Shoulder Impingement

Welcome
This advice sheet has been designed to give you simple, easy to understand information about your shoulder. It is not a substitute for professional medical advice and should be used in conjunction with your physiotherapist. Some exercises may need to be missed out or adapted to suit your individual condition. After reading this article I suggest you use the references and links provided to further your reading and discuss any queries with your health care provider.

About Your Shoulder
Your shoulder joint is a ball and socket joint. Its design allows for excellent range of movement, especially for overhead activities. However this freedom of movement often means that stability is sacrificed, predisposing the shoulder to injury.¹ A group of muscles and tendons known as the rotator cuff are of particular importance in maintaining stability and allowing smooth motion of the shoulder joint. They stretch between the scapula (shoulder blade) to the top of the humerus (upper arm bone) and are important in keeping the ball centred in the socket.

An important area often discussed with shoulder pain is the sub-acromial space. This small space (under the acromion on your shoulder blade) narrows when your arm is lifted to shoulder height and beyond and thus any structures within this area are also compressed. (See below)

Impingement
The rotator cuff is often vulnerable to tendon damage and ‘wear and tear’ and this becomes more likely as we get older. Damage may range from inflammation to tears. It is reported that as a tendon swells the sub-acromial space is narrowed which increases the chance of the tendon and bursa (a fluid filled sac) becoming pinched – impingement syndrome.² A cycle of pain and inflammation ensues, caused by further overhead activities, which leads to weakening of the rotator cuff. This results in joint instability and further impingement problems. The aim of conservative treatment is to break this cycle and aid recovery.

Tears can occur from sudden injuries, but more commonly they develop gradually due to ongoing ‘wear and tear’ on the tendon. Tears can be partial or full thickness.²
**Advice Sheet**

### Impingement Symptoms.

Pain is often felt on the outside of the upper arm. There may be a `classic` painful arc on movement when the arm is lifted out to the side and up to the ear.

Often pain will be reproduced with twisting movements, such as putting your jacket on or reaching to the back seat of your car.

### Rehabilitation

Good news – Most people who have impingement syndrome eventually recover without surgical intervention.3

The focus of rehabilitation in the acute phase of impingement is different to that in the recovery phase.

### Acute Phase

Treatment during this phase is about activity modification and rest from the offending activity, allowing tissue inflammation to subside in order to restore pain free movement.1,2,3,4

#### ACUTE PHASE

**If possible stop the activity that causes pain.**

Pain medication may be useful (check with your doctor)

Anti-Inflammatory cream or gel
(Available from pharmacy without a prescription. Check with your pharmacists that you are ok to take these and follow instructions)

Try Ice massage with an ice cube for 10mins over the affected area.

Simple pain free exercises may be recommended by your physiotherapist. E.g. pendulum exercises, isometric exercises. Joint mobilisations may also be used.

The length of the acute stage will vary depending on the severity of the problem. Once the pain cycle has been broken restoring joint range and strengthening can begin.

### Recovery Phase

The goals of treatment in this phase are to restore normal range of movement, improve strength and neuromuscular control. Your therapist may also tailor treatment to address other causes of your impingement such as posture correction and muscle imbalance.4

You may find some of the exercises below useful. Your therapist may give specific instructions about frequency and intensity of these exercises that differ from the suggestions given below. They may also add exercises of their own.

#### RECOVERY PHASE

**Suggested Guide for Stretching**

Perform all stretching exercises daily for up to 6 weeks. Perform 3-4 sets a day and hold each stretch 20—45 seconds.

**Suggested guide for strengthening**

Perform the strengthening exercises 3x week.

Try 3-5 sets of 10-20 reps with 30 seconds rest in between.

Use a progressive overload principle and do not exceed 4kg.

E.g. Monday 3x10, Wednesday 4x10, Friday 5x10 with 1kg. The following week increase the weight by 0.5 to 1kg and repeat the process. Try this for 6 weeks.
**Stretching Exercises**

Daily for 6 weeks.
Try 2-5 sets of between 10-30 seconds holds each stretch.

Lying on your back, bend your knees. Stretch your affected arm up overhead, assisting with your other arm. Aim to get your arm to the bed/floor.

Hold a doorframe with both hands at shoulder height. Slowly lean away from the door to feel a stretch in your chest/arms. Stop or ease off if you feel any sharp discomfort.

