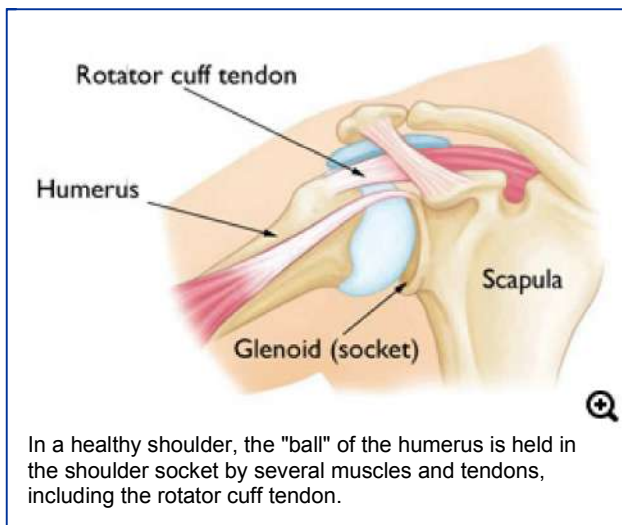


Reverse Total Shoulder Replacement

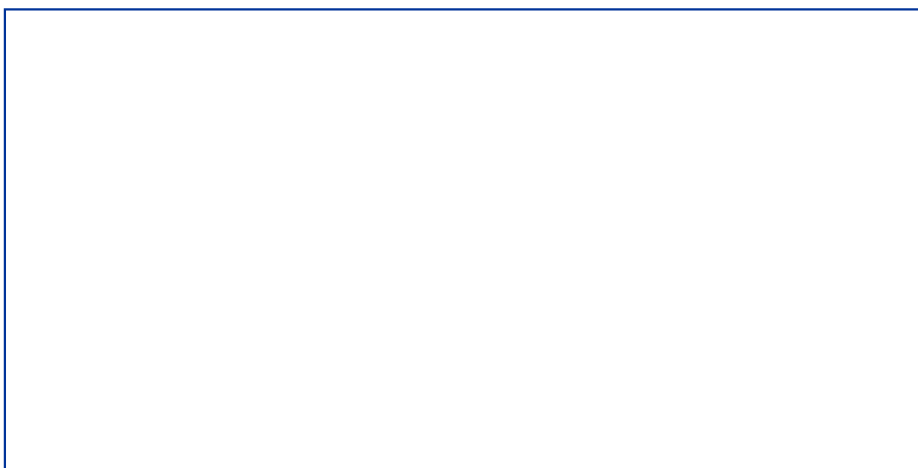
Every year, thousands of conventional total shoulder replacements are successfully done in the United States for patients with shoulder arthritis. This type of surgery, however, is not as beneficial for patients with large rotator cuff tears who have developed a complex type of shoulder arthritis called "cuff tear arthropathy." For these patients, conventional total shoulder replacement may result in pain and limited motion, and reverse total shoulder replacement is a better option.

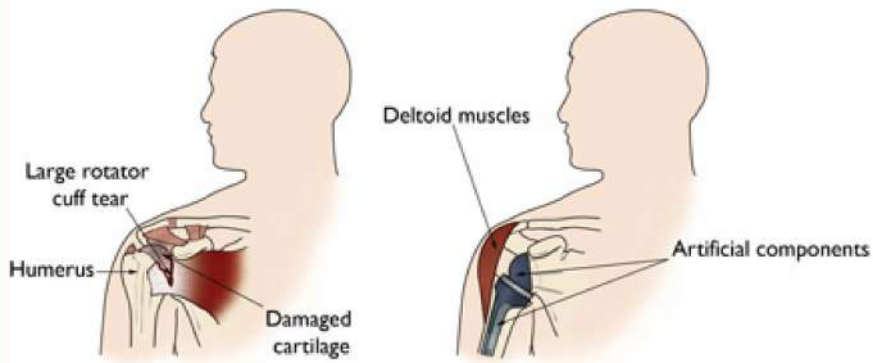
Description

A conventional shoulder replacement device mimics the normal anatomy of the shoulder: a plastic "cup" is fitted into the shoulder socket (glenoid), and a metal "ball" is attached to the top of the upper arm bone (humerus). In a reverse total shoulder replacement, the socket and metal ball are switched. The metal ball is fixed to the socket and the plastic cup is fixed to the upper end of the humerus.



