

Shoulder – Rotator Cuff Repair

Post-operative instructions

The first week after surgery

GOALS:

1. Control pain and swelling
2. Protect the rotator cuff repair
3. Protect wound healing
4. Begin early shoulder motion

ACTIVITIES:

Immediately After Surgery

After surgery you will be taken to the recovery room. The decision to stay in the hospital for a night or two is usually made preoperatively. Arrangements can be made to stay in the hospital if you have significant pain.

You should get out of bed and move around as much as you can. When lying in bed, elevate the head of your bed and put a small pillow under your arm to hold it away from your body.

At home, you may find it easier to sleep in a semi-seated position.

Apply cold packs to the operated shoulder to reduce pain and swelling.

Move your fingers, hand and elbow to increase circulation. The numbing medicine in your shoulder wears off in about 6-12 hours. We should be able to find a combination of pain medications to control your pain.

You will receive a prescription for pain medication for when you go home (it will make you constipated if you take it for a long time).

The Next Day After Surgery

1. Unless instructed otherwise, remove the sling several times a day to gently move the arm in a pendulum motion: lean forward and passively swing the arm. (Figure 1)
2. You can be discharged from the hospital as long as there is no problem.

At Home

You can remove the bandages on the third day after surgery but leave the small pieces of tape (steristrips) in place. If you had an arthroscopic surgery only, you may shower and get the incision wet at this time. If you had an 'open' surgery, keep your incision clean and dry. To wash under the **operated** arm, bend over at the waist and let the arm passively come away from the body. It is safe to wash under the arm in this position. This is the same position as the pendulum exercise. Apply cold to the shoulder for 20 minutes at a time as needed to reduce pain and swelling.

Remove the sling several times a day: move the elbow wrist and hand. Lean over and do pendulum exercises for 3 to 5 minutes every 1 to 2 hours.



DO NOT lift your arm at the shoulder using your muscles.

Because of the need for your comfort and the protection of the repaired tendon, a sling is usually necessary for 4 to 6 weeks, unless otherwise instructed by Dr. Ferry.

OFFICE VISIT

Please arrange to see Dr. Ferry in the office 10-14 days after surgery for suture removal and further instructions.

Shoulder – Rotator Cuff Repair Phase I (Weeks 1-4)

Amon T. Ferry, MD

Orthopedic Surgery / Sports Medicine
9250 N 3rd St., Suite 2030, Phoenix, AZ 85020
Tel: 623-882-8184 Fax:623-882-8184

Goals:

Maintain / protect integrity of repair
Gradually increase passive range of motion (PROM)
Diminish pain and inflammation
Prevent muscular inhibition
Become independent with activities of daily living with modifications

Precautions:

Maintain arm in abduction sling / brace, remove only for exercise
No active range of motion (AROM) of shoulder
No lifting of objects
No shoulder motion behind back
No excessive stretching or sudden movements
No supporting of any weight
No lifting of body weight by hands
Keep incision clean and dry

Criteria for progression to the next phase (II):

Passive forward flexion to at least 125 degrees
Passive external rotation (ER) in scapular plane to at least 75 degrees
Passive internal rotation (IR) in scapular plane to at least 75 degrees
Passive Abduction to at least 90 degrees in the scapular plane

DAYS 1 TO 14:

- Abduction brace/sling
- Finger, wrist, and elbow AROM
- Begin scapula musculature isometrics / sets; cervical ROM
- Cryotherapy for pain and inflammation
 - Day 1-2: as much as possible (20 minutes of every hour)
 - Day 3-6: post activity, or for pain
- Sleeping in abduction sling
- Patient Education: posture, joint protection, positioning, hygiene, etc.

