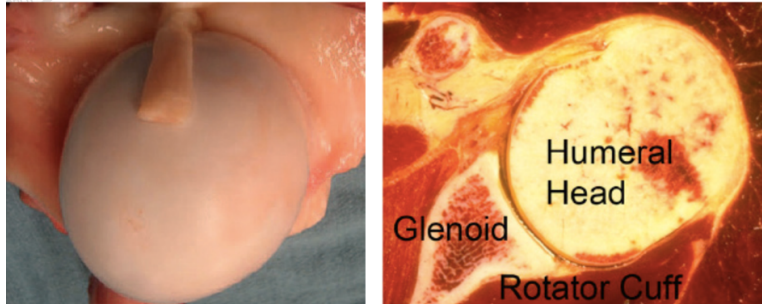


## The Total Shoulder Arthroplasty and the Ream and Run Procedure

Presented by the University of Washington Shoulder and Elbow Academy  
[shoulderarthritis.blogspot.com](http://shoulderarthritis.blogspot.com)

### **What is shoulder arthritis?**

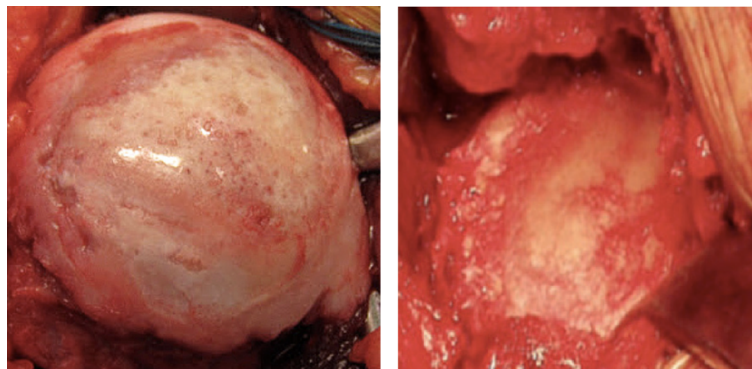
Normally the ball (humeral head) and socket (glenoid) of the shoulder joint are covered by smooth articular cartilage that enables joint motion with minimal friction. The humeral head is stabilized in the shallow glenoid by the compressive action of the rotator cuff.



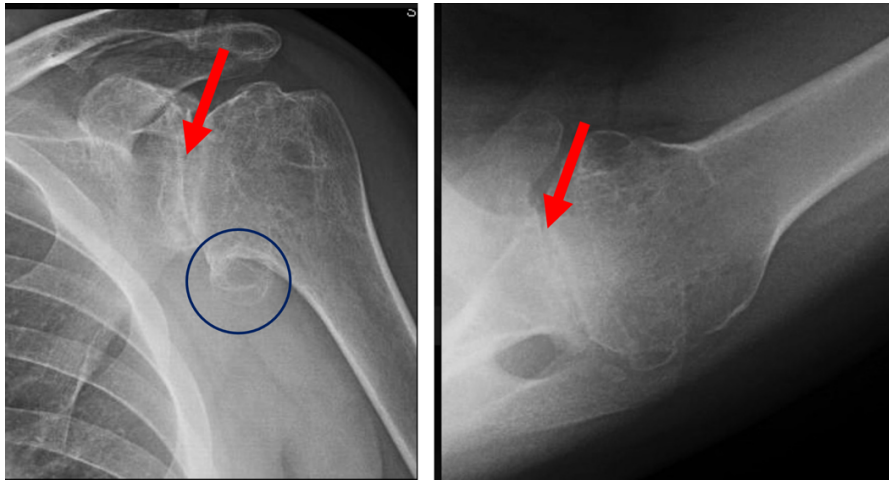
A healthy shoulder joint is shown on the x-rays below.



In shoulder arthritis, the joint surfaces of the humeral head (below left) and glenoid (below right) are permanently damaged, so that shoulder motion is restricted and painful. Arthritis is caused by wear and tear, inflammation, age-related degeneration, prior injury or prior surgery.



