



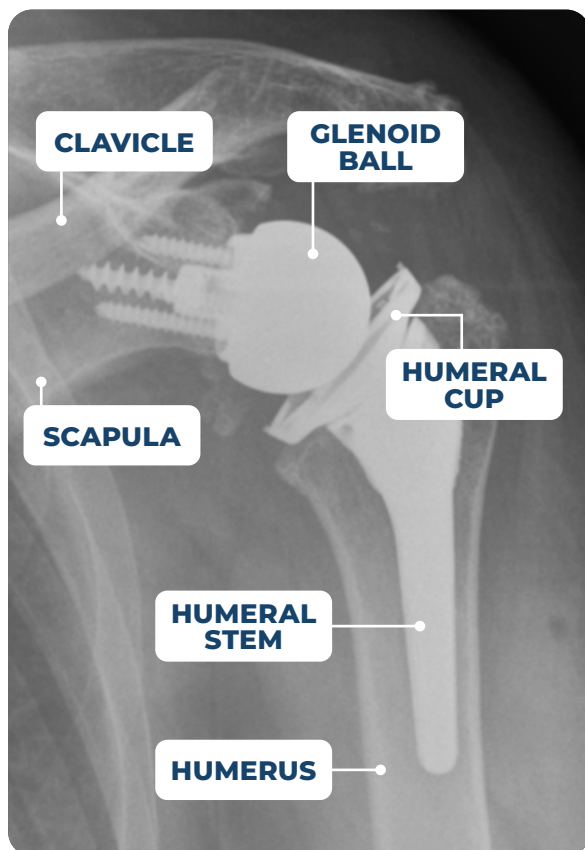
SURGERY GUIDE:
**Reverse Total
Shoulder
Arthroplasty**

Reverse Total Shoulder Arthroplasty Guide

Reverse total shoulder arthroplasty is a joint replacement surgery that can be performed for a variety of conditions where the rotator cuff tendons are badly damaged and beyond repair. These rotator cuff problems can occur in association with arthritis, shoulder instability, failure of a previous joint replacement or inability to raise the arm against gravity. Reverse shoulder replacement surgery changes the mechanics of the shoulder transferring more of the load to the deltoid muscle and less load to the rotator cuff muscles for function. The best clinical results for a reverse replacement are seen in patients who have some functioning rotator cuff.

In the reverse total shoulder, the ball and socket are replaced, but they are reversed. The socket portion of your shoulder is replaced with a prosthetic metal ball, and the ball portion of your shoulder is replaced with a plastic cup that is attached to the top of a metallic stem placed within the humerus, the upper arm bone.

The image on the right shows reverse total shoulder x-ray.



Anatomy of the Shoulder

The shoulder is made up of two joints, the acromioclavicular joint and the glenohumeral joint. The acromioclavicular joint is where the acromion, part of the shoulder blade (scapula) and the collar bone (clavicle) meet. The glenohumeral joint is where the ball (humeral head) and the socket (the glenoid) meet. The rotator cuff connects the upper arm bone to the shoulder blade and is made up of the tendons of four muscles: supraspinatus, infraspinatus, teres minor and the subscapularis. The deltoid muscle is the muscle that forms the rounded curve of the shoulder. Tendons attach muscle to bone. Muscles in turn move bones by pulling on the tendons. The deltoid and the rotator cuff are important for shoulder movement. The deltoid is a strong muscle that moves the arm away from the body and allows overhead motion. The rotator cuff contributes to this function but especially keeps the ball tightly in the socket during shoulder motion. The reverse shoulder replacement is special because the parts change the joint mechanics so the deltoid can raise the arm without the rotator cuff.

Common Conditions that Require Reverse Total Shoulder Arthroplasty

Your surgeon may recommend reverse total shoulder replacement for the following reasons:

- » A torn rotator cuff that cannot be repaired especially when associated with severe pain and/or the ability to raise the arm overhead
- » Rotator cuff arthropathy (a specific pattern of arthritis seen in patients with long-standing rotator cuff tears)
- » A previous shoulder replacement or other surgery that was not successful
- » Chronic or long-standing shoulder instability (ball and socket joint is unstable)
- » Some patients with chronic or long-standing arthritis associated with severe loss of shoulder range of motion or bony erosion even with a healthy rotator cuff
- » Some fractures of the shoulder where the bone is severely damaged
- » Reconstruction following some tumor surgeries
- » Failure of non-operative treatments such as anti-inflammatories, cortisone injections, or physical therapy

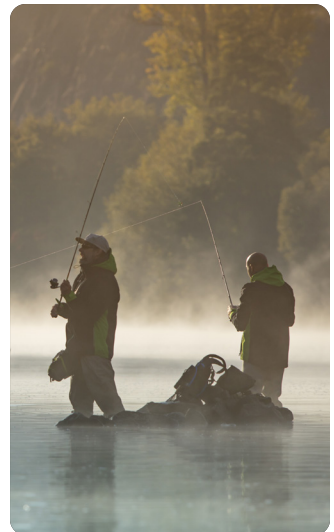


Patients with a poorly functioning deltoid, an axillary nerve injury, active shoulder infection or severe loss of bone stock on the socket or ball may NOT be candidates for a reverse shoulder replacement.

