



YOUR GUIDE TO SHOULDER IMPINGEMENT SYNDROME

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Introduction

Please take note of the following before starting any of the exercises in this guide:

- The information contained in this guide is intended to assist in managing your recovery.
- This guide is based on the latest medical research in the field and contains the best advice available to the best of our knowledge.
- This guide is complimentary to other medical services and is not intended as a substitute for a health care provider's consultation. Never disregard medical advice or delay in seeking advice because of something you have read in this guide.

● Many people have found quick and lasting relief from their pain by acting upon the information provided, but everyone decides for themselves what to do with this information. Should you doubt a particular exercise in your situation, please consult your health professional.

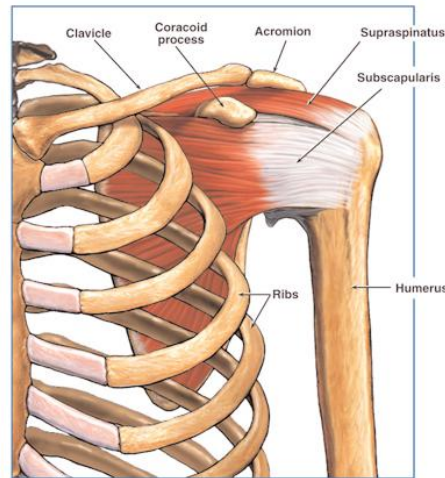
When consulting your health professional, it is wise to take this guide with you to show them.

Shoulder Anatomy

The shoulder girdle is made up of three bones, the humerus (upper arm bone), scapula (shoulder blade) and the clavicle (collar bone). Due to its make up, the shoulder joint has a great range of movement, but not much stability. It is therefore very reliant on the muscles around the joint to provide stability with movement, and as long as all the parts are in good working order, the shoulder can move freely and painlessly.

The rotator cuff is a group of muscles that connects the humerus to the scapula namely; supraspinatus, infraspinatus, teres minor and subscapularis. The main function of the rotator cuff is to keep the humerus tightly in its socket on the scapula (the glenoid fossa) throughout movement allowing it to move effectively, as well as provide rotational movements for the shoulder.

The upper part of the scapula, known as the acromion, forms a roof over the top of the shoulder joint. The space between the under surface of the acromion and the upper surface of the humerus is normally narrow because of all the structures that run through here. This space is maximally narrowed when the arm is moved out to the side (abducted). Therefore any condition that further decreases this space can cause an impingement to occur.



Anterior superficial view of the rotator cuff

What causes shoulder impingement syndrome?

Pain from impingement is common and the pain may either be close to the joint or may radiate down the arm. It is often caused by a compression of soft tissue structures under the acromion which as a result may become inflamed, resulting in impingement. As the arm is moved into certain positions, or load is taken through the arm, the structures become more compressed and the pain increases, often feeling quite sharp. The reduction in the space between the head of the arm bone and acromion (roof of shoulder joint) can be due to a number of factors namely; muscle imbalances, bony spurs, changes in the shape of the acromion or inflammation of the bursa.

Certain muscles around your shoulder may be used too much and others not enough, causing an alteration in the way your joint moves. This is what is known as a muscle imbalance. Even seemingly minor changes in the coordination between these muscles can have serious effects on the soft tissue within your shoulder. To recover from this problem you will have to relearn how your shoulder and shoulder blade should move to re-establish coordination between these muscles.

Pain from impingement may start following some type of injury but often begins slowly as a result of the way in which you move and the way in which you hold your upper body and arm. Continuous working with the arms raised overhead, repeated throwing activities, or repeated actions of the shoulder can all cause impingement in the shoulder. Your whole posture can affect your shoulder and treatment will therefore need to address not just the local shoulder area but also your neck, upper back and sometimes even your lower back and legs.

Impingement syndrome can be classified into three stages:

Stage I: This stage involves swelling and/or bleeding due to an injury. This stage generally occurs in patients less than 25 years of age and is frequently associated with an overuse injury.

Stage II: This stage is more advanced and generally tends to occur in patients 25 to 40 years of age. The changes that are now present involve hardening (fibrosis) and thickening of the tendons.

