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BICEPS TENDON TENDINITIS (PROXIMAL) AND TENOSYNOVITIS

Description

Proximal biceps tendon tendinitis and tenosynovitis is characterized by pain at the front of the shoulder and upper arm caused by inflammation of the biceps tendon sheath (lining) or strain of the upper biceps tendon. The lining secretes a fluid that lubricates the tendon. When the lining becomes inflamed, the tendon cannot glide smoothly in its covering (sheath). The biceps tendon is one of the anchor points of the biceps muscle, which 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 2 strain of the tendon. A *grade 1 strain* is a mild strain. There is 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. There is 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 sudden increase in amount or intensity of activity
- Direct blow or injury to the shoulder
- More likely with repeated injury to the biceps muscle-tendon unit
- In association with rotator cuff injury or inflammation, or other shoulder problems

Risk Increases With

- Sports that involve contact, as well as throwing sports, gymnastics, weightlifting, and bodybuilding
- Heavy labor
- Poor physical conditioning (strength and 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:
  - Shoulder and elbow flexibility
  - Muscle strength and endurance
  - Cardiovascular fitness
- Use proper technique.

Expected Outcome

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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 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 causing persistent pain with activity that may progress to constant pain (with or without activity), restriction of motion of the tendon within the sheath (adhesive or constrictive tenosynovitis), and potentially 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 to 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 re-insert 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 itself.

Medication

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within 7 days before surgery), are used to reduce inflammation. Take these as directed by your physician. Contact your physician 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 prescribed, use only as directed and 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.

Notify Our Office If

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

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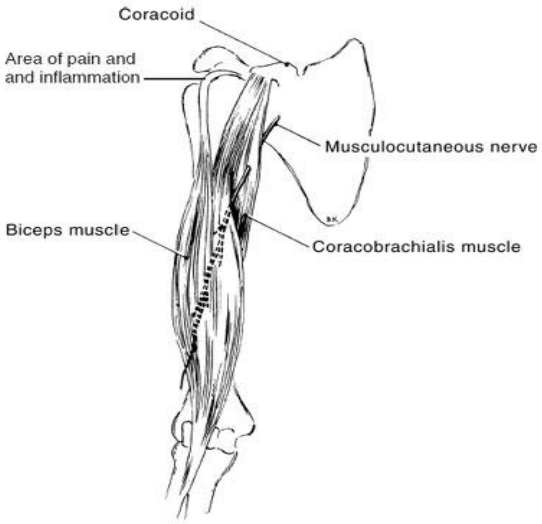
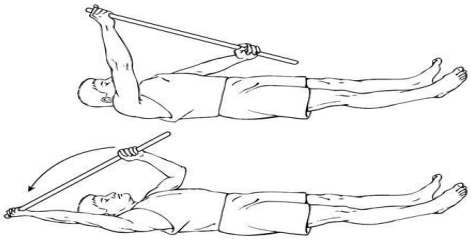


Figure 1

From Rockwood CA Jr., Matsen FA III: The Shoulder, 2nd ed. Philadelphia, WB Saunders, 1998, p. 70.

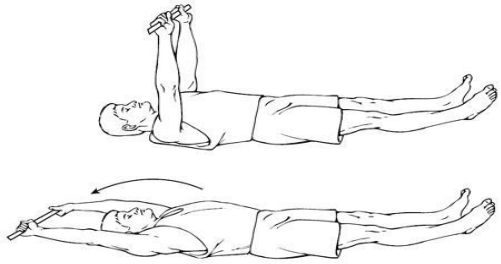
RANGE OF MOTION AND EXERCISES • Biceps Tendon (Proximal) and Tenosynovitis
These are some of the ***initial*** exercises your rehabilitation program with until physician, physical therapist, or athletic until your symptoms are resolved. Please

- Flexible tissue is more tolerant of the on it during activities.
- Each stretch should be held for
- A ***gentle*** stretching sensation should



SHOULDER • Flexion

1. Lie on your back. 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 the thumb in a "thumbs up" position.
3. Repeat exercise **2** times, **2** times per day. Hold each repetition **30** seconds.



SHOULDER • Flexion

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 exercise **2** times, **2** times per day. Hold each repetition **30** seconds.

