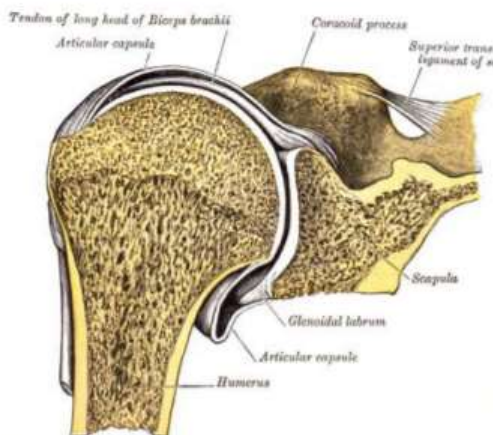


Arthroscopic Labrum Repair of the Shoulder

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Anatomy

The shoulder joint involves three bones: the scapula (shoulder blade), the clavicle (collarbone) and the humerus (upper arm bone). The humeral head rests in a shallow socket on the scapula called the glenoid. Because the head of the humerus much larger than the glenoid, a soft fibrous tissue labrum called the labrum surrounds the glenoid to help deepen and stabilize the joint. The labrum deepens the glenoid by up to 50 percent so that the head of the humerus fits better. In addition, it serves as an attachment site for several ligaments.



Injuries

Injuries to the labrum can occur from acute trauma or repetitive shoulder motion. Examples of traumatic injury include:

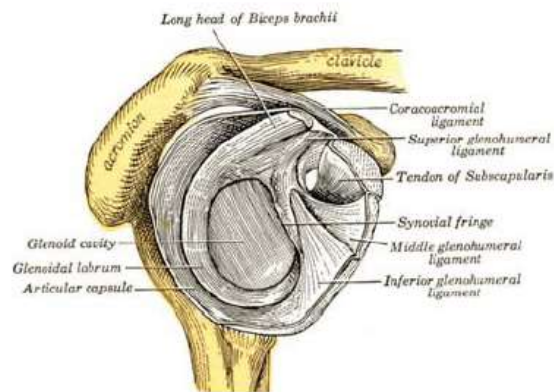
- Falling on an outstretched arm
- Direct blow to the shoulder
- Sudden pull, such as when trying to lift a heavy object
- Forceful overhead motions

Tears can be located either above (superior) or below (inferior) the middle of the glenoid. A SLAP lesion (superior labrum, anterior [front] to posterior [back]) is a tear of the labrum above the middle of the glenoid that may also involve the biceps tendon. A tear of the labrum below the middle of the glenoid socket that also involves the inferior glenohumeral ligament is called a Bankart lesion (anterior, posterior or both). Tears of the glenoid labrum often occur with other shoulder injuries, such as a dislocated shoulder (full or partial dislocation).

Signs and symptoms

It is difficult to diagnose a tear in the glenoid labrum because the symptoms are very similar to other shoulder injuries. Symptoms include:

- Pain, usually with overhead activities
- Catching, locking, popping or grinding
- Occasional night pain or pain with daily activities
- A sense of instability in the shoulder
- Decreased range of motion
- Loss of strength



Treatment

Until the final diagnosis is made, your doctor may prescribe anti-inflammatory medication and rest to relieve symptoms. Rehabilitation exercises to strengthen the rotator cuff muscles may also be recommended. If these conservative measures are insufficient, your doctor may recommend arthroscopic surgery.

During the surgery, your doctor will examine the labrum and the biceps tendon. If the injury is confined to the labrum itself, without involving the tendon, the biceps tendon attachment is still stable. Your doctor will remove or repair the torn flap and correct any other associated problems. If the tear extends into the biceps tendon or if the tendon is detached, the result is an unstable biceps attachment. Your doctor will need to reattach the tendon, using suture anchoring devices. If there is a tear in the front or back of the glenoid, your doctor will reattach the ligament to the glenoid (Bankart repair).

Rehabilitation

After surgery, you will need to keep your shoulder in a sling for three to four weeks. Your doctor will also prescribe gentle, passive range-of-motion exercises. When the sling is removed, you will need to do motion and flexibility exercises and eventually start strengthening. Athletes can usually begin doing sports-specific exercises after twelve weeks, although it will be about six months before the shoulder is fully healed.

PREOPERATIVE INSTRUCTIONS

Within one month before surgery - as indicated by your doctor.

