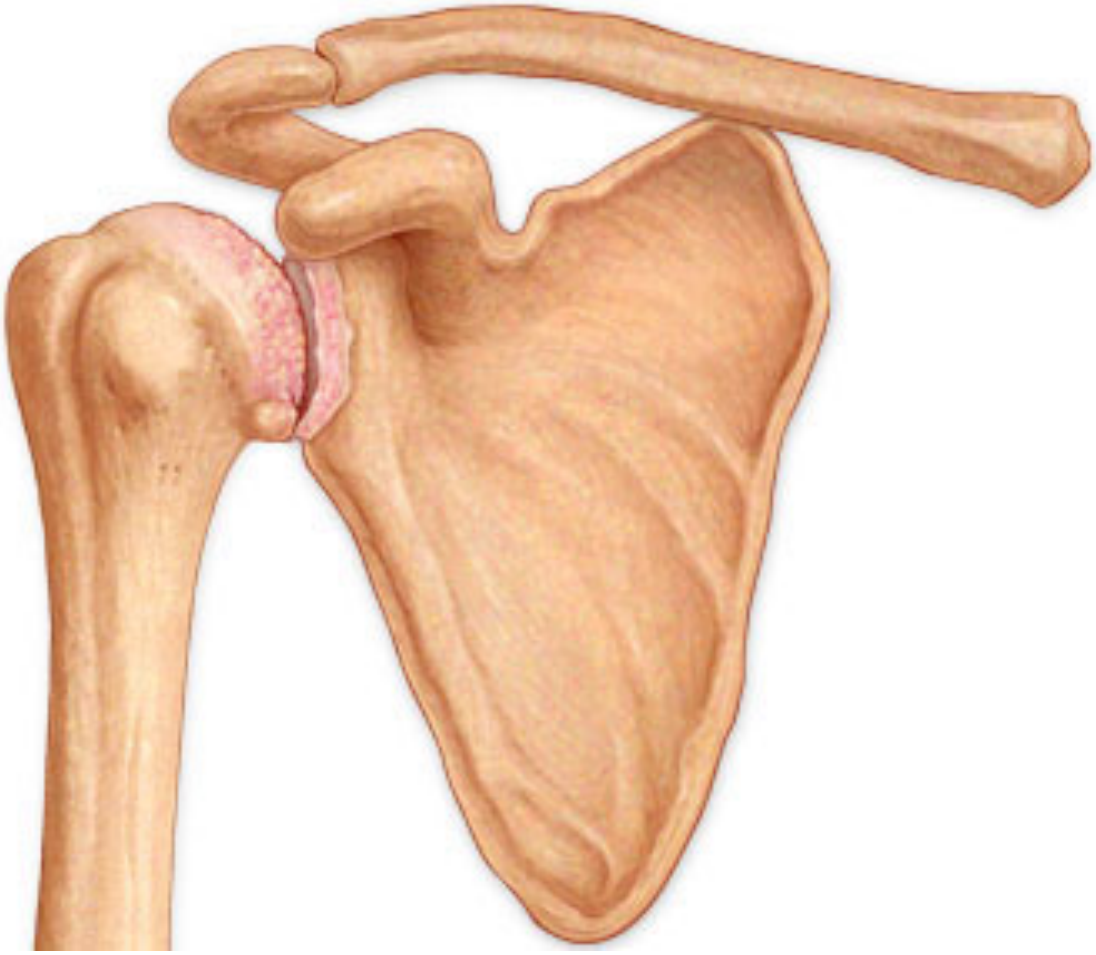
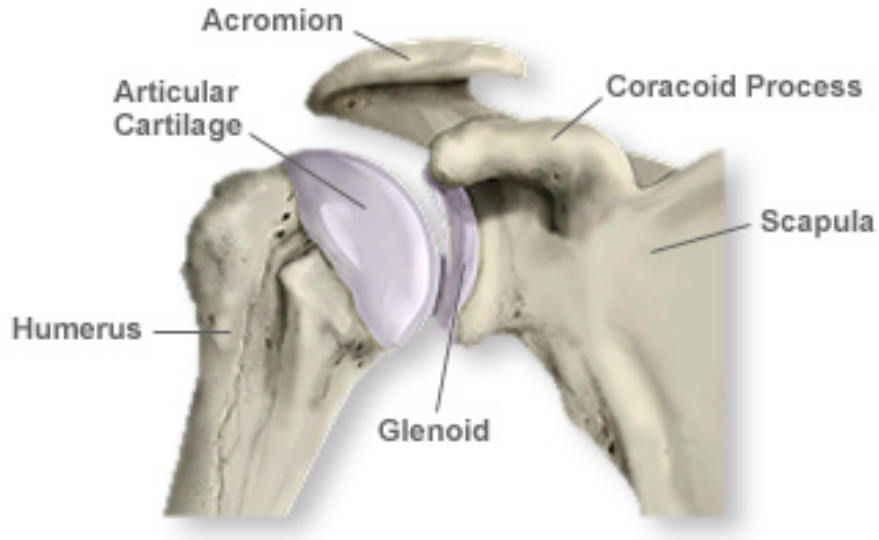
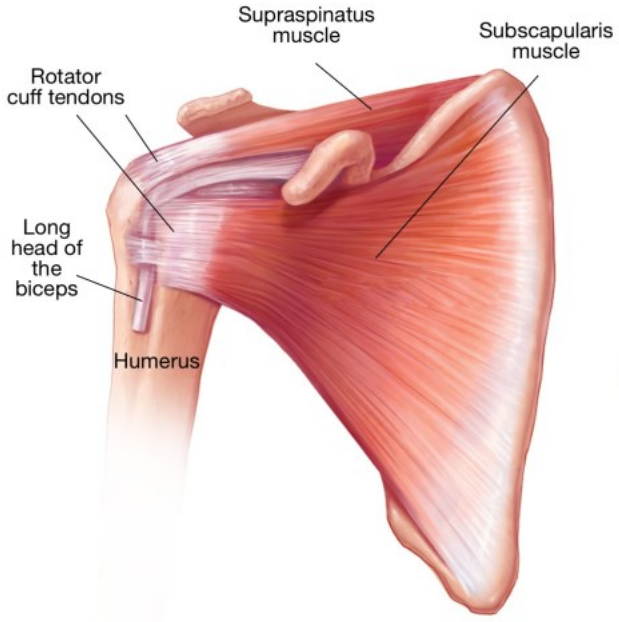
STEWART
ORTHOPAEDICS