Stage III: This generally occurs in patients over 50 years of age and frequently involves a tendon rupture or tear. This stage is largely a process of degeneration of the tendons with the processes of fibrosis (hardening) and tendonosis (micro tears, thickening and weakening the tendon) that have been present for many years.

Symptoms

Pain, weakness and loss of function are the most common symptoms reported. Pain is exacerbated by overhead or above the shoulder activities. Night pain is another frequent complaint, often disturbing sleep, particularly when the patient lies on the affected shoulder.

What treatment can I receive?

Your treatment aims to:

- Reduce the pain and inflammation in the joint.
- Improve the way the muscles around your shoulder work to control it
- Improve the coordination between your body and your shoulder

So that you:

- Can return to activity quickly, and
- Are less likely to hurt your shoulder again

Your treatment may include:

NON SURGICAL TREATMENT

- **Pain relief:** Electrotherapy or acupuncture may be used or you may be asked to use ice or heat at home. Ice should be used for 15-20 minutes at a time and can be applied regularly throughout the day. Heat can also be used for 15-20 minutes. With both heat and ice, one needs to be aware of the risk of a burn and therefore take the necessary precautions to prevent this.
- **Tape:** Specific tape may be applied to improve the posture of your shoulder and to encourage a more ideal movement pattern and posture. It should also help to ease your pain.

- **Treatment of the spine:** Your neck and / or back may need to be mobilised to loosen it or relieve pain.

- **Treatment of the soft tissues:** Soft tissue therapy may be needed to stretch tightness or relieve the pain coming from some of the muscles.

- **Exercises:** You will be given exercises such as those shown in this leaflet, to either loosen tight structures or improve the function of certain muscles. These may involve muscles of the shoulder and shoulder blade, trunk or pelvis, as they all play a role.

- **Corticosteroid injections:** Your doctor or therapist may recommend up to three corticosteroid injections to reduce the inflammation if other treatments have failed.

✦ Further investigation: Sometimes your therapist may suggest a second opinion or further investigation in the form of an x-ray or scan.

SURGICAL TREATMENT

If you are still having problems after trying non surgical treatments, your doctor may recommend surgery. There are a number of different procedures, with the type of procedure used being very dependant on the cause of your impingement.

What exercises should I do?

Before starting an exercise programme it is important that you have had an assessment of your shoulder and obtained a true diagnosis from your Doctor or allied health professional. It is also important that you are aware that this is a general exercise programme for impingement syndrome, which can be

adjusted depending on advice that you have been given by your health professional on assessment. When exercising you should always work in a pain free range of movement and do not progress to phase 2 before being able to complete the exercises in phase one with minimal discomfort.

Exercises

- Keep all exercises in your pain free limits. Trying to work in painful ranges will only prolong your recovery.
- If you experience pain during any of the exercises, decrease the intensity of the exercises by:
 - decreasing the number of sets
 - decreasing the number of repetitions
 - decreasing the range of movement
 - decreasing the resistance
- Do all exercises slowly and breathe normally.
- Progress gradually according to your own level of comfort.
- Following exercise, stiffness or fatigue may result but should not last longer than 24 hrs. The symptoms of your injury should not be aggravated.

Exercises phase 1

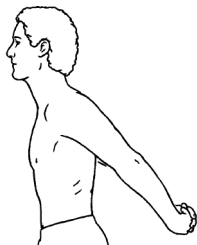
STRETCHES

- Perform each exercise **2-3 times**, holding the stretch for **30 seconds**.
- There should not be any pain when performing a stretch it should be a comfortable pull



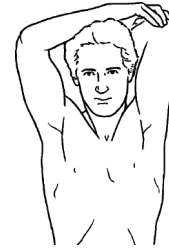
POSTERIOR CUFF

Take one arm across your chest, taking care to keep your shoulders level. Use the other hand to pull your arm across your body. You may find this too painful to do initially. Be guided by your pain and if it makes it worse then **don't do it!**



ANTERIOR CUFF

Grasp your hands together behind your back, keeping your arms straight as you raise them. Be careful not to drop your head forward.