- Preoperative office visit for history and physical examination and instructions
- Complete blood count (CBC)
- Electrocardiogram (EKG) if over the age of 40

Within several days before surgery

- Wash the shoulder and axilla well
- Be careful of the skin to avoid sunburn, poison ivy, etc.

The day before surgery

- Check with your doctor's office for your time to report to the surgical unit the next day.
- HAVE NOTHING TO EAT OR DRINK AFTER MIDNIGHT. If surgery will be done in the afternoon, you can have clear liquids only up to six hours before surgery but no milk or food.

The day of surgery

- Nothing to eat or drink

Rehabilitation after Combined Arthroscopic Labrum Repair

PHASE ONE: 0 TO 4 WEEKS AFTER SURGERY

Goals:

- Allow healing of the repaired labrum and capsule
- Initiate early protected and restricted range of motion
- Retard muscular atrophy
- Decrease pain/inflammation

Activities:

1. Sling

Use your sling as instructed by your doctor. If you remove the sling, be careful and keep the shoulder safe. The sling must be worn at all times with the exception of exercise activity and bathing. Keep the sling on when sleeping at night for the first four weeks.

2. Use of the operated arm

You may use your hand on the operated arm as long as you do not raise the hand above your head or reach across the front of your body. Also, do not reach your hand behind you as if to tuck in your shirt or to loop your belt. You should bend your arm at the elbow and use your fingers and hand, such as to reach up and touch your face. Keep your elbow in front of you. Do not bear the weight of the body on your arm.

3. Bathing and showering

You may shower or bath and wash the incision area. To wash under the operated arm, bend over at the waist and let the arm passively swing away from the body. It is safe to wash under the arm in this position. This is the same position as the pendulum exercise. Do not submerge the incisions under water

4. ICE

Exercise Program:

Days per Week: 7 as necessary 15- 20 minutes Times per Day: 4-5

STRETCHING / PASSIVE MOTION

Days per Week: 7 Times per day: 4-5

Range of motion:

Pendulum exercises

Supine External Rotation

Supine forward arm elevation:

Weeks 0-2

*Flexion 90-100

*ERN limit 5-10°

Weeks 0 to 4:

limit 120°

No internal rotation

No horizontal adduction

Strengthening exercises

Isometric exercises:

Internal and external rotation at neutral,

flexion, extension and abduction

Rhythmic stabilization and proprioceptive training drills with physical therapist.

Ball squeeze exercise.

No weight bearing exercises or activities

Rehabilitation after Combined Arthroscopic Labrum Repair

PHASE ONE: 5 TO 6 WEEKS AFTER SURGERY

Goals:

- Gradual increase in ROM
- Improve strength
- Decrease pain/inflammation
- Protect the labrum repair

Activities:

1. Sling

The sling is no longer necessary.

2. Use of the operated arm

You may now carefully use your arm. Avoid having the arm forcefully pulled behind you or across your chest in front of you. Continue to avoid heavy weight lifting or manual labor. Follow any further instructions given to you by your doctor.

3. Precautions

You may use your hand on the operated arm as long as you do not raise the hand above your head or reach across the front of your body. Also, do not reach your hand behind you as if to tuck in your shirt or to loop your belt. You should bend your arm at the elbow and use your fingers and hand, such as to reach up and touch your face. Keep your elbow in front of you. Do not bear the weight of the body on your arm.

4. Ice

Use ice or cold as necessary 15-20 minutes.

Exercise Program:

Days per week: 7 Times per day: 1-3

STRETCHING / ACTIVE MOTION

Pendulum exercises

Supine neutral external rotation – Limit to 30 degrees week 6

Standing neutral external rotation stretch -
Limit 30° week 6

Supine forward flexion: Limit to 145 degrees
week 6

STRENGTHENING EXERCISES

Days per week: 7 Times per day: 1

Theraband internal and external rotation:
(internal rotation to neutral only)

Standing forward flexion to 90° (scaption)

Prone row

Prone extension

Biceps curl

Side lying external rotation

PHASE TWO: 7 TO 12 WEEKS AFTER SURGERY

Goals:

1. Protect the shoulder repair
2. Regain full range of motion
3. Continue gradual strengthening

Activities:

2. Use of the operated arm

You may now use your arm in a more normal fashion. You may move the arm into all positions including behind the back if it is comfortable. Avoid having the arm forcefully pulled behind you, pulled across the chest or bearing weight as if doing a push-up. Continue to avoid heavy weightlifting or manual labor. Follow any further instructions given to you by your doctor.

