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# Posterior Shoulder Instability Post-op Rehab Guidelines

The physical therapy rehabilitation program following shoulder posterior subluxation/dislocation surgical repair will vary in length depending on factors such as:

- Degree of shoulder instability/laxity
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- Length of time immobilized
- Strength/range-of-motion status
- Performance/activity demands

## 3 - 5 WEEKS POST SURGERY

- Patient no longer required to wear immobilizer.
- Use of modalities as needed (heat, ice, electrotherapy).
- Continue gentle passive range-of-motion exercises. Add range-of-motion exercises for shoulder internal rotation, as needed.
- Add active-assistive range-of-motion exercises (i.e., wand exercises).
- Add gentle joint mobilization, as needed.
- Shoulder shrugs exercises.
- Isometric internal and external rotation with arm at side and elbow flexed at 90° may be added according to the patient's tolerance.
- Note: The shoulder position may be adjusted to allow a pain free muscle contraction to occur.
- Isometric shoulder flexion and extension may be added as needed.
- As strength improves, active external rotation may be added. Use surgical or rubber tubing for resistance. If there is pain with active movements, continue with isometric strengthening.
- Active horizontal abduction - lying prone. Restrict movement from 45° of horizontal adduction to full horizontal abduction to avoid excessive stress to the posterior capsule

## 6 - 8 WEEKS POST SURGERY

- Continue passive and active-assistive range-of-motion exercises. May add wall climbs for shoulder flexion and abduction.
- Continue mobilization, as needed.
- As strength improves, progress to free weights for external rotation in prone lying position with arm abduction to 90° or side-lying with arm at side.
- Prone: Perform combined movements of horizontal abduction followed by external rotation to protect the posterior capsule.
- Side-lying: Limit the degrees of internal rotation to protect the posterior capsule.
- Add supraspinatus exercises if movement is pain free and adequate range-of-motion is available (0°_90°). Shoulder is positioned in the scapular plane approximately 20°_30° forward of the coronal plane.
- Add active internal rotation using free weights. Movement is performed supine with the arm at the side and the elbow flexed at 90°.
- Active shoulder flexion through available range-of-motion.
- Active shoulder abduction to 90°.

## 2-3 MONTHS POST SURGERY

- Continue range-of-motion and mobilization, as needed. Patient should have full passive and active range-of-motion.
- Add shoulder stretch (anterior cuff/capsule or posterior cuff/capsule), as needed.
- Add push-ups. Movement should be pain free with emphasis on protecting the posterior joint capsule. Shoulders are positioned in 80° to 90° of abduction. *Caution is applied during the ascent phase of the push-up to avoid excessive stress to the posterior capsule. Do not raise the body beyond the scapular plane.* Begin with wall push-ups. As strength improves, progress to floor push-ups (modified - hands and knees or military - hands and feet), as tolerated by the patient.
- Continue isotonic strengthening with emphasis on the rotator cuff and posterior deltoid.
- Active internal rotation using surgical or rubber tubing may be added. Range of movement may be limited to avoid excessive stress to the posterior joint capsule.
- Proprioceptive neuromuscular facilitation (PNF) upper extremity patterns may be added. Emphasis is on the flexion/abduction/external rotation diagonal.
- Starting Position: Caution is applied to protect the posterior capsule from excessive stress. Adjustments are made by starting one-quarter of the way in the diagonal.
- Range-of-Movement: Movement will be limited to the latter three-quarter range in the diagonal to full flexion/abduction/external rotation.
- Horizontal abduction may be performed through an increased range (starting position at 90° of horizontal adduction, as tolerated).

## 4 MONTHS POST SURGERY

- Continue to progress weights, as tolerated (rotator cuff, horizontal abduction/adduction, flexion, abduction, etc.). Emphasis may be placed on the eccentric phase of contraction in strengthening the rotator cuff.
- Active horizontal adduction may be added.
- Add arm ergometer for endurance exercises.
- Isokinetic strengthening and endurance exercises (high speeds - 200+ degrees/second) for shoulder internal/external rotation (arm at side) and horizontal abduction may be added. Prerequisite strength requirements of the rotator cuff are 5-10 pounds for external rotation and 15-20 pounds for internal rotation. The shoulder should be pain free and have no significant amount of swelling.

## 5 MONTHS POST SURGERY

- Isokinetic Test. Perform isokinetic strength and endurance test for the following suggested movement patterns: internal/external rotation (arm at side), horizontal abduction, and abduction/adduction.
- Continue to progress isotonic and isokinetic exercises.
- Continue to emphasize the eccentric phase in strengthening the rotator cuff.
- Isokinetic exercises for shoulder flexion/extension and abduction/adduction may be added.
- Add military press. Press the weight directly over or behind the head.
- Continue arm ergometer.
- Add total body conditioning with emphasis on strength and endurance. Include flexibility exercises, as needed.

