

Shoulder Capsular Shift Rehabilitation Program

Methodist Sports Medicine Center, Indianapolis, IN

Capsular shift is a surgical procedure utilized to treat a patient with severe multidirectional instability of the glenohumeral joint. The procedure is performed through open arthrotomy. The extent of the shift is dependent upon the degree of instability at the time of surgery.

An anterior axillary incision is made extending up toward the coracoid process. The deltopectoral interval is opened by both blunt and sharp dissection. The anterior humeral circumflex vessels are dissected out, cauterized and divided. The subscapularis is released near its attachment from the lesser tuberosity and is carefully dissected off the underlying capsule and reflected medially. The capsule is inspected. The capsule is released near the attachment on the humerus leaving about a one centimeter stump for later reattachment. The capsule is incised transversely in its mid portion over to the glenoid rim. The anatomic rent between the middle and superior glenohumeral ligaments is closed with a suture. The inferior capsular flap is dissected off the humerus from inferiorly and around posteriorly on the anatomic neck until the inferior flap can be advanced significantly laterally and superiorly. The inferior flap is then sutured into the lateral capsular stump on the anatomic neck in a significantly advanced position. The superior capsule flap is advanced laterally and inferiorly over the previously sutured inferior flap, and is sutured in place. The transverse incision in the capsule is overlapped and closed with sutures. Following complete capsular closure, the shoulder is again inspected and checked for tightness. The shoulder is irrigated, the subscapularis is sutured back, and the wound is closed.

The rehabilitation is divided into four phases. These phases may overlap depending on the individual progress of each patient. There can be a wide variation in the rehabilitation progression and time table that it follows. The following time table for the phases will change from patient to patient, and is primarily dependent on the length of immobilization. The amount of time that a patient is immobilized depends mainly on the degree of instability before surgery.

The main precaution for rehabilitation following this surgery is to prevent global capsular stretching for a minimum of two to four months following repair.

Phase I: 0-8 Weeks

Clinical Goals

- Painfree ADL's in the Gunslinger Splint or immobilizer

Testing

- None

Exercise

- This phase does not involve any rehabilitation as the patient is immobilized in a Gunslinger Splint or shoulder immobilizer that maintains the shoulder in neutral rotation and an adducted position. The splint is to be worn at all times. At four weeks the patient's shoulder is placed in a standard immobilizer. Patients are allowed waist level and hand to face activities at this time. The immobilization period will allow healing of the tightened tissue. The use of ice is encouraged for swelling control and relief of pain.

Clinical Follow-up

- Patients will return to see the physician and physical therapist at approximately 2 months to begin formal rehabilitation.

Phase IIa: 2 months to 3 months

Clinical Goals at 3 Months

- Active and passive range of motion 75% of non-surgical shoulder
- ◆ Normal scapulohumeral joint mechanics
- ◆ Begin glenohumeral and scapulothoracic muscle strengthening
- ◆ Return to normal daily activity and light to medium job duties

Testing

- Bilateral ROM and manual muscle testing

Exercises

- ◆ The shoulder immobilizer is discontinued and normal use of the surgical shoulder with ADLs is encouraged
- ◆ Range of motion exercises are initiated and is the **primary emphasis of this phase**. Exercises utilize active-assistive motion and progress to active flexibility as patient is able. Normal scapulohumeral mechanics are emphasized to promote good movement patterns during ADL's and return to sport/exercise. A typical range of motion program includes the following in all anatomical planes:
 - Pendulum exercise
 - AAROM utilizing the opposite arm or wand
 - Door and towel stretches for external and internal rotation
 - Aggressive end range flexibility exercise
- ◆ As the patient displays a predictable pattern of range of motion gains strengthening exercise is initiated, which often include the following:

- Surgical tubing resistance in all planes with elevation limited to 90 degrees. Resistance is increased per patient tolerance.
- Scapulothoracic muscle strengthening and emphasis on proper scapular control with exercises and ADL's
- The patient may begin light impact activities (i.e. jogging, easy agilities) at the end of this phase.

Clinical Follow-up

- Once exercises are initiated, a home based exercise program is the treatment of choice. It is believed that a consistent home program not only puts the patient in charge of their recovery, but also allows them to exercise several times a day. We believe that gentle stretching 3-6 times a day, especially at the initiation of the program, allows for a gradual gain in motion that minimizes soft tissue inflammation and risk of overstretching that could lead to a failure of capsular stability.
- ◆ Clinic follow-up is determined by the progress of the patient's ROM, but is usually weekly for the entire month. If the patient does not seem to be compliant with a home based exercise program, or is not making expected progress in ROM, regular visits are scheduled until the patient's progress meets expectations.
- ◆ At the three month visit the patient's progress is expected to achieve the following goals:
 - 75 percent active and passive shoulder range of motion with good scapular control
 - Adequate strength to perform painfree ADL's and non-contact/non-throwing activities.

Phase IIb: 3 months to 5 months

Clinical Goals

- Active and passive ROM equal to noninvolved shoulder with good scapular control at 5 months
- Normal strength

Testing

- Bilateral ROM
- Functional ability assessment

Exercises

- Part B of this phase is a transition period where the patient finalizes his or her ROM while increasing progressive resistance exercises. **Strength progression is delayed if the patient shows signs of not being able to achieve full active range of motion at the end of phase II.**
- General upper extremity flexibility and stretching exercises to address the patient's ROM deficits. The intensity of stretch is increased per the patient's tolerance.
- Resistive tubing exercise is continued. Light dumbbell/free weight lifting is initiated to increase shoulder girdle strengthening. A more sport specific strengthening program is also initiated to engage the arm/shoulder in the similar stress that it may undergo with sport.
- The patient is cautiously progressed back into a modified weight lifting routine for the upper body.

Clinical Follow-up

- The patient will follow-up as needed per the discretion of the therapist for home exercise

program updates.

Phase III: 5 months - discharge

Clinical Goals

- Equal bilateral glenohumeral and scapulohumeral strength
- Return to desired athletic and exercise activities

Testing

- Bilateral ROM

Exercises

- End range active flexibility if needed
 - ◆ Surgical tubing resistive exercise as needed to address any strength deficits or particular sport related needs. A long term, consistent strength program three times per week can be utilized as patient returns to full activity.
 - ◆ Continued sport specific strengthening exercise is promoted with the patient increasing speeds and changing arm placement to meet the demands of the sport.
 - ◆ Heavier free weight lifting can be initiated. It is important for the patient to modify lifting with higher weights to limit end range elevation, external rotation, and horizontal abduction as this can compromise capsular stability and rotator cuff integrity.
 - ◆ A sport specific functional progression is implemented to return patient to sport. Though each patient is different and the timeframe is unpredictable, a throwing progression for dominant arm athletes usually will not begin prior to 6 months post-op.
 - ◆ Bracing is typically used for return to contact or collision sports up to 6-8 months post-op.

Clinical Follow-up

- As the patient returns to sport and regular exercise, clinical follow-up is determined by individual patient needs as far as strength and motion deficits as related to their sport.

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.