3. Precautions

Do not lift heavy objects overhead with the weight going behind the head. In other words keep objects in front of you where you can see them.

Exercise Program:

Days per week: 7 Times per day: 1-2

STRETCHING / RANGE of MOTION:

Pendulum exercises

Wall slide Stretch

Hands-behind-head stretch @week 9

Standing external rotation stretch

Standing Forward Flexion

Behind the back internal rotation starts
after the 8th week after surgery

Horizontal adduction stretch starts after
the 8th week after surgery

STRENGTHENING / THERABAND

Days per week: 7 Times per day: 1

External Rotation

Internal Rotation

Standing Forward Punch

Shoulder Shrug

Dynamic hug

“W”s

Seated Row (week 11 with SLAP)

Biceps curl (week 9 with SLAP)

STRENGTHENING / DYNAMIC

Days per week: 7 Times per day: 1

Side-lying External Rotation

Prone Horizontal Arm Raises ‘T’s

Prone scaption ‘Y’

Prone row

Prone extension

Standing forward flexion “full-can” exercise

Rhythmic stabilization and proprioceptive training drills with physical therapist.

Rehabilitation after Combined Arthroscopic Labrum Repair

PHASE THREE: 13 TO 20 WEEKS AFTER SURGERY

Goals:

1. Protect the ligament repair
2. Regain full range of motion
3. Continue strengthening
4. Gradual return to full activity

Activities:

Use the arm for normal daily activities but continue to cautious to avoid excessive or forceful reaching across the front of the body. Also be cautious when reaching behind your body. Continue to avoid bearing weight as if pushing open a door or doing a pushup.

Exercise Program:

Times per day: 1 Days: 5-7

STRETCHING / RANGE OF MOTION:

Pendulum exercises

Standing External Rotation

Continue exercises from phase 3

External rotation at 90°

Internal rotation at 90°

Standing 'T's

Diagonal up

Diagonal down

Wall slide Stretch STRENGTHENING / DYNAMIC

Hands-behind-head stretch Times per day: 1

Days per week: 3

Behind the back internal rotation

Supine Cross-Chest Stretch

Sidelying internal rotation (sleeper stretch)

External rotation at 90° Abduction stretch

STRENGTHENING /THERABAND

Times per day: 1 Days per week: 3

Continue exercises from phase 3

Biceps curls

Resisted forearm supination-pronation

Resisted wrist flexion-extension

Machine resistance (see guidelines last page)

Closed kinetic chain program (guidelines)

PNF manual resistance with physical therapist

Push-up progression can begin per MD beginning

with wall push-up

Rehabilitation after Combined Arthroscopic Labrum Repair

PHASE FOUR: 21 TO 28 WEEKS AFTER SURGERY ONWARD

Goals:

1. Progression of functional activities
2. Maintain full range of motion
3. Continue progressive strengthening

STRETCHING / RANGE OF MOTION

Days per week: 5-7 Times per day: 1

Continue all exercises from phase 5

STRENGTHENING / THERABAND

Days per week: 3 Times per day: 1

Continue from phase 5

STRENGTHENING / DYNAMIC

Days per week: 3 Times per day: 1

Continue from phase 5

PLYOMETRIC PROGRAM

Days per week per physical therapist

May progress weight bearing program:

- Rebounder' throws with arm at side
- Wall dribbles overhead
- Rebounder throwing/weighted ball
- Deceleration drills with weighted ball
- Wall dribbles at 90°
- Wall dribble circles

WEIGHT TRAINING

Days per week per physical therapist

See weight training precautions section

Progress per MD instructions

INTERVAL SPORT PROGRAMS at 28 to 32 weeks

See individual programs for golf, tennis, swimming and throwing.

