

# Lateral Ankle Instability Repair

A Case Study by Daniel K. Lee, DPM, FACFAS  
Assistant Clinical Professor  
Department of Orthopaedics  
School of Medicine  
University of California, San Diego

## CASE STUDY: LATERAL ANKLE INSTABILITY REPAIR WITH ORTHADAPT® BIOIMPLANT ONLAY 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 39 year old healthy male with chronic lateral ankle instability underwent surgical repair. An OrthADAPT® Bioimplant was used to reinforce the primary repair in an onlay fashion. The patient has shown excellent results with no instability symptoms at the one year follow-up visit.

### PATIENT HISTORY

A 39 year old male presented with one year of ankle pain and ankle instability (“giving way”) symptoms. He had not responded to six months of conservative treatment with a supervised physical therapy program consisting of peroneal strengthening exercises and proprioceptive training. Upon physical exam, the patient revealed a positive anterior drawer sign and laxity in his talar tilt test. His stress radiographs and MRI findings revealed increased varus tilt and angulation and increased signal uptake (Figures 1 & 2). The patient elected to have surgery to repair his lateral ligament complex due to persistent pain and instability.

### PROCEDURE

A curvilinear incision was made approximately 4 cm in length at the anterolateral border of the distal fibula, stopping at the level of the peroneal tendons. Care was taken to avoid the intermediate dorsal cutaneous branch of the superficial peroneal nerve anteriorly and the sural nerve posteriorly. Dissection was carried down to the capsule, and full thickness flaps of the skin and subcutaneous tissue were made.

The inferior extensor retinaculum was then identified. Attention was directed in identifying and isolating the Anterior Talofibular Ligament (ATFL) as a thickening of the anterior capsule and the Calcaneofibular Ligament (CFL) found at the tip of the fibula with the peroneal tendons retracted distally. Both structures were noted to be weak and attenuated.

Imbrication and primary repair with non-absorbable sutures was performed as a modified Bröstrom in a pants-over-vest fashion with two suture anchors placed into the fibula, loaded with non-absorbable sutures (Figure 3). Repair was achieved while positioning the ankle in neutral to slight valgus position.



Figure 1.

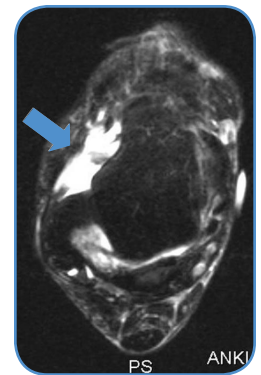


Figure 2.

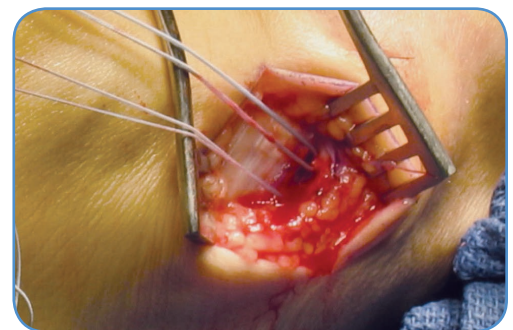


Figure 3.

A 4 cm x 5 cm OrthADAPT® Bioimplant was trimmed into a crescent shape to match and cover the repair site from the anterior fibular edge to the retinaculum (Figure 4). Peripheral suturing of the OrthADAPT® Bioimplant was performed under tension with 2-0 non-absorbable sutures starting from the retinaculum side towards the fibular periosteal side (Figure 5).

The ankle was placed in a well padded posterior bulky splint in neutral to slight valgus position for seven days in a non-weight bearing fashion. The sutures were removed (week 1-2), and patient placed into a walking boot. At 2-3 weeks postoperatively, physical therapy was commenced with progression into strengthening and proprioception exercises to tolerance.

## RESULTS

A successful repair of lateral ankle instability reinforced with the OrthADAPT® Bioimplant was achieved.

- The visual analogue scale for pain was minimal to none.
- There were no postoperative complications.
- The patient's preoperative and postoperative AOFAS scores were 66 and 94, respectively.
- Return to activity commenced gradually at 6-8 weeks.

## DISCUSSION

Anatomical repairs with OrthADAPT® Bioimplant augmentation have the advantages of:

- Preserving the normal anatomy by preservation of subtalar joint motion.
- Eliminating the morbidity associated with harvesting of tendon grafts.
- Providing encouraging consistent high clinical scores, patient satisfaction in lateral ankle instability repairs without any complications and failures of the bioimplant.
- Rescuing primary repairs with poor host tissue which may stretch out and fail over time.

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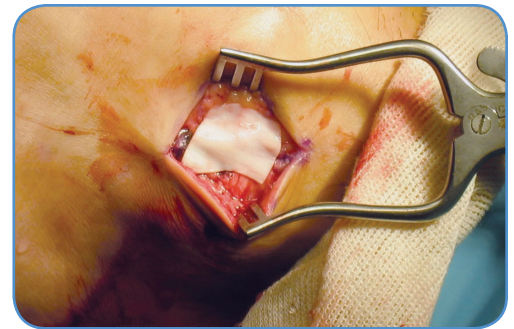


Figure 4.

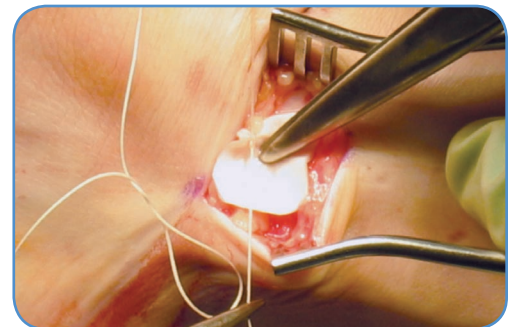


Figure 5.

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Orthopedic and Woundcare, Inc.

6 Jenner, Suite 150, Irvine, CA 92618 USA  
Phone: 800.650.1816 Fax: 949.502.3245  
www.synovisorthowound.com

For additional information and/or product support, please contact your local Synovis Orthopedic & Woundcare representative or Customer Service at 1-800-650-1816.

\*Passes USP Sterility Testing. Data on file: Synovis Orthopedic & Woundcare, Inc.

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