Expected Outcomes

Reverse shoulder arthroplasty has been performed in the United States since 2004. The longest follow-up studies with up to 20 years of data show reverse shoulder replacements have performed very well clinically. This surgery is reliable for **pain relief in over 90% of patients**. Most patients will also have an improvement in the ability to raise the arm overhead, but this is somewhat dependent on the age of the patient, the strength of the deltoid muscle and the presence of some remaining rotator cuff attachments. It is realistic to expect to be able to raise the arm above shoulder level, to reach the top of the head and the opposite shoulder in most patients. Your ability to rotate the arm outward is dependent on the presence of some intact rotator cuff tendon. After a reverse shoulder replacement, some patients can still have difficulty with reaching behind the back. Most patients will be able to reach their belt line or back pocket. For patients with shoulder dislocation problems, stability is restored in most. However, the risk of early dislocation following a reverse shoulder replacement is slightly greater than a standard replacement and can occur in a small percentage of patients.

Most patients can be very active following a reverse shoulder replacement. **Golf, tennis, swimming, biking, kayaking, fishing, yard work and gardening are allowed after about 3 months**. It is important to know that the ability to do these things depends on many different factors and varies greatly between patients. In addition, a reverse shoulder replacement may slightly lengthen the arm (approximately 0.5 inches). This is not noticeable by most patients. However, the contour of the shoulder often appears slightly different as the deltoid muscle may appear thinner or more hollow in some.



Preoperative Planning

Before your surgery you will be required to have preoperative testing. In some cases, blood work, EKG (heart tracing), or a chest X-ray may be needed. If any of these tests are needed, they will be scheduled for you and will be done during pre-testing. If further testing is needed, it will be arranged.

Your surgeon may also recommend advanced imaging studies such as an MRI or CT scan of the shoulder to assess the rotator cuff tendons and bone stock of the glenoid (socket) to help with surgical planning.

Day of Surgery

Once scheduled, you will be contacted 1-2 days prior to surgery by the operating room scheduling team to let you know what time to arrive for your surgery. Typically, you will need to arrive approximately two hours before your scheduled surgery time. Procedures are performed on a “to follow” basis. Occasionally, a procedure scheduled ahead of yours may take longer than expected, so there may be some delay before your surgery. Regardless, it is important that you arrive on time. Sometimes an earlier procedure will cancel and we run ahead of schedule. You should not have anything to eat or drink after midnight the night before surgery. You may be advised to take some of your medications with a sip of water only. Your surgical team will discuss this with you prior to surgery. Please bring a loose-fitting button-up shirt, pants with an elastic waist band, and stable slip-on shoes with you the day of surgery.



Upon arrival to the surgery center or hospital, you will go through a check-in process. At the appropriate time you will be brought into a pre-operative holding area. At this point the nurse will see you, review your records, and an IV will be started. A member of the anesthesia team will meet with you to discuss any anesthesia concerns and anesthetic options. Your surgery will be performed under general anesthesia (you will go to sleep.) In addition, the anesthesiologist may recommend a regional block if they think that you are a good candidate. This involves an injection of local anesthetic (numbing medicine) near the nerves at the base of the neck.

These blocks are generally recommended to help control your pain following surgery. The anesthesiologist will discuss the risks of the block and the decision to perform this is a mutual decision between the patient and the anesthesiologist.

You can anticipate that your surgery will last approximately 1-2 hours, although this varies depending on the complexity of your surgery. If you have family members with you, they will wait for you in the waiting room. Your doctor will speak with them after your surgical procedure to let them know that you are finished. During your surgery, family members should make sure they are available by phone or near the waiting areas. Please leave valuables at home or with family.

When you wake from surgery you will be in the post-operative recovery room. Many patients can return home the same day as surgery. Otherwise, you can plan on staying one night in the hospital.

You will have a dressing on your shoulder, and your arm will be immobilized in a sling. If you stay in the hospital, other equipment you may have includes: an IV until you are eating, drinking and voiding normally, a cold therapy unit or ice bags, sequential compression devices on your legs to prevent blood clots, and oxygen tubing according to your needs.

Your nurse will go over your discharge instructions before you leave. Normally, patients are able to leave 1-3 hours after surgery, or if you stay the night, the following day around noon.

Risks & Complications

The list below includes some of the common possible side effects from this surgery. Fortunately, complications are very rare in your doctor's practice. Please note that this list includes some, but not all, of the possible side effects or complications. Complications may include: problems from anesthesia, infection, nerve injury, blood vessel injury, bleeding, shoulder stiffness, failure to improve your symptoms as much as you had hoped, a stress fracture of the acromion (scapula) bone where the deltoid originates, a blood clot in your arms or legs which may very rarely travel to your lungs, and shoulder dislocation. Any time prosthetic components (man made parts) are put into a joint, there is always a very small chance that one or more of the parts may have a problem that requires another surgery in the future.

SURGERY CHECKLIST

Do Bring:

- ✓ An updated list of your current medications
- ✓ Copies of your medical Specialist notes
- ✓ Dress in loose, comfortable clothing
- ✓ Phone and tablet are okay for times when waiting
- ✓ Sling with pillow or Brace Provided by your surgeon

Don't Bring:

- ✗ Don't bring valuables such as jewelry or cash
- ✗ Limit family members to no more than two on the day of surgery
- ✗ Leave small children at home when possible



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