Shoulder arthritis



Normal anatomy of the shoulder





The shoulder is made up of three bones: The upper arm bone (humerus), the shoulder blade (scapula), and the collarbone (clavicle). The shoulder is a ball-and-socket joint: the ball, or head, of the humerus fits into a shallow socket (glenoid) in your shoulder blade. The head of the humerus and the glenoid socket are covered by articular cartilage which is smooth and, together with the joint fluid, act to reduce friction between the 2 surfaces during movement.

The rotator cuff is a group of four muscles that come together as tendons to form a covering around the head of the humerus. The rotator cuff attaches the humerus to the shoulder blade and helps to lift and rotate your arm. The rotator cuff also helps to secure the humeral head within the shoulder socket.

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Arthritis

Arthritis is an age related degenerative condition which results in the cartilage covering the humeral head and glenoid socket to wear out. This leaves a rough joint surface with the formation of bony spurs.

End-stage arthritis is painful and can cause stiffness and a grinding or grating feeling in your shoulder.

Due to similar age related ‘wear and tear’, the rotator cuff tendons surrounding the joint may also tear resulting in weakness of the shoulder joint.
In some patients arthritis may develop early as a result of an autoimmune arthritis, such as Rheumatoid, or following a fracture of the shoulder joint.

Symptoms:

- **Pain -** often a dull ache which is worse at night and with movement.
- **Reduced movement -** difficulty with overhead activities and putting your hand behind your back.
- **Mechanical symptoms -** such as a clicking, grating or catching sensation inside the shoulder.

