



## YOUR GUIDE TO

# STERNO- CLAVICULAR (S/C) JOINT SPRAIN

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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 injury 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.

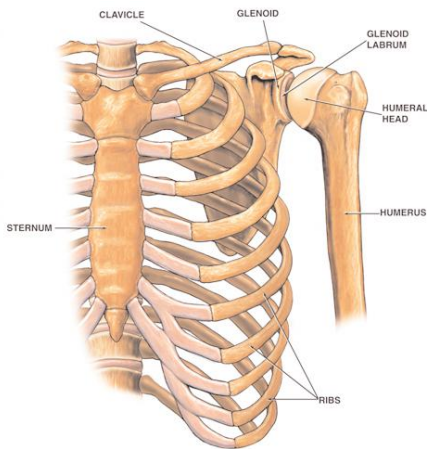
**When consulting your health professional, it is wise to take this guide with you to show them.**

## What is a sprain?

A sprain is an injury to a ligament. Ligaments are strong tissues around joints which attach bones together and therefore give support to joints. A ligament can be stretched during a sudden pull, which may partly tear some of the fibres in the ligament. Occasionally, a ligament may fully tear (rupture). A damaged ligament

causes inflammation, swelling, and bleeding (bruising) around the affected joint, resulting in movement of the joint being painful and restricted. The aims of treatment for a sprain are to keep inflammation, swelling, and pain to a minimum, and to be able to use the joint normally again as quickly as possible.

## What is an S/C joint injury?



The SC joint connects your clavicle (collarbone) to your sternum (breast bone), which is the large bone down the middle of your chest. This attachment is the only bony joint linking the bones of the arm and shoulder to the main part of the skeleton.

The SC joint is one of the least dislocated joints in the body, because of the strong ligament structure that surrounds the joint, which is very effective at preventing dislocations from occurring. If they do occur, they are mostly caused by indirect force to the SC joint, which usually involves something hitting the shoulder very hard. The shoulder is pushed in and rolled either forward or backwards, affecting the SC joint.

When the SC joint is dislocated, it is usually an **anterior dislocation**. This means that the clavicle is pushed forward, in front of the sternum. Dislocating in the opposite direction is less common because the ligaments on the back side of the joint are so strong.

**Posterior dislocations** although rare can happen and are caused by direct force against the front of the clavicle which can push the end of the clavicle behind the sternum, into the area between the lungs. Posterior dislocations can be very dangerous, because the area behind the sternum contains vital organs and tissues. The heart and its large vessels, the trachea, the oesophagus, and lymph nodes, can all be seriously damaged in a posterior dislocation of the SC joint. This can cause life-threatening injuries to the heart and lungs, and therefore immediate medical care is required to get the SC joint back into position after a posterior dislocation.

### SC joint injuries can be graded into 3 types.

- A **Grade I sprain**: an incomplete tear or stretching of the sternoclavicular (between the collarbone and breastbone) and costoclavicular (between the collarbone and ribs) ligaments, while the SC joint remains tightly connected. Discomfort is mild, and no instability is present. This is the most common type of SC joint injury.

- A **Grade II sprain**: a complete tear of the Sternoclavicular ligament, but at most only a partial tear of the costoclavicular ligament, result in a partial dislocation (subluxation) of the clavicle from its attachment to the sternum in either a forwards (anterior) or backwards (posterior) direction.

- A **Grade III sprain**: there is a complete tear of the sternoclavicular and costoclavicular ligaments which allows the clavicle to completely dislocate either forwards or backwards from its attachment to the sternum.

## What Causes a SC joint injury?

- **Motor vehicle accidents** are the most common mechanism producing sternoclavicular dislocation.
- **Athletic Injury**
- **Falls** (e.g. a person falling on an outstretched arm)
- **Congenital, degenerative and inflammatory processes** can also result in dislocations of the SC joint
- **Ligament Laxity.** If ligaments around the joint are loose. This is more common in young girls and can result in anterior dislocations of the SC joint even when there is no associated trauma

## What treatment can I receive?

Treatment for an SC joint sprain differs slightly depending on the grade of injury that has been sustained. For a grade I sprain treatment is focused on reducing pain and inflammation, especially in the first 48 hours after the injury, and therefore involves rest, ice, anti-inflammatory medication and a rehabilitation programme. Grade II and III sprains need to be immobilized for a lot longer and may require surgical intervention, therefore it is important to consult with your doctor or allied health professional before engaging in any treatment programme.

