

Project 4: Rotator Cuff Strengthening Exercises
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I. Common Baseball Injuries

- Blisters
- Wrist Sprains
- Finger Fractures
- Shoulder Tendonitis, Bursitis, and Impingement Syndrome
- Rotator Cuff Tendonitis
- Shoulder Instability
- Tennis Elbow
- Tommy John

II. Shoulder/Specifically the Rotator Cuff

The rotator cuff is a group of relatively small muscles that are located deep in the shoulder and surround the joint. The primary function of these muscles is to provide dynamic stability to the joint. One of the major problems that baseball players face is that these ligaments become either stretched or torn during subluxations.

There are many excellent that can be performed to focus on the rotator cuff. These exercises consist of movements that must be performed with perfect form to ensure that the proper muscles are being isolated. While working with the rotator cuff it is important to also place emphasis on strengthening the scapular stabilizers; weakness of these muscles will result in a shoulder blade that tilts downward, further contributing to instability of the shoulder. It is also important to note that the rotator cuff is an endurance type of muscle group, and therefore requires the use of lighter weights and high repetitions. It is best to start my with 3 sets of 15 repetitions, and will progress to 5 sets of 30 repetitions depending on the particular exercise being performed.

1. Side-lying External Rotation

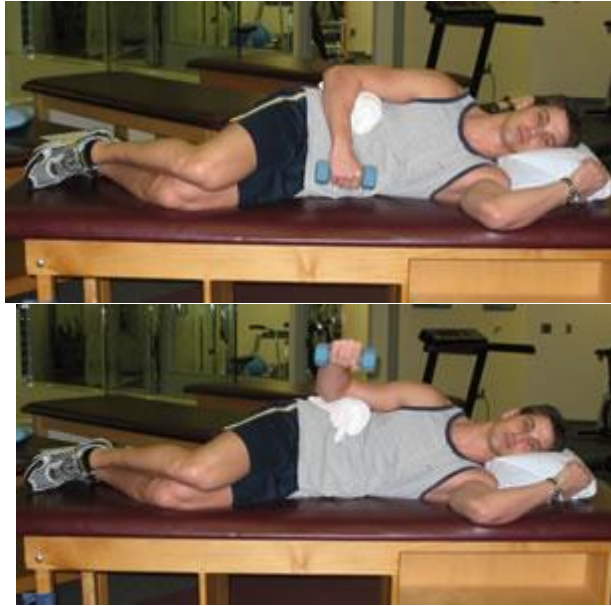
Purpose:

- Injury prevention in the shoulder
- Strengthening the rotator cuff

Lie on side with arm resting on stomach and a small rolled up towel under the arm. Slowly rotate arm upwards and stop when forearm is in a position just above horizontal. This exercise can be initiated using a 2-3 pound dumbbell.

Equipment needed:

1. Towel - rolled up
2. Dumbbell - lightweight 2-5 Lbs
3. Flat surface to lay on.



2. Prone Horizontal Abduction

Purpose:

- Injury prevention in the shoulder
- Strengthening the rotator cuff

Lie on your stomach with arm hanging over side of table and the thumb facing forward. Slowly raise arm straight out to the side and stop when arm is parallel to the body (going higher can cause excessive strain to the front of the shoulder).

Equipment needed:

1. Flat surface to lay on.
2. Dumbbell - lightweight 2-5 Lbs



3. Prone Elevation in the plane of the Scapula

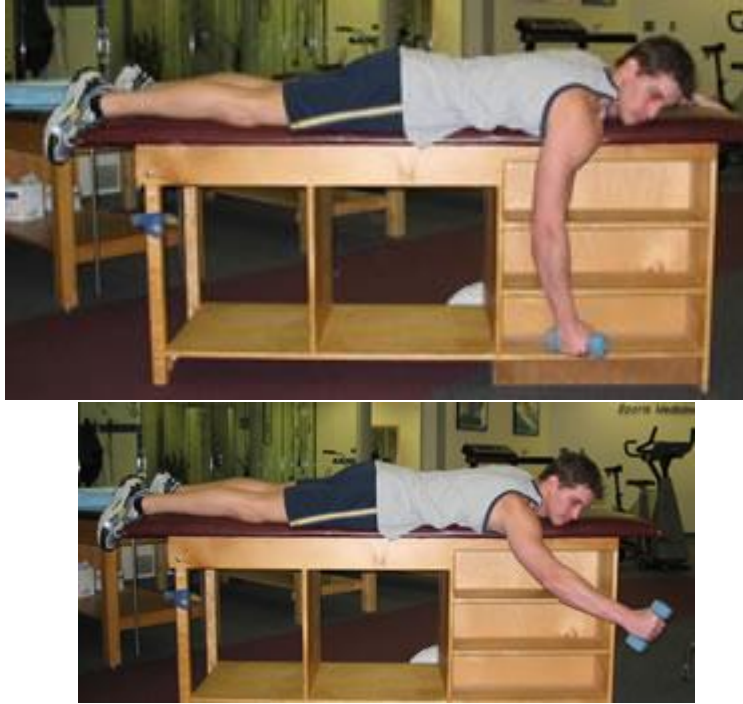
Purpose:

- Injury prevention in the shoulder
- Strengthening the rotator cuff

Begin in the same position as in the exercise above, except rotate your hand so the thumb is rotated 45° out to the side. Slowly raise arm in a plane 45° forward and stop arm just below parallel to the body (going higher can cause impingement of the rotator cuff).

