



Biceps Tendon Tendinitis, Proximal, and Tenosynovitis

Exercises:
10 seconds
10 times
1 time per day

DESCRIPTION

Proximal biceps tendon tendinitis or biceps tenosynovitis is characterized by pain at the front of the shoulder and upper arm caused by inflammation of the biceps tendon sheath (covering) or strain of the upper biceps tendon. The lining of the sheath secretes a fluid that lubricates the tendon. When the lining becomes inflamed, the tendon cannot glide smoothly in its sheath. The biceps tendon is one of the anchor points of the biceps muscle that is important for bending the elbow and rotating the wrist. It also plays a role in shoulder function.

Proximal biceps tendon tendinitis may be a grade 1 or grade 2 strain of the tendon. A *grade 1 strain* is a mild strain, with a slight pull of the tendon without obvious tendon tearing (it is microscopic tendon tearing). There is no loss of strength, and the tendon is the correct length. A *grade 2 strain* is a moderate strain, with tearing of tendon fibers within the substance of the tendon or at the bone-tendon junction or muscle-tendon junction. The length of the tendon or whole muscle-tendon-bone unit is increased, and strength is usually decreased. A *grade 3 strain* is a complete rupture of the tendon.

COMMON SIGNS AND SYMPTOMS

- Pain, tenderness, swelling, warmth, or redness over the front of the shoulder
- Pain that is worse with shoulder and elbow motion and function against resistance
- Limited motion of the shoulder or elbow
- Crepitation (a crackling sound) when the tendon or shoulder is moved or touched

CAUSES

- Strain from a sudden increase in the amount or intensity of activity
- A direct blow or injury to the shoulder
- More likely with repeated injury to the biceps muscle-tendon unit
- Associated with rotator cuff injury or inflammation or other shoulder problems

FACTORS THAT INCREASE RISK

- Sports that involve contact, as well as throwing sports, gymnastics, weight lifting, and bodybuilding
- Heavy labor
- Poor physical conditioning (strength, flexibility)
- Inadequate warm-up before practice or play

PREVENTIVE MEASURES

- Appropriately warm up and stretch before practice or competition.
- Allow time for adequate rest and recovery between practices and competition.
- Maintain appropriate conditioning that includes shoulder and elbow flexibility, muscle strength and endurance, and cardiovascular fitness training.
- Use proper technique.

EXPECTED OUTCOME

This condition is usually curable within 6 weeks if treated appropriately with conservative treatment and resting of the affected area. Healing is usually quicker if the injury was caused by a direct blow versus overuse.

POSSIBLE COMPLICATIONS

- Prolonged healing time if not appropriately treated or if not given adequate time to heal
- Chronically inflamed tendon that causes persistent pain with activity and may progress to constant pain, with or without activity, restriction of motion of the tendon within the sheath (adhesive or constrictive tenosynovitis), and potential rupture of the tendon
- Recurrence of symptoms, especially if activity is resumed too soon or with overuse, a direct blow, or use of poor technique

GENERAL TREATMENT CONSIDERATIONS

Initial treatment consists of medication and ice to relieve the pain, stretching and strengthening exercises, and modification of the activity that initially caused the problem. These all can be carried out at home, although referral to a physical therapist or athletic trainer may be recommended. An injection of cortisone in the area around the tendon, within the sheath, may be recommended. Surgery to remove the inflamed tendon lining or to detach the degenerated tendon and reinsert it into the arm bone is not usually necessary and is generally only considered after at least 6 months of conservative treatment. Surgery to correct other shoulder problems that may be contributing to tendinitis may be recommended before surgery for the tendinitis is performed.

MEDICATION

- Nonsteroidal antiinflammatory medications, such as aspirin and ibuprofen (do not take for 7 days before

surgery), are used to reduce inflammation. Take these as directed by your physician. Contact your doctor immediately if any bleeding, stomach upset, or signs of an allergic reaction occur. Other minor pain relievers, such as acetaminophen, may also be used.

- Pain relievers are usually not prescribed for this condition. If you are prescribed pain relievers, use them only as directed, and take only as much as you need.
- Cortisone injections reduce inflammation, and anesthetics temporarily relieve pain. However, these are used only in extreme cases; there is a limit to the number of times cortisone may be given, because it may weaken muscle and tendon tissue.

HEAT AND COLD

- Cold is used to relieve pain and reduce inflammation for acute and chronic cases. Cold should be applied for 10 to 15 minutes every 2 to 3 hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage.
- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.