## 6 MONTHS POST SURGERY

- Isokinetic Test.
    - The second isokinetic test for shoulder internal/external rotation, horizontal abduction/adduction, and abduction/adduction is administered.
        - For internal/external rotation, the shoulder may be tested in the functional position ($80^0$ to $90^0$ of abduction). Test results for internal/external rotation and horizontal abduction should demonstrate at least 80% strength and endurance (as compared to the uninvolved side) before proceeding with exercises specific to the activity setting.
- Continue total body conditioning program with emphasis on the shoulder (rotator cuff, posterior deltoid).
- Begin practicing skills specific to the activity (work, recreational activity, sports, etc.). *For example, throwing athletes (i.e., pitchers) may proceed to throwing program.*
- Progressive Shoulder Throwing Program.
    - Advance through the sequence, as needed.

Guidelines: It is important to use heat prior to stretching (i.e., hot pack, whirlpool, hot shower, etc.). Heat increases circulation and activates some of the natural lubricants of the body. Perform stretching exercises after applying the heat modality and then proceed with the throwing program. Use ice after throwing to reduce cellular damage and decrease the inflammatory response to microtrauma. Proceed with tossing the ball (no wind-up) on alternate days, not more than 20 feet for 10-15 minutes

**7 MONTHS POST SURGERY**

- Begin easy tossing 30-40 feet, no wind-up, on alternate days, for 10-15 minutes.
- Add other endurance activities (i.e., jogging, biking) to the total body conditioning program.
- Continue stretching and strengthening exercises to the wrist, elbow, and shoulder.
- Chin-up exercises.
- Swimming may be added as part of the exercise program (the butterfly stroke is not recommended).
- Lob the ball (playing catch with an easy wind-up) on alternate days, throwing the ball not more than 30 feet. Lobbing should be limited to 2-3 times per week and 10-15 minutes per session.

**8 MONTHS POST SURGERY**

- Increase the throwing distance to 40 feet while still lobbing the ball (easy wind-up).
- Alternate days for the throwing and strengthening program. Increase the throwing time to 15-20 minutes per sessions

**8-1/2 MONTHS POST SURGERY**

- Increase the throwing distance to 60 feet while still lobbing the ball with an occasional straight throw at nor more than one-half speed. Increase the throwing time to 20-25 minutes per session.

PROGRESS TO THE FOllOWING ROUTINE

**9 MONTHS POST SURGERY**-step 1

Perform long, easy throws from the mid-outfield (150-200 feet) getting the ball barely back to home plate on 5-6 bounces. This is to be performed for 20-25 minutes per session on two consecutive days. Then rest the arm for one day. Repeat four times over a 12 day period then progress to the next step if able to complete it without pain or discomfort, i.e.:

- THROW Two Days
- REST One Day
- THROW Two Days
- REST One Day
- THROW Two Days
- REST One Day
- THROW Two Days
- REST One Day

If problems arise, contact your physical therapist, athletic trainer, or physician.

**9-1/2 MONTHS POST SURGERY - STEP 2**

Long, easy throws from the deepest portion of the outfield, with the ball barely getting back to home plate on numerous bounces. This is to be performed for 25-30 minutes per session on two consecutive days. Then rest the arm for one day. Repeat the routine over a 12-day period and progress to the next step, if there is no pain or discomfort

**10 MONTHS POST SURGERY-STEP 3**

Stronger throws from the mid-outfield, getting the ball back to home plate on 1-2 bounces. This should be performed approximately 30-35 minutes per session on two consecutive days. Rest the arm for one day. Repeat the same routine four times over a 12-day period. If there is no pain or discomfort, progress to the next step

**10-1/2 MONTHS POST SURGERY - STEP 4**

Short, crisp throws with a relatively straight trajectory from the short outfield on one bounce back to home plate. These throws are to be performed not more than 30 minutes on two consecutive days. Rest one day. Repeat this step over the next two weeks.

**11 MONTHS POST SURGERY - STEP 5**

Return to throwing from your normal position (i.e., mound). The throw should be at one-half to three-quarter speed with emphasis on technique and accuracy. Throw for two consecutive days then rest the arm for one day. A throwing session should not be more than 25 minutes. Repeat this step over the next two weeks, and then advance if there is no pain or discomfort.

**11-1/2 MONTHS POST SURGERY - STEP 6**

Throw from your normal position at three-quarter to seven-eighths speed. This should be done following the same sequence, throwing for two consecutive days and resting for one day over a 12-day period. Session should not be more than 30 minutes.

**12 MONTHS POST SURGERY - STEP 7**

Continue to throw from your normal position at three-quarter to full-speed. This should be done over the next two weeks following the same pattern. Slowly increase the time throwing from your normal position.

**12-1/2 TO 14 MONTHS POST-SURGERY - STEP 8**

Simulate game-day situation. Warm up with appropriate number of pitches and throw for an average amount of innings taking usual rest breaks between innings. Repeat simulation a couple of times with 3-4 days rest. Return to normal pitching regimen or routine based on input from the team physician, physical therapist, athletic trainer, coach, and most important of all, the athlete.