Rehabilitation after Combined Arthroscopic Labrum Repair

PHASE FIVE: 13 TO 20 WEEKS AFTER SURGERY ONWARD

Goals:

1. Progression of functional activities
2. Maintain full range of motion
3. Continue progressive strengthening

Exercise Program:

STRETCHING / RANGE OF MOTION

Days per week: 5-7 Times per day: 1

Continue all exercises from phase 4

STRENGTHENING / THERABAND

Days per week: 3 Times per day: 1

Continue from phase 4

STRENGTHENING / DYNAMIC

Days per week: 3 Times per day: 1

Continue from phase 4

PLYOMETRIC PROGRAM

Days per week per physical therapist

May progress weight bearing program:

- Ball on wall
- Pushup on unstable surface

WEIGHT TRAINING

Days per week per physical therapist

See weight training precautions section

Machine resistance (limited ROM):

Latissimus dorsi pull downs

Seated row

Seated bench press

GUIDELINES FOR RETURNING TO WEIGHT TRAINING

You should not return to training using heavy weights or on weight machines until your doctor determines that it is safe. In general, it is usually safe to return to heavier weight training at three months following labrum repair. Before embarking on a weight-training program, you should have full range of shoulder motion and normal strength in the rotator cuff and scapular muscles. The doctor or a physical therapist will test your motion and strength before you start weight training. When starting your weight-training program, you can start with 3 sets of 15-20 repetitions. Training with high repetition sets ensures that the weights that you are using are not too heavy. NEVER perform any weight training exercise to the point of muscle failure. "Muscle failure" occurs when, in performing a weight training exercise, the muscle is no longer able to provide the energy necessary to contract and move the joint(s) involved in the particular exercise. Joint, muscle and tendon injuries are more likely to occur when muscle failure occurs.

The following weight training exercises should be avoided after Bankart repair for shoulder instability:

1. Pull downs behind-the-neck (wide-grip)

2. Behind-the-neck shoulder press
3. Wide-grip bench press
4. Standing lateral deltoid raises
5. Triceps press overhead

The following exercises require special cautions:

1. Pull downs should only be done in front of the head, to the chest, with a medium(not wide) grip.
2. Shoulder press overhead should be done carefully, avoiding heavy weights. If doing shoulder presses, always start with the hand in front of the shoulder and end overhead where you can still see your hand. For persons using barbells, this is the "military press".
3. If bench pressing, your grip should be no wider than the width of your shoulders. Avoid any exercises using grips wider or narrower than shoulder width.
4. Lateral deltoid raises should be avoided because of the impinging and wearing effect on the rotator cuff. Forward raises in the "thumb-up" position are usually safer and can be done with reasonable weights. Lateral raises from the prone or bent over position can be done as a substitute for standing lateral deltoid raises.
5. When doing incline bench press with barbells, there is a danger of shoulder dislocation if the lifter loses control of the bar when returning the barbell to the rack of the incline bench. Always have a spotter for removing and replacing the barbell in this exercise.
6. If you are doing any type of "chest-fly", keep in mind the following precautions. Do not do any chest-fly exercise with straight elbows. Always allow the elbows to bend and never lower your hands (holding dumbbells) below the level of your chest.
7. If you are using a "Pec-Deck" machine, never let the weight stretch the arms so that your elbows pass behind your chin. You can set the arms on this machine a few clicks forward to adjust the maximum motion allowed.
8. If you are performing "dips" using a set of parallel bars, never lower yourself below the point where the elbows reach a 90-degree angle.
9. For triceps exercises, triceps pushdowns on a pulley system are safe as well as bent-over triceps extensions.
10. When doing the upright-rowing exercise, keep your grip at least 12 inches apart. When pulling the bar upward toward the chin, do not raise the bar higher than the point at which the elbow reaches shoulder level.

Exercises Usually Problem-Free

1. Biceps Curls
2. Cable and bent-over rowing
3. Shoulder shrugs

If your goal is returning to high-level weight training or weight lifting, it will take 3 to 6 months of cautious, gradual progression to return to top form. In general, avoid increasing the amount of weight lifted by more than 10-15% (at a time) of your present working weight every 10-14 days.

Remember: Weight training is beneficial to improve muscular strength and protect the joints from injury. If done improperly by using too much weight and/or improper technique, weight training can cause serious injury.

