



Impingement Syndrome (Rotator Cuff Bursitis/Tendinitis)

Exercises:
10 seconds
10 times
1 time per day

DESCRIPTION

Impingement syndrome is characterized by pain in the shoulder as a result of inflammation of the tendons of the rotator cuff or the bursa (subacromial bursa) that sits between the rotator cuff and the roof of the shoulder (acromion). The rotator cuff is a series of four muscles that surround the ball of the shoulder (humeral head). The subacromial bursa sits over the top of the cuff, allowing for the cuff tendons to slide near the roof of the shoulder without undue friction. Normally the humeral head gets closer to the acromion when the shoulder is moved, particularly as you reach overhead. When the rotator cuff becomes inflamed because of injury or overuse, or when the bursa becomes inflamed, both the swollen tendon and swollen bursa may become pinched between the humeral head and the acromion. Impingement syndrome may represent a grade 1 or 2 strain of the tendon. A *grade 1 strain* is a mild strain with a slight pull without obvious tearing (tearing is microscopic), no loss of strength, and the tendon is the correct length. A *grade 2 strain* is a moderate strain with tearing of the fibers within the substance of the tendon, or where the tendon meets the bone or muscle. The length of the 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 around the shoulder, often at the outer portion of the upper arm
- Pain that is worse with shoulder function, especially when reaching overhead or lifting
- Occasionally, aching in the arm at rest
- Often, pain that awakens you at night
- Occasionally, tenderness, swelling, warmth, or redness over the outer aspect of the shoulder
- Loss of strength
- Limited motion of the shoulder, especially reaching behind you, such as to reach the back pocket or to unhook a bra, or reaching across your body
- Crepitation (a crackling sound) when moving the arm
- Biceps tendon pain and inflammation in the front of the shoulder that is worse when bending the elbow or lifting

CAUSES

- Strain from a sudden increase in the amount or intensity of activity
- A direct blow or injury to the shoulder
- Aging or degeneration of the tendon with normal use
- An acromial spur

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FACTORS THAT INCREASE RISK

- Contact sports such as football, wrestling, and boxing
- Throwing sports such as baseball, tennis, or volleyball
- Weightlifting and body building
- Heavy labor
- A previous rotator cuff injury or impingement
- Poor physical conditioning (strength, flexibility)
- Inadequate warm-up before practice or play
- Inadequate protective equipment
- Advanced age
- Bone spurs on the acromion

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 cardiovascular fitness, shoulder flexibility, and muscle strength and endurance training.
- Use proper technique.

EXPECTED OUTCOME

Impingement syndrome 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 is caused by a direct blow versus overuse.

POSSIBLE COMPLICATIONS

- Prolonged healing time if not appropriately treated or if not given adequate time to heal
- A chronically inflamed tendon that causes persistent pain with activity that may progress to constant pain with or without activity
- Shoulder stiffness, frozen shoulder, or loss of motion
- Rotator cuff tendon tear
- Recurrence of symptoms, especially if activity is resumed too soon, with overuse, with a direct blow, or when using 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 bursa may be recommended. Surgery to remove the chronically scarred bursa and spur from the acromion may be necessary, but this is usually only considered after at least 3 months of conservative treatment. Surgery may be performed arthroscopically or with an open incision, and a return to full activity is usually possible in 3 months.

MEDICATION

- Nonsteroidal antiinflammatory medications, such as aspirin and ibuprofen (do not take for 7 days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician, and contact your doctor immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Pain relievers are usually not prescribed for this condition. If they are prescribed, use them only as directed, and take only as much as you need.
- Cortisone injections reduce inflammation, and anesthetics temporarily relieve pain. However, 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. It should be applied for 10 to 15 minutes every 2 to 3 hours as needed 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 4 to 6 weeks despite treatment.
- New, unexplained symptoms develop. Drugs used in treatment may produce side effects.

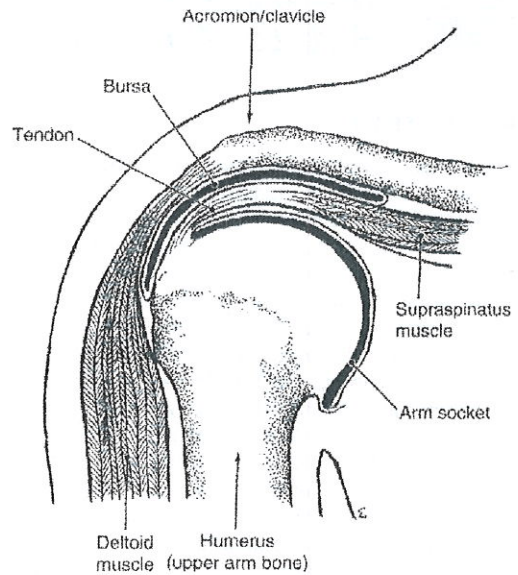


FIGURE 1 From Economou SG, Economou TS: *Instructions for surgery patients*, Philadelphia, 1998, W.B. Saunders, p 549.

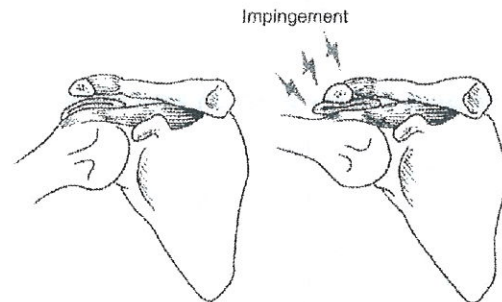


FIGURE 2 From Shankman GA: *Fundamental orthopedic management for the physical therapy assistant*, St. Louis, 1997, Mosby Year Book, p 244. © Mayo Foundation.