

Artificial Joint Replacement of the Shoulder

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Introduction

Shoulder joint replacement surgery (also called shoulder arthroplasty) is not as common as replacement surgeries for the knee or hip joints. Still, when necessary, this operation can effectively ease pain from shoulder arthritis. Most people experience improved shoulder function after this surgery.

This guide will help you understand

- how the shoulder works
- what parts of the shoulder are replaced in surgery
- what to expect after shoulder replacement surgery

Anatomy

What parts make up the shoulder?

The shoulder is made up of three bones: the scapula (shoulder blade), the humerus (upper arm bone), and the clavicle (collarbone).

The rotator cuff connects the humerus to the scapula. The rotator cuff is formed by the tendons of four muscles: the supraspinatus, infraspinatus, teres minor, and subscapularis.

Tendons attach muscles to bones. Muscles move bones by pulling on the tendons. The rotator cuff helps raise and rotate the arm. As the arm is raised, the rotator cuff also keeps the humerus tightly in the socket. A part of the scapula, called the glenoid, makes up the socket of the shoulder. The glenoid is very shallow and flat.

The part of the scapula that connects to the shoulder is called the acromion. A bursa is located between the acromion and the rotator cuff tendons. A bursa is a lubricated sac of tissue that cuts down on the friction between two moving parts. Bursae are located all over the body where tissues must rub against each other. In this case, the bursa protects the acromion and the rotator cuff from grinding against each other.

The humeral head of the shoulder is the ball portion of the joint. The humeral head has several blood vessels, which enter at the base of the articular cartilage.

Articular cartilage is the smooth, white material that covers the ends of bones in most joints. Articular cartilage provides a slick, rubbery surface that allows the bones to glide over each other as they move. Cartilage also functions as sort of a shock absorber.

The shoulder joint is surrounded by a watertight sac called the joint capsule. The joint capsule holds fluids that lubricate the joint. The walls of the joint capsule are made up of ligaments.

Ligaments are connective tissues that attach bones to bones. The joint capsule has a considerable amount of slack, loose tissue, so that the shoulder is unrestricted as it moves through its large range of motion.

Related Document: [A Patient's Guide to Shoulder Anatomy](#)

Rationale

What conditions lead to shoulder joint replacement?

The most common reason for undergoing shoulder replacement surgery is osteoarthritis.

Osteoarthritis is caused by the degeneration of the joint over time, through wear and tear. Osteoarthritis can occur without any injury to the shoulder, but that is uncommon. Because the shoulder is not a weight-bearing joint, it does not suffer as much wear and tear as other joints. Osteoarthritis is more common in the hip and knee.

Most of the time osteoarthritis occurs many years after an injury to the shoulder. For example, a shoulder dislocation can result in an unstable shoulder. The extra movement or repeated dislocation of the unstable joint causes damage to the articular cartilage and other joint tissues. Over time, this damage leads to osteoarthritis.

Osteoarthritis is not the only type of arthritis that affects the shoulder joint. Systemic diseases, such as rheumatoid arthritis,

may affect any joint in the body. Whatever the type or cause of the arthritis, the shoulder may become painful and difficult to use. If you and your doctor can't find ways to control your pain, or if it becomes impossible to use your shoulder for daily tasks, your doctor may recommend shoulder replacement surgery.

Certain types of shoulder fractures

can injure the blood vessels of the humeral head. The fracture may heal, but the blood vessels don't. When the blood vessels are damaged, the humeral head no longer has any blood supply. This condition leads to a condition called aseptic necrosis.

In necrosis, parts of the joint surface actually die. Over time, necrosis of the shoulder joint can lead to arthritis. When fractures affect the humeral head, doctors may recommend a shoulder joint replacement. In some cases, the risk of developing necrosis is so high that it makes sense to replace the humeral head immediately.

In most cases, doctors see shoulder replacement surgery as the last option. Sometimes there is a benefit to delaying shoulder replacement surgery as long as possible. Your doctor will probably want you to try nonsurgical measures to control your pain and improve your shoulder movement, including medications and physical or occupational therapy.

Like any arthritic condition, osteoarthritis of the shoulder may respond to anti-inflammatory medications such as aspirin or ibuprofen. Acetaminophen (Tylenol®) may also be prescribed to ease the pain. Some of the newer medications such as glucosamine and chondroitin sulfate are more commonly prescribed today. They seem to be effective in helping reduce the pain of osteoarthritis in all joints. There are also new injectable medications that lubricate the arthritic joint. These medications have been studied mainly in the knee. It is unclear if they will help the arthritic shoulder.

Physical or occupational therapy may be suggested to help you regain as much of the motion and strength in your shoulder as possible before you undergo surgery.

An injection of cortisone into the shoulder joint may give temporary relief. Cortisone is a powerful anti-inflammatory medication that can ease inflammation and reduce pain, possibly for several months. Most surgeons only allow two or three cortisone shots into any joint. If the shots don't provide you with lasting relief, your doctor may suggest surgery.

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