DAYS 14 TO 28:

- Continue use of abduction sling / brace
- Pendulum exercises

- Begin passive ROM to tolerance (these should be done supine and should be pain free)
 - Flexion to 90 degrees
 - ER in scapular plane to at least 35 degrees
 - IR to body/chest
- Continue Elbow, wrist, and finger AROM / resisted
- Cryotherapy as needed for pain control and inflammation
- May resume general conditioning program – walking, stationary bicycle, etc.
- Aquatherapy / pool therapy may begin at 4 weeks postop

Activities

1. Sling

Use your sling all of the time. Remove the sling 4 or 5 times a day to do pendulum exercises (fig. 1).

2. Use of the operated arm

You may use your hand on the operated arm in front of your body but **DO NOT** raise your arm or elbow away from your body. It is alright for you to flex your arm at the elbow.

3. Showering

You may shower but avoid getting into a bath tub, hot tub, or swimming pool until 4 weeks after surgery. To wash under the operated arm bend over at the waist and let the arm passively come away from the body. It is safe to wash under the arm in this position. This is the same position as the pendulum exercise.

Exercise Program

ICE

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

Program:

Pendulum exercises 1-2 sets 20- 30 reps

Supine External Rotation 1-2 sets 10-15 reps

Supine passive arm elevation 1-2 sets 5-10 reps

Starting at 3rd week after surgery:

Behind the back internal rotation 1-2 sets 5-10 reps

Exercises

Shoulder stretching is divided into two phases. **Phase 1, or passive range of motion**, is always performed with the uninjured arm assisting or helping the operated arm. **Phase 2, or active range of motion** with a terminal stretch, is performed by having the uninjured arm assisting for a "terminal stretch". The major difference between passive and active stretching is that during active stretching, upon reaching your "endpoint" of pain or movement, you can "push" the operated arm with the uninjured hand another 5-10 degrees for additional motion. This final movement is called "terminal stretch". Maximum motion for each person remains the goal and terminal stretching will assist in achieving that goal.

All stretching exercises should be done slowly to maximize muscle and soft connective tissue involvement. When stretching, your goal is to reach the maximum range of motion for you. There is a reason for multiple sets and repetitions. This reason stems from "warming up" the shoulder so it can actually stretch further in the last few repetitions that you will do. The first few repetitions prepare the stiffened or swollen shoulder for initial movement.

Since there is more than one repetition per set, allow the first one or two repetitions to be warm-up reps, with very little pain. Gradually work into more and more range of motion.

It is also important to allow pain to be your guide. Move the arm to an "endpoint" (that endpoint is dictated by the amount of pain). Your goal is to increase the endpoint as often as possible until you have reached the full range of motion. As far as pain, you want to avoid excruciating pain, but "discomfort" is tolerated as long as the pain does not remain for a prolonged period of time. A basic rule to follow when stretching is, if the pain does not linger, you did not stretch too far.

1. 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.



2. Shoulder shrug

Shrug shoulders upward as illustrated.

3. Shoulder blade pinches

Pinch shoulder blades backward and together, as illustrated.



4. Supine passive arm elevation

Lie on your back. Hold the affected arm at the elbow 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.



5. 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.



6. 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.



Office Visit

Please arrange to see Dr. Ferry approximately 4 weeks following your first post-operative visit (6 weeks after surgery).

Shoulder – Rotator Cuff Repair Phase II (Weeks 4-10)

Amon T. Ferry, MD

Orthopedic Surgery / Sports Medicine
9250 N 3rd St., Suite 2030, Phoenix, AZ 85020
Tel: 623-882-8184 Fax:623-882-8184

Protection / Active motion:

Goals:

Allow healing of soft tissue
Do not overstress healing tissue
Gradually restore full passive ROM
Decrease pain and inflammation

Precautions:

No lifting
No supporting of body weight by hands and arms
No sudden jerking motions
No excessive behind the back movements
Avoid upper extremity bike or upper extremity ergometer at all times.
Sling as needed

Criteria for progression to the next phase (III):

Full active range of motion

WEEK 5-6:

- Initiate active assisted range of motion (AAROM) flexion in supine position (week 5)
- Progressive passive ROM until approximately Full ROM by week 6.
 - Gentle Scapular/glenohumeral joint mobilization as indicated to regain full passive ROM
- Initiate prone rowing to neutral arm position
- May use heat prior to ROM exercises
- Continue ice as needed and after exercise
- May use pool (aquatherapy) for light active ROM exercises

Weeks 7-8

- Continue active and active assisted ROM and stretching exercises
- Begin rotator cuff isometrics
- Continue periscapular exercises
- Initiate active ROM exercises
 - flexion scapular plane
 - abduction
 - external rotation
 - internal rotation

Activities

1. Your sling is no longer necessary unless Dr. Ferry instructs you to continue using it.

2. Use of the operated arm

You should continue to avoid lifting your arm away from your body, since this is the action of the tendon that was repaired. You can lift your arm forward in front of your body but not to the side. You may raise your arm to the side, if you use the good arm to assist the operated arm.

3. Bathing and showering

Continue to follow the instructions from phase one and the instructions above.

Exercise Program

ICE

Days per week: 7

Times per day : 4-5 As necessary

STRETCHING / ACTIVE MOTION

Days per week: 7

Times per day : **3-4**

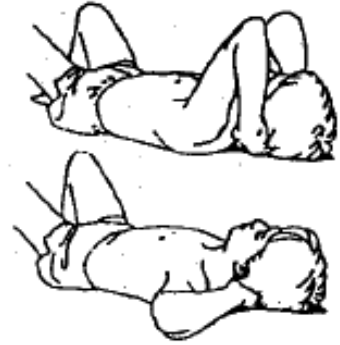
Program:

Pendulum exercises	1-2 sets	20-30 reps
Supine External Rotation	1 set	10-15 reps
Standing External Rotation	1 set	10-15 reps
Supine passive arm elevation	1 set	5-10 reps
Seated-Standing Arm Elevation	1 set	5-10 reps
Behind the back internal rotation	1-2 sets	5-10 reps
Supine external Rotation with Abduction	1 set	5-10 reps
Supine Cross Chest Stretch	1 set	5-10 reps
Side-lying External Rotation	1 set	10-20 reps
Prone Horizontal Arm Raises	1 set	10-20 reps

Exercises

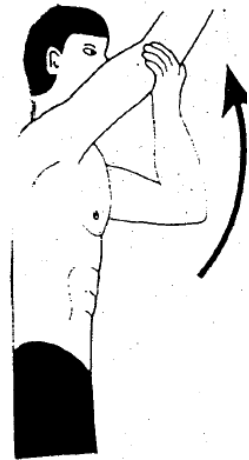
1. Supine external rotation with abduction

Lie on your back. Place your hands behind your head as shown in illustration 1a. Slowly lower the elbows to stretch the shoulder toward the position shown in illustration 1b. Hold for 10 seconds, then return to the starting position.



2. Supine/Seated Forward Elevation (Overhead Elbow Lift)

During this phase, you can sit in a chair. If it is easier, begin in a supine position until you achieve maximal motion, then use a seated position. Assume an upright position with erect posture, looking straight ahead. Place your hands on either thigh with the operated thumb facing up. This stretch is not performed solely with the operated arm, but use the uninjured hand for assistance going up and coming down. Begin by pulling the operated arm toward your feet, as if to lengthen the arm (establish slight traction). Keep your elbow slightly flexed. The operated arm is lifted as high as possible, or to your endpoint of pain. Upon reaching that endpoint, take the uninjured hand and actually push on the outstretched forearm of the operated arm. Push 1 or 2 inches to achieve a "terminal stretch". Hold 10 seconds per repetition. Release and slowly return to the start position.

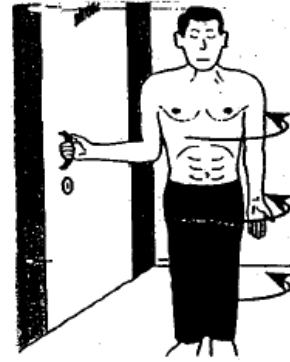


2. Supine cross-chest stretch

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.