### NON SURGICAL TREATMENT

● **Rest:** It is important to rest the injured ligaments which can be done either with a sling or the appropriate strapping of the joint. This is important to allow the ligaments the appropriate time to heal. The length of time the joint should be rested in a

sling will again very much depend on the grade of the injury. For a grade I injury this is usually no longer than a week or two, whereas for a grade II/III injury this may be as long as six weeks.

● **Ice:** This should be applied as soon as possible after injury for 10-20 minutes. Less than 10 minutes has little effect. More than 30 minutes may damage the skin. Make an ice pack by wrapping ice cubes in a plastic bag or towel. (Do not put ice directly next to skin as it may cause an 'ice-burn'.) A bag of frozen peas is also a good alternative. Gently press the ice pack onto the injured part. The cold from the ice is thought to reduce blood flow to the damaged ligament, which should help to limit pain and inflammation. After the first application, some doctors recommend reapplying for 10-15 minutes every two hours (during day time) for the first 48 hours.

● **Anti-inflammatory medication:** Your doctor may prescribe anti-inflammatory medication to try and reduce the inflammation and pain after the injury. There are a few anti-inflammatory medications that you can get over the counter, but it is important that you are aware of any side effects before taking them without prescription. These should always be taken as a course rather than a one off treatment

● **Closed Reduction:** Doctors have different ways of treating anterior dislocations. Some feel that surgery is needed when the dislocation is severe, but most will either let it heal where it is or perform a closed reduction (put it back in place, without performing an operation). A posterior dislocation is a little more serious because of the other organs that may be damaged. Therefore if a posterior dislocation is suspected, a full examination will be required with x-rays, MRI etc being taken. A doctor will almost always perform a closed reduction on a posterior dislocation. After a closed reduction, the SC joint will be immobilized with a sling which will need to be worn for at least 6 weeks.

● **Physiotherapy:** A physiotherapist may advise on exercises and give heat/ice, ultrasound, or other treatments that will aim to decrease inflammation, decrease pain, and help you to regain full function. Ruptured (torn) ligaments and other severe sprains sometimes require surgery.

### SURGICAL TREATMENT

If non surgical measures fail to relieve your pain, surgery may be considered by your doctor. Surgery is mostly only considered if closed reduction has been unsuccessful (especially if it is a posterior dislocation). It may also be considered if symptoms of osteoarthritis in the joint do not respond to basic conservative treatment

### PRECAUTIONS WHEN USING ICE THERAPY.

- **Ice treatment must be used carefully otherwise it may cause a skin burn.**
- **Never put an ice pack directly onto the skin, always use a damp towel or cloth to prevent an ice burn.**
- **Only apply an ice pack to areas of skin with normal sensation i.e. you must be able to feel hot and cold.**
- **Never put an ice pack over an open wound or graze.**
- **Do not apply an ice pack to an area with poor circulation.**
- **Never leave an ice pack on the skin longer than the time stated in this advice sheet.**
- **Adults should always supervise young children when using ice packs. Application may be reduced and extra care should be taken when checking the skin.**

● Remember to check the skin underneath every 5 minutes for:

- Whiteness of the skin
- Blueness of the skin
- Blotchy and painful skin
- Excessive numbness

If you get any of these symptoms remove the ice pack immediately.

## What exercises should I do?

Rehabilitative exercises should be started when the inflammation has been controlled and pain levels have reduced. These exercises should concentrate on increasing overall strength and flexibility of the shoulder and arm muscles. It is important that

with all the exercises you work in a pain free range of motion and progress from phase 1 only when you are able to complete the exercises in this phase pain free and with good control.

## 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

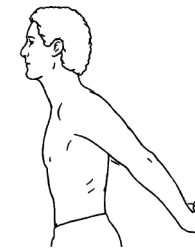
● Perform each exercise 2-3 times, holding the stretch for 30 seconds.

● 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.

### 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.

## Exercises phase 1 (continued)



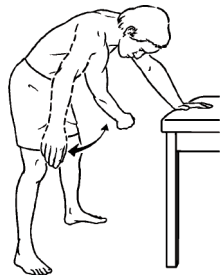
### CLOCK / ANTI-CLOCKWISE PENDULUM

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.