Treatment

Unfortunately this condition is not reversible and worsens over time. Mild to moderate arthritis is typically managed with non-surgical management, however severe arthritis is best managed with a joint replacement.

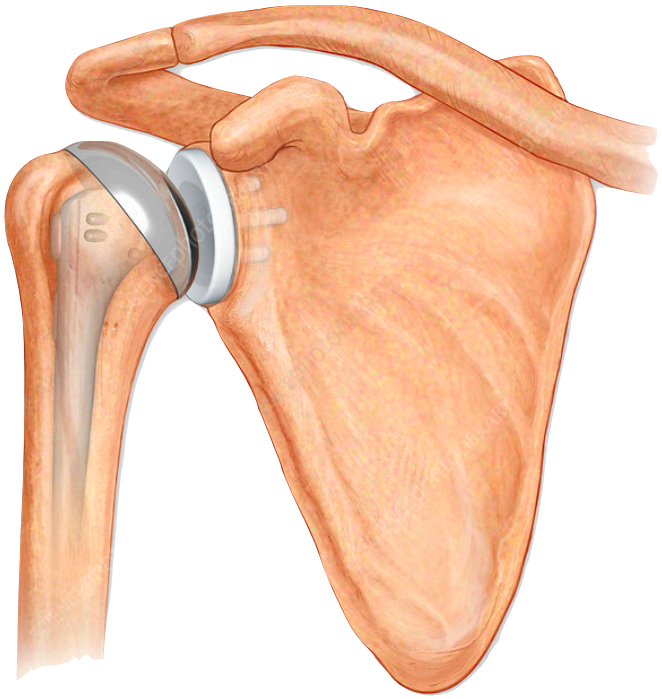
Non-surgical management

- **Rest**
- **Activity modification -** Avoid activities that cause shoulder pain.
- **Non steroidal anti-inflammatory medication -** Medication such as Voltaren and Naproxen can reduce pain and swelling.
- **Physiotherapy -** Specific exercises under the guidance of a physiotherapist can restore movement and strengthen your shoulder. Strengthening the muscles that support your shoulder can relieve pain and increase strength and movement.
- **Steroid injection.** If rest, medications, and physical therapy do not relieve your pain, an injection of a local anaesthetic and a cortisone around the tendons may be helpful. Cortisone is a very effective anti-inflammatory medicine; however, it is not effective for all patients and should be used with caution in diabetics.

Surgical management

There are 2 different types of shoulder replacements available. A conventional **‘anatomical’ total shoulder replacement** and a **reverse total shoulder replacement**