A reverse total shoulder replacement works better for people with cuff tear arthropathy because it relies on different muscles to move the arm. In a healthy shoulder, the rotator cuff muscles help position and power the arm during range of motion. A conventional replacement device also uses the rotator cuff muscles to function properly. In a patient with a large rotator cuff tear and cuff tear arthropathy, these muscles no longer function. The reverse total shoulder replacement relies on the deltoid muscle, instead of the rotator cuff, to power and position the arm.





(Left) Rotator cuff arthropathy. (Right) The reverse total shoulder replacement allows other muscles — such as the deltoid — to do the work of the damaged rotator cuff tendons.

This surgery was originally designed in the 1980s in Europe. The Food and Drug Administration (FDA) approved its use in the United States in 2003.

Candidates for Surgery

Reverse total shoulder replacement may be recommended if you have:

- A completely torn rotator cuff that cannot be repaired
- Cuff tear arthropathy
- A previous shoulder replacement that was unsuccessful
- Severe shoulder pain and difficulty lifting your arm away from your side or over your head
- A complex fracture of the shoulder joint
- A chronic shoulder dislocation
- A tumor of the shoulder joint
- Tried other treatments, such as rest, medications, cortisone injections, and physical therapy, that have not relieved shoulder pain

Preparing for Surgery

Your orthopaedic surgeon will help you plan and prepare for your shoulder surgery.

Medical Evaluation

Most patients must have a complete physical by their primary care doctor before surgery. This is needed to make sure you are healthy enough to have the surgery and complete the recovery. Many patients with chronic medical conditions, like heart disease, must also be evaluated by a specialist, such a cardiologist, before the surgery.

Medications

Be sure to talk to your orthopaedic surgeon about the medications you take. Some medications may need to be stopped before surgery. For example, the following over-the-counter medicines may cause excessive bleeding and should be stopped 2 weeks before surgery:

- Non-steroidal anti-inflammatory medications, such as aspirin, ibuprofen, and naproxen sodium
- Some arthritis medications

If you take blood thinners, either your primary care doctor or cardiologist will advise you about stopping these medications before surgery.

Home Planning

Making simple changes in your home before surgery can make your recovery period easier.

For the first several weeks after your surgery, it will be hard to reach high shelves and cupboards. Before your surgery, be sure to go through your home and place any items you may need afterwards on low shelves.

When you come home from the hospital, you will need help for a few weeks with some daily tasks like dressing, bathing, cooking, and laundry. If you will not have any support at home immediately after surgery, you may need a short stay in a rehabilitation facility until you become more independent.

Your Surgery

Before Your Operation

Wear loose-fitting clothes and a button-front shirt when you go to the hospital for your surgery. After surgery, you will be wearing a sling and will have limited use of your arm.

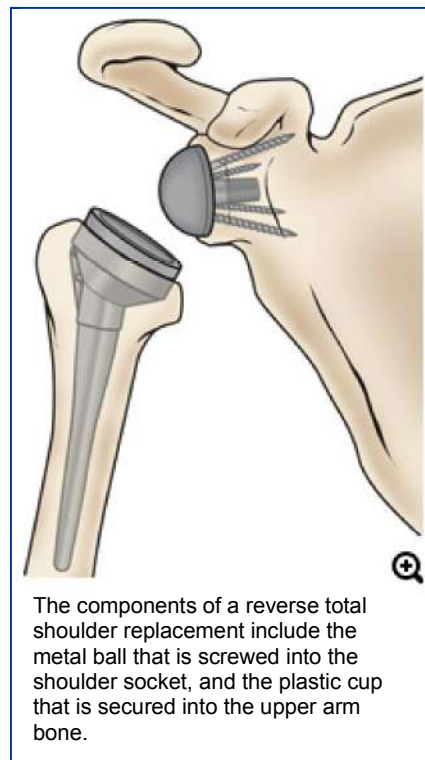
You will most likely be admitted to the hospital on the day of your surgery. After admission, you will be taken to the preoperative preparation area and will meet a doctor from the anesthesia department.

You, your anesthesiologist, and your surgeon will discuss the type of anesthesia to be used. You may be provided a general anesthetic (you are asleep for the entire operation), a regional anesthetic (you may be awake but have no feeling around the surgical area), or a combination of both types.

Surgical Procedure

This procedure to replace your shoulder joint with an artificial device usually takes about 2 hours.

Your surgeon will make an incision either on the front or the top of your shoulder. He or she will remove the damaged bone and then position the new components to restore function to your shoulder.



