

# Your Practice Online

P R E S E N T S

## Shoulder Joint Replacement

Multimedia Health Education

### *Disclaimer*

This movie is an educational resource only and should not be used to make a decision on Shoulder Joint Replacement. All decisions about Arthroscopy must be made in conjunction with your surgeon or a licensed healthcare provider.

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Your Practice Online

### MULTIMEDIA HEALTH EDUCATION MANUAL

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### INTRODUCTION

The information in this presentation has been intended to help consumers understand the structure and function of anatomical components and take charge of Orthopaedic health. The animated surgeries and procedures should help you understand Joint replacement procedures and help you to make a decision.

Also, it explains the risks, complications and provides guidelines for living with surgeries, conditions and procedures.

### The Shoulder Joint

Shoulder is a "ball-and-socket" joint. A "ball" at the top of the upper arm bone (the humerus) fits neatly into a "socket," called the glenoid, which is part of the shoulder blade (scapula).

The cartilage cushions the joint, and allows the bones to move on each other with smooth movements. This cartilage does not show up on X-ray, therefore you can see a "Joint space" between the head of the upper arm bone (Humerus) and Glenoid socket of the shoulder blade (Scapula).

### The Shoulder Joint Anatomy

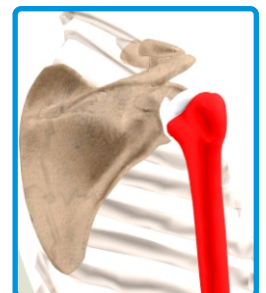
Text String, Shoulder is a 'ball-and-socket' joint. A 'ball' at the top of the upper arm bone (the humerus) fits neatly into a 'socket,' called the glenoid, which is part of the shoulder blade

Three bones, the collarbone (clavicle), the shoulder blade (scapula), and the upper arm bone (humerus) come together to form the shoulder joint.



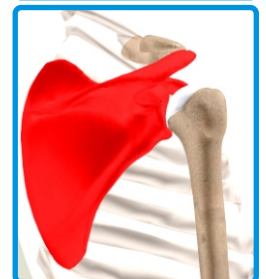
### Humerus

Provides attachment to muscles of the upper arm. The humeral head forms the ball of the ball-and-socket shoulder joint.



### Scapula

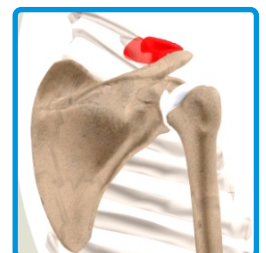
Scapula (shoulder blade) is a flat, triangular bone providing attachment to the muscles of back and neck.



### Clavicle

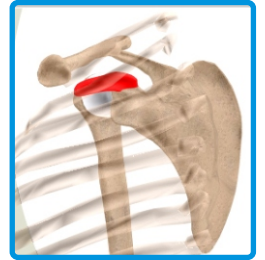
The clavicle is an S-shaped bone that connects the shoulder girdle to the trunk. It maintains the shoulder in a functional position with the axial skeleton and allows varied arm positions in sports.

In addition to its structural function, the clavicle protects major underlying nerves and blood vessels as they pass from the neck to the axilla.



### Coracoid Process

The coracoid process is the extension around the shoulder joint at the front.



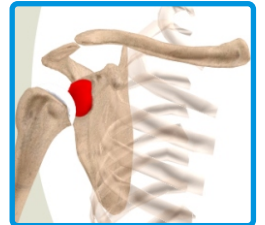
### Acromion

The acromion is the extension of scapula (shoulder blade) around the shoulder joint at the rear to form a roof. This is also called the acromial process.



### Glenoid

Glenoid, is the depression at the end of scapula that forms the socket of ball-and-socket shoulder joint.



### Arthritis

Arthritis is a general term covering numerous conditions where the joint surfaces (cartilage) wear out.

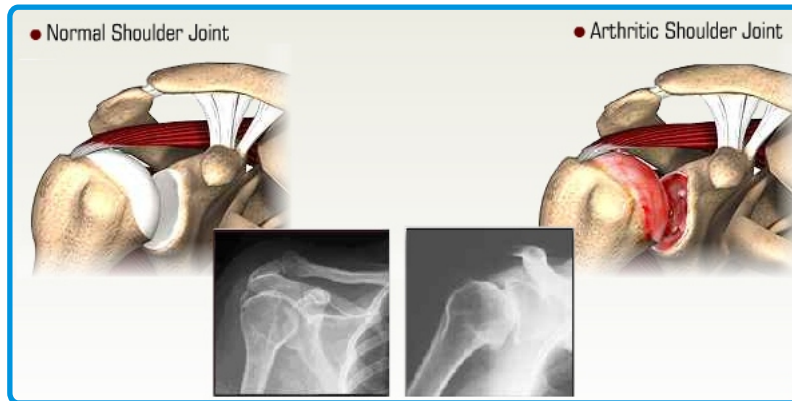
The joint surface is covered by a smooth articular surface that allows pain free movement in the joint. This surface can wear out for a number of reasons, often the definite cause is not known. When the articular cartilage wears out, the bone ends rub on one another and cause pain.

There are numerous conditions that can cause arthritis and often the exact cause is never known. In general, but not always it affects people as they get older (Osteoarthritis).