WHEN TO CALL YOUR DOCTOR

- Symptoms get worse or do not improve in 2 weeks despite treatment.
- New, unexplained symptoms develop. Drugs used in treatment may produce side effects.

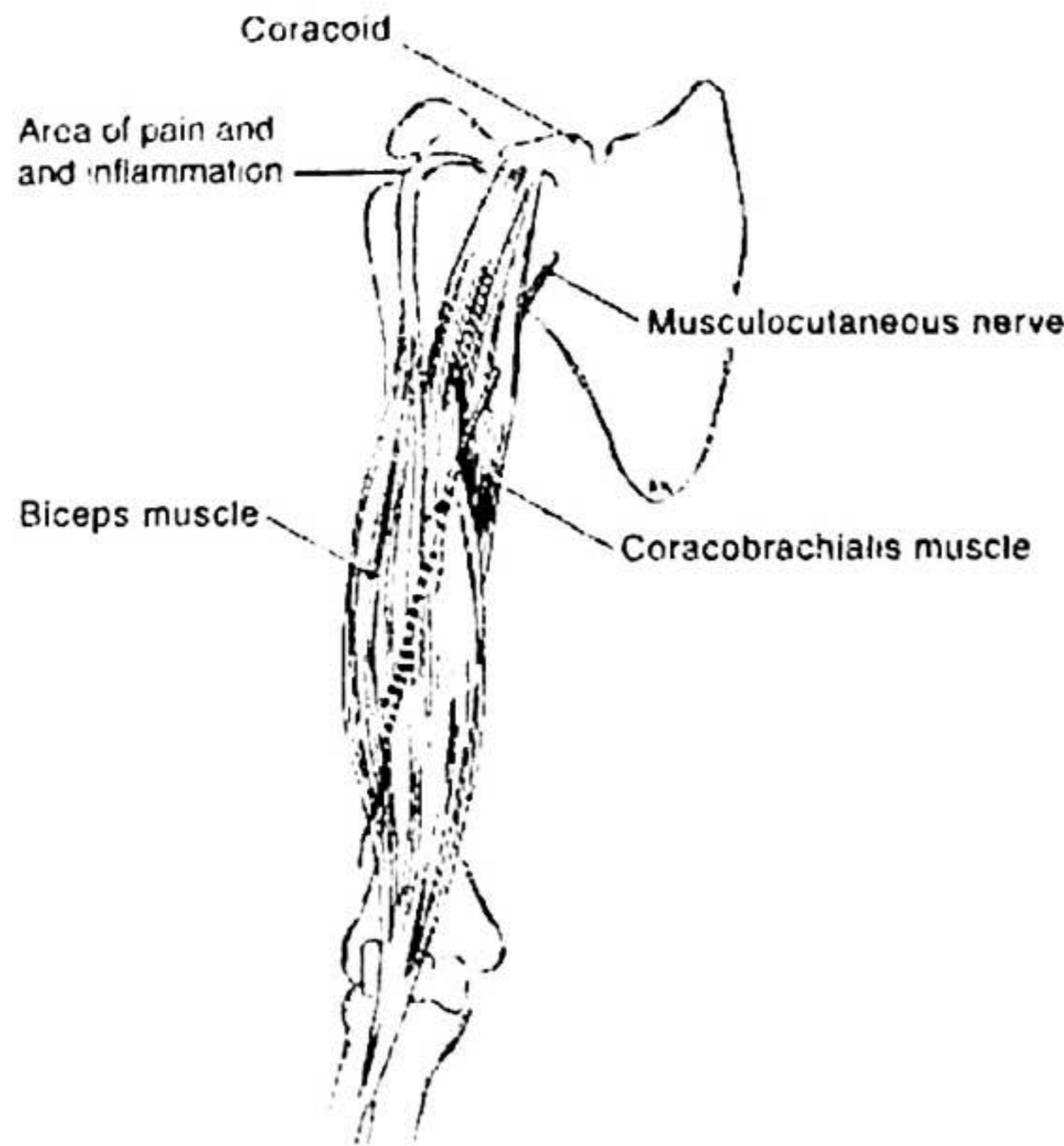
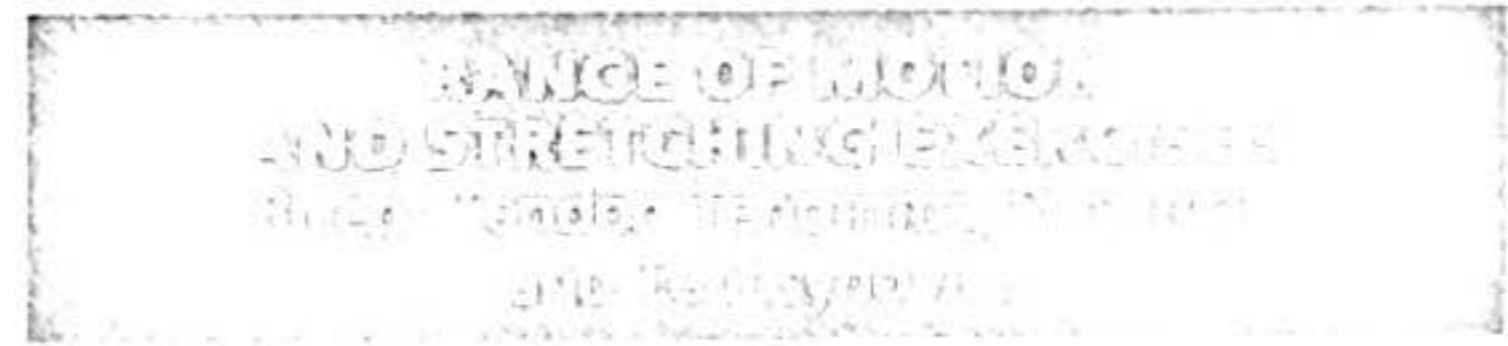


