

# Achilles Tendon Repair

A Case Study by Jason A. Piraino, DPM, MS, Assistant Professor,  
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## CASE STUDY: ACHILLES TENDON REPAIR REINFORCED WITH ORTHADAPT® BIOIMPLANT INTRATENDINOUS WEAVE REINFORCEMENT

The OrthADAPT® Bioimplant from Synovis Orthopedic & Woundcare, Inc. is a highly organized collagen scaffold that can be used for implantation to reinforce the repair or reconstruction of soft tissues. The collagen scaffold is flexibly crosslinked and sterilized\* using proprietary technologies that make it resistant to premature enzyme degradation, biocompatible and safe. The OrthADAPT® Bioimplant allows for a stronger repair over time and the potential for minimal pain and swelling.

### ABSTRACT

A 28 year old male underwent surgery to repair a complete transverse laceration of the Achilles Tendon. OrthADAPT® Bioimplant was woven intratendinously to augment the repair. The patient was ambulating with minimal pain at 10 days post-op and has continued to do well at 15 months.

### PATIENT HISTORY

The patient presented to the ER after kicking glass and was unable to move his ankle. The patient had a 2 cm transverse laceration approximately 3 cm proximal to the Achilles insertion (figure 1) that appeared to have transected the entire Achilles tendon (figure 2).

### PROCEDURE

The patient was taken to the OR for lavage and open repair. The OrthADAPT® Bioimplant weave technique was performed to reinforce the repair site (figures 3-6). A tendon passer was used to pass the OrthADAPT® Bioimplant. A direct end-to-end repair with a double row Krackow technique was used to complete the primary repair using #2 non-absorbable suture. The patient was placed in a slight gravity equinus, below knee cast and discharged the following day with instructions to remain strictly non-weight bearing, keep the cast clean, dry, intact and return for follow-up in one week

### RESULTS

**10 Days Post Op:** The patient arrived fully weight bearing without his cast. He related having minimal pain, his sutures were intact, and there was minimal edema or ecchymosis. The patient was placed in a new below knee fiberglass cast and released.

**24 Days Post Op:** Patient had minimal pain with dorsiflexion only, and had minor erythema at the incision site. He was placed in a hinged CAM boot and was instructed to be strictly non-weight bearing and to begin passive ROM.



Figure 1. Initial injury.



Figure 2. Initial Dissection.

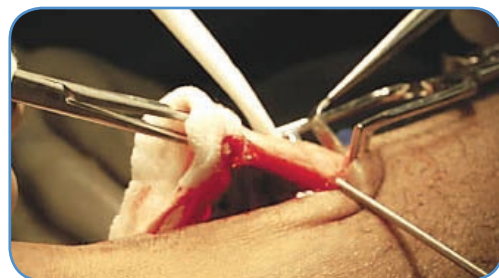


Figure 3. Initial transverse pass of OrthADAPT® Bioimplant.

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**34 Days Post Op:** Physical Therapist examination revealed the following:

- Full ROM in inversion/eversion
- 4/5 inversion/eversion strength
- Full strength with dorsiflexion; plantar flexion strength was not tested
- Negative Thompson Test
- Complaints of “stiffness” with terminal dorsiflexion/plantar flexion
- Concern for recurrent tear or damage to the repair due to non-compliance
- Patient was progressing nicely without edema or pain.

**8 Weeks Post Op:** The patient returned to clinic with edema and pain at the site, admitting that he had returned to work at 6 weeks post-op without the CAM walker. At the workplace he planted firmly on his affected limb, lifted “a large piece of furniture,” and felt pain around the incision site. Upon examination, edema was present at the repair site, minimal decrease in ROM of dorsiflexion/plantar flexion, and slightly diminished strength. MRI verified that tendon was intact. The patient was immobilized again in a CAM walker for one week to reduce the swelling and prescribed Vicodin 5/500 as needed for pain.

**5 Months Post Op:** Patient reports being pain-free and has returned to normal activity.

## DISCUSSION

At 5 months, patient was back to normal activity despite repeated noncompliance. It was remarkable that the patient was fully weight-bearing at 10 days with minimal pain, edema, and no re-rupture.

Given prior knowledge of the patient’s likelihood not to comply with prescribed treatment, the OrthADAPT® Bioimplant may not have been a first line of treatment. However, this case demonstrates the potential benefit of the OrthADAPT® Bioimplant from Synovis Orthopedic & Woundcare, Inc. used in an intratendinous fashion, to successfully augment a ruptured achilles tendon.

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Figure 4. Proximal stump augmentation complete.

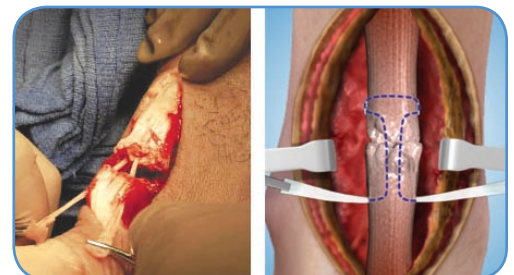


Figure 5a. Intratendinous pass through the distal stump.

Figure 5b. Intratendinous weave pattern.



Figure 6. Complete repair with augmentation.

# Synovis®

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\*Passes USP Sterility Testing. Data on file: Synovis Orthopedic & Woundcare, Inc. Refer to the Synovis Orthopedic & Woundcare, Inc. Instructions for Use for the proper use, precautions, warnings, approved indications and labeling of the OrthADAPT® Bioimplant. CAUTION: Federal law restricts this product to sale by or on the order of a physician. OrthADAPT® Bioimplant is a registered trademark of Synovis Orthopedic & Woundcare, Inc.

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