

# Longitudinal Peroneus Brevis Tendon Repair

A Case Study by Jason A. Piraino, DPM, MS,  
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## CASE STUDY: LONGITUDINAL PERONEUS BREVIS TENDON REPAIR WITH ORTHADAPT® BIOIMPLANT INLAY 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 46 year old female was involved in an automobile accident, sustaining injuries to her back, neck and ankle. The patient underwent surgery to repair a longitudinal tear in her peroneus brevis tendon. An OrthADAPT® Bioimplant was used to reinforce the repair in an inlay fashion.

### PATIENT HISTORY

The patient experienced pain along the course of the peroneal tendons and the Achilles tendon on her left limb following an automobile accident. MRI confirmed a peroneus brevis longitudinal linear tear, as well as Achilles tendonitis. Her two year treatment course included visits to several podiatrists and orthopedic foot & ankle specialists. After multiple injections with Kenalog®-10 steroid, including ultrasound guided injections, and immobilization, she decided to undergo an open surgical repair of her peroneus brevis tendon.

### PROCEDURE

A 3 cm incision was made along the course of the peroneal tendons. The peroneus brevis tendon sheath was encountered and noted to have steroid embedded within it. The tendon was isolated and a 1.5 cm longitudinal intra-substance tear was identified (Figure 1). Degenerated tendon was sharply debrided. The tear was exposed and a 3 cm x 3 cm OrthADAPT® Bioimplant was trimmed to 1.5 cm x 0.2 cm to match the size of the intra-substance tear (Figure 2). The OrthADAPT® Bioimplant was introduced into the defect (Figure 3), and the tendon was then closed using 2-0 FiberWire® in a running stitch fashion (Figure 4), while ensuring that the OrthADAPT® Bioimplant was firmly embedded within the substance of the tendon. Adjunctive procedures performed during the surgery included a gastrocnemius recession and Achilles tendon injection with platelet rich plasma.

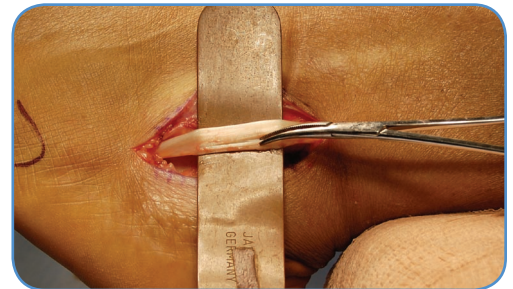


Figure 1. Longitudinal, linear tear of the left peroneus brevis tendon

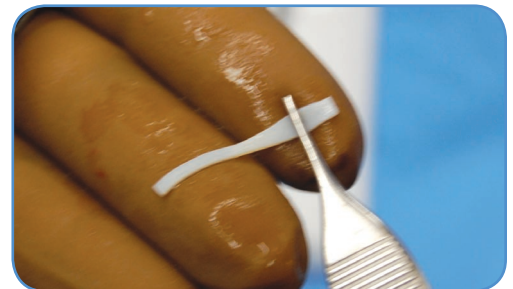


Figure 2. OrthADAPT® Bioimplant trimmed to fit longitudinal tendon tear

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## RESULTS

A successful repair of the longitudinal peroneus brevis tendon reinforced with the OrthADAPT® Bioimplant was achieved.

**6 Days:** The patient had minimal edema, and stated that she stopped taking her pain medication the day after surgery, as it was no longer needed.

**5 Weeks:** The patient began weight bearing and physical therapy. The patient had 0/10 pain without use of narcotics.

**2 Months:** The patient demonstrated good overall A/P ROM and her strength was 3+/5 for eversion and 4/5 for all other muscles. Her single leg balance on the left was 15 seconds and 30 seconds on the right side.

**6 Months:** At this time, her single leg balance was equal on both sides, and the patient was extremely satisfied with the results of the procedure.

## DISCUSSION

- After several years of with a peroneus brevis tendon injury and numerous treatment failures the patient is now pain free.
- Despite the chronic nature of the injury, the treatment resulted in a favorable patient outcome, showing minimal pain and edema, as well as early range of motion and return to normal activity.
- Reinforcement of a peroneus brevis tendon repair using the OrthADAPT® Bioimplant is a viable surgical treatment and may offer advantages over traditional repair methods.

*"I am very pleased with the operation and my recovery time... I am light years ahead of [other patients] in recovery time."*

– Patient's correspondence to surgeon –

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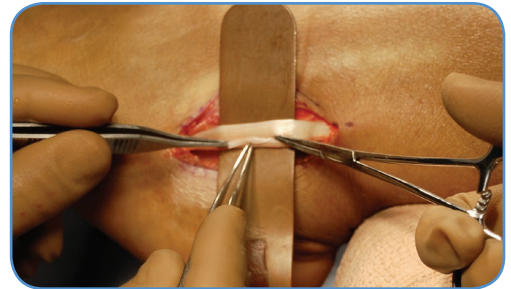


Figure 3. Placement of bioimplant strip into tear



Figure 4. Tendon closed with 2-0 FiberWire® suture

# 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. Kenalog® is a registered trademark of Bristol-Myers Squibb Company. Fiberwire® is a registered trademark of Arthrex. ©2009 Synovis Orthopedic & Woundcare, Inc. All rights reserved. SAM0177 Rev B (10/09)

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