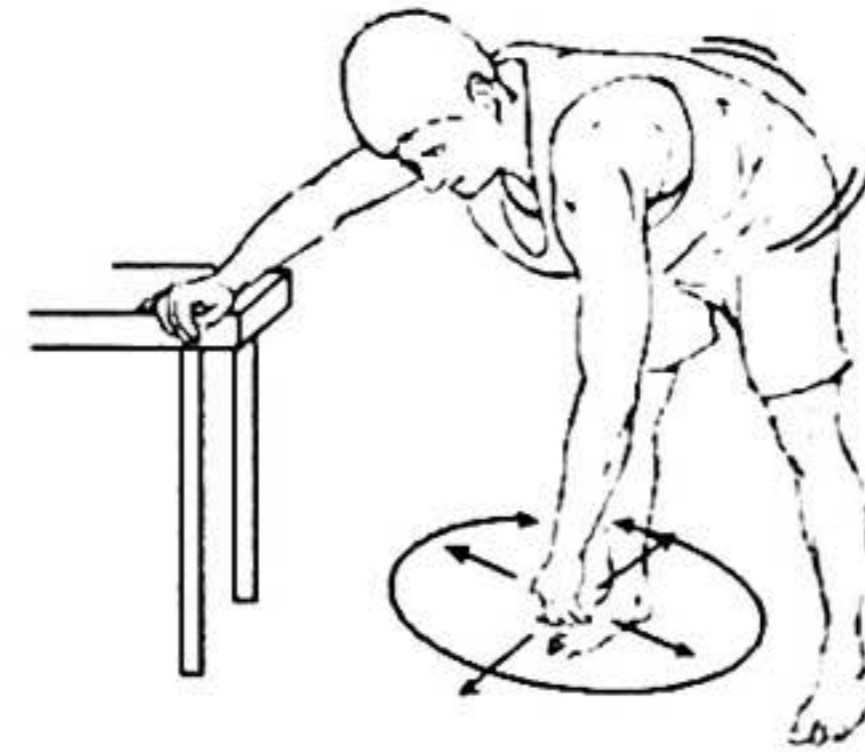
FIGURE 1 From Rockwood CA Jr., Matsen FA III: *The shoulder*, ed 2, Philadelphia, 1998, W.B. Saunders, p 70.

Safran M, Zachazewski J, Stone D. Instructions for Sports Medicine Patients, 2nd Edition



These are some of the *initial* exercises you may use to start your rehabilitation program, until you see your physician, physical therapist, or athletic trainer again, or until your symptoms resolve. Please remember:

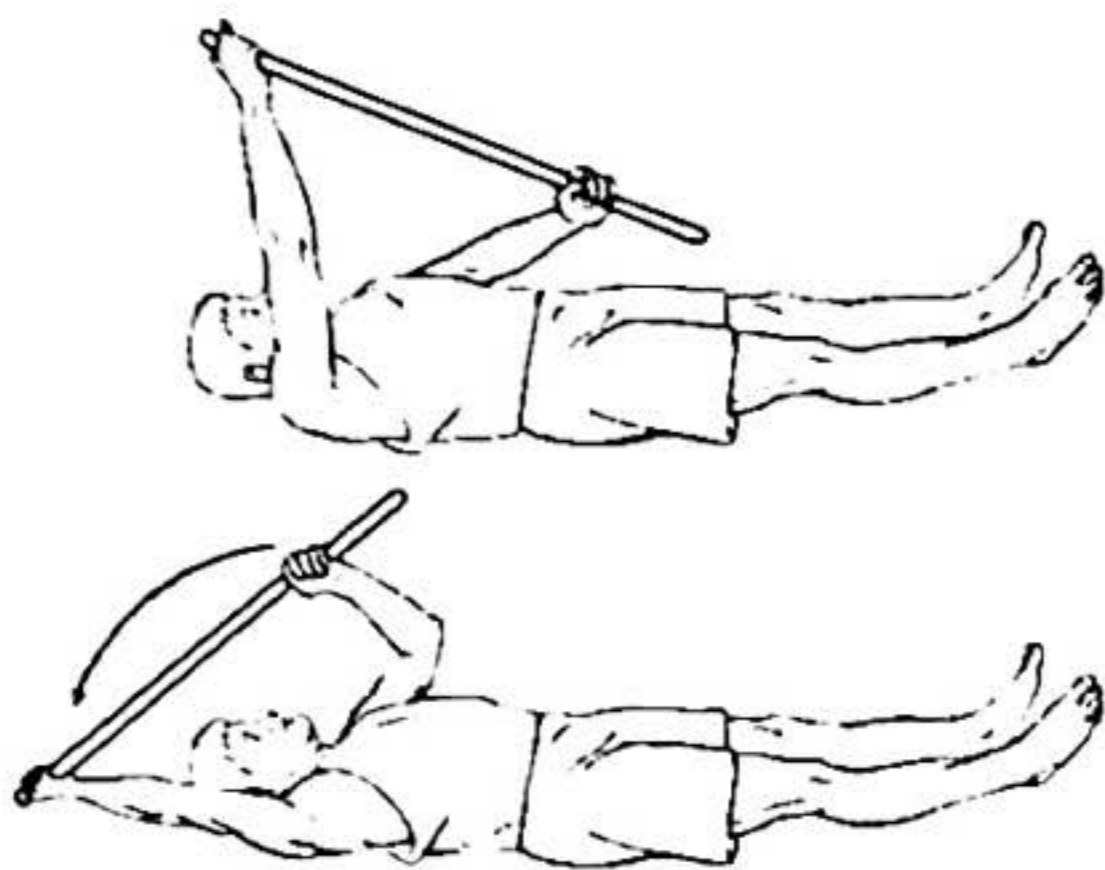
- Flexible tissue is more tolerant of the stresses placed on it during activities.
- Each stretch should be held for 20 to 30 seconds.
- A *gentle* stretching sensation should be felt.



