Mr. Andrew Chambler

SHOULDER THERAPEUTIC SURGERY

Including:

Sub-acromial Decompression

Acromio-clavicular Joint excision

Long-head of biceps tenotomy

Frozen shoulder release/manipulation under anaesthetic

Information Leaflet

Sulis Hospital telephone number: 01761422222

Bath Clinic Circle Health Group telephone number: 01225809343

St Joseph's Hospital telephone number: 01633820344

Introduction

This information booklet has been produced to help you understand why your shoulder is painful and help you gain the maximum benefit from shoulder surgery, if required.

The booklet is not a substitute for professional medical care and should be used as guidance in association with the advice from your Orthopaedic Consultant and Physiotherapist.

Individual variations requiring specific instructions not mentioned here may be required.

Summary

The shoulder is a highly mobile ball and socket joint relying heavily on stabilising muscles (the rotator cuff) for its control and function.

Two of the most common shoulder conditions are sub-acromial impingement and frozen shoulder. These are assessed using your symptoms, examination and imaging as appropriate.

There are several non-surgical treatments but if these have failed to resolve your symptoms the surgical options can be explored, which will vary depending on your condition.

Typically after surgery you will have some discomfort in the shoulder, neck or arm, however regular analgesia will be provided to help manage this. You will require a sling for one to seven days depending on the procedure.

Your shoulder movement and function will be limited by discomfort, stiffness or weakness for at least a few weeks but can continue for up to several months post-operatively. You should gradually progress your movement and function, guided by the 'safe zones', 'pacing' and 'soreness rules' techniques detailed in this booklet.

Regular rehabilitation exercises at home, with the guidance of your outpatient physiotherapist are essential to progression and your long-term outcome.

It can often take between six to nine months before you are able to return to 'relative' full function.

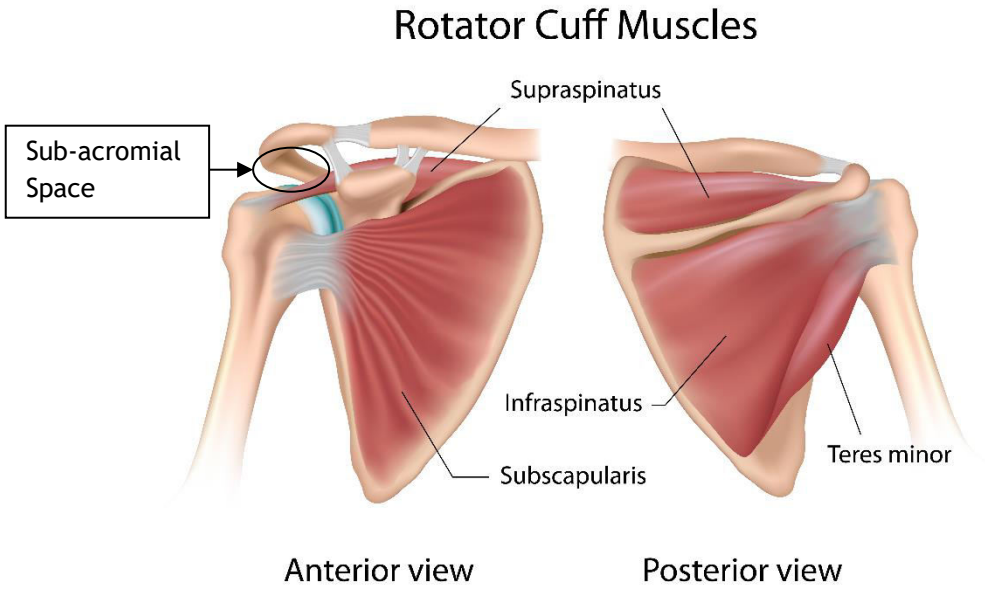
Shoulder anatomy

The main shoulder joint, the glenohumeral joint (GHJ) is a ball and socket joint, providing a very wide range of movement. It is formed by a ball on the top of your arm bone (humeral head) and a shallow socket (glenoid) which is part of the shoulder blade.

The joint is surrounded by a tough fibrous sleeve called the capsule which helps hold the joint together.

Above the ball and socket joint is a ligament which is attached to a bony prominence (the acromion) on the top for your shoulder blade. This forms an arch over the shoulder joint. This area above the shoulder joint and below the arch is known as the sub-acromial space.

