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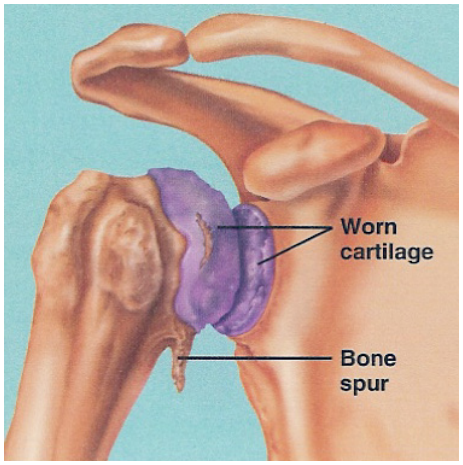
ORTHOSPORTS

PATIENT NOTES **| SHOULDER REPLACEMENT**

You have elected to undergo a shoulder replacement operation to help relieve pain and improve range of motion. In most cases such surgery is performed for arthritis, either osteoarthritis or rheumatoid arthritis. On occasions such surgery may be required after a severe fracture of the shoulder.

The shoulder joint is one of the most complex joints in the body. It has a greater range of motion than any other joint and is a ball and socket type joint. It is made up of bone, cartilage, tendons and muscles, all of which are affected to differing degrees by different forms of arthritis.

Arthritis is an age related and degenerative condition where the lining of a joint, called the articular cartilage, wears away leaving a rough and worn joint surface which causes pain, with movement and at night, as well as loss of motion. Due to similar age related changes the muscles about the shoulder, called the Rotator Cuff, which are present to provide power and movement to the shoulder, may tear as well.

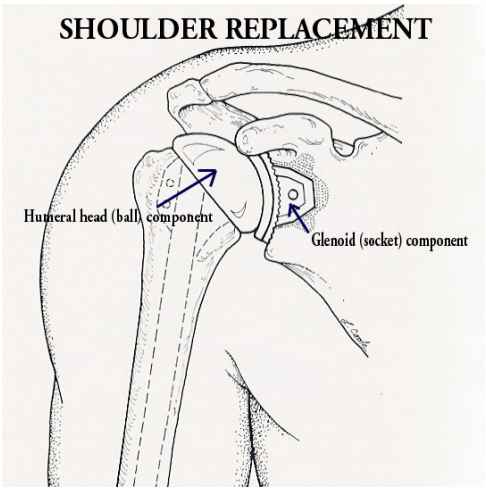


Unfortunately this condition is not reversible and tends to progress at a variable rate. Early in the disease anti inflammatory medication, physiotherapy and reduced activity may relieve symptoms. Occasionally injections of cortisone into the joint may give temporary relief, and in very selected cases arthroscopic surgery may also give some temporary and partial relief of symptoms.

When the pain and stiffness become unbearable it is time to consider a shoulder replacement. During surgery the damaged parts of the shoulder are removed and replaced with artificial parts (components) called prostheses.

One reason why this type of surgery is not recommended early in the disease process or at a young age is that the artificial shoulder only has a life span of 10 to 15 years. In addition, while surgery usually works very well, it is not always successful. Although a worn out replacement can be replaced again, the results of a revision (or redo) of the shoulder replacement are not particularly good. Therefore one would not recommend a shoulder replacement in someone under 50 years unless the circumstances were exceptional.

The principle of the operation is to replace the damaged articular cartilage with an artificial shoulder. The ball is made out of a Titanium metal alloy while the socket is made out of a plastic material called polyethylene which often has a metal base plate. These components are either cemented into position or placed into the bone using a “press fit” technology. If the rotator cuff is torn, it is repaired at the time of surgery, if possible.