3. Standing external rotation

Stand with the operated shoulder toward a door as illustrated. While keeping the operated arm firmly against your side and the elbow at a right (90 degree) angle, rotate your body away from the door to produce outward rotation at the shoulder.



4. Supine passive arm elevation

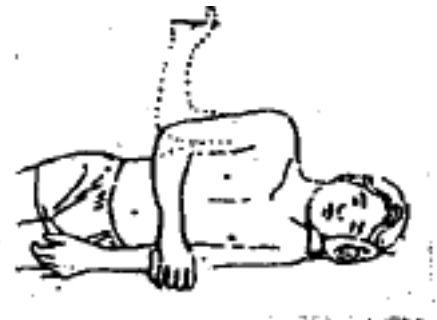
Continue this exercise from phase two, stretching the arm overhead. Hold for 10 seconds.



5. Behind-the-back internal rotation

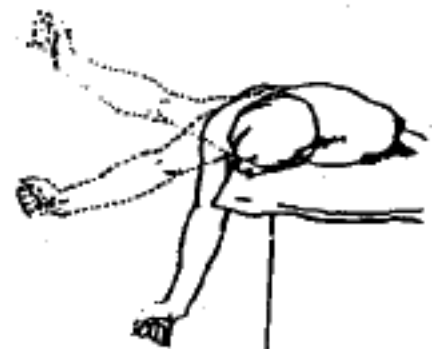
Sitting in a chair or standing, place the hand of the operated arm behind your back at the waistline.

Use your opposite hand to pull on a towel, as illustrated, to help the other hand higher toward the shoulder blade. Hold 10 seconds, relax and repeat.



6. Side-lying 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, then slowly lower the hand.



7. Prone or bent-over horizontal arm raise

Lie face down on your bed with the operated arm hanging freely off of the side (or bend over at the waist as if doing pendulum exercises). Rotate your hand so that the thumb faces away from you. Slowly raise your **arm** away from your body through a pain-free range of motion. Hold that position for 1 to 2 seconds and slowly lower.

Office visit

Please arrange an appointment to see Dr. Ferry in **6** weeks (12 weeks from surgery).

Shoulder – Rotator Cuff Repair Phase III (Weeks 10-14)

Amon T. Ferry, MD

Orthopedic Surgery / Sports Medicine
9250 N 3rd St., Suite 2030, Phoenix, AZ 85020
Tel: 623-882-8184 Fax:623-882-8184

Early strengthening (weeks 10-14):

Goals:

Full active ROM (week 10-12)
Maintain full passive ROM
Dynamic shoulder stability
Gradual restoration of shoulder strength, power, and endurance
Optimize neuromuscular control
Gradual return to functional activities

Precautions:

No heavy lifting of objects (no heavier than 5 lbs.)
No sudden lifting or pushing activities
No sudden jerking motions
No overhead lifting
Avoid upper extremity bike or upper extremity ergometer at all times.

Criteria for progression to the next phase (IV):

Able to tolerate the progression to low-level functional activities
Demonstrates return of strength/dynamic shoulder stability
Re-establish dynamic shoulder stability
Demonstrates adequate strength and dynamic stability for progression to higher demanding work/sport specific activities.

