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## Shoulder Joint: Arthroscopic Surgery

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### Shoulder Joint: Arthroscopic Surgery

#### THE ANATOMY OF THE SHOULDER

The shoulder is a complex joint comprising; a deeply sited “gleno-humeral” joint (the proper shoulder joint), a joint between the outer end of the clavicle and the “acromium” bone (the acromium is the flat bone felt at the point of the shoulder), and a thick tendon; the “rotator cuff” which lies beneath the acromium. The bony surfaces of the joints are covered with a smooth articular cartilage layer. The gleno-humeral joint or shoulder joint proper is enhanced by a thick fibro-cartilaginous rim or “labrum” which deepens the shallow shoulder joint and improves its stability. There are numerous ligaments around the shoulder joint which can generally be divided into the anterior, inferior and posterior “capsular” ligaments and a superior “coraco-acromial” ligament. The ligaments have a stabilising effect on the joint. The shoulder is also surrounded by strong muscles in front and behind the joint whilst the rotator cuff lies above the joint.

#### EXERCISES AND MEDICATION PRIOR TO SURGERY

Prior to surgery, shoulder exercises should be performed to strengthen the shoulder.

Nothing is to be eaten or drunk from midnight prior to morning surgery, or from 6am for afternoon surgery. You should present to the hospital at 7.30am for the morning surgery and at 11am for afternoon surgery. A general anaesthetic is usually required

Anti-inflammatory tablets (Indomethacin, Voltarol, Brufen, Naprosyn etc) must be stopped 2 days before surgery. On the morning of surgery patients should fast from midnight and arrive at the hospital at 7.20am. For afternoon surgery you will be fasted after 8am. Prior to the operation any tablets or medications you take, or allergies you may have to medications, should be brought to the attention of the surgeon. Please notify your surgeon and anaesthetist in advance if you are taking any anti-coagulants (blood thinners), hormone replacement tablets, the Pill or suffer from diabetes or any other significant medical condition.

The anaesthetist and Mr. Johnson will see you before surgery. The operation is performed under spinal or general anaesthesia. There will be one or two small incisions in the front and back of the shoulder.

### **SURGICAL TECHNIQUE**

The arthroscope is a pencil thin tube containing light fibres and is a means of transmitting a picture of the inside of the joint to a video screen. The shoulder joint is filled with fluid which allows the Surgeon to look around the brightly lit inside of the joint. The arthroscope is inserted through a small incision, less than 1cm long, either side of the shoulder. As well as the arthroscope a small metal probe is inserted into the shoulder to help probe the depths of the joint. Arthroscopy of the shoulder can also be undertaken to assess the amount of instability of the shoulder in order to determine if repair of the ligaments is necessary.

Once the extent of the damage to the shoulder has been determined, small cutting tools are inserted into the joint through the same holes that were used for the arthroscope. With the arthroscope in the joint giving the Surgeon a clear view, these small cutting instruments are used to trim away the damaged part of the joint. The pieces of debris are then removed through the same small holes as the joint is washed out. The fluid is drained out at the end of the procedure. However, the shoulder may feel as if there is a little fluid within it for a few days.

In addition to assessment, surgery is often undertaken through the arthroscope. Procedures include removal of a loose body, debridement or trimming of the glenoid labrum, capsule or damaged articular surface. Commonly the torn rotator cuff tendon may be trimmed, or inflammation around the supraspinatus or biceps tendon may be removed. It is even possible to undertake through the arthroscope partial removal of the overhanging acromium bone which is a common cause of rotator cuff tendonitis. This allows the rotator cuff tendon more room to move and prevents a recurrence of the rotator cuff tendonitis. All this is performed arthroscopically as a day case procedure whilst causing as little disruption to the shoulder as possible, allowing a rapid return to function and sport.

Arthroscopic surgery usually requires you to be in hospital for only 8-10 hours, unless the shoulder is opened in order to repair a torn tendon. In these cases an overnight stay is usually advised. Arthroscopic surgery, compared to open surgery, causes very little disturbance to the shoulder joint and consequently the post-operative discomfort is much less. While the degree of discomfort felt is variable, in general only slight pain will be experienced for a few days. This will not prevent you driving after a few days. If you notice any numbness or pain in the hand or forearm following arthroscopy please inform the nurse on duty. Exercise with a physiotherapist is usually commenced immediately following arthroscopy and continued several times a week for between 2 and 6 weeks.

### **WOUND DRESSING AND SUTURES**

The dressings should be removed after 5 days and the wound inspected. If there is any excessive redness or infection patients should return to the GP or the clinic. If the wounds have been closed with steristrips these may be removed at that time. If sutures were used then the dressings should be maintained for 10 days, following which you should return to the GP's clinic to have the stitches removed. If the wound is dry and the sutures have been removed or dissolved then the wound can be washed, and pool exercises can be begun. If the wound becomes red, inflamed or infected then patients should return to see Mr Johnson.

### **MEDICATION**

If you do not suffer from gastric irritation, you should take anti-inflammatory tablets for two or three weeks to settle down the inflammation and swelling in the knee. The anti-inflammatory tablets should be taken after eating. If nausea, vomiting or abdominal pain develops you should reduce the dosage. If

despite reducing the dosage gastric irritation continues then the tablets should be stopped and you should contact your general practitioner.

### **PHYSIOTHERAPY**

When you are comfortable and able to walk, and the nurses and physiotherapist are happy with your progress, you may be collected and taken home. This is usually 6pm for morning cases and 8pm for afternoon cases. The physiotherapist will visit you and discuss a program of rehabilitation and an exercise programme. After discharge from hospital the progress is variable, so do not worry if your progress is a little slow at this stage. After several weeks resisted exercises and light weight training may be undertaken if desired; this is beneficial. Check with your Surgeon or physiotherapist prior to starting such exercise.

### **SHOULDER PHYSIOTHERAPY**

Physiotherapy of the shoulder is a specialised area and usually requires the supervision of a physiotherapist. In the presence of a shoulder dislocation, subluxation, rotator cuff tendonitis, calcific tendonitis or biceps tendonitis pain relief may be achieved by the use of ultrasound, faradism or laser treatment. Strengthening exercises should concentrate on the muscles which pull the arm down to the side and those which twist the arm. Activities involving moving the arm out away from the side generally only cause more shoulder inflammation and pain. The muscles holding the shoulder down are strengthened by squeezing the elbow in to the side over a pillow or against a resistance band available from the physiotherapist. The contraction should be held for 10 seconds and then the shoulder relaxed for 10 seconds. The exercise should be repeated perhaps 10-15 times. The internal rotators are strengthened by holding the elbow in to the side whilst twisting the hand in across the stomach against the resistance of a pillow, door post or resistance band. The external rotators are strengthened by holding the elbow in the waist whilst twisting the hand out to the side. These exercises should be repeated in the same way. Exercise should be undertaken for perhaps 30 minutes 3 times each day. After perhaps 2-6 weeks when any pain has settled, the resistance can be increased and weight training started. Initially for the first 2-4 weeks of weight training only very light weights should be used.

### **RETURN TO WORK AND SPORT**

If your job is sedentary and mostly sitting you may wish to return after only 1 or 2 days. If your job is physically demanding and requires standing or walking for most of the day, your return to work may take 1-2 weeks. Driving can usually be performed for short periods after 2-5 days providing that the knee is pain free and you are able to control the car with foot pedals and make an emergency stop.

Light cycling, swimming, weight training or jogging may be undertaken after 7 days. This will speed up the rehabilitation and should be performed prior to undertaking more vigorous sports. Return to running, soccer, rugby and squash is usual after 1-4 weeks depending on individual progress.

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