To move your shoulder and control the positions of the ball on the socket, you have a group of muscles and tendons known as the rotator cuff.



They attach from the shoulder blade onto the top of the humeral head, passing through the subacromial space. One of these tendons (supraspinatus) sits in the middle of the subacromial space. A small fluid lining, called the bursa cushions this tendon from the under surface of the arch.

Shoulder conditions

Sub-acromial Impingement

In this condition, pain is usually felt at the top of the upper arm and around the shoulder as you move your arm into different positions, especially away from your body and overhead. We do not know exactly why some people are more likely to develop this problem but there can be a variety of contributing factors, such as:

- Overuse or repetitive strain, due to poor posture during prolonged computer work or doing work overhead such as DIY or gardening that you don't commonly do.
- An injury to the shoulder, such as a fall onto it.
- Rotator cuff weakness, tendonopathy, calcific tendonitis, strain or tear.
- Poor muscle control of the shoulder blade.
- Other shoulder conditions, e.g. frozen shoulder.

These may lead to wear and tear or pinching of the sub-acromial soft tissues, including the rotator cuff tendons, bursa and long head of biceps tendon.

This may then inflame or swell these tissues, increasing the congestion in the sub-acromial space, causing further pain that may occur at night or at rest, and increasing the likelihood of further impingement if the contributing factors are not identified and corrected.

It is the most common shoulder problem. Twenty per cent of people will have symptoms at some point in their lives. It most commonly occurs between the ages of 45–65.

Frozen shoulder

In this condition there appears to be an inflammatory process leading to fibrosis of the joint capsule, restricting movement especially rotation of the shoulder and causing pain. We don't know why it occurs, though it often follows injury, a heart attack or stroke and it's much more common in people with diabetes.

The condition usually resolves itself in time but can take longer than four years. It is typified by three overlapping stages:

Stage 1

'Painful' can last 2 - 9 months with increasing pain on movement, progressing to constant pain including at night. Diagnosis in the early stages prior to restriction of movement can be difficult.

Stage 2

'Freezing' lasts 4 - 12 months involving stiffening of the shoulder joint to cause a considerable restriction in range of movement. Pain intensity gradual reduces and felt only at the end of range of movement rather than constantly.

Stage 3

'Thawing' lasts 12 - 42 months is characterised by the absence of pain except at end of range and increasing shoulder movement and function.

Assessment

What tests have to be done?

These shoulder conditions are diagnosed from the symptoms you have discussed with your doctor and findings from the examination of your shoulder. An ultrasound scan or MRI may be needed to show the condition of the soft tissues and if the tendon is being compressed in the subacromial space when you are moving your arm. An X-ray may be used to show the condition of the bones in your shoulder and rule out other pathology.

What are my treatment options?

The initial treatment options are non-surgical including; advice and education into the conditions, painkillers, self-help strategies, physiotherapy and injections.

As you are attending the orthopaedic shoulder clinic, many of these should have already been tried. Meaning you have probably had the problem for some time, or that it is severely affecting your daily life and therefore the surgical options now need to be considered.

Surgery

The surgery is performed arthroscopically (where a camera is placed inside the joint) and will include:

- Subacromial decompression:

  (+/-) Acromio-clavicular joint excision

  (+/-) Long-head of biceps tenotomy

- Capsular release or manipulation under anaesthetic (MUA)

Subacromial Decompression

The operation aims to increase the size of the subacromial space and reduce the pressure on the affected soft tissues. Subacromial decompression involves releasing the ligament from the front of the acromion, trimming off the under surface of the acromion and removing the inflamed bursa. This allows the tendon to move more freely and thus break the cycle of rubbing and swelling.

Occasionally the long head of the biceps tendon (LHB) also becomes damaged and inflamed where it enters the shoulder joint. In this situation your surgeon may perform a **LHB tenotomy** – this is where the long head of the biceps is released from its attachment in the shoulder joint, allowing it to relocate into the upper arm and out of the shoulder joint. Long-term, this does not cause any significant weakness of your biceps or impairment of function, only a possible change in the muscles appearance.

It is sometimes required to remove a small section off the very end of the collarbone (clavicle) where it meets the acromion to allow more space in the arch below it. This is called an **acromioclavicular joint (ACJ) excision**. This occasionally requires a small incision to be made over the top of the shoulder.