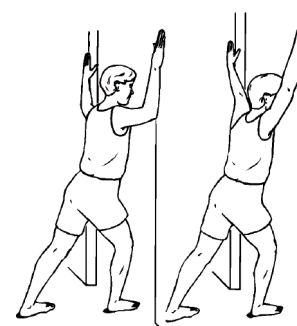
UNDER CUFF

Take one arm up and behind your head, so that your hand is against your upper back. Gently push down on the raised elbow with your other hand. You may find this too painful to do initially. Be guided by your pain and if it makes it worse then **don't do it!**



LEVATOR SCAPULAE

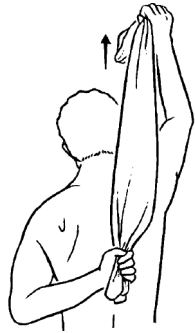
Sitting on the end of a bed or on a chair, place your left hand behind your back, fingers facing inwards and the palm of your hand flat on the surface. Now stretch your neck to the opposite side, i.e. turn your right ear towards your right shoulder.



DOOR STRETCH

Stand in a walking position, side on to a doorway or corner. Bend your elbow and support the forearm against the doorframe. Gently rotate your upper trunk away from the arm until the stretching can be felt in the chest muscles. You may find this too painful to do initially. Be guided by your pain and if it makes it worse then **don't do it!**

Exercises phase 1 (continued)



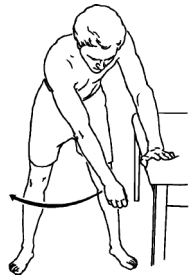
MEDIAL/LATERAL ROTATION

Holding a towel, take one hand over your head and one hand behind your back, firstly pull down with the bottom hand and hold, and then pull up with the top hand and hold. Now change hands and repeat. You may find this too painful to do initially. Be guided by your pain and if it makes it worse then **don't do it!**

MOBILITY

● Perform each exercise **10 times** aim to repeat this **4-5 times a day**.

● These exercises should not make your pain worse. They should be undertaken within a pain-free range.



FORWARDS/BACKWARDS PENDULUM

Gently move arm forwards and backwards by rocking body weight forwards and backwards. Let arm swing freely.



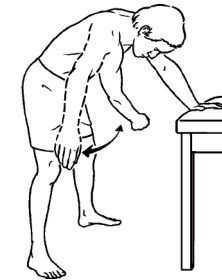
CLOCKWISE / ANTI-CLOCKWISE PENDULUM

Let arm move in a circle clockwise, then anti-clockwise by rocking body weight in a circular pattern.



SAWS

Supporting body weight with hand on table, reach out in front of you. Pull arm back pinching shoulder blades together.



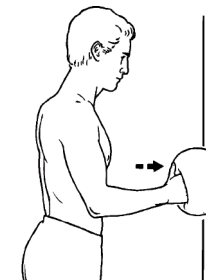
SIDE TO SIDE PENDULUM

Supporting body weight with the other hand, gently move arm from side to side across your body, by rocking body weight from side to side. Let arm swing freely

STRENGTHENING

● You should be aiming to hold these contractions for **10 seconds**. If you can only manage 5 seconds to begin with that's fine, aim to build it up to 10 slowly.

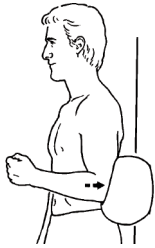
● Repeat each exercise **10 times on each side**, again aiming to do this **4-5 times a day**.



STATIC FLEXION

Place a pillow between your hand and the wall. Have your elbow bent to 90° and in at your side. Using a wall to provide resistance, press fist into wall as shown, using light / moderate resistance.

Exercises phase 1 (continued)



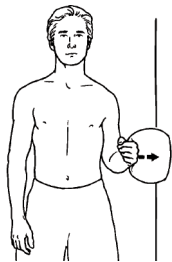
STATIC EXTENSION

Place a pillow between your elbow and the wall. Have your elbow bent to 90° and arm in at your side. Make sure that your shoulders are in a neutral position. Press back of arm into wall using light / moderate resistance.



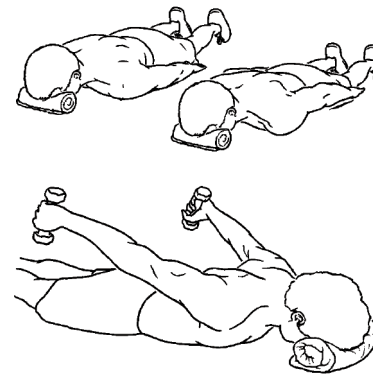
STATIC INTERNAL ROTATION

Stand with your arm close to your side, with a pillow placed between your side and your elbow, and your elbow at a right angle. Push the palm of your hand against the other hand inwards.