Sitting or standing. Take your arm across your body, giving a gentle stretch with your other hand at the elbow. Try not lift your shoulder towards your ear. You should feel the stretch at the back of the shoulder and upper arm. Stop or ease off if you feel any sharp pain.

External rotation – Abduct your affected shoulder to 90 degrees and bend your elbow (as if you are about to throw a javelin). Use a towel and hold the top with the hand of the affected side. With your other hand, gently pull on the bottom of the towel and let your top hand slowly move back and down.

Grasp the affected arm by the elbow and gently pull down behind your head. Try to keep an upright posture. You should feel this stretch on the back of the affected arm and perhaps down the side of your back.

Internal Rotation - Place the hand of the affected side behind your back. Hold a towel with your other hand over your affected shoulder. Grip the bottom of towel and gently pull the towel upwards drawing your bottom hand backwards and upwards towards your mid back.

Stand and face corner as shown. Slowly lean into corner. You should feel this stretch the chest and front of shoulders.

Clasp both hands behind your head. Keeping your shoulders away from your ears slowly take your elbows backwards to feel a stretch.
**Strengthening and Scapula Retraining Exercises**

Perform 3x week (alternate days)
Try 3-5 sets of 10-20 reps with 30 seconds rest in between.
Start with 0.5 - 1kg and increase by 0.5 - 1kg each week. Do not exceed 4kg.

Abduction (Scapula plane). Stand with affected arm straight by your side. Lift arm upwards and out to the side.

No weight is required for this exercise. Stand close to and facing a wall with your arms overhead in a 'V' shape, little fingers against the wall, thumbs pointing back behind shoulders. Shrug your shoulders upwards allowing your hands to slide further up the wall. As you improve make this exercise harder by pulling the shoulder blades together as you perform the movement.

Prone Extension. Lie face down on the side of your bed with your affected arm overhanging. Rotate your arm so that your palm faces outwards and raise your arm towards your hip. Hold, then slowly lower.

Lying face down, with head in front or to side. Keep your affected arm relaxed by your side. Lift that shoulder straight up in the air keeping a gap of about 5cm away from the bed/floor. Do not allow the shoulder to move forwards towards your ear. Increase the difficulty of the exercise by lifting the whole arm up and lowering down with the elbow straight whilst keeping the shoulder off the bed/floor all the time. Add a light weight if you desire.

Prone Horizontal Abduction. Lie face down (prone). Rotate your arm and thumb outwards and raise your arm out to the side. Only lift until parallel with hip.

Flexion. Stand with elbow straight and thumb pointing to the ceiling. Squeeze shoulder blades slightly and raise arm as high as possible without causing pain.

Supine External/Internal rotation. Lie on your back. Move your affected arm out to 90 degrees and then bend your elbow so that your hand is pointing to the ceiling. Rotate the arm slowly taking the back of your hand towards the floor, then reverse direction to take the front of your hand towards the floor (similar to windshield wipers!)
Pain Levels: What to expect
As a general guide start gently with low weight and build up slowly. A slight increase in pain is not uncommon during the first 1-2 weeks of beginning a new program. It is normal to feel a generalized ache or fatigue in the muscles you have been training. If you feel sharp pain whilst you are doing the exercise then it is likely the exercise is been done incorrectly and you will need to stop and get your therapist to review you. After about 4-6 weeks your symptoms should start to diminish. This may also be a good time to see your therapist again so that other treatment options can be considered if your symptoms do not appear to be easing at this stage. Continue for another 2-3 weeks after your symptoms have ceased.

Physiotherapy
Physiotherapy may be undertaken alongside a home exercise program to assist the healing process. It is important to talk with your therapist about what other treatment options can be offered (e.g. Trigger point options, soft tissue release, muscle energy techniques, joint mobilisations).

References and Useful Links.
[1] East Somerset NHS Trust – Information for your shoulder impingement in conjunction with the Nuffield Orthopaedic Hospital (Upper Limb Clinic).


Images were taken from a number of sources including the Patient Information Leaflet from the East Somerset NHS Trust. Also Athletics Advisor – www.athleticsadvisor.com.

Other Useful sites.
National Institute of Clinical Excellence (NICE)
http://www.nice.org.uk/

Best Treatments (BMJ)
http://www.besttreatments.co.uk/btuk/home.html

Department of Health
http://www.doh.gov.uk

NHS Gateway
http://www.nhs.uk/