The addition of an ACJ excision and/or a LHB tenotomy being performed will not significantly change the post-operative exercise programme or guidelines for recovery.

Capsular release or manipulation under anaesthetic (MUA)

These procedures involve a release of the GHJ capsule, either through strategic stretching (MUA) or releasing (capsular release) of the capsule fibrosis to allow a greater available range of movement.

Both procedures have the same post-operative plan, which prioritises earlier recovery of shoulder movement compared to the sub-acromial decompression procedure.

Anaesthesia

The surgery is usually performed with a combination of a regional nerve block and a light general anaesthetic (GA) or sedation. The regional nerve block is a specialised injection in which local anaesthetic is injected around the nerves that supply your shoulder and arm. This makes the shoulder go numb for the operation and provides pain relief after the operation for up to 24 hours. It also enables just a light GA or strong sedation to be given, allowing earlier recovery and, in most cases, you will be ready to go home the same day as your surgery.

After the operation, your arm will remain numb with limited movement due to the regional nerve block. This is normal and will gradually return after 12–24 hours.

Further detailed information about your anaesthetic will be provided to you in the booklet *'About your anaesthetic'* before you attend the hospital.

Pre-surgery considerations

Will my shoulder be painful after the operation?

Although you will have small scars, this procedure can be painful due to the surgery performed inside your shoulder. The procedure is to resolve pain and/or improve movement thus allowing maximum function; however it can be several months until you start to feel the benefit of the surgery.

The pain can be kept to a manageable level by taking pain relief medication. This is to allow you to feel comfortable so you can get a good night sleep (vital for the body to heal itself), perform your exercises to prevent your arm from feeling stiff and sore, and allow you to perform basic functional activities for yourself once out of the sling. This will all help the operation to be as successful as possible.

Will I be given pain relief to take home?

Yes, typically you are prescribed a few days of regular paracetamol and non-steroidal anti-inflammatories (NSAID's), with something slightly stronger such as codeine phosphate to be taken as needed. If you require further medication after these are finished, please contact your own G.P. or you can obtain more paracetamol or NSAID's from your local pharmacy.

Pain and swelling can often be reduced by using an ice pack over your shoulder. It should be applied for 20 minutes and can be repeated every 2 hours. Never apply ice directly to your skin. Never use ice if you skin feels numb or tingling.

If you find it difficult to manage your pain, please contact the hospital.

Will I have to stay over-night in hospital?

Usually not, especially if your surgery is performed in the morning or early afternoon; the later the surgery is completed, the more likely you will require an over-night stay in hospital.

Who will monitor my wound and remove stiches?

Your stitches will need to be removed after 10 days. You will need to make an appointment at your GP surgery for this to be done.

Keep your wound dry until it is healed. Your dressing will be splash proof to allow you to have a short shower. Avoid using spray deodorants, talcum powder or perfumes near or on the wound.

If your wound feels increasingly painful or looks red and hot round the wound dressing please contact the hospital as it could be a sign of infection.

Do I need to wear a sling?

The sling is for comfort only; it is to be worn for one to seven days depending on the procedure. You may find it reassuring to continue using the sling for a few more days if you are going somewhere busy to avoid the arm getting knocked.

You may be able to take the sling off by yourself but in the early stages it may be easier if you have someone to help you.

Start by supporting your operated arm with the non-operated arm whilst someone else does the Velcro straps. If you don't have anyone to help, support your arm on a table, whilst you undo the Velcro straps. You can then slip the sling off.

After the first night, it is your choice depending on comfort to use the sling at night or not. You may find it more comfortable for the shoulder at night, if you place a pillow under your upper arm when lying on your back or to rest your arm on a pillow in front of you when lying on your non-operated side.

Will I be able to do my normal activities of daily living?

There are no restrictions (other than pain) to movement and so functional use of your shoulder in any direction post-surgery. Gradually the movements will become easier and less painful. However, it can often take between six to nine months before you are able to return to relative full function.

To undress take the un-operated arm out of your clothes first then slide the clothes off your operated arm. To dress, slide your operated arm into the sleeve of your clothing first, followed by the un-operated. Initially, you will find button/ zip clothes easier to get on and off or wide neck loose tops.