STATIC EXTERNAL ROTATION

Stand with your arm close to your side, with a towel placed between your side and your elbow, and your elbow at a right angle. Push the back of your hand against a wall.



PRONE FLIES 1

Lying on your stomach with your arms next to your side and forehead rested on a rolled up towel. Move your shoulder blades down your back, and bring the points in towards each other without moving your arms. Keeping your shoulder blades stable, now raise your arms slightly off the ground and hold for 10 seconds. Repeat 10 times. Now try the same exercise holding small weights in your hands

Exercises phase 2

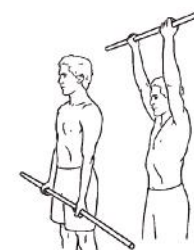
Phase 2 exercises can be started when you are able to do all the Mobility and Strengthening exercises in Phase 1 with no adverse effects.

Continue with the stretches in phase one, and ensure that all exercises in phase 2 are completed in a pain free range of movement.

MOBILITY

- Perform each exercise 10 times aim to repeat this 4-5 times a day.

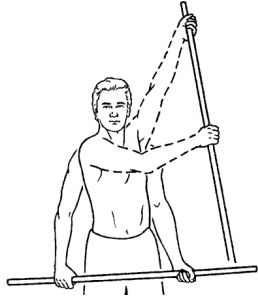
- These exercises should not make your pain worse. They should be undertaken within a pain-free range, although you may push into your pain provided it eases when you move your arm back again.



FLEXION WITH STICK

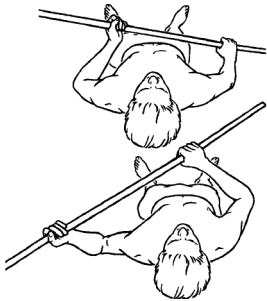
Bring stick up as far as you can, leading with the uninvolved side, until you feel a stretch. The movement should be slow, controlled and pain free.

Exercises phase 2 (continued)



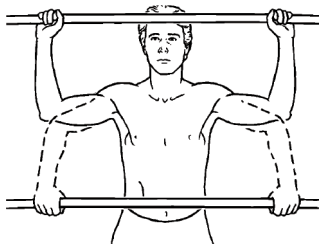
ABDUCTION WITH STICK

Holding stick with involved side palm up, push stick directly out from your side with uninvolved side (palm down) until you feel a stretch. The movement should be slow, controlled and pain free.



INTERNAL/EXTERNAL ROTATION WITH STICK

Hold stick with involved side palm up, push with uninvolved side (palm down) out from body while keeping elbow at side and bent to 90°, until you feel a stretch. Then pull back across body leading with uninvolved side. Be sure to keep elbows bent.



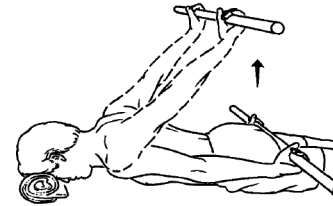
INTERNAL/EXTERNAL ROTATION WITH STICK AT 90°

With your elbows in line with your shoulders and bent to 90°, move stick upward toward head, then down toward waistline.



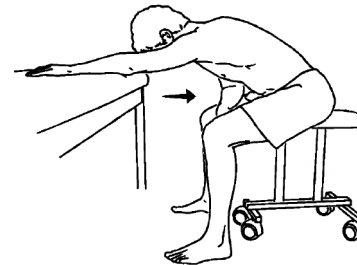
HORIZONTAL ABDUCTION/ ADDUCTION WITH STICK

Keeping both palms down, push stick across body with uninvolved side. Then pull back across body, keeping arms parallel to floor. Do not allow your trunk to twist.



EXTENSION WITH STICK LYING ON STOMACH

Lift backward from buttocks until a stretch is felt. This can be performed while lying on your front or in a standing position.



FORWARD STRETCHING

Sitting upright, slide forearm forward along table as you bend from the waist until a stretch is felt.

