

1. American Academy of Orthopaedic Surgeons.

2. Hanssen, A.D., et al., "Evaluation and Treatment of Infection at the Site of Total Hip or Knee Arthroplasty," JBJS, Volume 80-A, No. 6, June 1998, pp. 910-922.

\* Individual results vary and not every patient will experience the same post-operative range of motion and results.

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# Shoulder Joint Replacement

## A Patient's Guide



**Steve Fish, 53**  
Stryker Shoulder  
Replacement Recipient

# Advancements

## in Shoulder Replacement

Although shoulder replacement is less common than hip or knee replacement, it has been proven to relieve severe shoulder pain and restore function in the vast majority of patients.<sup>1</sup>

Developed with patient comfort in mind, the Solar Shoulder is designed to replicate the natural anatomy of the patient and help provide you with maximum range of motion so you can get back to the activities you enjoy.\*

As you read, make a note of anything you don't understand. Your doctor will be happy to answer your questions so that you'll feel comfortable and confident with your chosen treatment plan.

## Understanding

### How Shoulders Work

#### Shoulder Anatomy and Function

The shoulder is the most moveable joint in the body. It is made up of three bones: the collar bone (**clavicle**), the shoulder blade (**scapula**), and the upper arm bone (**humerus**), as well as two important joints that allow for movement. The glenohumeral joint, also known as the shoulder joint, is a ball-and-socket that connects the humerus to the shoulder blade. This joint allows free movement of the arm so that it can rotate in a circular fashion.

Clavicle (Collar Bone)

Healthy Cartilage

Scapula (Shoulder Blade)

Humerus (Upper Arm Bone)

Normal shoulder joint showing healthy articular cartilage



The **rotator cuff** is made up of four muscles and their tendons, which act to hold the upper arm

(**humerus**) to the socket of the shoulder (**glenoid fossa**). The rotator cuff also provides mobility and strength to the shoulder joint.

Clavicle

Acromion

Deltoid Muscle

Coracoid Process

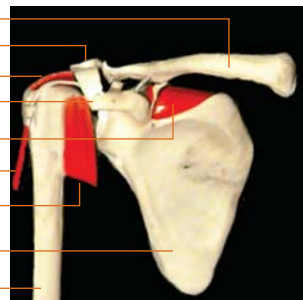
Supraspinatus Muscle

Long Biceps Tendon

Subscapularis Muscle

Scapula (Shoulder Blade)

Humerus (Upper Arm Bone)



Muscles that make up the Rotator Cuff

A smooth substance called **articular cartilage** covers the surface of the bones where they touch each other within a joint. This articular cartilage acts as a cushion between the bones.

## Shoulder Pain:

### Causes and Treatments

#### What Causes Shoulder Joint Pain?

One of the most common causes of joint pain is arthritis. The most common types of arthritis are:

**Osteoarthritis (OA)** – sometimes called degenerative arthritis because it is a “wearing out” condition involving the breakdown of cartilage in the joints. When cartilage wears away, the bones rub against each other, causing pain and stiffness.

Shoulder OA commonly occurs many years following a shoulder injury, such as a dislocation, that has led to joint instability and repeated shoulder dislocations – damaging the shoulder joint so that OA develops.

**Rheumatoid Arthritis (RA)** – produces chemical changes in the joint space that cause it to become thickened and inflamed. In turn, the synovial fluid destroys cartilage. The end result is cartilage loss, pain, and stiffness.

**Post-traumatic Arthritis** – may develop after an injury to the joint in which the bone and cartilage

**Shoulder Pain:  
Causes and Treatments**  
(continued)

do not heal properly. The joint is no longer smooth, and these irregularities lead to more wear on the joint surfaces.

Other causes of joint pain include **avascular necrosis**, which can result when bone is deprived of its normal blood supply (for example, after organ transplantation or long-term cortisone treatment), and **deformity** or **direct injury** to the joint.

**Having an Orthopaedic Evaluation**

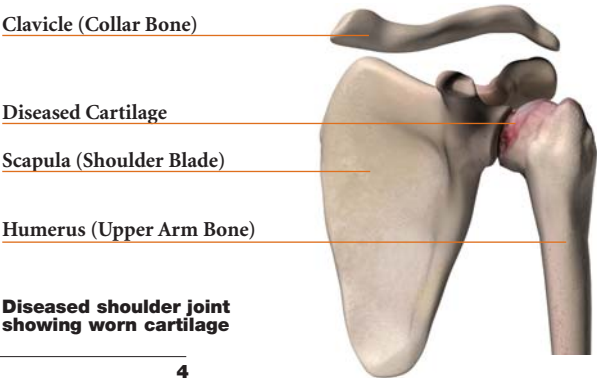
While every orthopaedic evaluation is different, there are many commonly used tests that an orthopaedic specialist may consider in evaluating a patient’s condition. The orthopaedic evaluation usually consists of:

- A thorough review of your medical history
- A physical examination
- X-rays
- Additional tests as needed. These may include laboratory testing of blood, urine, or joint fluid and/or a bone scan of the joint and surrounding soft tissue.