To wash, carefully lean forward with your arm relaxed so it gently moves away from your body, this will allow you to wash under your arm, dry and apply deodorant.

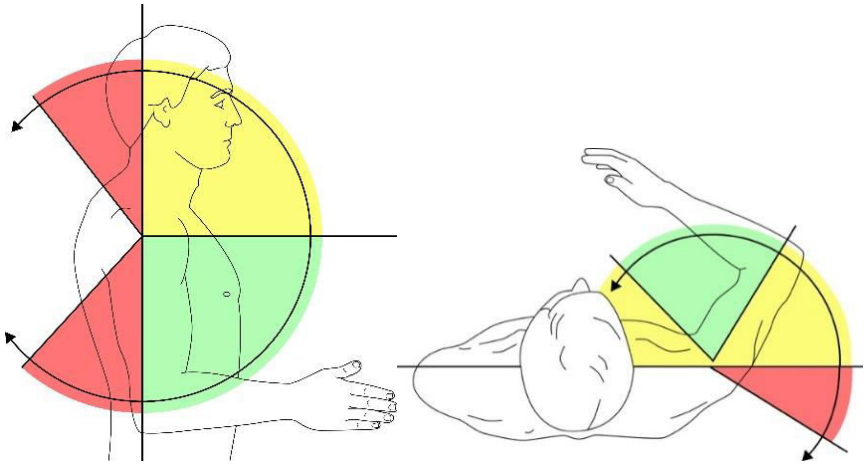
If you do too much with the shoulder, especially early on, then you risk irritating the healing tissues causing pain and making it more difficult to progress. The challenge is, knowing how much is too much?

To answer this question, below are three strategies designed to help guide your progression of exercise and function:

1: 'Safe-Zones'

When you move functionally or with exercises it is helpful to imagine 'safe zones' (see pictures below). You can begin by using your arm in the green zones and progressing to yellow, then red areas over weeks and months following surgery as comfort allows.

Activities at or above shoulder height put more stress on the areas that have been operated on. Try and avoid repeated activities in these positions for the first 6 weeks.



2: Pacing

As you wean out of the sling you should use the arm for small durations of function and exercise frequently, such as 30-60 seconds, every 30-60 minutes but only in the 'Safe-Zones' to begin with. Then adjust (increase or decrease) this amount depending on how your shoulder copes, guided by the 'Soreness Rules'.

3: 'Soreness Rules'

These allow you to guide your 'Pacing', so that you make steady progress, with manageable discomfort only.

When you do a light, easy activity for a minute or two in the 'Safe-Zone' and the shoulder feels:

i) Fine during, after and in the evening, you may increase the difficulty or duration of that activity by about 10-20%.

ii) Uncomfortable but manageable after the activity for under 20 minutes and/or uncomfortable but manageable in the evening, you continue at about the same level of activity.

iii) Uncomfortable during and/or painful after and/or painful in the evening that is difficult to manage you need to reduce down the activity by about 10-20%

And then reassess with the 'Soreness Rules' again, with each activity and at the end of each day.

How long before I can drive?

Approximately seven days; however, this can vary from person to person as to when you feel comfortable to do so. It is advisable to contact your car insurance company to inform them of your shoulder surgery. Make sure you feel comfortable performing an emergency stop and using all the car controls before your first car journey and slowly build up your journey time, using the 'soreness rules' to guide your progression.

How long before I can return to work?

Approximately 3–4 weeks for non-manual work, 6–8 weeks for light manual work and 10–12 weeks for heavy manual work.

However, this is guidance only. It will also depend on how well your shoulder is progressing in movement, function and control of discomfort post-operatively. Your physiotherapist can also help to guide you on this as you progress.

It is useful to liaise with your employer earlier (pre-operatively) rather than later to negotiate a suitable time off and ideally a staged return, in terms of hours and physicality of tasks where possible. This is often

arranged through your Occupational Health department or Human Resources department if your company has one. If not, speak directly to your line-manager.

When can I return to sporting activities?

Depending on the sport, you can usually begin to return between three and six months.

However, this is guidance only. Your ability to start these activities will be dependent on discomfort, range of movement and strength that you have in your shoulder.

As with all other functional activities, start small and gradually progress. Use sports specific movements and skills within your rehabilitation and the techniques; 'safe-zones', 'pacing' and 'soreness rules' to guide the progression.