In most cases I attempt to replace both the ball and the socket. This generally gives the best results. Where the rotator cuff is torn and irrepairable, or the socket is not damaged (which generally occurs after a fracture) only the ball is replaced. In the case of an irrepairable rotator cuff tear, if one replaces the socket, for technical reasons, the socket component loosens and the surgery fails. In the very elderly, the quality of the rotator cuff is often poor and replacing the socket can lead to problems and on such occasions only the ball is replaced. Often the decision, of which surgical procedure is required, is only made at the time of surgery when I can assess the amount of shoulder damage. A preoperative MRI, however, gives some indication of what procedure is likely to be required.

Some persons with irrepairable rotator cuff tears are suitable for a procedure known as a “reverse” shoulder replacement. In these cases the artificial socket is placed on the arthritic ball of the shoulder while the artificial ball is attached to the socket of the shoulder. This operation can only be done in cases where the patient demand on the shoulder is minimal. The life expectancy of such a replacement is less than a standard total shoulder replacement and the complication rate is high.

The surgery generally gives good but not perfect pain relief. Return of range of movement is generally good but few people ever regain full range of movement. You should expect to be able to comfortably get your hand over your head if the rotator cuff is functioning well. If however the rotator cuff is torn then you should only expect to get your hand to your head.

Infection is a risk with this type of surgery, not only in the immediate post operative period but also years after surgery. In the later case, a blood borne infection from another site, such as an infected tooth or urinary tract infection, can travel to the artificial shoulder and cause it to become infected. You should always take any trivial infection seriously following surgery, and be placed on antibiotics. You will also need to be on antibiotics if you have any dental procedure done, so be sure to inform your dentist. Prior to having surgery I would recommend you see your dentist for a check up and if you have any bladder, urinary or prostatic problems you should be assessed by a urologist (talk to your g.p. first).

If you have certain medical problems you may require some preoperative tests which will be organised by our office, to ensure you are fit for a general anaesthetic. If you have any serious medical problems then I will have you assessed preoperatively by a medical specialist

who will also help care for you while you are in hospital. If you are already under the care of a medical specialist I would strongly suggest you see them prior to surgery to ensure you are in the best possible medical shape.

As a general rule a blood transfusion will not be required. We do, however, as a precaution," type" your blood group so in case of an emergency we can get some blood quickly. There is no need to get xmatched or autologous (your own) blood.

One week prior to surgery, you will need to wash your shoulder girdle with PHISOHEX antiseptic solution (available from your chemist). Should you get an allergic reaction to the Phisohex then cease to use this immediately and inform our office. You are to avoid getting sunburnt.

If you are on Anti inflammatory tablets or Aspirin, please check with your GP, and if he or she says it is safe, stop the tablets one week prior to surgery.

Our office staff will ask you to fill in several different questionnaires prior to surgery. I am part of an international group who study outcomes of different operations to ensure that surgical outcomes are satisfactory. We get you to fill out similar questionnaires at the conclusion of your treatment. Please note that all answers are confidential and your personal details are removed from the data base (your information is "deidentified").

Preparing Yourself and Your Home for Surgery

Recovery is a gradual process and will take time after surgery. *Plan for your return home before you enter the hospital.*

- Make sure your spouse or a friend are available to help you with shoulder exercises for six to eight weeks after leaving the hospital.
- Before surgery you should practice your regular daily activities using only the non operated arm.
- Anticipate a temporary change in your activity levels and leave your home clean and in order before going to hospital.
- To prevent falling, remove throw rugs and excess clutter from traffic pathways.
- Place a sturdy armchair in your living room near a table so that magazines, telephone, TV remote or other items you want can be within reach.
- Rearrange your kitchen so that often used utensils are easily accessed. Place them at a height so that you don't need to bend to reach to get them. It is also helpful to have a sturdy chair available in your kitchen.
- If possible, prepare some meals in advance and freeze them.

What to Bring to Hospital

- Comfortable, non skid walking shoes. Slip-on shoes are preferred.
- Clothes that are soft and loose fitting.

