even more difficult of a debate. Though supporters for conservative therapy remain intact, the majority of literature presented advocate for surgical repair of acute ruptures. Correction of such extreme damage must be focused on eliminating non-viable tissue whilst still maintaining length and tension equal to the contra-lateral extremity, complete with the intention of restoring functionality to the highest possible degree.

## Literature Review

A variety of sound and viable surgical options for repair of neglected Achilles tendon ruptures have been effectively reported<sup>(1-7)</sup>. V-Y advancements turn – down flaps, tendon transfers and even direct repair have shown good results in restoring function<sup>2</sup>. However, for the chronic ruptures with gaps greater than 6cm, options are limited. Turn – down flaps augmented with Flexor Hallucis Longus transfer is effective in this subset of patients as described by Ahmed et al<sup>3</sup>. In their cohort of 32 patients, significant subjective and functional outcomes were recorded. Catanzariti et al<sup>4</sup> described their technique of combined tendon and bone allograft transplantation but to our knowledge no studies have reviewed long term results of patients receiving this procedure.

## Case Study

A 52 year-old female who presents with Achilles tendon rupture suffered after increasing her exercise activities 2 months prior. The initial pain and tendon swelling began 6 months prior to the patient’s initial presentation. She now presents unable to do her regular work and walking activities. She initially opted for conservative care and was placed in a non-weight bearing below knee cast for 3 weeks and then a cast boot for 4 weeks with a heel lift. The patients pain persisted at BOTH the insertion (chronically) and also the more proximal mid-substance area at the “water shed” area (acutely) of the Achilles. After showing no improvement, the decision was made to proceed with surgical correction. Pertinent medical history was positive for hypertension and arthritis. Clinically, patient presented with a palpable yet hypertrophied, mid - substance bulbous formation with severe tenderness. Thompson test was painful but not positive. An MRI revealed a 60% rupture 5cm above calcaneal insertion with no distinct gap as well as chronic insertional tendinopathy. Based on clinical and objective findings, the patient was scheduled for Achilles tendon repair using a bone block allograft and given a severe equines the patient also had a exostectomy of the posterior heel and advancement anteriorly of the new Achilles. As an adjunct, the posterior ankle and subtalar capsule was released due to a chronic equines contracture. Post-operatively, she was placed in a stirrup splint for 2 weeks then transferred to a non-weight bearing cast for an additional 6 weeks. She was transitioned into a high-tide boot with a lift and was kept non-weight bearing for and additional 2 weeks. After 8 weeks, physical therapy as well as protected weight bearing was initiated. Regular, full weight bearing began at 10 weeks post-op. At 12 weeks the patient was in regular shoe gear. All activity had resumed with minimal swelling and discomfort at 14 weeks.

## Analysis/ Discussion

Achilles tendon ruptures can be relatively difficult to manage once rejected. Increased clinical awareness is crucial to ensure that sufficient viable tendon remains as well as acceptable anatomic tension. In cases where there is a large gap and/or insertional disease is present, Achilles bone block allograft with Flexor Hallucis tendon transfer is a feasible and long-term successful solution in repairing and strengthening the Achilles tendon.

## Results

The patient is currently 12 months post-op and is assuming pain—free ambulation with no complications. Compression stockings were employed for edema control. The patient performs double and single heel raises with no complications.

## References

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Pre-op MRI/ x-ray



Post- op clinical/ x-ray