ROTATOR CUFF REPAIR

The rotator cuff is composed of four muscles and their tendons (the end portions of the muscle) that attach the scapula (shoulder blade) to the humerus (upper arm bone). They are:

- Subscapularis
- Supraspinatus
- Infraspinatus
- Teres minor

Part of the scapula forms the roof of the shoulder and this is called the acromion and sits above the rotator cuff.

The rotator cuff stabilizes the shoulder joint so allowing you to rotate your arm and to lift it up. Rupture of the tendons can occur because of injury, age, repetitive use or reduced blood supply in the area. Sometimes bone spurs occur due to overuse or arthritis, causing the space between the rotator cuff and the acromion to narrow and the bone pinches the cuff during shoulder movement and irritates it. This can cause a range of damage to the cuff varying from 'catching' (impingement) when lifting the arm, to mild or moderate fraying of the cuff, to a full thickness tear. It may be a single tendon or a combination of tendons that are damaged.

SURGICAL TREATMENT

Decompression acromioplasty enlarges the sub-acromial space (the area in which the rotator cuff lies) by removing part of the acromion to allow more space for the tendons to move. This procedure is performed for impingement and/or catching.

Arthroscopic surgical repair can be performed to remove bone spurs or inflammatory portions of muscle and to repair the tendon back onto the bone. An arthroscope is a fibre-optic instrument, often described as a telescope, which is about the diameter of a pencil. It is inserted into the shoulder through a small incision about 1 cm in diameter. Other small incisions (usually two but more may be required) are made in the shoulder so that the instruments that are used to inspect the joint, remove the bony prominence, and repair the tendon can be inserted. Pictures of the inside of your shoulder are transmitted by the arthroscope to a television screen. This enables your surgeon to clearly see the structures within your shoulder. Despite the small incisions there may have been a considerable amount of surgery carried out and significant swelling may occur.

Open reconstruction is usually performed for more extensive tears. This involves cutting into the muscle over the shoulder (deltoid) to gain access to the tendons. The tendons are then sewn back into the bone where they were torn from.

These procedures may be performed fully arthroscopically, partly arthroscopically and partly open, or completely open.

The incisions are closed using stitches and these will be removed at your post-operative visit within 10-14 days. The wounds should be kept dry during this period. For the open reconstruction you may also have a drain in place, which will be removed the day following surgery.

AFTER CARE

- Ice packs should be applied several times a day particularly after exercising to reduce swelling and discomfort.
- You will be placed in a bolster sling, which should be worn at all times **except** when exercising because the repair to your soft tissues and muscles need support while the shoulder heals.
- It takes six weeks for the muscle to join and gain strength therefore during this time only passive (assisted) exercises are done **i.e**. the arm cannot be lifted using its own muscles, it has to be lifted using the other hand.
- It is important to restore movement to the shoulder as soon as possible to avoid scar tissue forming around the repaired tendons, which would make the shoulder stiff. Certain exercises must be performed regularly to prevent stiffness. These are:
    - Elbow (biceps exercises) in which you remove your arm from the sling. Relax your shoulder. Bend and straighten your elbow 5 times.
    - Shoulder (pendular exercises) in which you remove your arm from the sling. Relax your shoulder. Lean forward, holding on to some thing stable with the non-operated arm, and sway your body from side to side 5 times so that your arm swings gently.

A physiotherapist will see you in hospital to ensure you can perform the necessary exercises.

- Various sorts of pain relieving measures may be used during your hospital stay. The appropriate types to use will be ordered by your surgeon and anaesthetist. More information about the use of these can be obtained from your surgeon. these measures include:
    - anti-inflammatory drugs
    - patient controlled analgesia
    - painbuster infusion
- Pain relieving tablets will be prescribed for you to take home.
- You may return to work as soon as is comfortable if your non-dominant arm is involved.
- If your dominant arm has been operated on tasks involving prolonged writing or keyboarding will be difficult for approximately 6 to 8 weeks. Manual work involving tools will generally not be possible before 12 weeks and heavy manual labouring will take even longer.

COMPLICATIONS

There are always some risks with any surgery. These include:

- The possibility of infection
- Damage to surrounding nerves and blood vessels.
- Bleeding into the shoulder
- Circulation problems
- Deep Vein Thrombosis (DVT). This risk is low unless you have had a DVT or have a family history of this. Please inform your doctor if this is the case.

- A rare but possible complication is called Reflex Sympathetic Dystrophy, the exact cause of which is not known. The symptoms include severe burning pain in the whole limb, swelling, acute sensitivity to touch, muscle spasms and sweating. These symptoms can last from 6 to 18 months and may not fully resolve.

Specific risks for this surgery are:

- Severe shoulder stiffness or restricted range of motion. The risk of this is decreased if the exercise regime is followed.
- Capsulitis, which is an inflammatory response that occurs in some people's shoulders, that leads to scarring and contracture of the joint capsule.
- Shoulder weakness.
- The cuff may not be repairable
- Re-rupture of the repair
- Fracture of the shoulder
- Pain may persist despite the surgery.