SLAP Repair Protocol

Anatomy and Biomechanics
The shoulder is a wonderfully complex joint that is made up of the ball and socket connection between the humerus (ball) and the glenoid portion of the scapula (socket). The socket portion of the joint is not naturally deep. For this reason the shoulder is the most mobile joint in the body. Due to the lack of boney coverage the shoulder’s proper function and stability is largely dependent on the soft tissues that surround it.

The glenoid labrum is a fibrocartilage rim that surrounds the edge of the glenoid fossa (socket). It serves to deepen the socket and provide suction effect on the head of the humerus (ball), thus improving the stability of the naturally shallow joint. The labrum can be damaged or torn in many different ways. When the superior (upper) part of the labrum is torn it is often termed a SLAP tear. This acronym stands for superior labrum from anterior to posterior. A SLAP tear can happen traumatically or in response to repetitive activity like throwing.

Treatment Options
Regardless of how the labrum is torn your physician will work with you to determine what the best course of treatment will be. In many cases the pain and dysfunction associated with a SLAP tear can be successfully treated with rest, anti-inflammatory measures, activity modification and Physical Therapy. When conservative measures are unsuccessful in restoring function you and your physician may elect to have the torn labrum repaired.

Surgery
Labral repair surgery involves re-anchoring or trimming the torn piece of cartilage. The procedure is usually performed arthroscopically and is, in most cases an outpatient day surgery procedure. This means that it is very rare to have to spend the night in the hospital. If damage to the labrum or other tissue is extensive your surgeon may have to use an open incision rather than an arthroscope to complete the procedure. Regardless, of whether the procedure is open or arthroscopic all patients will likely be home on the same day as surgery.
**Recovery/Time off Work**

Recovering from labral repair surgery is not easy. It is very important that the patient knows that the recovery process is difficult and time consuming. He or she must be an active participant during this process, performing daily exercises to ensure there is proper return of range of motion and strength. There is a large amount of variability in the time it takes to fully recover from this procedure. It is usually estimated that it will take at least 4-6 months to feel as though you have completely regained the use of your arm. Some cases may take as long as 9-12 months to make a full recovery. People with desk jobs should plan to take at least 1 week off from work. Manual laborers will likely be out of work for at least 4-6 months. **Recovery is different in each case.** Your individual time table for return to activities and work will be discussed by your surgeon during post operative office visits.

**Post Operative Visits**

Your first post-op visit to the doctor’s office will be approximately 7-10 days after the operation. At this visit your stitches will be removed and you will review the surgery with the surgeon or his assistant. At this time you will most likely be cleared to make an appointment to begin Physical Therapy. You should also plan to check in with your surgeon at 6, 12, and 24 weeks after the operation.

**At Home**

You may remove your post-op dressing 2 days after the operation and replace it as needed. Do not remove the strips of tape (steri-strips) that are across your incision. Allow them to fall off on their own. You may shower after 2 days, but use a water-tight dressing until your sutures are removed. Bathing without getting the shoulder wet or sponge baths are a good alternative. You may wash under the affected arm by leaning forward and letting the arm dangle. Do not attempt to actively move your arm at the shoulder joint for any reason until your doctor allows you. You may remove your sling several times a day and gently move your hand, wrist and elbow and perform shoulder pendulum exercises.

**Medication**

Your surgeon will prescribe pain medicine for you after the operation. Please call the doctor’s office if you have any questions regarding medication.

**Ice**

You must use ice on your shoulder after the operation for management of pain and swelling. Ice should be applied 3-5 times a day for 10-20 minutes at a time. Always maintain one layer between ice and the skin. Putting a pillow case over your ice pack works well for this.

**Sling**

You will be provided with a sling to wear after the operation. You should wear this sling most of the time for at least the first 2 weeks after the operation. Remove it when bathing/showering, or to do your exercises. Some patients may require the use of the sling for the first 4 weeks after the operation. Your doctor will give you specific instructions regarding how long you should use your sling.
**Sleeping**

You may sleep with a pillow propped under your arm to keep it slightly away from the body. For many patients lying flat is uncomfortable at first. It is generally easier to sleep propped up or in a recliner for a short period of time after the operation. Do not attempt to sleep on your operated shoulder for at least 6 weeks.
Rehabilitation

**The following is an outlined progression for rehab. Time tables are approximate and advancement from phase to phase as well as specific exercises performed should be based on each individual patient’s case and sound clinical judgment by the rehab professional. **

Phase 1 (0-4 Weeks) Passive ROM Phase

**Goals**
- Control Pain and Swelling
- Protect Healing Tissue
- Begin to Restore Range of Motion

**Precautions**
- Do not actively reach arm behind back.
- Do not actively reach overhead.
- Do not actively reach arm behind your head.
- Do not lift anything with your arm.

