



AC Separation Reconstruction

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OrthADAPT™
Bioimplant

CASE STUDY: ORTHADAPT™ BIOIMPLANT USED FOR ACROMIOCLAVICULAR JOINT RECONSTRUCTION

The OrthADAPT™ Bioimplant from Pegasus Biologics, Inc. is a highly organized Type I collagen scaffold that can be used for the repair, reconstruction, augmentation, and reinforcement of soft tissues such as tendons and ligaments. The bioimplant is stabilized and sterilized using proprietary technologies which make it resistant to premature enzyme degradation, biocompatible and safe. Clinical results demonstrate that this bioimplant is an effective scaffold that does not produce any clinically significant inflammatory responses and provides strength throughout the healing process for rapid, controlled remodeling at the implantation site.

ABSTRACT

A 22 year old male with a Type V AC separation underwent surgery to reconstruct the acromioclavicular and coracoclavicular ligaments. An OrthADAPT™ Bioimplant was woven through the surgical site to strengthen the repair and to enhance biologic healing of the CC and AC ligaments.

PATIENT HISTORY

A 22 year old patient suffered a right shoulder injury while snowboarding three weeks prior to presentation. Radiographs confirmed an AC separation with 200% elevation of the lateral edge of the clavicle when compared with the contralateral side. The patient elected to have surgery for AC reconstruction due to his active lifestyle and ongoing physical discomfort.

PROCEDURE

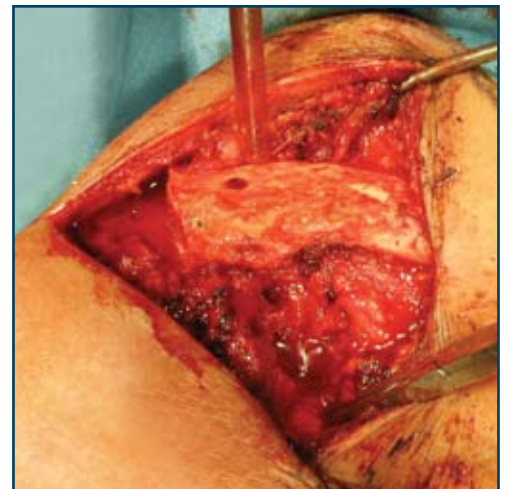
The surgery was performed in the beach chair position after proper anesthetic was administered. The ipsilateral neck and arm were prepped and draped using sterile technique. A modified saber incision was made laterally over the posteromedial aspect of the acromion extending anteriorly over the AC joint. Sharp dissection was taken down through the skin and hemostasis was obtained. Dissection was continued through the deltotrapezial fascia directly down to bone with the use of a Bovie® cautery device. A ruler was used to mark the clavicle at 4 cm and 2 cm from its distal end to correspond to the level at which the neo-conoid and neo-trapezoid ligaments would be placed. One centimeter of the distal clavicle was resected with the use of a microsagittal saw. The AC joint's fibrocartilaginous disc was removed and subperiosteal elevation of the tissue overlying the medial acromion was performed. Two holes were drilled in the sagittal plane along the medial aspect of the acromion heading obliquely medial.



Modifying the OrthADAPT™ Bioimplant into a "U" shaped construct and then suturing to FiberTape®.



Patient placed in beach chair position for surgery.



Preparing the distal clavicle for resection.

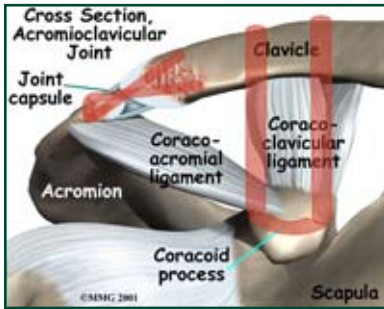


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A rasp was then used to roughen the bony surfaces where the OrthADAPT™ Bioimplant was to be passed through the surgical site.

A 9 cm x 10 cm OrthADAPT™ Bioimplant was cut into a horseshoe shape that was approximately 1 cm wide. This "U" shaped bioimplant was then suture to FiberTape® with 2-0 sized suture (non-resorbable suture recommended). The



sutured, leading end of this FiberTape®-bioimplant construct was then advanced under the coracoid from lateral to medial until it was just under the coracoid base. Using a suture shuttle technique with a FiberLoop®, this construct was advanced into the neo-conoid drill hole and the lateral portion was advanced into the neo-trapezoid drill hole. The construct was secured by tying the ends together

over the bony bridge between the drill holes. The other half of this "U" shaped bioimplant construct was passed through the posterior acromial drill hole and its ends were tied over the acromial bridge.

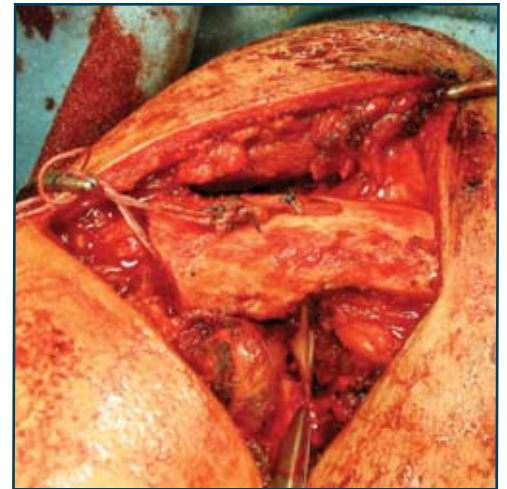
The wound was copiously irrigated followed by imbrication of the deltotrapezial fascia with #2 Ethibond® suture in an inverted stitch configuration. The superficial fascia was reapproximated followed by the subcutaneous tissue and skin.

RESULTS

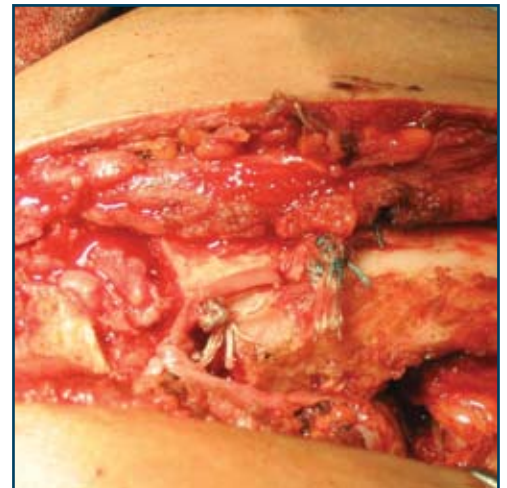


- Excellent strengthening of the repaired joint was achieved with the use of the OrthADAPT™ Bioimplant.
- At 6 months post-op the patient's ROM was 175° forward flexion, 70° external rotation, and internal rotation to T12. His shoulder muscle strength was 5/5 in all planes.

X-ray taken 6 months post-op shows nice reduction of AC joint and maintenance of coracoclavicular distance.



Suturing the leading edge of the "U" shaped construct under the coracoid to the distal clavicle.



Suturing the second leg of the "U" shaped construct over the acromial bony bridge.

DISCUSSION

The OrthADAPT™ Bioimplant is a versatile collagen scaffold that can be modified in a variety of innovative ways to provide excellent augmentation and strength for ligament repair.

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Refer to the Pegasus Biologics, Inc. Instructions for Use for the proper use, precautions, warnings, approved indications and labeling of the OrthADAPT™ Bioimplant.
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