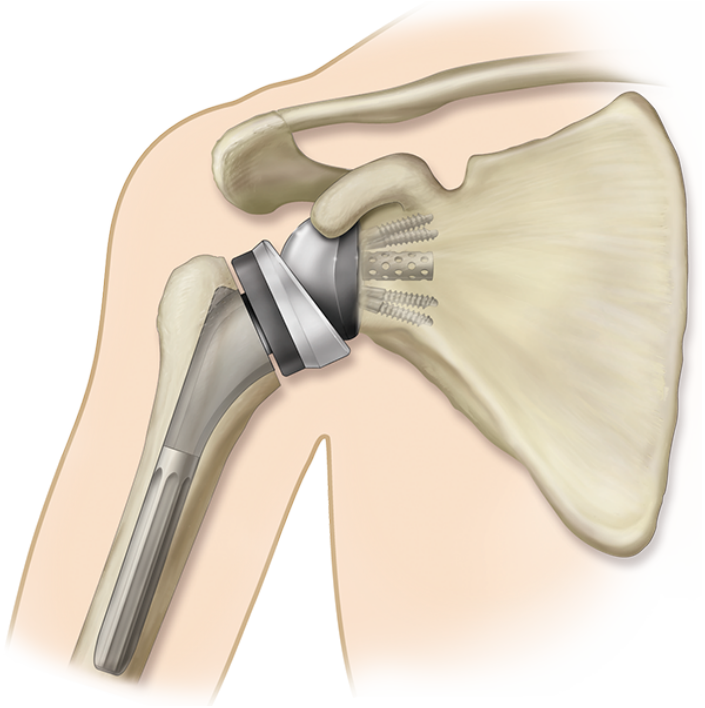
‘Anatomical’ total shoulder replacement



During a conventional ‘anatomical’ total shoulder replacement the damaged cartilage of the ‘ball and socket’ joint is removed and replaced with a metal head and a plastic socket. The metal head is where the head of the humerus used to be and the plastic socket is in place of the glenoid. This artificial joint is called a prosthesis.
The requirement for this type of surgery is that the rotator cuff must still be intact and functioning well. If the rotator cuff is torn or not functioning then a reverse shoulder replacement is performed.

Reverse total shoulder replacement

During a reverse total shoulder replacement the damaged cartilage of the ‘ball and socket’ joint is removed and replaced with a metal ball where the glenoid socket used to be and a plastic socket at the top of the humerus. The reverse total shoulder replacement will enable a patient, with no functioning rotator cuff, to lift their arm using only their deltoid muscle.
This type of surgery generally gives good pain relief and a functional range of motion, however, few people will ever regain full normal range of movement. With good post-operative rehabilitation you should comfortably be able to get your hand above the level of your head.



Reverse total shoulder replacement

Joint replacements are not recommended in young patients because the average 'lifespan' of a prosthesis is 10-15 years. A worn out prosthesis can be replaced with a new one, however, the results are not as good.

Should you decide on surgical management you will be admitted into the hospital on the morning of the surgery.

Please take note of the following:

- Ensure that you do not eat or drink anything on the day of surgery, unless otherwise instructed by Dr. Stewart or his receptionist. You can drink a small amount of water to take your chronic medicine on the day of surgery.
- Remember to bring all your chronic medication with you for your hospital stay.
- If you are taking any "blood thinners" such as Warfarin, Ecotrin, Plavix or Xarelto - please inform Dr. Stewart of this and please consult with your physician or cardiologist who prescribed your medication. This medication needs to be stopped five days prior to surgery.
- Please ensure that you have received medical aid pre-authorisation prior to the day of surgery. It is your responsibility to contact your medical aid to obtain pre-authorisation. Please forward the authorisation number to admin@stewartorthopaedics.co.za at least one day before admission.

On the day of surgery you will be seen by an anaesthesiologist who will discuss the anaesthetic with you. The surgery takes approximately 2,5 hours, depending on exactly what procedure is being done. An incision approximately 10 cm will be made on the front of your shoulder. After the surgery you will overnight in hospital and physiotherapy will commence the following day.

After Surgery

After surgery you will wake up in the ward and your arm will be in a sling. You will have a waterproof dressing on the shoulder and you will be allowed to shower or bath, however do not submerge the dressing for a prolonged period of time. When showering or bathing take the sling off and let your arm hang at the side. Do not attempt to lift or rotate your arm. Lean forward and let your arm hang forward in order to wash under your arm. Make sure this area is thoroughly dry afterwards to avoid the risk of a sweat rash or infection.
A physiotherapist will see you in the ward after your surgery where they will teach you exercises which you are required to do at home approximately 3 - 4 times per day.
An X-ray will be done before leaving the hospital to check the position and alignment of the prosthesis.

You will be discharged from hospital between 1-3 days after surgery provided your pain is well controlled. In the immediate post operative period you will experience some pain and discomfort in the shoulder which can last up to 6 weeks, however it should improve after the first 2 weeks. You will be discharged with medication prescribed for the pain, please ensure that you take it as prescribed. Should you require additional analgesia then you can either contact Dr. Stewart's rooms or your GP.
You will be given an Ice-pack during your hospital stay. Please ice your shoulder 5 - 6 times per day for a 20 minute duration.
You may notice some swelling of your hand, fingers and forearm. This is normal and should resolve by doing the exercises prescribed by the physiotherapist.