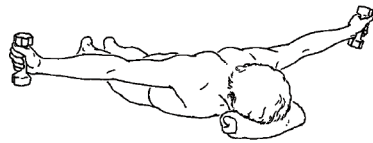
Exercises phase 2 (continued)

STRENGTHENING

● You should be aiming to perform these exercises **slowly, concentrating on controlling the movement**. Try counting to 5 as you perform the movement, it should take you this long to do one repetition of one exercise!

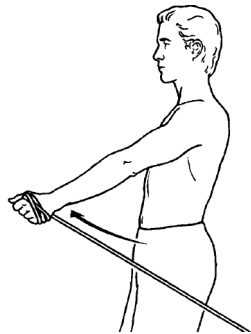
● Repeat each exercise **10-12 times** (unless otherwise stated in the exercise), again aiming to do this **4-5 times a day**.

● **Be aware of your posture at all times**. It is important that you maintain a neutral posture throughout the movement i.e. shoulders slightly back with shoulder blades down your spine and slightly in towards each other, neck tucked in.



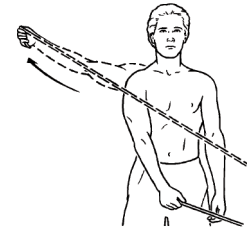
PRONE FLIES 2

Lying on your stomach, with arms out to the side (i.e. in line with your shoulders), take your shoulder blades down your spine, bringing the points in towards each other. Now raise both arms off of floor. Keep elbows straight and control the shoulder blades being sure not to shrug. Hold for 10 seconds and repeat 10 times



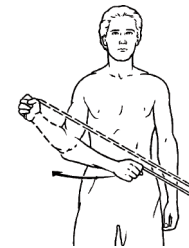
RESISTED FLEXION

Using elastic tubing / band start with arm at side and pull arm outward and upward. Move shoulder through pain free range of motion.



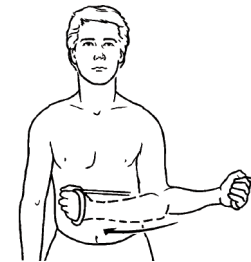
RESISTED ABDUCTION

Using elastic tubing / band start with arm across body and pull away from side. Move through pain free range of motion.



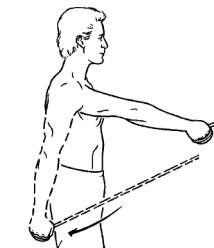
RESISTED EXTERNAL ROTATION

Using elastic tubing / band and keeping elbow in at side and bent to 90°, rotate arm outward away from body. Be sure to keep forearm parallel to floor. The movement should be slow and controlled



RESISTED INTERNAL ROTATION

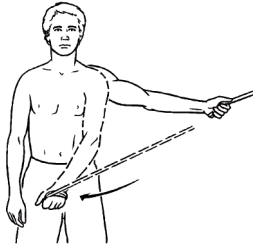
Using elastic tubing / band and keeping elbow in at side and bent to 90°, rotate arm inward across body. Be sure to keep forearm parallel to floor. The movement should be slow and controlled



RESISTED EXTENSION

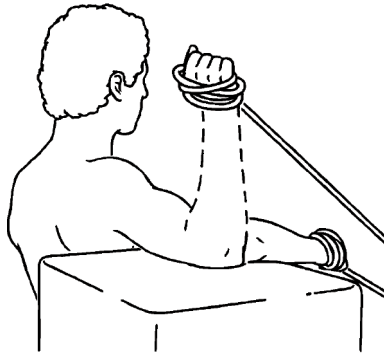
Using elastic tubing / band pull arm back. Be sure to keep elbow straight.

Exercises phase 2 (continued)



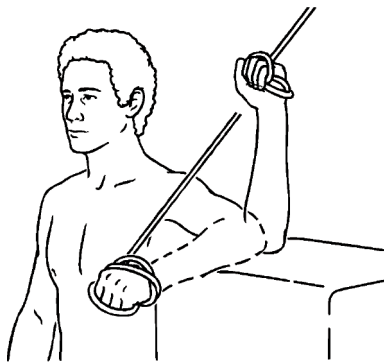
RESISTED ADDUCTION

Using elastic tubing / band pull arm in toward buttock. Do not twist or rotate trunk.