**Recommended Exercises**
*See passive ROM limitations in chart on page 8*
- Pendulums
- Standing Scapular Mobility (no resistance)
- Supine or Standing Passive External Rotation
- Supine, Seated or Standing Passive Shoulder Flexion (elevation)
- Passive Internal Rotation
- Sub-maximal Isometric Shoulder Internal and External Rotation
- Ball Squeeze

**Guidelines**
Perform these exercises 3-5 times a day. Do 1-2 sets of 10-20 repetitions of each exercise.

Phase 2 (4-8 Weeks) Active ROM Phase

**Goals**
- Continued protection of healing tissue
- Continue to improve ROM
- Initiate gentle peri-scapular and rotator cuff strengthening
- Begin using your arm for daily activities in front of body only
Precautions
Discontinue use of sling if you have not already
Be careful with raising your arm, especially overhead, away from your body and behind you
Continue to avoid lifting or carrying anything heavy

Recommended Exercises

ROM
Continue passive ROM with physical therapist
*See passive ROM limitations in chart on page 8*

Pendulums
Supine stick flexion and table slides
Supine or Standing Passive External Rotation

Internal Rotation

Strengthening (Resistance Band or Body Weight Against Gravity)
Row
Prone Extension
Prone Horizontal Abduction
Standing/Prone Scaption
Internal Rotation (Neutral) *work from full IR to neutral*
External Rotation (Neutral) *work from full IR to neutral*

Dynamic Strengthening with Physical Therapist
Gentle proprioceptive drills
Rhythmic stabilization with therapist

Guidelines
Perform all ROM and Strengthening exercises once a day. Do 2-3 sets of 15-20 repetitions.

Phase 3 (8-12 Weeks) Strengthening Phase

Goals
Continue to acquire normal ROM (both passive and active)
Progress strengthening of rotator cuff and shoulder blade muscle groups
Begin to use arm for daily activities in all planes

Precautions
No lifting away from your body or overhead greater than 1 or 2 pounds
Caution with repetitive use of arm especially overhead
Stop activity if it causes pain in shoulder

Recommended Exercises

Range of Motion
Continue passive ROM with physical therapist as needed gradually progress to full ROM
Continue ROM exercises from phase 2 until ROM is normalized
Gentle progression of abduction angle with external rotation stretch
Gentle supine or standing cross body stretch
Gentle sidelying internal rotation stretch (“sleeper”) *caution to not cause impingement*

**Strengthening** (Resistance Band or Dumbbell)
- Row
- Prone Extension
- Prone Horizontal Abduction
- Standing Scaption with progression to Prone
- Internal Rotation
- External Rotation

**Dynamic Strengthening**
- Manual Resistance Rythmic Stabilization
- Proprioceptive Drills (90° of Elevation or Below)

**Guidelines**
Perform ROM and stretching exercises once a day until normal ROM is achieved. Do 2 sets of 15-20 Reps. Once normal ROM is achieved continue exercises to maintain ROM 3-5 times a week. Perform strengthening exercises 3-5 times a week. Do 2-3 sets of 15-20 Reps. Strict attention must be paid to scapula-humeral rhythm with completion of all strengthening exercises.

**Phase 4 (12-16 Weeks) Sport Specific Phase**

**Goals**
- Progress to normal ROM and strength
- Continue to encourage progressive use of arm for functional daily activity

**Precautions**
- Encourage return to full use of arm for daily activities
- Pay particular attention to scapula-humeral rhythm especially with abduction and overhead activity
- Still restricted from return to sports

**Recommended Exercises**

**ROM and Stretching**
- Continue ROM and stretching exercises from phase 2-3

**Strengthening**
- Continue strengthening exercises from phase 3
- May begin supervised weight training pending surgeons clearance

**Dynamic Strengthening**
- Progress manual resistance patterns
- Progress proprioceptive drills to include rhythmic stabilization
- Push up progression
Guidelines
Perform ROM and stretching program 1-3 times a week to maintain normal ROM. Do 1-2 sets of 15-20 Reps. Perform ROM and stretching more frequently in any planes of motion that are still deficient. Perform strengthening 3 times a week. Do 2-3 sets of 15-20 Reps.

Phase 5 (16-24 Weeks) Return to Activity Phase

Goals
Maintain adequate ROM and strength
Continue progressive dynamic strengthening
Begin return to sport progressions pending surgeon’s clearance

Precautions
Gradual return to sport pending surgeon’s clearance
Work with surgeon or Physical Therapist to develop specific return to sport progression

Recommended Exercises
ROM and Stretching
Continue ROM and stretching exercises in any planes of motion that are deficient
Continue cross body stretch and sidelying internal rotation stretch following workouts

Strengthening
Continue strengthening exercises from phase 4

Dynamic Strengthening
Progress Manual Resistance Patterns
Progress Proprioceptive, Plyometric, Rebounder Drills to include overhead