**Treatment Options**

Following an orthopaedic evaluation, the orthopaedic specialist will review and discuss the results with you. Based on his or her diagnosis, your treatment options may include:

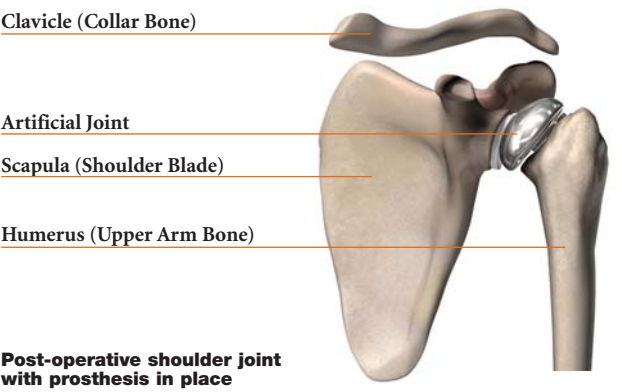
- Medications, which may include cortisone injections for temporary pain relief
- Physical therapy
- Shoulder joint fluid supplements (injections that provide temporary pain relief)
- Shoulder joint replacement



**Shoulder Joint**  
Replacement Surgery

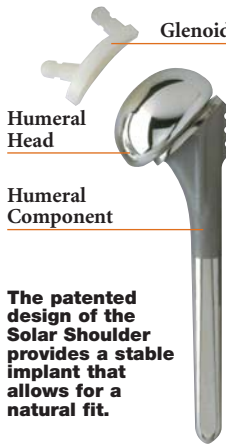
In shoulder replacement surgery, the artificial shoulder joint can have either two or three parts, depending on the type of surgery required.

- The humeral component (metal) is implanted in the humerus.
- The humeral head component (metal) replaces the humeral head at the top of the humerus.
- The glenoid component (plastic) replaces the surface of the glenoid socket.



There are two types of shoulder joint replacement procedures:

1. A Partial Shoulder Joint Replacement is used when the glenoid socket is intact and does not need to be replaced. In this procedure, the humeral component is implanted, and the humeral head is replaced.
2. A Total Shoulder Joint Replacement is used when the glenoid socket needs to be replaced. All three shoulder joint components are used in this procedure.



**How Long Will an Artificial Shoulder Joint Last?**

How long a joint replacement will last is impossible to predict as individual results vary. As successful as most of these procedures are, over the years the

## Shoulder Joint Replacement

(continued)

artificial joints can become loose and unstable or wear out, requiring a revision (repeat) surgery. Many factors determine the outcome including age, activity level, bone strength, bone quality and disease progression.

### Possible Complications of Surgery

As with any major surgical procedure, patients who undergo total joint replacement are at risk for certain complications; however, the vast majority can be successfully avoided and/or treated. In fact, the complication rate following joint replacement surgery is very low. Serious complications, such as joint infection, occur in less than 2% of patients.<sup>2</sup>

Besides infection, possible complications include blood clots (the most common complication) and lung congestion, or pneumonia. Some shoulder-specific complications that may occur are nerve injury – since many major nerves and blood vessels travel through the armpit (**axilla**) – and dislocation, particularly just after the replacement surgery. Your doctor should discuss the potential complications with you.

### After the Surgery

During your hospital stay, your doctor works closely with nurses, physical therapists, and other healthcare professionals to ensure the success of your surgery and rehabilitation. If you need to work with a physical therapist after your joint replacement, the therapist will work with you to help you regain muscle strength and increase range of motion.

When fully recovered, most patients with shoulder replacements can return to work and normal daily activities. However, individual results vary. If you are considering doing any of the following activities – which could potentially affect how long your artificial shoulder will last and how well it will perform – discuss it first with your doctor:

- Lifting or pushing heavy objects
- Hammering and other forceful arm/shoulder movements
- Boxing and other arm/shoulder impact sports

The success of your joint replacement will strongly depend on how well you follow your doctor's instructions. As time passes, you have the potential to experience a dramatic reduction in joint pain and a significant improvement in your ability to participate in daily activities.



*“I had the operation so I could get back to life, back to making a living. I’m so glad I did it.”*

Individual results may vary.

## A Final Word:

### The Decision Is Always Yours

You don't have to live with severe shoulder pain and the functional limitations it causes. If you have not experienced adequate results with medication and other conservative treatments, shoulder replacement may provide the pain relief you long for – and help you to return to the lifestyle and activities you enjoy.

Remember, even if your doctor determines that shoulder joint replacement is a good medical option for you, it is still up to you to make the final decision. The ultimate goal is for you to be as comfortable as possible, and that always means making the best decision for you based on your own individual needs.