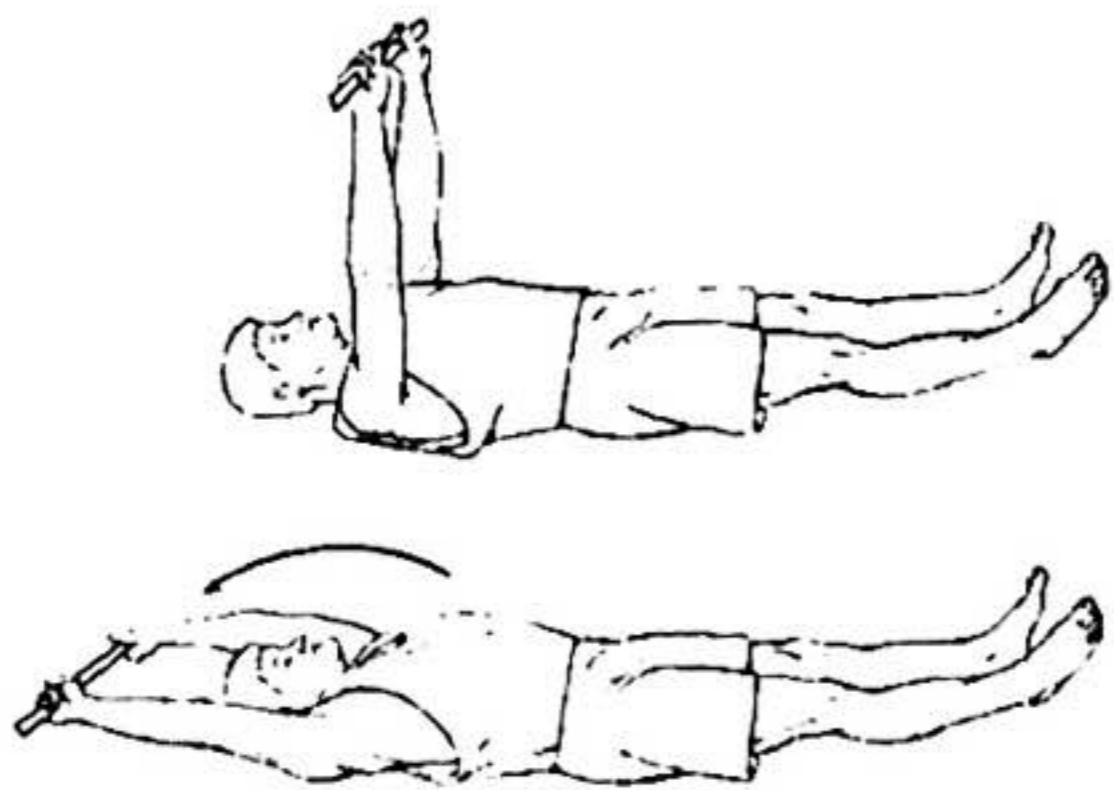
RANGE OF MOTION • Shoulder Pendulum

1. Lean forward at the waist, letting your arm hang freely. Support yourself by placing your opposite hand on a chair, table, or counter as shown.
2. Sway your *whole body* slowly, forward and back. This will cause your arm to move. Let your arm hang freely, and do not tense it up.
3. Repeat the above but sway side to side and move in circular patterns, clockwise and counterclockwise.
4. Do _____ repetitions in each direction.
5. Repeat this exercise _____ times, _____ times per day.

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**RANGE OF MOTION • Shoulder Flexion, Single Arm**

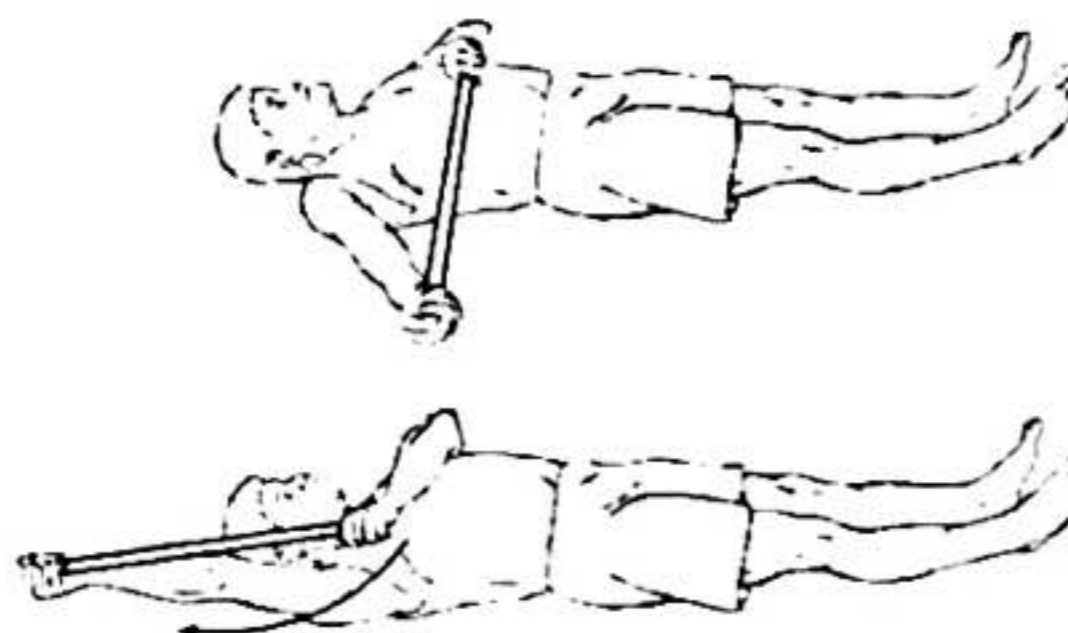
1. Lie on your back and grasp the bottom of a stick, handle of an umbrella, or blade of a golf club in your hand as shown.
2. Using the stick, raise your arm overhead as shown, until you feel a gentle stretch. Lead with your thumb in a "thumbs up" position.
3. Repeat this exercise _____ times, _____ times per day. Hold each repetition _____ seconds.