Post-op phase	Sling	Range of Motion	Therapeutic exercises		Precautions
<p>Phase 1 0 to 4 weeks after surgery</p> <p><u>Goals:</u> *Allow healing of repaired capsule.</p> <p>*Initiate early protected and restricted range of motion.</p> <p>*Minimize muscular atrophy.</p> <p>*Decrease pain/inflammation.</p> <p>5 to 6 weeks after surgery</p> <p><u>Goals:</u> *Gradual increase in ROM</p> <p>*Improve strength</p> <p>*Decrease pain/inflammation</p>	Per MD instructions.	<p>Weeks 0-2 *Flexion 90-100 *ERN limit 5-10°</p> <p>Weeks 2-4 *Flexion to 120 degrees as tolerated *ER @ 0° = 10 to 20° *No IR behind back. *No IR@90° ABD. *No horizontal adduction</p> <p>At 5-6 weeks: ER/IR in plane of scapula: 30°</p> <p>*Flexion to 145° as tolerated</p> <p>*ER @ 0°=30°</p>	<p>No stretching 0-4 weeks</p> <p>*Pendulum exercises</p> <p>*Supine forward flexion with wand</p> <p>*Supine ER at neutral</p> <p>*Scapular shrugs/retraction</p> <p>At 5-6 weeks: Standing ERN stretch</p>	<p>*Isometrics: ER, IR, FLX, EXT, ABD</p> <p>*Rhythmic stabilization for IR/ER, FLX/EXT</p> <p>*Proprioception drills</p> <p>*Ball squeeze</p> <p>*Elbow and forearm exercises</p> <p>At 5-6 weeks: *Side lying ER 0-30° *Prone row *Prone extension to hip * Standing forward flexion to 90°</p> <p>*<u>Theraband exercises</u> ER, IR (limit IR to neutral)</p>	<p>No internal rotation</p> <p>No horizontal adduction</p> <p>No closed chain positions</p> <p>No activities above head.</p> <p>Avoid ER in abduction.</p> <p>Caution to avoid excessive shoulder extension.</p>
<p>Phase 2 7 to 12 weeks after surgery</p> <p><u>Goals:</u> *Gradually restore range of motion *Increase strength *Improve neuromuscular control *Enhance proprioception and kinesthesia *Decrease pain/inflammation</p>	D/C	<p>ER at 45° Abduction=50°</p> <p>*Shoulder flexion to tolerance (165 ° by week 8)</p> <p>*IR in plane of scapula: 60</p> <p>*IR at 90° abduction to 30-45° week 10 Progress cautiously and gradually to 60-65° by week 12</p> <p>* Week 7: ER at 90 degrees abduction: 70°</p> <p>Weeks 8-9 ER to 80° at 90° abduction</p> <p>*ER @ 0° =45-60°</p>	<p>*Gradually improve ROM all planes</p> <p>*Elevation in scapular plane</p> <p>*Wall slide</p> <p>*IR behind back to beltline only start week 8</p> <p>*Horizontal adduction reach only start week 8</p> <p>ER @ scapular plane</p> <p>Hands behind head starts 9th week postop</p> <p>Overhead pully</p>	<p><u>Theraband exercises:</u> Continue phase 1 Add: Shrug, Dynamic hug, 'W's, Biceps curl (week 9 with SLAP) Row (week 11 with SLAP) Forward punch (serratus punch)</p> <p><u>Dynamic exercises:</u> PRE 1-3 lb as tolerated Continue phase1 Add: *Side-lying scaption *Prone 'T's *Standing scaption *Isotonic biceps curl *Prone 'Y's</p> <p>*Rhythmic stabilization</p> <p>*Proprioception drills</p> <p>*Scapulohumeral Rhythm exercises</p>	<p>Gradual ROM for IR behind back, IR+ER at 90° abduction and horizontal adduction</p> <p>No push-ups or pushing movements</p> <p>Avoid excessive extension, and ER</p>

Post-op Phase	Therapeutic Exercises		Return to Sports	Precautions
Phase 2 continued	*Transition IR gradually from plane of scapula to coronal plane *Progress IR to 60-65 degrees at 90 degrees abduction by week 12	<u>Dynamic:</u> *Continue previous *Initiate push-ups into wall at week 12 (then push-up progression per MD) *Emphasize muscle strength of ER, scapular region	Not yet	Continue to avoid excessive or forceful horizontal adduction and internal rotation
Phase 3 13-20 weeks after surgery <u>Goals:</u> * Progress to full ROM *Improve: strength/power/endurance *Improve neuromuscular control *Improve dynamic stability *Improve scapular muscular strength	*Progress to full ROM *Side lying IR @ 90° (sleeper) limit 60 to 65° at week 12 and full by week 20. *Horizontal adduction stretch *IR behind back full ER to 90° at 90° abduction *ER @ 0° to full	*Continue theraband and dynamic exercises from phase 1 and 2 <u>*Theraband:</u> add 'T's, diagonal up and down, External rotation at 90°, Internal rotation at 90° *Weight training can begin. *Machine resistance (limited ROM): *Front pull downs *Seated row *Seated bench press at week 16 *May progress CKC program: Ball on wall Pushup on unstable surface at 20 weeks	Gradual return to recreational activities	See weight training precautions.
Phase 4 21-28 weeks after surgery onward <u>Goals:</u> Progressively increase activities to prepare patient for unrestricted functional return	Full ROM	Plyometric exercises: *Rebounder throws arm at side *Wall dribbles overhead *Rebounder throws with weighted ball. *Decelerations, wall dribbles at 90° *Wall dribble circles	Interval sports programs can begin between 28-32 weeks. Strength athletes can gradually resume regular training	Weight training precautions. Shoulder brace sometimes for collision sports.