The diagnosis of shoulder arthritis is made by the patient's history, physical examination and by plain x-rays, such as those shown below. Note the flattened joint surfaces (arrows) and the bone spur on the humerus (circle), which are typical of osteoarthritis.



When non-operative measures fail to restore shoulder comfort and function, patients consider joint replacement surgery. Injections of cortisone, PRP or stem cells cannot cure arthritis.

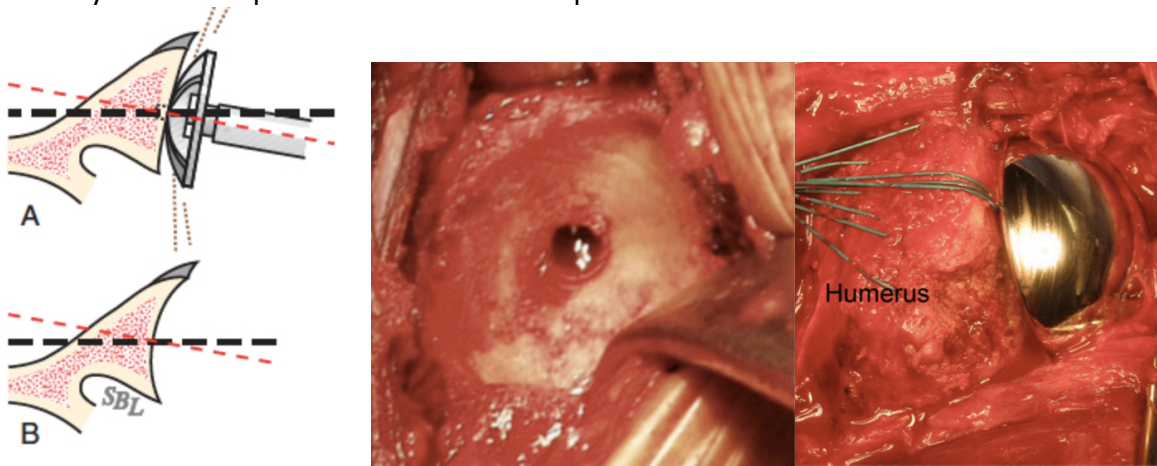
#### **What are the types of anatomic shoulder joint replacement?**

In a traditional joint replacement, the glenoid is resurfaced with a high-density polyethylene socket (in yellow below) that pairs with a metal humeral head replacement (in silver below). In the examples below one humeral component has a short stem - on the left - while the other is stemless (there is no rod going down the inside of the humerus) - on the right.

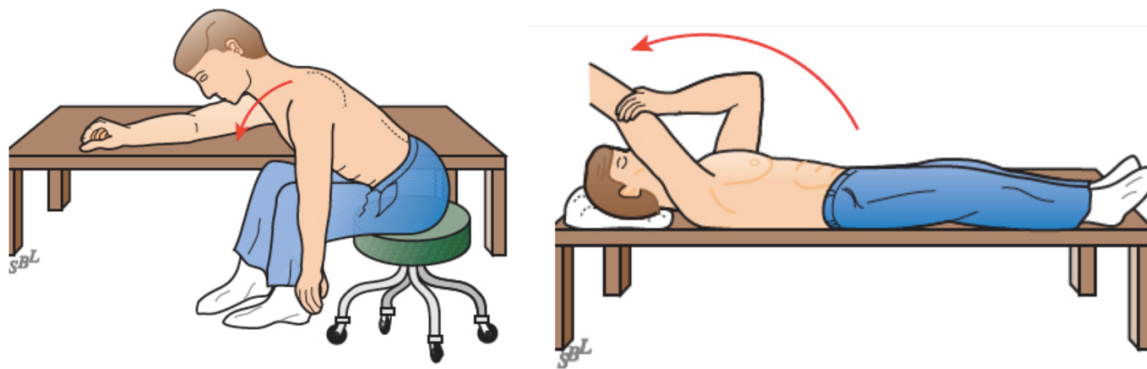


The advantage of a traditional anatomic joint replacement is that the surface replacement of the glenoid socket is “pre-fabricated”, immediately providing a smooth joint surface that can provide a comfortable shoulder capable of a wide-range of activities. However, demanding use of the shoulder, such as heavy weight lifting or impact activities, such as chopping wood, may put the plastic socket at risk for wear or loosening.