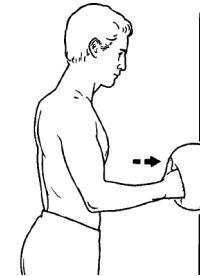
### SIDE TO SIDE PENDULUM

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

## STRENGTHENING

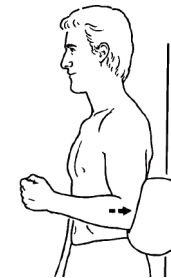
● You should be aiming to hold these contractions for 10 seconds. If you can only manage 5 seconds to begin with that's fine, aim to build it up to 10 slowly.

● Repeat each exercise 10 times, 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



### STATIC EXTENSION

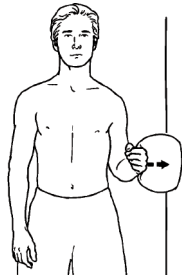
Place a pillow between your elbow and the wall. Have your elbow bent to 90° and arm in at your side. Make sure that your shoulders are in a neutral position. Press back of arm into wall using light / moderate resistance.



### INTERNAL ROTATION

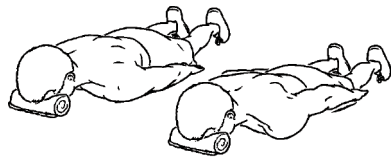
Stand with your arm close to your side, with a pillow placed between your side and your elbow, and your elbow at a right angle. Push the palm of your hand against the other hand inwards. Hold for 10 sec. Repeat 10 times on each arm.

## Exercises phase 1 (continued)



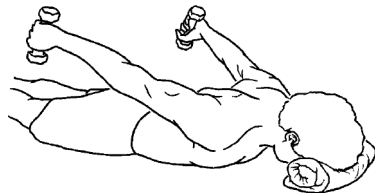
### EXTERNAL ROTATION

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. Hold for 10 sec. Repeat 10 times on each arm.



### 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 and progress the above exercise by holding small weights in your hands

## Exercises phase 2

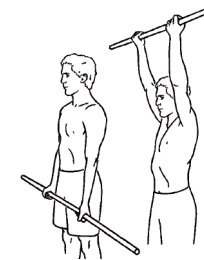
Phase 2 exercises can be started when you are able to do all the Mobility and Strengthening exercises

in Phase 1 with no adverse effects. Continue with the stretches of phase 1

### 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.



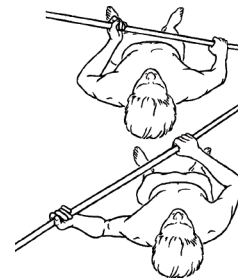
### FLEXION WITH STICK

Bring stick directly overhead, leading with uninvolvement side until you feel a stretch. Only work in a pain free range of movement.



### ABDUCTION WITH STICK

Holding stick with involved side palm up, push stick directly out from your side with uninvolvement side (palm down) until you feel a stretch.



### INT. / EXT. ROTATION WITH STICK

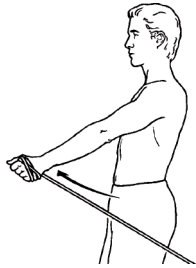
Hold stick with involved side palm up, push with uninvolvement side (palm down) out from body while keeping elbow at side until you feel a stretch. Then pull back across body leading with uninvolvement side. Be sure to keep elbows bent.

# Exercises phase 2 (continued)

## STRENGTHENING

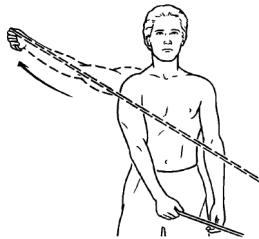
● You should be aiming to perform these exercises slowly, concentrating on controlling the movement. Try counting to 5 as you perform the movement, it should take you this long to do one repetition of one exercise!

