

# **AC Joint Reconstruction (Modified Weaver – Dunn)**

Methodist Sports Medicine Center  
Indianapolis, IN

## **Surgical description**

The Acromioclavicular Joint Reconstruction, or Weaver-Dunn procedure, is used to treat a patient with a *painful* and *unstable* acromioclavicular (AC) joint following a shoulder separation injury. This surgery is typically done after prolonged, unsuccessful, non-surgical management of a grade 3 AC separation, but occasionally is performed on an acute injury.

An incision is placed over the distal clavicle near the AC joint. The delto-trapezial fascia is incised along the distal clavicle and over the anterior acromion. A resection of the lateral 2 cm of distal clavicle is performed (Mumford Procedure) to assure decompression of the AC joint. The coracoacromial (CA) ligament is released from the anterior acromion and that end of the ligament is transferred to the lateral end of the clavicle. The ligament runs vertically and slightly posteriorly from its origin on the coracoid to its new insertion on the clavicle. This orientation somewhat replicates the ruptured coracoclavicular ligament so that the superior and posterior displacement of the distal clavicle that occurs with AC separation is resisted/prevented following the repair. The ligament is secured into the end of the clavicle with sutures. Since this CA ligament transfer is fragile, the repair must be reinforced with supplemental fixation between the coracoid and clavicle. This is most often accomplished with heavy sutures, but, may also be done with surgical tape or a screw, placed so that the distal clavicle is held in a *reduced position* relative to the coracoid while the CA ligament transfer heals and scar tissue matures. The deltoid and trapezius are repaired securely over the distal clavicle resection, usually with imbrication so that the stretch injury that has occurred to the muscle and fascia is corrected.

*This reconstruction is fragile. Early active use of the arm is avoided in order to prevent stretching or disruption of the CA ligament transfer.*

## **Philosophy of rehabilitation**

The rehabilitation program following a modified Weaver-Dunn may be divided into three phases. Phase I comprises a period of four weeks in an acromioclavicular harness to promote healing. Phase II consists of shoulder range of motion and resistive strengthening. Phase III focuses on the functional return back to sport and/or work activities.

## **Phase I**

### **0-4 Weeks**

#### **Clinical Goals**

- ◆ Pain-free ADL's and sleep in an AC harness (Danek splint)

#### **Testing**

- ◆ None

#### **Exercises**

- ◆ This phase is strictly a protective phase and does not involve any rehabilitative exercise. The shoulder is immobilized in an AC harness for protection. Patients are allowed waist level and hand to face activities at this time.
- ◆ Ice to prevent pain and swelling.

#### **Clinical Follow-up**

- ◆ Patient will return to see the physician and physical therapist at four weeks after surgery to begin formal rehabilitation.

## **Phase II**

### **(1-3 Months)**

#### **Clinical Goals**

- ◆ Full passive and active ROM
- ◆ Pain-free ADL's and light to medium job duties

#### **Testing**

- ◆ Bilateral ROM
- ◆ Manual muscle testing (MMT) of shoulder strength

#### **Exercises**

- ◆ The patient will discard the AC harness at one month post op and begin using the arm for light ADL's.
- ◆ ROM may be initiated at this time, but end-range flexion, abduction, and external rotation at 90° of abduction should not be forced.
- ◆ Flexion and external rotation in neutral may be worked on using doorway stretches and/or wand exercises.
- ◆ Internal rotation behind the back can be worked on cautiously with gentle towel stretches.
- ◆ Strengthening exercises are implemented using theratube or light dumbbells. Flexion and

abduction strengthening should remain at or below 90° of elevation. External and internal rotation strengthening should remain in a neutral position.

### **Clinical Follow-up**

- ◆ The patient will follow up monthly with the physician but may require more frequent visits with the therapist for home exercise program updates during this time (per the discretion of the therapist).

## **Phase III** **(3 to 6 months)**

### **Clinical Goals**

- ◆ Restore normal strength
- ◆ Return to unrestricted work or athletic activities

### **Testing**

- ◆ Bilateral ROM
- ◆ MMT

### **Exercises**

- ◆ The focus of this phase is on the functional return of the patient back to his or her prior level of activity.
- ◆ The patient will be able to utilize heavier weight with exercise and may begin weight room activities. Strength exercises at or above 90° may be implemented as long as they are pain free.
- ◆ Implementation of a sports specific functional progression is appropriate at this time. Note that overhead athletes will begin their return to sport more toward the end of this phase.
- ◆ The patient is discharged once they have full ROM, normal strength, and resumed full pain free, activities.

### **Clinical Follow-up**

- ◆ As needed during the phase as determined by the therapist and/or physician.

## **Phase IV – weeks**

### **Clinical Goals**

- ◆
- ◆

### **Testing**

- ◆
- ◆

### **Exercises**

- ◆

**Agility**



**Clinical Follow-up**



**Phase V- weeks and on**

**Clinical Goals**



**Testing**



**Exercises**

**Return to Sport**



**Clinical Follow-up**



**DISCLAIMER**

These general rehabilitation guidelines are created by physical and occupational therapist for the rehabilitation of various shoulder and elbow pathologies. These are to simply be used as guidelines. This information is provided for informational and educational purposes, only. Specific treatment of a patient should be based on individual needs and the medical care deemed necessary by the treating physician and therapists. The University of Kentucky and The American Society of Shoulder and Elbow Therapists take no responsibility or assume no liability for improper use of these protocols. We recommend that you consult your treating physician or therapist for specific courses of treatment.