Shoulder Exercises for Combined Labrum Repair Rehabilitation Protocol

The exercises illustrated and described in this document should be performed only after instruction by your physical therapist or doctor.

Pendulum exercise

Bend over at the waist and let the arm hang down. Using your body to initiate movement, swing the arm gently forward and backward and in a circular motion.

Shoulder shrug

Shrug shoulders upward as illustrated.

Shoulder blade pinches

Pinch shoulder blades backward and together, as illustrated.

Isometric internal and external rotation

Stand facing a doorjamb or the corner of a wall.

Keep the elbow tight against your side and hold the

forearm at a right angle to the arm. For internal rotation,

place the palm against the wall with the thumb facing up. For external rotation, place the back of the hand against the wall with the thumb facing up.
Pull or push against the wall and hold for 5 seconds

Ball squeeze exercises

Holding a rubber ball or tennis ball, squeeze the ball and hold for 5 Seconds

Supine passive arm elevation

Lie on your back. Hold the affected arm at the wrist with the opposite hand. Using the strength of the opposite arm, lift the affected arm upward, as if to bring the arm overhead, slowly lower the arm back to the bed.

Supine external rotation

Lie on your back. Keep the elbow of the affected arm against your side with the elbow bent at 90 degrees. Using a cane or long stick in the opposite hand, push against the hand of the affected arm so that the affected arm rotates outward. Hold 10 seconds, relax and repeat.

Behind-the-back internal rotation

Sitting in a chair or standing, place the hand of the operated arm behind your back at the waistline. Use your opposite hand, as illustrated, to help the other hand higher toward the shoulder blade. Hold 10 seconds, relax and repeat.

Hand-behind-the-head stretch

Lie on your back. Clasp your hands and place your hands behind your head with the elbows facing forward. Slowly lower the elbows to the side to stretch the shoulder outward. Hold for 10 seconds, and then return to the starting position.

Standing external rotation

Stand in a doorway facing the doorframe or near the edge of a wall. With your hand against the wall or doorframe, keep the affected arm firmly against your side, and the elbow at a right (90 degree) angle. By moving your feet, rotate your body away from the door or wall to produce outward rotation at the shoulder.

Supine cross-chest stretch

Lying on your back, hold the elbow of the operated arm with the opposite hand. Gently stretch the elbow toward the opposite shoulder. Hold for 10 seconds.

Sidelying internal rotation stretch

Lie on your side with the arm positioned so that the arm is at a right angle to the body and the elbow bent at a 90° angle. Keeping the elbow at a right angle, rotate the arm forward as if to touch the thumb to the table. Apply a gentle stretch with the opposite arm. Hold 10 to 15 seconds.

External rotation at 90° abduction stretch

Lie on your back. Support the upper arm, if needed, with towels or a small pillow. Keep arm at 90 degrees to the body and the elbow bent at 90 degrees. Using a stick and the opposite arm, stretch as if to bring the thumb to the corner of the table adjacent to your ear. Hold for 10 seconds, and then return to the starting position

Wall slide stretch

Stand facing a wall; place the hands of both arms on the wall. Slide the hands and arms upward. As you are able to stretch the hand and arm higher, you should move your body closer to the wall. Hold 10 seconds, lower the arm by pressing the hand into the wall and letting it slide slowly down.