**RANGE OF MOTION • Shoulder Flexion, Double Arm**

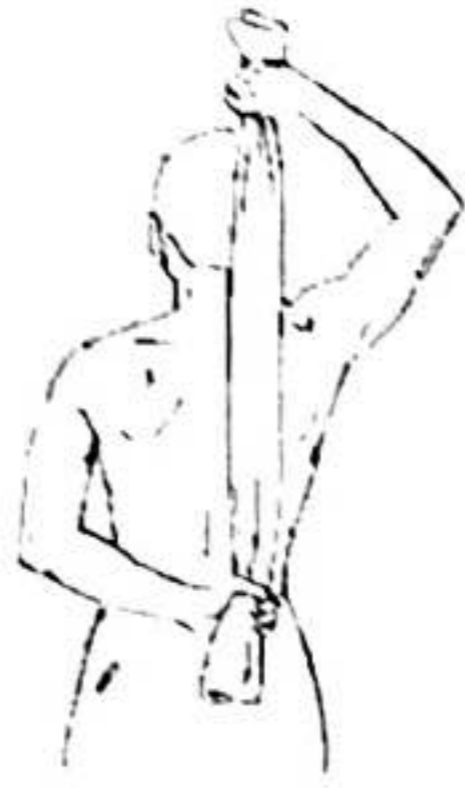
1. Lie on your back holding a stick in both hands, keeping your hands shoulder width apart.
2. Raise both hands over your head, until you feel a gentle stretch.
3. Repeat this exercise _____ times, _____ times per day. Hold each repetition _____ seconds.

**RANGE OF MOTION • Shoulder Flexion**

1. Stand near a wall as shown, and slowly "walk" your fingers up the wall, until you feel a gentle stretch.
2. Repeat this exercise _____ times, _____ times per day. Hold each repetition _____ seconds.

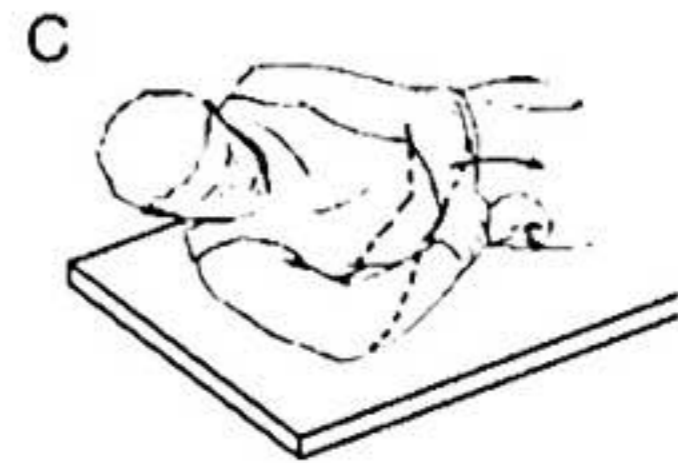
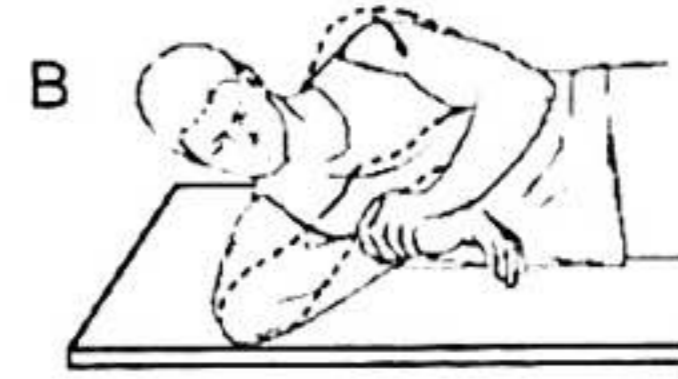
**STRETCH • Shoulder Abduction**

1. Lie on your back holding a stick, umbrella handle, or golf club in your hand as shown. The hand should be in the "thumbs up" position.
2. Using the stick, slowly push your arm away from your side and as far overhead as you can without pain. Push until you feel a gentle stretch.
3. Repeat exercise _____ times, _____ times per day. Hold each repetition _____ seconds.