WEEK 10:

- Continue stretching and passive ROM (as needed)
- Dynamic stabilization exercises
- Initiate strengthening program
 - External rotation (ER)/Internal rotation (IR) with therabands/sport cord/tubing
 - ER side-lying (lateral decubitus)
 - Lateral raises*
 - Full can in scapular plane* (avoid empty can abduction exercises at all times)
 - Prone rowing
 - Prone horizontal abduction
 - Prone extension
 - Elbow flexion

- Elbow extension

*Patient must be able to elevate arm without shoulder or scapular hiking before initiating isotonic; if unable, continue glenohumeral joint exercises

WEEK 12

- Continue all exercise listed above
- Initiate light functional activities as Dr. Ferry permits

WEEK 14

- Continue all exercise listed above
- Progress to fundamental shoulder exercises

Activities

Use of the operated arm

You may now safely use the arm for normal daily activities involved with dressing , bathing and self-care. You may raise the arm away from the body, however, you should not raise the arm when carrying objects greater than one pound. Any forceful pushing or pulling activities could disrupt the healing of your surgical repair.

Exercise Program

STRETCHING / ACTIVE MOTION

Days per week: 7

Times per day : 1-2

Pendulum exercises

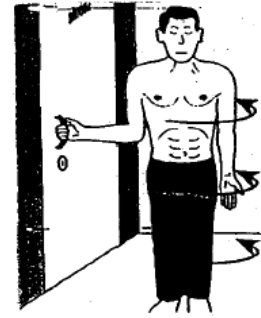
Standing External Rotation / Doorway	1-2 Sets	20-30 reps
Wall Climb Stretch	1 Set	5-10 reps
Comer Stretch	1 Set	5-10 reps
Standing Forward Flexion	2 Sets	5-10 reps
Behind the back internal rotation	1-2 Sets	10-20 reps
Supine external Rotation with Abduction	1 Set	5-10 reps
Supine Cross Chest Stretch	1 Set	5-10 reps
Side-lying External Rotation 1 1 lb.	1 Set	10-20 reps
Prone Horizontal Arm Raises / 1 lb.	1 Set	10-20 reps

STRENGTHENING / THERABAND

External Rotation	1-2 Sets	15-20 reps
Internal Rotation	1-2 Sets	15-20 reps
Standing Forward Punch	1-2 Sets	15-20 reps
Shoulder Shrug	1-2 Sets	15-20 reps
Seated Row	1-2 Sets	15-20 reps

1. Standing external rotation

Stand with the operated shoulder toward a door as illustrated. While keeping the operated arm firmly against your side and the elbow at a right (90 degree) angle, rotate your body away from the door to produce outward rotation at the shoulder. Hold 10 seconds.



2. Comer stretch

Standing facing a comer, position the arms as illustrated with the elbows at shoulder level. Lean your body gently forward toward the comer until a stretch is felt. Hold 10 seconds, relax and repeat .

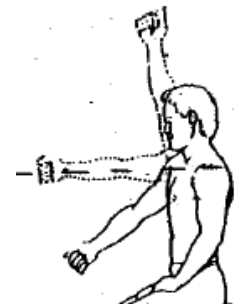


3. Wall climb

Stand facing a wall, place the fingers of the affected arm on the wall. Using the fingers as "feet", climb the hand and arm 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.

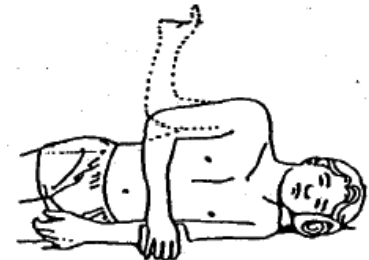
4. Standing forward flexion

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.



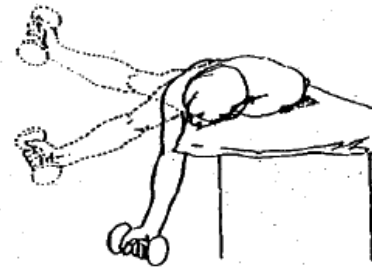
5. Side-lying ~ external rotation

Continue this exercise from phase one using a one or two pound weight. 10 repetitions.



6. Prone or bent-over horizontal arm raise

Continue this exercise from phase one using a one or two pound weights. These resistance exercises should be done very slowly in both directions. Your goal is to achieve a maximum amount of strengthening while listening to your endpoint of pain. Obviously, we want to strengthen you throughout the full range of motion. It is very important that this exercise 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.