Arthritis - Other causes include :

- Growth abnormalities of the shoulder
- Trauma (fracture)
- Increased stress, e.g., overuse, overweight.
- Avascular necrosis (loss of blood supply)
- Infection
- Connective tissue disorders
- Inactive lifestyle, e.g., obesity
- Inflammation, e.g., Rheumatoid arthritis

### Arthritis - Difference between the normal and arthritic shoulder



### Arthritis - In an Arthritic Shoulder

- The cartilage lining is thinner than normal or completely absent. The degree of cartilage damage and inflammation varies with the type and stage of arthritis.
- The capsule of the arthritic shoulder is swollen
- The joint space is narrowed and irregular in outline; this can be seen in an X-ray image.
- Bone spurs or excessive bone can also build up around the edges of the joint.

The combinations of these factors make the arthritic shoulder stiff and limit activities due to pain or fatigue.

### Arthritis - Diagnosis

- The diagnosis of osteoarthritis is made on history, physical examination & X-rays.
- There is no blood test to diagnose Osteoarthritis (wear & tear arthritis)

### Joint Replacement - Procedure

The surgery is performed under sterile conditions in the operating theatre under spinal or general anaesthesia.



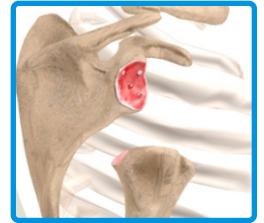
An incision is made over the affected shoulder to expose the shoulder joint.

The upper arm bone (Humerus) is separated from the glenoid socket of the shoulder blade (Scapula).



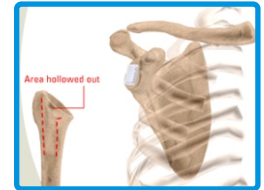
The humeral head which is arthritic is cut off.

The surgeon concentrates on the glenoid (socket).



The arthritic part of the socket is removed and prepared to take the glenoid component.

The glenoid component is then pressed into the socket.



The upper arm bone is prepared to take the new humeral component.

The humeral component is then inserted into the upper arm bone. This may be press fit relying on the bone to grow into it or cemented depending on a number of factors such as bone quality and surgeon's preference.



The humeral head component is then placed on the humeral stem.



This component is made of metal.

The artificial components are fixed in place. The Joint capsule is stitched together. The muscle and tendons are then repaired and the skin is closed.



### Risks and Complications

As with any major surgery there are potential risks involved.

The decision to proceed with the surgery is made because the advantages of surgery outweigh the potential disadvantages.

It is important that you are informed of these risks before the surgery takes place.

### Risks and Complications

Complications can be medical (general) or specific to the shoulder. Medical complications include those of the anesthetic and your general well being. Almost any medical condition can occur so this list is not complete. Complications include

- Allergic reactions to medications
- Blood loss requiring transfusion with its low risk of disease transmission
- Heart attacks, strokes, kidney failure, pneumonia, bladder infections.
- Complications from nerve blocks such as infection or nerve damage.
- Serious medical problems can lead to ongoing health concerns, prolonged hospitalization or rarely death.

### Risks and Complications: Specific Complications :

#### Infection :

Infection can occur with any operation. Infection rates vary. If it occurs, it can be treated with antibiotics but may require further surgery. Very rarely your shoulder may need to be removed to eradicate infection.

#### Dislocation :

This means the humeral head popping out of its socket. Precautions need to be taken with your new shoulder forever. If a dislocation occurs it needs to be put back into place with an anesthetic. Rarely this becomes a recurrent problem

#### Fractures (break) of the humerus (upper arm bone) or scapula (shoulder blade) :

This is also rare but can occur during or after surgery. This may prolong your recovery or require further surgery.

#### Damage to nerves or blood vessels :

Also rare but can lead to weakness and loss of sensation in part of the arm. Damage to blood vessels may require further surgery if bleeding is ongoing.

#### Blood clots (Deep Venous Thrombosis) :

These can form in the arm muscles and can travel to the lung (Pulmonary embolism). These can occasionally be serious and even life threatening.

If you get calf pain or shortness of breath at any stage, you should notify your surgeon.



### Wound irritation:

Your scar can be sensitive or have a surrounding area of numbness. This normally decreases over time and does not lead to any problems with your new joint.

### Arm length inequality:

It is very difficult to make the arm exactly the same length as the other one. Occasionally the arm is deliberately lengthened to make the shoulder stable during surgery. There are some occasions when it is simply not possible to match the arm lengths.

### Wear :

All joints eventually wear out. The more active you are, the quicker this will occur.

### Failure to relieve pain :

Very rare but may occur, especially if some pain is coming from other areas such as the spine.

### Unsightly or thickened scar :

Discuss your concerns thoroughly with your orthopaedic surgeon prior to surgery.

### YOUR SURGERY DATE

**READ YOUR BOOK AND MATERIAL**

**VIEW YOUR VIDEO /CD / DVD / WEBSITE**

**PRE - HABILITATION**

**ARRANGE FOR BLOOD**

**MEDICAL CHECK UP**

**ADVANCE MEDICAL DIRECTIVE**

**PRE - ADMISSION TESTING**

**FAMILY SUPPORT REVIEW**

Physician's Name : \_\_\_\_\_

Patient's Name : \_\_\_\_\_

Physician's Signature: \_\_\_\_\_

Patient's Signature: \_\_\_\_\_

Date : \_\_\_\_\_

Date : \_\_\_\_\_