Seated/Standing Forward Elevation (Overhead Elbow Lift)

During this phase, you can stand or sit in a chair. If it is easier, begin lying on your back until you achieve maximal motion, then use the standing or seated position. Assume an upright position with erect posture, looking straight ahead. Place your hands on either thigh with the operated thumb facing up and your elbow straight. In the beginning, this stretch is not performed solely with the operated arm, but uses the uninjured hand for assistance going up and coming down. As you become stronger, you can raise and lower your arm without assistance. The operated arm should be lifted as high as possible, or to your end-point of pain. Try to raise the arm by hinging at the shoulder as opposed to raising the arm with the shoulder blade.

Standing forward flexion

Stand facing a mirror with the hands rotated so that the thumbs face forward. Raise the arm upward keeping the elbow straight. Try to raise the arm by hinging at the shoulder as opposed to raising the arm with the shoulder blade. Do 10 repetitions to 90 degrees. If you can do this without hiking the shoulder blade, do 10 repetitions fully overhead.

Prone rowing

The starting position for this exercise is to bend over at the waist so that the affected arm is hanging freely straight down.

Alternatively, lie face down on your bed with the operated arm hanging freely off of the side. While keeping the shoulder blade 'set', raise the arm up toward the ceiling while bending at the elbow. The elbow should be drawn along the side of the body until the hands touch the lower ribs. Always return slowly to the start position.

Prone horizontal abduction ('T's)

The starting position for this exercise is to bend over at the waist so that the affected arm is hanging freely straight down. Alternatively, lie face down on your bed with the operated arm hanging freely off of the side. Rotate your hand so that the thumb faces forward. While keeping the shoulder blade 'set' and keeping the elbows straight, slowly raise your arm away from your body to shoulder height, through a pain-free range of motion (so that your hand now has the thumb facing forward, and aligned with your cheek). Hold that position for 1 to 2 seconds and slowly lower. Limit the height that you raise the arm to 90 degrees, or in other words, horizontal to the floor.

Prone horizontal abduction with external rotation

The starting position for this exercise is to bend over at the waist so that the affected arm is hanging freely straight down. Alternatively, lie face down on your bed with the operated arm hanging freely off of the side. Rotate your hand so that the thumb faces outward. While keeping the shoulder blade 'set' and keeping the elbows straight, slowly raise your arm away from your body to shoulder height, through a pain-free range of motion (so that your hand now has the thumb facing forward, and aligned with your cheek). Hold that position for 1 to 2 seconds and slowly lower. Limit the height that you raise the arm to 90 degrees, or in other words, horizontal to the floor.

Prone scaption ('Y's)

The starting position for this exercise is to bend over at the waist so that the affected arm is hanging freely straight down.

Alternatively, lie face down on your bed with the operated arm hanging freely off of the side. Keep the shoulder blade 'set' and keep the elbows straight. Slowly raise the arm away from your body and slightly forward through a pain-free range of motion (so that your hand now has the thumb facing up, and is aligned with your forehead). Hold that position for 1 to 2 seconds and slowly lower. Limit the height that you raise the arm to 90 degrees, or in other words, horizontal to the floor.

Prone extension

The starting position for this exercise is to bend over at the waist so that the affected arm is hanging freely straight down. Alternatively, lie face down on your bed with the operated arm hanging freely off of the side. While keeping the shoulder blade 'set' and keeping the elbow straight, raise the arm backward toward your hip with the thumb pointing outward. Do not lift your hand past the level of your hip.

Prone external rotation at 90 ° Abduction

Lie face down on a table with your arm hanging over the side of the table. Raise the arm to shoulder height at a 90° angle to the body. While holding the arm in this position, rotate the hand upward, until the hand is even with the elbow. Hold one second and slowly let the hand rotate to the starting position and repeat.

Sidelying external rotation

Lying on the non-operated side, bend your elbow to a 90-degree angle and keep the operated arm firmly against your side with your hand resting on your abdomen. By rotation at the shoulder, raise your hand upward, toward the ceiling through a comfortable range of motion. Hold this position for 1 to 2 seconds, and then slowly lower the hand.

Standing forward flexion ('full-can') exercise

Stand facing a mirror with the hands rotated so that the thumbs face forward. While keeping the shoulder blade 'set' and keeping the elbows straight, raise the arms forward and upward to shoulder level with a slight outward angle (30°). Pause for one second and slowly lower and repeat.

Lateral Raises

Stand with the arm at your side with the elbow straight and the hands rotated so that the thumbs face forward. Raise the arm straight out to the side, palm down, until the hands reach shoulder level. Do not raise the hands higher than the shoulder. Pause and slowly lower the arm.

