HOME CARE INSTRUCTIONS
SHOULDER TENDONITIS AND IMPINGEMENT
ROTATOR CUFF TEARS

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WHAT IS IMPINGEMENT?

The shoulder is a very mobile joint and its movement is controlled by the rotator cuff and deltoid muscles. The rotator cuff is a group of four deep flat tendons that blend together to surround the shoulder joint and hold the ball (humeral head) firmly within the socket (glenoid). This provides a solid base for the arm when reaching overhead under the influence of the larger outside muscle (deltoid). Any problem with this muscle and tendon function can cause the shoulder to ride up and rub against the bone on the top of the shoulder (acromion) causing jamming of the tendons (impingement).

WHAT CAUSES IMPINGEMENT?

There are three main causes:

1.Lack of rotator cuff muscle strength or control due to:

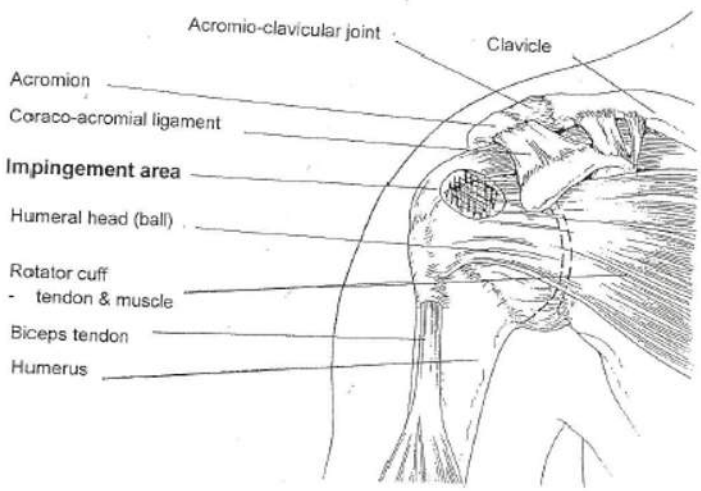
a. partial tear/strain causing pain and weakness
b. complete tear
c. muscle imbalance due to incorrect technique/training.

2. Loss of shoulder flexibility (especially the posterior/back shoulder capsule) causing the shoulder to hinge forward and jam on movement.

3. Lack of space between the humeral head and the acromion due to :

a. Inflammation in the rotator cuff tendons (tendonitis)
b. Uneven rotator cuff surface due to a partial tear
c. Bone spurs that can dig into and can tear the tendon
d. Thickening of the coraco-acromial ligament
e. Calcium deposits in the tendon.

THE SHOULDER



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ROTATOR CUFF TENDONITIS AND IMPINGEMENT

Shoulder impingement and tendonitis are common problems in the shoulder but usually settle with time, simple exercise and avoidance of aggravating activities. Some people are more prone to developing these problems due to the type of activities they do, the shape of the bones in the shoulder or muscle imbalance. The rubbing of the rotator cuff on the under surface of the acromion can cause pain that runs down the arm to below the elbow and is often worse at night or with certain activities. These activities such as overhead work and forward reaching can produce the symptoms which interfere with daily activities and duties.

The treatment for shoulder impingement involves:

- Time (often months) and rest to avoid repeated aggravations
- General shoulder rehabilitation exercises
- Steroid injection into the space between the acromion and rotator cuff to reduce the swelling in the tendons
- Anti-inflammatory medication (sometimes helpful) and pain tablets
- Ultrasound and other physiotherapy modalities may be helpful to control pain but rehab exercises are more important
- Surgery if not responding.

Most problems will settle with this programme but progress can be frustrating and slow.

CONSERVATIVE MANAGEMENT

Non-surgical treatment of these problems incorporates the following principles:

- Avoidance of repeated aggravating activities
- Restoration of normal flexibility
- Restoration of normal strength
- Aerobic exercises
- Modification of work, home duties and sport.