Your Physiotherapist can also help to guide you on this as you progress.

Will I have outpatient Physiotherapy?

Yes, rehabilitation is vital to the long-term outcome of your shoulder surgery. You will be seen by your local outpatient Physiotherapist 2-3 weeks after your operation date. This appointment will be arranged for you by the Physiotherapist you see on the ward. They will also show you your initial exercises (Appendix). You can perform these as guided once the nerve block has worn off and you have control over your arm again.

These exercises will then be reviewed by your outpatient Physiotherapist at your first appointment and progressed as appropriate.

When do I return to the orthopaedic clinic?

This is arranged between 6-12 weeks after your surgery. You may see your consultant or another member of the specialist shoulder orthopaedic team.

If you or your Physiotherapist is concerned about your progress, please call the hospital. If you feel you need to be reviewed earlier, please call your consultant's medical secretary.

Post op underwear

Choosing the right bra post shoulder replacement can be difficult. There are many different options out there and the key is to find something both comfortable and easy to put on. Strapless bras, racer back styles or one shoulder bras can be a good choice to avoid the straps being positioned over the surgery site. Alternatively, bras with wide straps can provide desired support without digging in like thinner more traditional straps may do.

Another choice may be a front fastening bra. Front fastening bras are available with velcro and zip fastening, as well as hook and eye which ladies may be able to be secure independently using only one hand.

Post-operative exercises

All exercises should be performed out of the sling, three to four times per day once the nerve block has worn off and should not cause any significant increase in pain. Use the 'safe-zones', 'pacing' and 'soreness rules' to guide the progression of your range of movement and repetitions as guided by your outpatient Physiotherapist. If you have any concerns regarding the exercises please call the hospital.

Gentle mobility exercises to be performed while using the sling to avoid your joints stiffening up:

1. **Neck** – bend your head forwards, to each side and turn to look over each shoulder 4–5 times.
2. **Shoulder blades** – roll your shoulder blades forwards and backwards 4–5 times. Sometimes the operated side can be stiffer and harder to control, do them in front of the mirror to help perform them evenly.
3. **Elbow** – bend your elbow up and down 4–5 times, then with your elbow at 90° turn your hand palm up, palm down 4–5 times.
4. **Wrist and hand** – bend your wrist up and down 4–5 times, then stretch your fingers out and make a fist 4–5 times.

Specific shoulder exercises to be performed up until you see your outpatient Physiotherapist:

5. Shoulder passive forward flexion

Lean forwards allowing your arms to gently come away from your body as comfort allows.

Hold for three seconds and stand back up. Repeat 4–5 times.

N.B. Try to avoid your shoulder blade 'hitching' up. By drawing it back as in exercise 2.

6. Shoulder passive external rotation

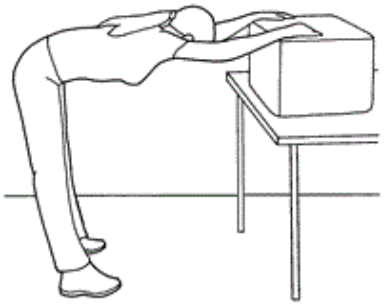
Keeping the elbow close to the body, use your non-operated arm to gentle guide the hand of your operated arm outwards as comfort allows.

For patients undergoing a **frozen shoulders release** with their shoulder arthroscopy, there is a greater priority of regaining movement earlier. Therefore exercises 5 and 6 can be done more frequently, 5-6 times per day as comfort allows.

They may also perform this additional exercise:

7. Shoulder passive elevation

Place your hands on a kitchen work surface, take a couple steps backwards and push your bottom backwards to move your boy away from your arms as comfort allows. Hold for three



Seek advice if you:

- Develop a temperature or fever
- Increasing pain
- Redness
- Swelling
- Severe bleeding
- Numbness in your arm/hand 72 hours later
- Difficulties passing urine
- Queries regarding your painkillers
- Queries relating to your surgery

Most people feel significant improvement in their shoulder symptoms by three months. **However, it will often take 9-12 months for you to feel optimum improvement in shoulder symptoms and be able return to full function.**

You will be sent an Outcome Questionnaire at one year after your surgery, please look out for it, complete it and return it to us. Your input is vital in enabling us to fully assess the effectiveness of the surgery and our service.

Mr. Andrew Chambler