Wearing your sling - Your sling will need to remain on 24 hours a day, even at night while you are sleeping. The only time you may remove your sling is to shower and do your physiotherapy exercises. For most shoulder joint replacements you will need to wear the sling for approximately 2 - 4 weeks.

Driving - You are not permitted to drive a vehicle while wearing a sling. Therefore driving is not recommended for 4 - 6 weeks after the surgery.

Follow up - Please make an appointment between 10-14 days after the surgery to see Dr. Stewart in the rooms for a wound inspection and to remove the stitches. Please do not remove your wound dressing until he has seen you. If the dressing comes loose then a similar wound dressing can be purchased from your nearest pharmacy.
Dr. Stewart will review your progress every 6-8 weeks for approximately 6 months, or longer if required.

Returning to work - Most patients will be able to return to light office work between 10 - 14 days after the surgery. If your job requires any manual labour or repetitive overhead lifting then it is not recommended that you return to normal duty. If you are required to

perform these duties at work then you should discuss the availability of an alternative role at the workplace with your employer.

Complications

All surgeries carry the risk of potential complications. In most cases the decision to proceed with surgery is made because the advantages of surgery outweigh the potential disadvantages.
The risk of a significant complication associated with shoulder replacement surgery is approximately 5%, therefore, in order to make an informed decision the following complications are the most common:

Shoulder stiffness - This is the most common complication. Almost all patients will experience some degree of stiffness, mostly mild and lasting only a few weeks. Severe or prolonged stiffness can be prevented by strict adherence to the physiotherapy protocol.

Infection - All efforts are made to minimise the risk of infection, however, some patients, especially diabetics, smokers and overweight patients are at an increased risk of getting an infection. In order to prevent the risk of infection the surgical procedure is performed in a sterile environment. Antibiotics are given at the time of the procedure and for 24hours afterwards and occlusive dressings are used until the wound has healed.
Post surgical infection may be a simple infection involving only the skin and wound edges, but sometimes it may involve the bone or prosthesis. Despite adequate antibiotic treatment, a post surgical infection often requires additional surgical procedures in order to remove any infected tissue and fluid, or even to remove the prosthesis.

Dislocation - A dislocation within the first 2 - 4 weeks is more common than after 4 weeks. Therefore it is advisable to keep your arm in a sling and avoid any extreme movements for the first 6 weeks after surgery.

Fracture - During surgery the bones of the humerus or socket can break during insertion of the prosthesis. The risk of fracture is highest in patients who have weak and brittle bones (osteoporosis). If a fracture occurs during surgery - the fracture will be fixed and the surgery will continue, however, recovery may be slower than normal.

Nerve damage - This rare complication is usually a result of ‘bruising’ to the nerves and can result in some numbness, tingling or weakness around the shoulder or in the arm and hand. In most cases it will resolve completely within 6 - 12 weeks. A nerve conduction study can be performed to assess the severity of the nerve injury.

Deep Vein Thrombosis (DVT) - This term refers to a blood clot which forms in the deep veins of your leg. Risk factors include smoking, being overweight, the use of the oral contraceptive pill and prolonged periods of inactivity. Blood clots are incredibly uncommon

after shoulder surgery. Treatment of a DVT involves taking blood thinning medication for between 3 - 6 months to try and dissolve the clot.

Loosening of the prosthesis - This may be due to infection or ‘wear and tear’. Specific investigations such as blood tests, CT scan or MRI may be required to identify the cause.

Anaesthetic complications - Your anaesthesiologist will explain the most common potential complications.

Other rare or unusual complications which haven’t been discussed here can result from surgery or anaesthesia. If you are concerned about any specific complication or the advantages and disadvantages of the decision to proceed with surgery you can discuss these with Dr. Stewart before the operation.

Recovery

In order to ensure the best possible outcome following surgery, it is essential that you visit a physiotherapist regularly as well as completing a home based rehabilitation program on a daily basis. A physiotherapist and biokineticist play a vital role in ensuring that your shoulder returns to normal function. A complete recovery can expect to take in excess of 6 months.