Equipment needed:

1. Flat surface to lay on.
2. Dumbbell - lightweight 2-5 Lbs



4. Prone Row with External Rotation

Purpose:

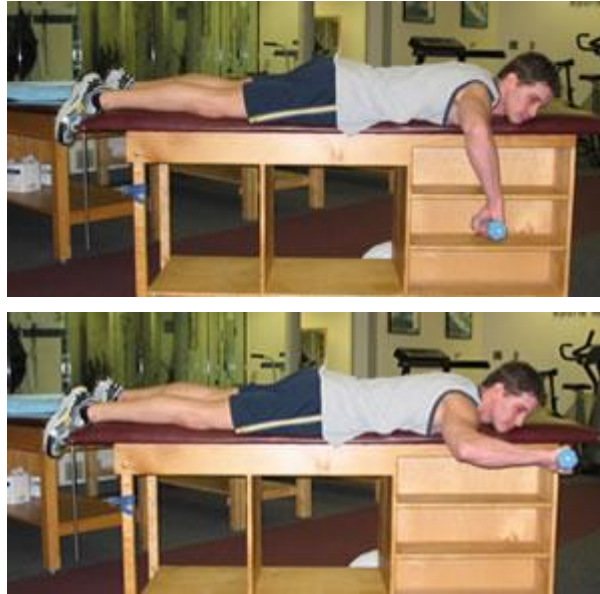
- Injury prevention in the shoulder
- Strengthening the rotator cuff

Begin in the same position as above, except rotate your hand so the thumb is facing towards the body. Perform a rowing motion with the elbow in the same plane as the shoulder, and stop when the elbow is even with the shoulder. After achieving this position, rotate the arm upwards until the forearm is just below parallel with the body. Next, rotate the forearm back down to the previous position, and then lower the arm back down to the starting position.

Equipment needed:

1. Flat surface to lay on.
2. Dumbbell - lightweight 2-5 Lbs





5. External Rotation with Resistance Bands

Purpose:

- Injury prevention in the shoulder
- Strengthening the rotator cuff

Stand while holding the bands across your abdomen, with a rolled towel between your arm and body. Slowly rotate arm out to side until hand is pointing straight forward, and hold for 3 seconds. Slowly return to start position. It is important that the elbow is kept at a 90° angle throughout the motion; the motion should simulate sliding your forearm on top of a table.

Equipment needed:

1. Rolled up towel
2. Resistance Bands - lightweight



6. Horizontal Abduction with Resistance Bands

Purpose:

- Injury prevention in the shoulder
- Strengthening the rotator cuff

Stand facing toward the attachment site of the tubing, with the arm extended straight out in front of you. Slowly pull arm backwards and out to the side, keeping the arm at shoulder height. As you perform this motion, try to pinch the shoulder blade backwards/inwards.

Equipment needed:

1. Resistance Bands - lightweight



7. Rows with Resistance Bands

Purpose:

- Injury prevention in the shoulder
- Strengthening the rotator cuff

Hold ends of tubing in each hand. Perform rowing motion backwards, keeping elbows elevated at least 60° away from body. When elbows are approximately $\frac{1}{2}$ of the way to the body, complete the motion by pinching the shoulder blades together.

Equipment needed:

1. Resistance Bands - lightweight



8. Standing Elevation in the plane of the Scapula

Purpose:

- Injury prevention in the shoulder
- Strengthening the rotator cuff

Stand with dumbbells in your hands, with hands rotated 45° out to the side. Slowly raise arms at 45° angle approximately $\frac{3}{4}$ of way above head.

Equipment needed:

1. Dumbbells lightweight



It must be stressed that all exercises performed with dumbbells must be performed with light weights (2-3 pounds); using heavy weights will strengthen the larger muscle groups more (deltoids, lats) resulting in a possible muscular imbalance.

9. Door Jamb Chest Stretch

Purpose:

- Stretch the muscles including the shoulder including rotator cuff

Extend your arm out from the torso at a right angle, and bend your elbow 90 degrees. Place your forearm against a wall (or do both at the same time, in a door jamb) and lean forward. You can even stagger your stance with one foot forward, if it feels more comfortable. Hold the stretch on each side for about 20-30 seconds. For optimal benefit, place this static stretch at the end of your workout before taking it to its limits.

Equipment needed:

1. Door Jamb



10. Hug a Tree Stretch

Purpose:

- Stretch the muscles including the shoulder including rotator cuff

This stretch is really good after rotator cuff work and stretches the lats, oblique, arms, lower back and shoulders. Find a sturdy vertical surface and grasp both hands around it, with feet about a foot away. Allow yourself to bend at the hips, butt back, until arms are straight, and allow your head to relax between the elbows. If you are also tight in the hamstrings you might feel a good stretch in the back of the legs.

Equipment needed:

1. Something Vertical that can support your weight.



If any of the strength or stretching exercises cause further aggravation to your shoulders, 1) lower the weight, 2) limit the range of motion to whatever you can complete pain free, 3) try the movement without any weight to see if the movement itself is causing the problem, 4) have someone familiar with the exercise check your form, and 5) see your doctor if, after 2-3 weeks, it does not improve somewhat with ice, rest, anti-inflammatory, stretching and strengthening.