As a result, active patients with disabling shoulder arthritis who are interested in trying to return high level activities may wish to consider the ream and run procedure, in which – rather than using a plastic socket to resurface the glenoid – the glenoid bone is reamed to a smooth concavity that corresponds to the humeral implant.



The healing of this reamed bony surface is molded by the motion of the shoulder during the rehabilitation process, which starts immediately after surgery.



The rehabilitation exercises for both the ream and run and the total shoulder are simple in concept, but they are vital to the success of the surgery. Complete dedication to the exercises is necessary to obtaining the best outcome.

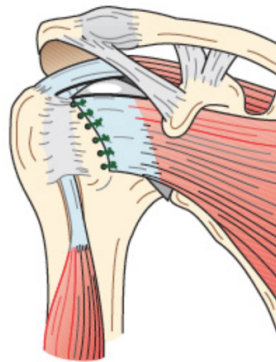
The goal is to achieve excellent flexibility within the first few weeks after surgery.



On average, the recovery after a ream and run is more challenging and takes longer than the recovery from a conventional total shoulder arthroplasty. Some patients have difficulty gaining and maintaining the excellent motion desired after the surgery. In this case a manipulation of the shoulder under anesthesia may be considered at six weeks or longer after the surgery.

### **What are the precautions after shoulder joint replacement?**

Both the ream and run and conventional total shoulder arthroplasty involve cutting the tendon of the subscapularis to gain access to the joint. The tendon is repaired at the end of the surgery.

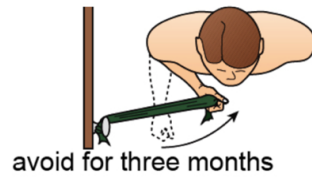


This repair must be protected for the first six weeks after surgery. Specifically, the arm cannot be lifted by itself during this time and the shoulder cannot be stretched in external rotation.

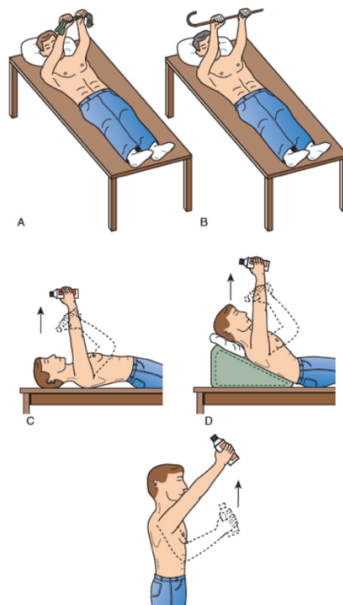
avoid stretching in external rotation



Strengthening of internal rotation is delayed for at least three months after surgery.



At six weeks after surgery, gentle progressive exercises are usually started, making sure that the focus is on shoulder comfort, high repetitions and low loads.



### **Surgeon/patient teamwork**

These are general guidelines. The specifics of the rehabilitation for each patient is determined by the surgeon based on the details of the procedure and the characteristics of the patient. The care of the shoulder after these procedures is critical; at the University of Washington, we are dedicated to helping the patient at each stage of the recovery. It is recommended that patients living a distance from Seattle remain in town for several days after surgery to make sure the recovery is started safely and effectively. Patients and families are encouraged to contact the surgical team directly with questions or concerns. Surgeons will request photographs or videos of the patient performing the exercises to help monitor and guide the recovery.

While major problems are uncommon after shoulder joint replacement, some patients may experience pain and stiffness, issues with the rotator cuff, infection, joint wear, component loosening, or fracture. For these reasons, we try our best to keep in touch with our patients over the long haul so we can evaluate and manage any issues that come up.

We are happy to answer any questions, anytime.