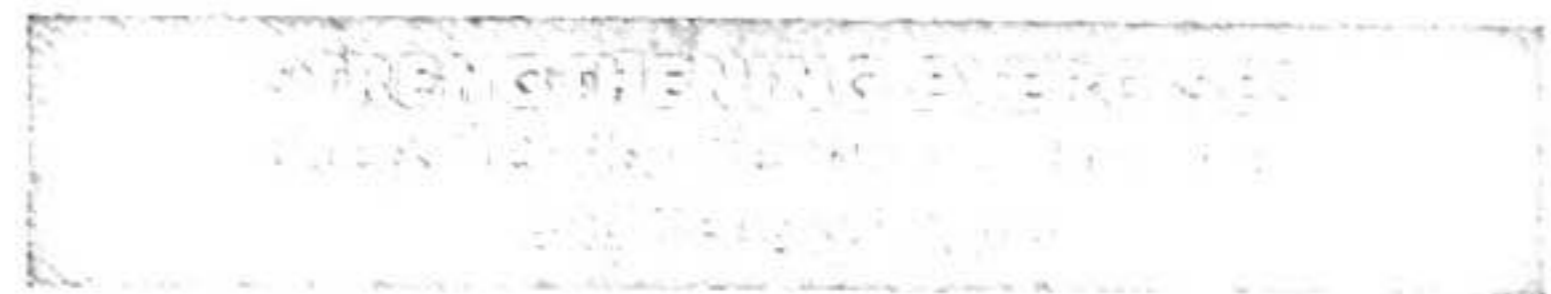
RANGE OF MOTION • Shoulder Internal Rotation

1. Place your hand behind your back.
2. Drape a towel over your opposite shoulder, and grasp it with the hand that is behind your back.
3. Use the towel to gently pull your hand farther up your back until you feel a gentle stretch.
4. Repeat this exercise _____ times, _____ times per day. Hold each repetition _____ seconds.



RANGE OF MOTION • Shoulder Internal Rotation

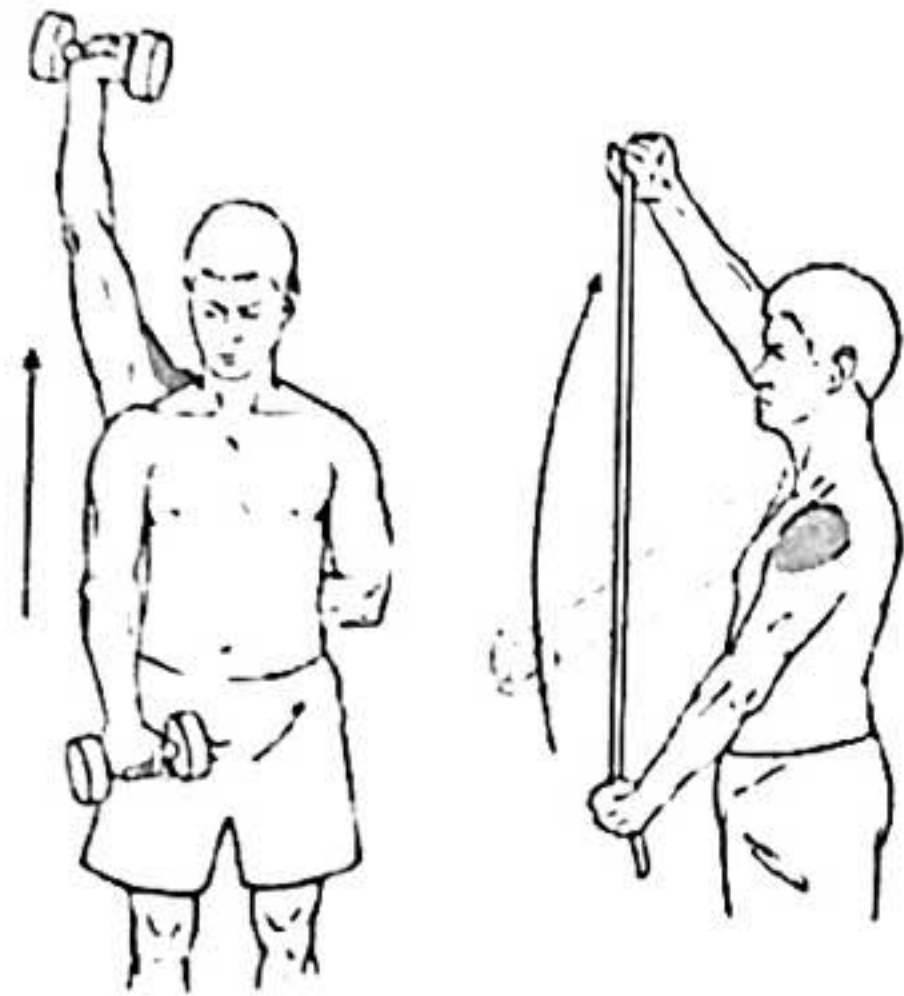
1. Lie on the same side as the arm you are rehabilitating, as shown (i.e., to stretch your left arm, lie on your left side; to stretch your right arm, lie on your right side).
2. Your shoulder should be at a 90 degree angle to your body with your elbow bent 90 degrees.
3. Roll your body slightly over toward your arm.
4. Use your other hand to gently push your palm toward the surface you are lying on, keeping the elbow at a 90 degree angle.
5. You will feel a gentle stretch in the back and side of your shoulder.
6. Repeat this exercise _____ times, _____ times per day. Hold each repetition _____ seconds.