Theraband Strengthening

These resistance exercises should be done very slowly in both directions. We want to strengthen you throughout the full range of motion and it is very important that these exercises be done very slowly, not only when you complete the exercise (concentric), but also as you come back to the start position (eccentric). The slower the motion, the more maximal the contraction throughout a full range of motion.

External Rotation

Attach the theraband at waist level in a doorjamb or other. While standing sideways to the door and looking straight ahead, grasp one end of the band and pull the band all the way through until it is taut. Feet are shoulder width apart and the knees are slightly flexed. The elbow is placed next to the side with the hand as close to your chest as possible (think of this elbow as being a hinge on a gate). Taking the cord in the hand, move the hand away from the body as far as it feels comfortable. Return to the start position.

Internal Rotation

Attach the Theraband at waist level in a doorjamb or other. While standing sideways to the door and looking straight ahead, grasp one end of the handle and pull the cord all the way through until it is taut. Feet are shoulder width apart and the knees are slightly flexed. The elbow is placed next to the side and is flexed at 90 degrees (think of this elbow as being a hinge on a gate). Taking the cord in the hand, move the hand toward the chest as far as it feels comfortable. Return to the start position.

Shoulder Shrug

Stand on the theraband with your feet at should width apart and look straight ahead. Next, straighten up, keeping the knees slightly flexed, with your arms straight down at the sides (palms in). Slowly raise the shoulders in a shrug (toward the ears), then rotate the shoulders backward in a circular motion, and finally down to the original position. This movement is completed while keeping constant tension on the cord.

Seated / Standing Row

Attach the theraband in a doorjamb or other. Sit or stand facing the door. Use a wide flat—footed stance and keep your back straight. Begin with the arms slightly flexed, hands together at waist level in front of your body, thumbs pointing upward, and with the cord taut. You are producing a rowing motion. Pull the cord all the way toward the chest. While pulling the cord, the elbows should be drawn along the side of the body until the hands touch the lower ribs. Always return slowly to the start position.

Standing Forward Punch

Attach the theraband at waist level in the doorjamb. Facing away from the door, stand in a boxing position

with one leg ahead of the other (stride position). Do not bend at the waist and remain in an upright position. If the right shoulder is the injured extremity, you will want to grasp the handle in the right hand and step out until the cord is taut. If you use the right hand, the left foot should be forward in the stride position. Begin with your right arm at waist level and bend the elbow at a 90 degree angle, with the elbow remaining near your side. Slowly punch forward while slightly raising the right arm in a forward, upward punching motion. The hand should reach approximately neck level with the right arm almost straight.

Biceps Curls

Place your feet on the cord, shoulder width apart, knees slightly bent. Keeping your elbows close to the sides of your body, slowly bend the arm at the elbow and curl towards the shoulder.

Dynamic Hug

With the tubing attach behind you at shoulder height, grip both ends of the tubing in your hands with the tubing on the outside of your shoulders. Pull the band forward and slightly downward in a 'hugging' motion, or as if you were wrapping both arm around a small tree. Pause and return slowly to the starting position.

'W's

With the tubing attached in front of you, stand with the tubing in both hands with the elbows bent at 90° and fixed at your side. Pull the band outward, keeping the elbow at your side. The arms rotate outward making the shape of a 'W'.

Standing 'T's.

Stand with the theraband attached in front of you. Stand with the arm flexed forward at shoulder height with the elbow straight. While keeping the elbow straight, pull the arm toward the rear until the arm is by your side. Theraband external rotation at 90°. Stand with the theraband attached in front of you. Keeping the arm elevated to 90 degrees and the elbow at a 90-degree angle, rotate the hand and arm slowly backward and then return slowly to the start position.

Theraband internal rotation at 90°.

Stand with the theraband attached behind you. Keeping the arm elevated to 90 degrees and the elbow at a 90-degree angle, rotate the hand and arm slowly forward and then return slowly to the start position.

Theraband diagonal-up

Stand with the theraband attached on your left side for your right hand. Start with your right hand on the left hip with the thumb facing the hip. Start by pulling the band so that your hand travels up and behind your head.

Theraband diagonal-down

Stand with the theraband attached behind you at shoulder level. Start with your arm in throwing position. Pull the band down and across your body so that your thumb faces the opposite hip.

**Contact Tucson Orthopaedic Institute
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