Guidelines
Perform 1-2 sets of 15-20 repetitions of ROM and stretching exercises 1-3 times a week in all deficient planes of motion. Perform 1 set of 15-20 repetitions of ROM and stretching exercises after all return to sport activities.
Perform 2-3 sets of 15-20 repetitions of all strengthening exercises 2-3 times a week. Perform dynamic strengthening program 1-2 times a week while undergoing return to sport progression.
<table>
<thead>
<tr>
<th>Time</th>
<th>Focus</th>
<th>Range of Motion</th>
<th>Recommended Exercises</th>
<th>Precautions</th>
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</thead>
</table>
| **Phase 1**  
0-4 Weeks | *Passive ROM  
*Tissue Healing | *Flexion as Tolerated  
*0-2 Weeks ER to 15° IR to 45° in Scapular Plane  
*2-4 Weeks ER to 30° IR to 60° in Scapular Plane, Abduction to 80° | **Passive**  
Pendulums  
Scapular Retraction  
Shoulder Shrugs  
Passive External Rotation  
Passive Flexion  
Passive Internal Rotation  
**Strengthening**  
Sub-maximal Isometric ER/IR  
Ball Squeeze | *Sling 0-4 Weeks or per MD Instruction  
*No ER with Arm in Abduction  
*No Excessive Shoulder Extension |
| **Phase 2**  
4-8 Weeks | *Improve ROM with Careful Progression of IR/ER  
*Slow Transition to Strengthening after MD Follow Up | *Continue Flexion as Tolerated  
*Beginning at 4 Weeks ER to 50° IR to 60° (in 45° of Abduction)  
*Beginning at 6 Weeks Gently Progress to ER at 90° of Abduction | **Passive**  
Continue PROM Exercises  
Gentle Passive ER at 90° Abd Starting at 6 Weeks  
**Active Assisted**  
Supine/Standing Flexion, Horizontal Adduction, Hand Behind Head ER, Sidelying IR  
**Strengthening**  
T-Band IR/ER (in 0° Abd)  
*Work from full IR to 0° ER  
**Active Motion Against Gravity**  
Sidelying ER  
Standing Scaption  
Prone Row  
Prone Extension  
Prone Horizontal Abduction  
Prone Scaption | *No Resisted Activity/Lifting  
*Avoid Repetitive Motion Overhead and in Coronal Plane  
*Must have good Scapular Control with Active ROM and Strengthening  
*Be Cautious with Progression of ER ROM |
| **Phase 3**  
8-12 Weeks | *Progressive Strengthening  
*Continued Attention to ROM if Still Deficient  
*Establish Proper Scapulo-humeral Rythm | *Gradually Progress to Full Passive ROM | **Passive**  
Continue as Needed  
**Active Assisted/Active/Stretch**  
Continue Phase 2 Exercises  
Wall Slide  
Sidelying IR (“Sleeper”)  
Hands Behind Head ER  
Supine/Standing Cross Body  
**Strengthening (Dumbbell/T-band)**  
Row  
Prone Extension  
Prone Horizontal Abduction  
Standing/Prone Scaption  
Internal Rotation  
External Rotation  
“W” (Row/ER)  
Bicep Curl  
**Dynamic Progressions**  
Rhythmic Stabilization  
Proprioceptive Drills | *No Heavy or Repetitive Overhead Lifting/Reaching  
*Limited Return to Gym Lifting Late in Phase 3 per MD Discretion  
*Dynamic Progressions if Pain Free/Full ROM with all ROM and Strengthening Exercises |

**South Shore Hospital Orthopedic, Spine and Sports Therapy**  
in Clinical Collaboration with South Shore Orthopedics
| Phase 4  | 12-16 Weeks | *Progress strengthening  
*Regain use of arm for all daily activities. | *Maintain Full Passive/Active ROM  
**Active Assisted/Active/Stretch**  
Continue Phase 3 As Needed  
**Strengthening**  
Continue T-band and Dumbbell Progressions from Phase 3  
Progress to Diagonal Patterns  
IR/ER at 90° Abd  
May Begin Limited Weight Training  
**Dynamic Progressions**  
Pushup Progression  
Continue Proprioceptive Drills  
Plyometrics/Rebounder  
Progress to Overhead  
Rhythmic Stabilization  
Manual Resistance Patterns | *Still Avoid Return to Sports and Physical Activity  
*Progress Gym Lifting per MD Discretion  
*Avoid Activities that Cause Shoulder Pain |
| --- | --- | --- | --- | --- |
| Phase 5  | 16-24 Weeks | *Prepare for Return to Sport and Physical Activity  
*Continue Stretching Program | *Continue Stretching Program  
**Active Assisted/Active/Stretch**  
Continue Phase 3 As Needed  
**Strengthening**  
Continue T-band and Dumbbell Progressions from Phase 4  
May Carefully Progress Weight Training  
**Dynamic Progressions**  
Continue Pushup Progression  
Continue Proprioceptive Drills  
Progress to Overhead with Plyometrics/Rebounder  
Manual Resistance Patterns | *Begin Progressive Return to Sports and Physical Activity Program After MD Evaluation  
*Careful Progression of Weight Training |

*Reviewed by Michael Geary, MD*