Preparation for Surgery

- Before surgery, do not eat or drink anything after the time instructed to you by the hospital or anaesthetist. Your stomach must be empty before you receive the anaesthetic. This helps prevent nausea, vomiting and other complications during and after the anaesthetic.
- Do not wear make-up on the morning of the surgery as this will increase the amount of bacteria on your skin
- Do NOT wear rings on the side of the operated shoulder.

You will be admitted to the hospital on the morning of surgery and you will be visited by the anaesthetist who will examine you and make sure you are fully fit to undergo a general anaesthetic. In many cases the anaesthetist will explain to you the option of having a "block" which is an injection in and around the neck which will reduce pain for 12 to 18 hours post operatively. The nursing staff will also explain the use of "patient controlled analgesia" (or P.C.A.) where you regulate the amount of pain relieving medication that you use. You must remove all rings from your hand prior to surgery.

The operation takes about 3 hours. The incision is on the front of the shoulder and extends into the upper arm. There will be some permanent numbness about the scar. The operation involves excising the damaged ball and socket and inserting the artificial components by either a "press fit" or cementing technique. If the rotator cuff muscles are torn then an attempt to repair the muscles is made. You will wake up in the ward in a sling and you will have a drain coming out of your armpit. You will be given adequate analgesics to keep you comfortable.

An animation of the above procedure can be viewed on our web site at www.orthosports.com.au

The morning after surgery I will see you and discuss the surgery with you. Your drain will be removed. A waterproof dressing will be placed on the shoulder and you will be allowed to shower. When showering take the blue sling off but leave your arm adjacent to your body. You will be given a gauze sling to wear in the shower – do not attempt to lift or rotate the arm – and then put the blue sling back on after you are dry. Make sure the armpit is as dry as possible because of the risk of a sweat rash or an armpit infection. It is important to sit out of bed and walk around as soon as you are comfortable and able. Ice may be applied to help reduce the swelling and discomfort around the incision and you should inform the nurse if your arm gets too cold or if there are any changes in the sensation of your hand

On the second postoperative day you may commence a PASSIVE exercise program under the supervision of a physiotherapist, depending exactly what is done at the time of surgery. In older people, because the muscles around the shoulder are weak, we generally do not start physio for 6 weeks. The shoulder movements are performed with the unoperated arm lifting the operated arm over the head, while lying down. This is done so that the muscles about the shoulder do not contract when the shoulder is moved. The shoulder muscles take 6 weeks to heal. We need to start the exercises early to avoid stiffness following the operation. It is normal for the exercises to cause some discomfort.

To increase your comfort during your exercises, you may want to take pain medications 30 minutes before your physiotherapy sessions. The physiotherapist will check your early progress and keep me informed. If possible, a member of your family or a friend should accompany you to the physiotherapy sessions to learn the exercises you should do at home. This person will practice these exercises under the supervision of the physiotherapist first which can then be performed at home.

On the forth or fifth postoperative day you will be discharged from hospital after I review you. Your day of discharge will depend on how much pain you have and how you are coping with the exercise program. In the immediate postoperative period you will experience pain about the shoulder. There will also be significant pain at night as a result of the surgery. On discharge from hospital you will be given analgesics as well as tablets to help you sleep at night which I would encourage you to use. Should you require extra tablets, either let my office know or see your family doctor. You will also be given a package of antibiotics which you should continue until you finish the packet. You only need the one package.

You will have a "see through" dressing over the wound made out of a substance called "duoderm". This is a waterproof dressing that allows you to shower without compromising the sterility of the wound. You will notice under the dressing there will be a white material that looks like pus. This is the perspiration of your skin reacting with the medication in the dressing and is nothing to worry about. The dressing should not be changed. It is common to get swelling about the arm, forearm, hand and fingers. Please endeavour to keep the armpit

as dry as possible – once the wound has healed at about 10 days you can use talcum powder which will help.