SURGICAL MANAGEMENT

If the non-surgical treatment does not correct the problem an operation may be required to:

- Repair a tear in the rotator cuff
- Remove a large spur that is digging into the rotator cuff
- Remove the coraco-acromial ligament to make more space for the rotator cuff tendons
- Remove the outer end of the clavicle (collar bone) due to arthritis
- Combination of the above procedures.

Surgery should only be considered after other options have been tried for an appropriate time period as recovery following an operation can be quite slow – more details on the last page.

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AVOIDANCE OF REPEATED AGGRAVATING ACTIVITIES

If the shoulder tendons are injured, they must not be repeatedly aggravated as recovery will be slowed. The exercise programme should be done at a rate that does not cause increased discomfort and you should also modify your activities of daily living. Things to avoid:

- Using your arm in overhead activity (eg hanging out the washing)
- Repeated lifting of the arm either in front or out to the side
- Heavy lifting (>10kg)
- Repeated arm activities such as painting, polishing the car and using shears
- Weight bearing through the elbow of the affected side (eg. leaning on the bar)
- Sleeping on the affected side
- Hanging arm down by side for prolonged periods.

RESTORATION OF NORMAL FLEXIBILITY

If your shoulder is stiff, particularly when reaching behind your back, the shoulder can jam in the front when reaching forward or overhead, causing pain that can then run down your arm. Regaining flexibility is critical to normal shoulder function.

- **Do each of these next two exercises 5 times**
- **Take them to the point where you feel a gentle stretch but no pain**
- **Hold each position for 10 seconds**
- **Repeat this set of exercises 4 to 6 times per day.**

1.Hold a towel behind your back with both hands and use the good arm to draw your sore arm as far up the middle of your back as is comfortable. The stretching sensation should be felt in the front of your shoulder.

2. Keeping your elbow straight, stretch your arm across your chest by pulling it close to your chest with your other hand. The stretching sensation should be felt at the back of your shoulder. If this causes pain in the front of your shoulder try reaching under your opposite armpit initially.

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RESTORATION OF NORMAL STRENGTH

As you regain better shoulder flexibility, strengthening exercises of the shoulder for both the rotator cuff muscles and those that stabilise the shoulder blade can be commenced. When working properly, these muscles allow the humeral head to remain in place away from the acromion thereby preventing further irritation of the rotator cuff tendons and allowing gradual restoration of function.

Basic Exercises:

These exercises are performed against the resistance of rubber tubing, elastic luggage straps, bike inner tube, free weights or springs.

- **Do each of these exercises 10 times**
- **Hold each position for 3 to 5 seconds**
- **Repeat this set of exercises 4 to 6 times per day.**

1.Using an elastic strap or similar tied to a fixed point (eg. door handle) and keeping your elbow in at your side, rotate your arm outward away from your body against the resistance with your forearm parallel to the floor.

2. Using the elastic strap and keeping your elbow in at your side, rotate your arm inwards against the resistance with your forearm parallel to the floor.

3. Lie on your side with your sore shoulder uppermost holding a free weight in your hand (1-2kg). Raise your arm towards the ceiling but keep your elbow bent and in at your side.

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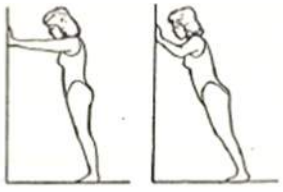
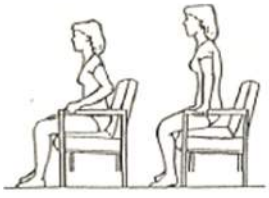
More Advanced Exercises:



4. Stand at arm's length from a wall and place both hands on the wall at shoulder level. Bend your elbows and try and allow your body to lean towards the wall until your face almost touches it. Try to bring your shoulder blades together.



5. Sit in an armchair with your hands on the arms of the chair. While keeping your feet on the floor, push your body up until your elbows are straight. When your shoulders are still weak you can use your legs to help lift out of the chair.