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



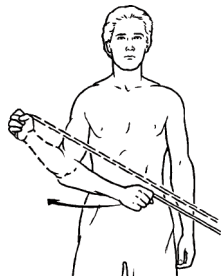
### RESISTED FLEXION

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



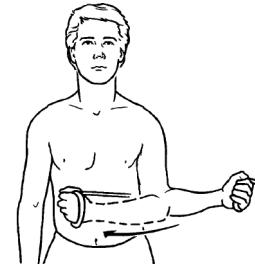
### RESISTED ABDUCTION

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



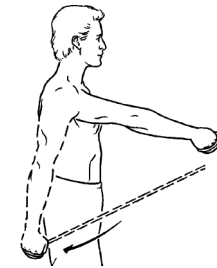
### RESISTED EXTERNAL ROTATION

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



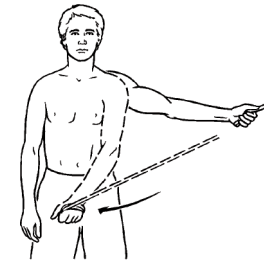
### RESISTED INTERNAL ROTATION

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



### RESISTED EXTENSION

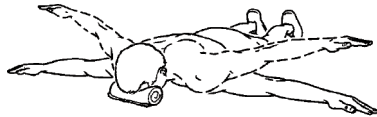
Using elastic tubing / band pull arm back. Be sure to keep elbow straight.



### RESISTED ABDUCTION

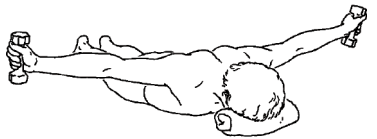
Using elastic tubing / band pull arm in toward buttock. Do not twist or rotate trunk.

## Exercises phase 2 (continued)

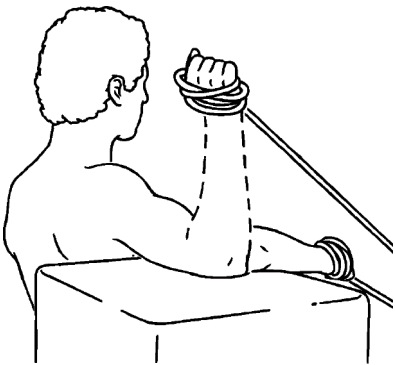


### SCAPULAR STABILIZATION IN PRONE

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

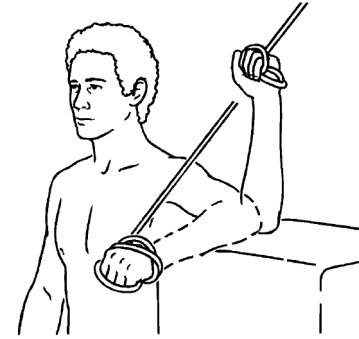


Now try and progress the above exercise by holding small weights in your hands



### 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

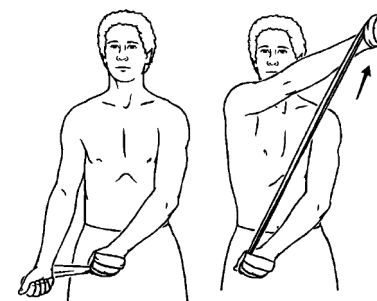


### RESISTED INTERNAL ROTATION AT 90°

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

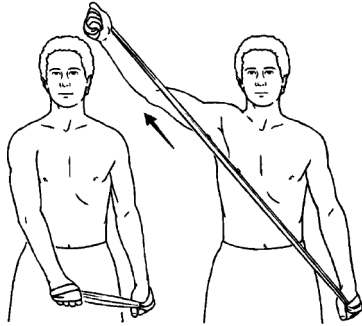


### DIAGONAL FLEXION 1

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.

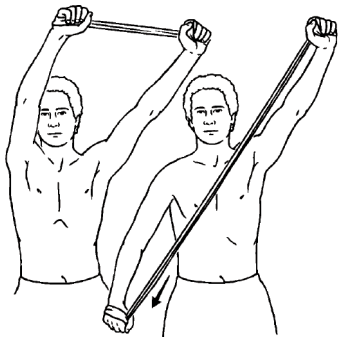


## Exercises phase 2 (continued)



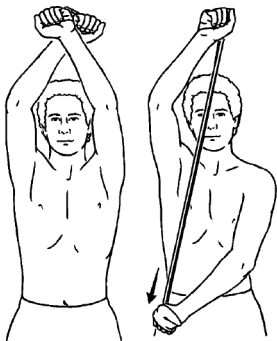
### DIAGONAL FLEXION 2

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.



### 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.

## 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](http://www.mdphysiotherapy.co.uk)