You may need to do the passive exercises at home under your own supervision 4 times a day for 6 weeks, depending on the state of the Rotator Cuff muscles in the shoulder. You will not need to see a physiotherapist during this period unless you have difficulty doing the exercises yourself. The sling must remain on 24 hours a day including at night. The sling only comes off to have a shower and get dressed and on those occasions the arm needs to be kept adjacent to the body. Under no circumstances are you to elevate or rotate the operated arm. The Roads and Traffic Authority does not permit driving a vehicle while you are in a sling. I therefore recommend you do not drive for at least 6 weeks

Prior to surgery my office staff will have given you some information on the "Game Ready" ice compression system. This system is usually successful in reducing pain and swelling postoperatively. It can be used for up to 6 weeks. If you want to use the system you have to contact the provider yourselves (for Worker's compensation patients we apply on your behalf to the insurance company) using the forms we will provide you. The system is expensive and Private patients should approach their insurance company to see whether they will cover this. Worker's compensation patients should discuss the matter with their case manager.

When to contact me before I have removed your stitches:

- Fever above 38° Celsius
- Increased pain unrelieved with pain medications
- Sudden, severe shoulder pain.
- Increased redness around the incision
- Increased swelling at the incision
- A bulge that can be felt at the shoulder
- Shoulder pain, tenderness or swelling.
- Numbness or tingling in the arm.
- Change in colour and temperature of the arm.
- Change in motion ability
- Drainage or odour from the incision
- Any significant concerns you have.

I will review you at about 10 days to 2 weeks following surgery to remove the stitches and check your range of motion. If movements are a little slow I will arrange some formal physiotherapy but if progress is satisfactory then physiotherapy will not start for 6 weeks. You need to do your exercises at least 4 times a day under your own supervision.

I will then review you 6 weeks post operatively when the sling will be removed and formal ACTIVE physiotherapy will be commenced. This is where you are allowed to lift the arm up under your own power. You will be given a set of exercises using Theraband, which is a coloured rubber band. This form of therapy, in most cases, will be supervised by a physiotherapist a couple of times a week, but it is necessary for you to do the exercises at home 4 times a day. You need to follow the exercise sheet that I will give you and you should NOT deviate from those exercises. It is not unusual to have some increase in pain when you commence the active exercise program.

At 6 weeks you can also begin to lift light objects weighing under 2 kg and you can also move your arm in any direction that you want. I will then upgrade your exercises and lifting limits from time to time when I review you. The decision as to how much you can do will depend on your clinical progress.

It takes about 6 to 12 months until the shoulder has reached its full potential, and physiotherapy as well as exercises are required for that period of time.

As explained above, even with an excellent result you will not have a perfect shoulder. Pain relief is very good but range of motion never returns to normal especially if the rotator cuff is torn. In addition you need to look after your shoulder to lessen the likelihood of the shoulder replacement loosening . You should not return to heavy or repetitive work. Heavy lifting and repetitive overhead work needs to be avoided. You can swim breaststroke but not freestyle. You can play bowls but not racquet sports. If you return to playing golf then there is a risk of premature loosening of the prosthetic socket and golf should be avoided for the best outcome.

Any sign of an infection anywhere in your body should be reported to your GP as soon as possible and you need to be started on antibiotics. If you have any dental work, a urological or a surgical procedure then you need antibiotic cover.

I will review you every year on the anniversary of your surgery to examine you and get an x-ray. This is to enable me to review your progress and ensure that the artificial joint is not loosening. If significant loosening or excessive wear of the artificial joint is detected then a revision of the replacement may be required. These second time procedures have a lower success rate than the initial replacement.

About 80% to 90% of patients achieve a good or an excellent result.

Smoking reduces the success rate of surgery as it inhibits tissue healing. I advise all smokers to avoid smoking prior to and after surgery for at least 6 months.