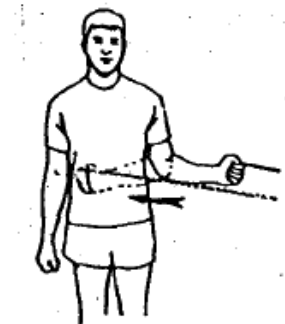
1. External Rotation

Attach the theraband at waist level in a door jamb 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 injured elbow is placed next to the side with the injured hand as close to your chest as possible (think of this elbow as being a hinge on a gate). Taking the cord in the injured hand, move the hand away from the body as far as it feels comfortable (at least 90 degrees is our goal), or to where the endpoint of pain limits you. Return to the start position; if you would like, during future repetitions go a few more degrees to work more of a range of motion.



2. 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 injured 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 injured hand, move the hand toward the chest as far as it feels comfortable, or to where the endpoint of pain limits you. Return to the start position



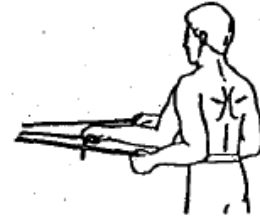
3. Shoulder Shrug

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.



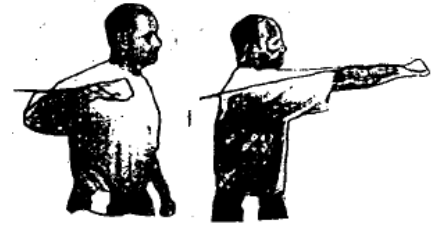
4. Seated/Standing Row

Attach the theraband in a door jamb 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.



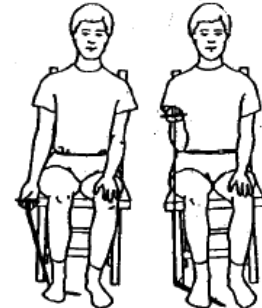
5. Standing Forward Punch

Attach the theraband at waist level in the door jamb. 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.



6. 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. Alternate arms while performing this exercise.



Office Visit

Please arrange an appointment with Dr. Ferry in **3** months (6 months post-surgery).

Shoulder – Rotator Cuff Repair Phase IV (16 weeks to 24 weeks)

Amon T. Ferry, MD

Orthopedic Surgery / Sports Medicine
9250 N 3rd St., Suite 2030, Phoenix, AZ 85020
Tel: 623-882-8184 Fax:623-882-8184

Advanced strengthening (weeks 6 to 12 months):

Goals

Maintain full non-painful active ROM
Advance conditioning exercises for enhanced functional use
Improve muscular strength, power, and endurance
Gradual return to full functional activities

WEEK 16

- Continue ROM and self-capsular stretching for ROM maintenance
- Continue progression of strengthening
- Advance proprioceptive, neuromuscular activities
- Light sports (golf chipping/putting, tennis ground strokes), if doing well

WEEK 20

- Continue strengthening and stretching
- Continue stretching, if motion is tight
- May initiate interval sport program (i.e. golf, doubles tennis, etc.), if appropriate.

Activities

1. Sports that involve throwing and the use of the arm in the overhead position are the most demanding on the rotator cuff. Dr. Ferry will provide you with specific instructions on how and when to return to golf, tennis, volleyball, swimming and throwing.

2. For people who wish to return to training with weights, your Dr. Ferry will give you guidelines regarding the timing and advice when returning to a weight training program.

3. The following timetable can be considered as a minimum for return to most activities:

Ski	4-6 months
Golf	4-6 months
Weight Training	6 months
Tennis	6-8 months
Swimming	6-8 months
Throwing	6 months

Before returning safely to your activity, you must have full range of motion, full strength and no swelling or pain. Dr. Ferry will provide you with a specific program to follow when it is time to return the above activities.