The components of a reverse total shoulder replacement include the metal ball that is screwed into the shoulder socket, and the plastic cup that is secured into the upper arm bone.

Surgical Complications

Reverse total shoulder replacement is a highly technical procedure. Your surgeon will evaluate your particular situation carefully and discuss the risks of surgery with you.

Risks for any surgery include bleeding, nerve damage, and infection. Complications specific to a total joint replacement include wear, loosening, or dislocation of the components. If any of these occur, the new shoulder joint may need to be revised, or re-operated on.

Recovery

After surgery, your medical team will give you several doses of antibiotics to reduce your risk for infection, and pain medication to keep you comfortable. Most patients are able to eat solid food and get out of bed the day after surgery. You will most likely be able to go home on the second or third day after surgery.

Pain Management

After surgery, you will feel some pain. This is a natural part of the healing process. Your doctor and nurses will work to reduce your pain, which can help you recover from surgery faster.

Medications are often prescribed for short-term pain relief after surgery. Many types of medicines are available to help manage pain, including opioids, nonsteroidal anti-inflammatory drugs (NSAIDs), and local anesthetics. Your doctor may use a combination of these medications to improve pain relief, as well as minimize the need for opioids.

Be aware that although opioids help relieve pain after surgery, they are a narcotic and can be addictive. Opioid dependency and overdose has become a critical public health issue. It is important to use opioids only as directed by your doctor. As soon as your pain begins to improve, stop taking opioids. Talk to your doctor if your pain has not begun to improve within a few weeks of your surgery.

Rehabilitation

When you leave the hospital, your arm will be in a sling. Your surgeon may instruct you to do gentle range of motion exercises to increase your mobility and endurance. A formal physical therapy program may also be recommended to strengthen your shoulder and improve flexibility.

You should be able to eat, dress, and groom yourself within a few weeks after surgery.

Your surgeon may ask you to return for office visits and x-rays in order to monitor your shoulder.



A typical follow-up x-ray of a reverse total shoulder replacement.

Do's and Don'ts After Surgery

- Do follow the home exercise program prescribed by your doctor.
- Do avoid extreme arm positions, such as behind your body or your arm straight out to the side for the first 6 weeks
- Don't overdo it.
- Don't lift anything heavier than 5 lbs. for the first 6 weeks after surgery.
- Don't push yourself up out of a chair or bed, as this requires forceful muscle contractions.
- Don't participate in repetitive heavy lifting after shoulder replacement.

Long-Term Outcomes

After rehabilitation, you will most likely be able to lift your arm to just above shoulder height and bend your elbow to reach the top of your head or into a cupboard. Reverse total shoulder replacement provides outstanding pain relief and patient satisfaction is typically very high.

Early and mid-term studies of the results of this surgery have been very promising. Currently, very few long-term studies exist. This is an area for future research.

For More Information

If you found this article helpful, you may also be interested in Rotator Cuff Tears ([topic.cfm?topic=A00064](http://orthoinfo.aaos.org/topic.cfm?topic=A00064)).

Last reviewed: March 2017

Contributed and/or Updated by: George S. Athwal, MD; Meredith Fabing, DO

Peer-Reviewed by: Stuart J. Fischer, MD; J. Michael Wiater, MD

[Contributor Disclosure Information](#)

AAOS does not endorse any treatments, procedures, products, or physicians referenced herein. This information is provided as an educational service and is not intended to serve as medical advice. Anyone seeking specific orthopaedic advice or assistance should consult his or her orthopaedic surgeon, or locate one in your area through the AAOS ["Find an Orthopaedist"](#) program on this website.

Copyright 2017 American Academy of Orthopaedic Surgeons

Related Articles

Arthritis of the Shoulder (<http://orthoinfo.aaos.org/topic.cfm?topic=A00222>)

Rotator Cuff Tears (<http://orthoinfo.aaos.org/topic.cfm?topic=A00064>)

Shoulder Joint Replacement (<http://orthoinfo.aaos.org/topic.cfm?topic=A00094>)

Shoulder Surgery Exercise Guide (<http://orthoinfo.aaos.org/topic.cfm?topic=A00067>)

Related Resources

Rotator Cuff and Shoulder Conditioning Program (/PDFs/Rehab_Shoulder_5.pdf)

OrthoInfo

The American Academy of Orthopaedic Surgeons
9400 West Higgins Road
Rosemont, IL 60018
Phone: 847.823.7186
Email: orthoinfo@aaos.org