These are some of the *initial* exercises you may use to start your rehabilitation program, until you see your physician, physical therapist, or athletic trainer again, or until your symptoms resolve. Please remember:

- Strong muscles with good endurance tolerate stress better.
- Do the exercises as *initially* prescribed by your physician, physical therapist, or athletic trainer. Progress slowly with each exercise under their guidance, gradually increasing the number of repetitions and weight used.

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**STRENGTH • Shoulder Flexion**

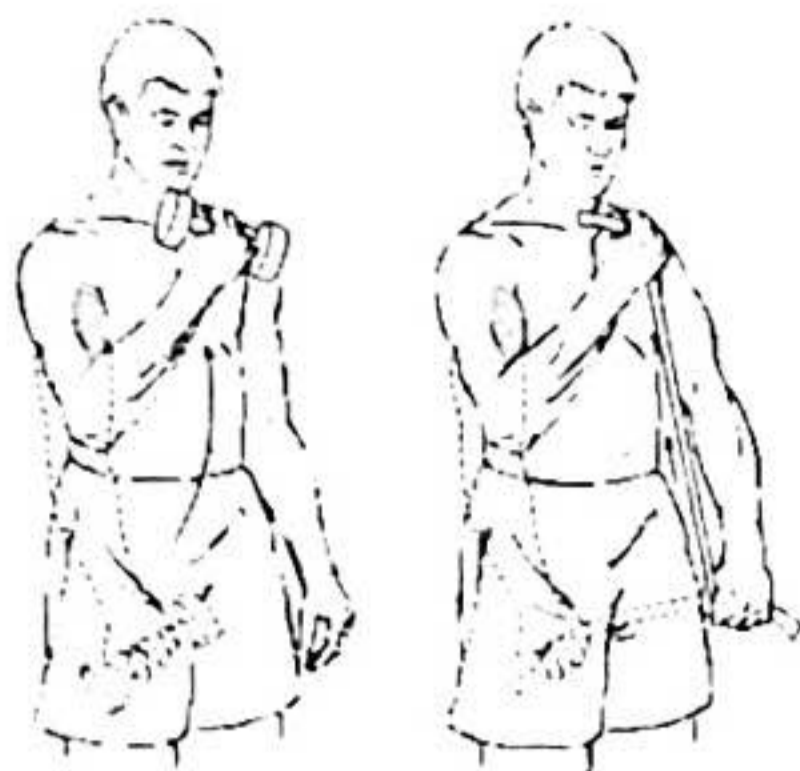
1. Stand holding a _____ weight in your hand as shown, or hold the rubber band/tubing as shown.
2. *Slowly* raise your arm overhead as far as you can in your *pain-free* range of motion. Do not allow your shoulder to shrug while doing this exercise.
3. Keep your hand in a "thumbs up" position.
4. Hold this position for _____ seconds, and *slowly* return to the starting position.
5. Repeat this exercise _____ times, _____ times per day.

**STRENGTH • Shoulder Flexion, Isometric**

1. While standing, raise your arm straight in front of your body as shown.
2. Place the other hand on top of your arm and push down. Do not allow your arm to move. Push as hard as you can without pain and without moving the arm.
3. Hold this position for _____ seconds, and *slowly* return to the starting position.
4. Repeat this exercise _____ times, _____ times per day.

**STRENGTH • Elbow Flexion, Isometric**

1. Assume the position shown, with your injured arm on the bottom and the palm of that hand facing upward.
2. While resisting with the top hand, try to bend the elbow of your injured arm. Do not allow your elbow to move.
3. Hold this position for _____ seconds, then relax.
4. Repeat this exercise _____ times, _____ times per day.

**STRENGTH • Elbow Flexion**

1. Stand with your arm straight and your palm facing forward.
2. Bend your elbow as shown using a ____ pound weight or rubber band/tubing as shown.
3. Hold this position for ____ seconds, and *slowly* return to the starting position.
4. Repeat this exercise ____ times, ____ times per day.