Exercises that may irritate your shoulder and are therefore best avoided in the early stages include:

- Forceful forward lifting
- Holding weights at arm's length
- Forceful movements to painful levels especially overhead activities.

Generally all exercises are best done to limits of comfort. It is fine to feel some aching in the shoulder at the time of exercising but this should diminish once the session is finished. Pain that persists into the next day suggests that the shoulder is being further aggravated and could be producing ongoing injury. In this case you should start at a lower level and progress slowly, however it is important to persist with the program.

Strengthening exercises can be progressed by increasing the number of repetitions or sets, increasing levels of resistance and/or increasing the size of the free weights.

Hydrotherapy (exercise in water) is another excellent form of exercise to assist in shoulder strengthening using the resistance of the water. Ask your physiotherapist for advice on appropriate exercises and access to hydrotherapy facilities or simply perform some of the resistance exercises detailed above at your local pool.

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AEROBIC EXERCISES

One of the major setbacks of a shoulder problem is that it has a tendency to affect your whole lifestyle, restricting recreational pursuits and in some cases leading to decreasing levels of fitness.

Regular aerobic exercise (exercise at a level that you can still carry out a conversation) at least 3 times a week for 30 minutes will help to keep you in shape, increase your ability to tolerate some discomfort and improve your flexibility and sense of wellbeing.

Brisk walking is the safest and most effective type of aerobic exercise, but other suitable forms include jogging, swimming and cycling.

MODIFICATION OF WORK OR SPORT

The purpose of this programme is to return you to your normal daily activities with minimal discomfort or restrictions. This may require a review and modification of your working and recreational techniques by your physiotherapist or work safety officer. This is particularly important if your occupation or recreational activities require vigorous or repeated use of the shoulder in positions likely to aggravate the problem such as with the arm forward flexed or reaching overhead.

Sometimes shoulder dysfunction due to muscle imbalances such as that caused by a poor tennis serve or certain swimming styles can be corrected to prevent problems in the future. Unfortunately the damage to the shoulder may sometimes produce a permanent loss of function so that certain activities and jobs are no longer possible.

PAIN CONTROL

Tendonitis of the shoulder is frequently painful, particularly at night, and progress can be slow. You should reduce the exercise programme if pain is severe but cold compresses, a warm shower and occasionally a sling for short periods may be needed. Avoiding aggravating your shoulder can reduce the pain but regular pain medication in the early stages may be needed. The pain will usually subside as your shoulder improves but unfortunately this can be slow.

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INVESTIGATIONS

Plain X-rays
X-rays are useful to identify spurs or arthritis in your shoulder and to exclude a fracture. Unless you have been involved in a major fall or a fracture is likely, x-rays are probably not needed initially, however are worth doing if your shoulder does not settle with exercises.

Ultrasound Scan
An ultrasound scan shows jamming of the tendon under the acromion and large tears, but can miss smaller tears. The test is not usually of use early after the onset of symptoms as the jamming of the tendon is evident on examination. However the scans can be helpful later prior to surgery. Repeated scans are not generally useful and are quite inaccurate after surgery.

Arthrogram X-ray
Dye is injected into the shoulder joint and then x-rays are taken to identify tears in the rotator cuff. Usually done when a tear that will need repair is suspected.

MRI scan, CT scan and Bone scan
Used only in specific situations where the diagnosis is not clear.

Surgery
Surgery to your shoulder may be needed to remove a bone spur or repair a tear in the tendon, but only after an appropriate rehab programme of usually 3 months or more. An operation however is seldom indicated with less than 9 months of symptoms, as tendonitis will frequently settle over this time. Recovery from surgery may be quite slow but can be helped by rehab to maximise preoperative shoulder flexibility and strength. Current techniques using arthroscopy can speed recovery, but some newer techniques (eg laser) are unproven and may have a higher rate of complication.