RESISTED EXTERNAL ROTATION AT 90°

Sitting on a chair facing the door, with your elbow rested on a table. Your elbow should be about shoulder height and bent to 90°. Attach tubing (which you can get from your physiotherapist) to the door making sure it is secure. Pull tubing away from door, keeping elbow bent at a right angle. Make sure the movement is slow and controlled



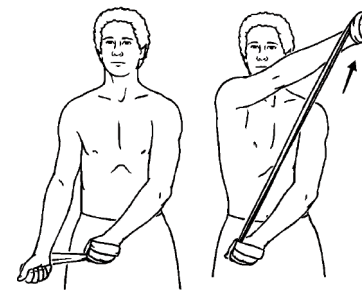
RESISTED INTERNAL ROTATION AT 90°

Sitting on a chair facing away from the door, with your elbow rested on a table. Your elbow should be about shoulder height and bent to 90°. Attach tubing (which you can get from your physiotherapist) to the door making sure it is secure. Pull tubing away from door, keeping elbow bent at a right angle. Make sure that the movement is slow and controlled

FUNCTIONAL EXERCISES

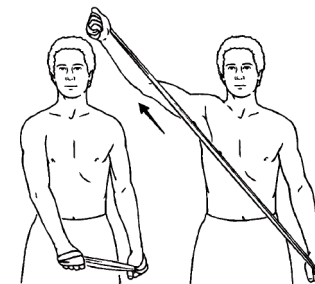
- It is important to train back to function and the following exercises will help you to do this by combining a number of movements in one.
- Again it is important to work in a pain free range, and you may only be able to start these exercises after doing phase 2 exercises for a week or two.

- The tennis exercises can be substituted with movements that may be involved in your own sport e.g. a golf swing, throwing movements etc



DIAGONAL FLEXION 1

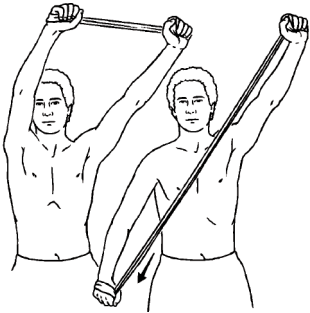
Using tubing, start with arm out from side, palm down. Pull arm up, out and across body, rotating arm as you move so thumb continues to point back.



DIAGONAL FLEXION 2

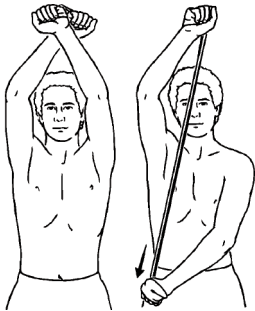
Using tubing, start with palm facing behind you. Pull arm out, up and across body rotating arm as you move so palm continues to face behind you.

Exercises phase 2 (continued)



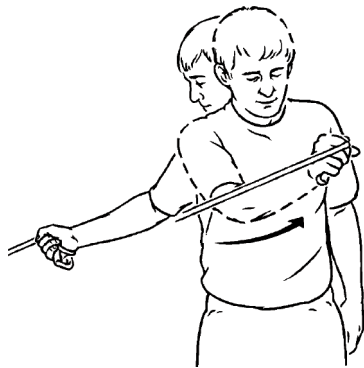
DIAGONAL EXTENSION 1

Grasp tubing with arm reaching above shoulder and across body. Gently pull downward and away from your body. Return slowly to starting position.



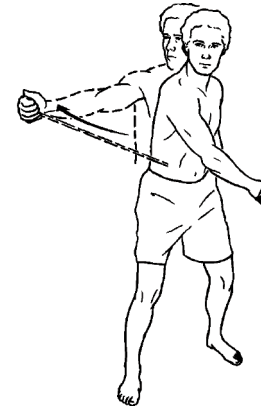
DIAGONAL EXTENSION 2

Grasp tubing with arm above and behind you. Bring arm downward and across body. Return slowly to starting position.



TENNIS FOREHAND

Using tubing, pull hand across body while pushing out with arm. This motion is identical to tennis forehand.



TENNIS BACKHAND

With feet perpendicular to tubing and arm across body toward tubing attachment, pull across body.

Contact us

This guide is designed to assist you in the self-management of your injury/condition.

We are here to assist your recovery in the shortest but safest possible time. If you have any uncertainties or queries regarding the information, please do not hesitate to contact us on:

Phone 017890400999 / 07870166861

www.mdphysiotherapy.co.uk