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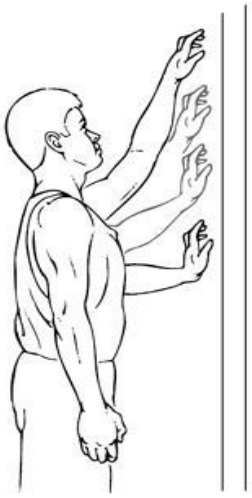
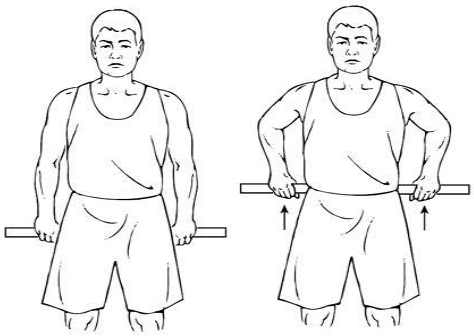
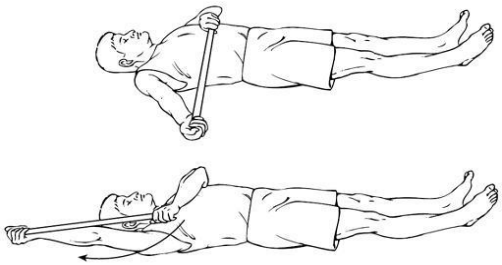




SHOULDER • Flexion

1. While standing near a wall as shown, slowly "walk" your fingers up the wall until you feel a gentle stretch.
2. Repeat exercise **2** times, **2** times per day. Hold each repetition **30** seconds.

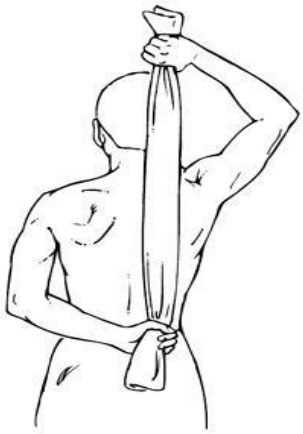


SHOULDER • Abduction

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 **2** times, **2** times per day. Hold each repetition **30** seconds.

SHOULDER • Internal Rotation

1. Grasp a stick behind your back with both hands as shown.
2. Slide the stick up your back until you feel a gentle stretch.
3. Repeat exercise **2** times, **2** times per day. Hold each repetition **30** seconds.



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 exercise **2** times, **2** times per day. Hold each repetition **30** seconds.

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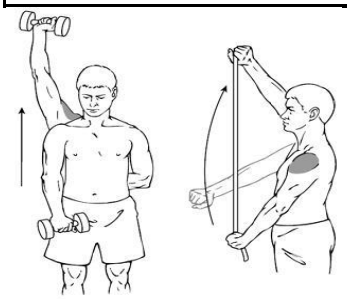
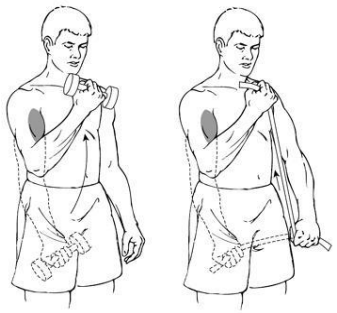
STRENGTHENING EXERCISES • Biceps Tendon Tendinitis (Proximal) and Tenosynovitis
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- 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, gradually increasing the number of repetitions and weight used under their guidance.



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 up" while doing this exercise.
3. Keep your hand in a "thumbs-up" position.
4. Hold this position for **30** seconds and then ***slowly*** return to the starting position.
5. Repeat exercise **2** times, **2** times per day.



STRENGTH • Elbow Flexion

1. Stand with your arm straight and your ***palm*** facing forward.
2. Bend the elbow as shown using a _____ pound weight or rubber band/tubing as shown.
3. Hold this position for **30** seconds and then ***slowly*** return to the starting position.
4. Repeat exercise **2** times, **2** 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 having any pain or moving the arm.
3. Hold this position for **30** seconds and then ***slowly*** return to the starting position.
4. Repeat exercise **2** times, **2** times per day.

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STRENGTH • Elbow Flexion, Isometric

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