COMPLICATIONS

All surgery carries potential risks. In most cases the decision to proceed with surgery is made because the advantages of surgery outweigh the potential disadvantages. It is very important, however, for you to understand the reason for choosing surgical management over other non-surgical forms of treatment and to make an informed choice in consultation with the surgeon. This is particularly important in cases of elective surgery.

All operations have potential complications. The common ones include but are not limited to infections, nerve and blood vessel damage, dislocations, rotator cuff tears and bone fracture. This is one operation that can leave you permanently worse off if you do develop a complication. The Orthopaedic Literature documents a 5% chance of making you permanently worse off for a Total Shoulder Replacement and a 30% chance with a Reverse Shoulder Replacement. There is a remote chance of you losing complete use of your whole arm though it should be emphasised that this complication is exceedingly uncommon. Medical complications also can occur and elderly persons with heart disease or diabetics are particularly at risk.

The general risks of surgical procedures include the following:

Respiratory tract infections: This includes the development of pneumonia, which can follow anaesthesia for surgical procedures. It is more common in the aged and very uncommon in the young and healthy. Treatment involves antibiotics, physiotherapy and respiratory support. Treatment is not always effective.

Thromboembolic problems: This term refers to the formation of blood clots within the blood vessels. If they form in the veins they are known as deep venous thromboses, which can cause swelling and pain in the legs and a restriction of blood flow. These clots can travel to the lungs and cause a pulmonary embolus (which is potentially fatal). This complication is more likely to happen in smokers, overweight people and women using contraceptive medications. For this reason patients are advised to stop smoking and stop taking oral contraception before surgery. Long aeroplane flights also increase the chance of blood clots forming and therefore patients should not fly and have surgery in the same two (and preferably six) week period. Unlike lower limb surgery, blood clots are uncommon after shoulder surgery.

In emergencies, special precautions are taken. Treatment of this condition usually involves anti-coagulant (blood thinning) medication administered by injection into the skin or by intravenous drip and then followed up by a tablet form of anti-coagulant therapy. Therapy for this condition is not always successful. If clots form in the arterial system then a stroke may occur.

Infection: This can occur following any surgery. Operating theatres are designed to minimise the risk of bacterial infections. Surgical procedures are carried out in a sterile manner. In higher risk operations, antibiotics are given to decrease the likelihood of infection.

Despite expert treatment and antibiotic protection, infections still occur. These can cause prolonged disability, require treatment with antibiotics and occasional require surgery. Infections can be found at the operative site, in the lungs, the urinary system and elsewhere.

Anaesthetic Complications: Anaesthesia itself entails a degree of risk, some of which is outlined above. For further information regarding anaesthetic risks please feel free to contact the treating anaesthetist for your operation. My office staff will be happy to provide you with a contact number. You will see the anaesthetist in hospital prior to your operation and will have the chance to discuss the effects and possible complications of anaesthesia at that stage.

Rare and unusual problems can occur as a result of surgery and anaesthesia. If you are concerned about the potential for complications or the advantages and disadvantages of a decision to proceed with surgery you should discuss that with your surgeon before operation. If there is any doubt in your mind then I would strongly recommend that you seek an independent second opinion. This can be arranged through your referring medical practitioner.

My surgical practice is a subspecialty practice. I operate within my defined areas of interest and expertise. I believe that this results in better outcomes for patients and a very low complication rate. My patients are only offered the option of surgery after non operative forms of treatment have been considered. Surgery is offered only when I consider that the potential advantages of this form of treatment outweigh the possible complications and side effects (when I feel that it is likely to lead to a better outcome for you than non-operative forms of management). In the case of elective surgery, you are encouraged to consider the non-operative options of treatment and take time to make an informed choice about the preferred course of management. You are free to discuss this with me or your referring medical practitioner. If elective surgery is proposed, please feel free to take as much time as you need to come to an informed decision. If you are not completely comfortable with the decision to proceed with surgery, you are free to take up further discussions with me or seek an independent second opinion.

Dr Jerome Goldberg
- Sept 2010