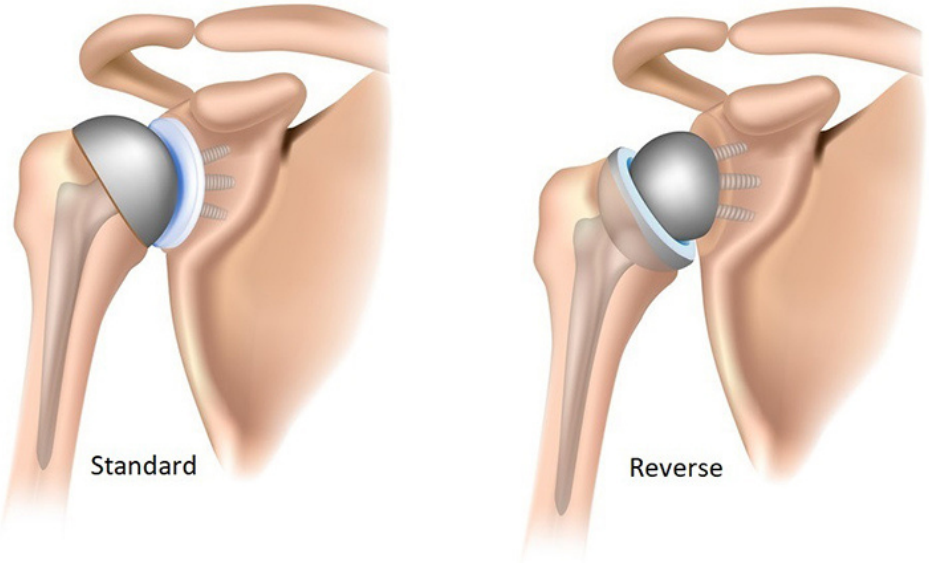
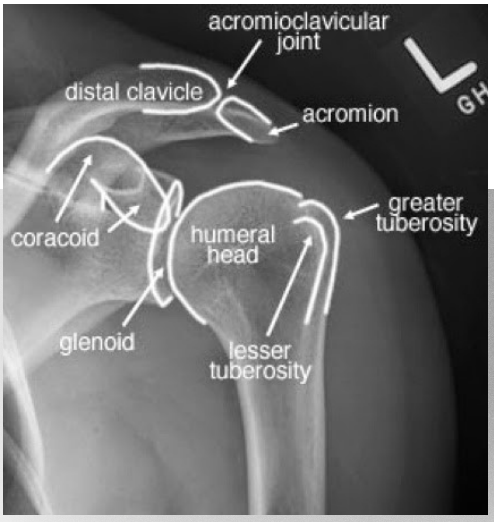
Ascension

Shoulder Replacement Surgery





Normal Shoulder



Anatomical Total Shoulder Replacement (Stemless)



Reverse Total Shoulder Replacement

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WELCOME



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DR. CHAD CONNER

AMG PROVIDENCE ORTHOPEDICS &
SPORTS MEDICINE

Dr. Conner specializes in sports medicine and arthroscopic and reconstructive surgery of the shoulder, hip, knee, and ankle. He is board certified in orthopedic surgery by the American Board of Orthopaedic Surgery with a subspecialty certification in orthopaedic sports medicine. He grew up in Dallas, Texas and attended Lake Highlands High School. Beginning at age five, he practiced gymnastics and went on to compete for the University of Minnesota gymnastics team in Minneapolis, Minnesota.

Dr. Conner attended The University of Texas Medical Branch for his medical school training and subsequent orthopedic surgery residency training. Following this, he completed a fellowship at the world renowned Southern California Orthopedic Institute. There, he specialized in sports medicine, arthroscopy, and reconstructive surgery of the shoulder, hip, knee, and ankle. He helped care for athletes from the high school level to the professional level. His training also included specialization in total/reverse shoulder replacement surgery.

Dr. Conner currently practices at AMG Providence Orthopedic & Sports Medicine in Waco, Texas and is a team physician for a local high school team. He is a member of the Arthroscopy Association of North America, the American Orthopedic Society for Sports Medicine, and the American Academy of Orthopaedic Surgeons.

He has done extensive research on treatment of massive rotator cuff tears, ACL reconstruction, hip arthroscopy and ankle arthroscopy. He has also been involved in teaching hip arthroscopy as an associate master instructor at the Arthroscopy Learning Center in Chicago, IL. With Baylor University, he gives lectures for pre-health student information courses and is involved in the Baylor Health Science Studies internship program mentoring students interested in orthopedic surgery.

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Dr. Conner also volunteers and helps lead a monthly orthopedic and rehabilitation clinic at a community outreach organization called Mission Waco, which strives to provide Christian-based holistic, relationship-based programs that empower the poor and marginalized and was named Business of the Year by Mission Waco for 2013.

Outside of the office, Dr. Conner enjoys his wife and children, church, work outs, mountain biking, wake surfing, and the outdoors.



MEMBERSHIPS

SPECIAL SOCIETY

AMERICAN ORTHOPAEDIC SOCIETY FOR SPORTS MEDICINE
ARTHROSCOPY ASSOCIATION OF NORTH AMERICA
AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS

STATE MEDICAL SOCIETY

TEXAS MEDICAL ASSOCIATION

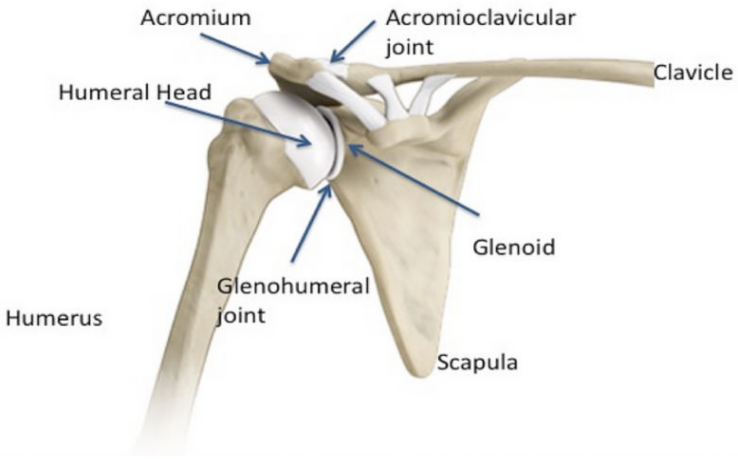
INTRODUCTION

This booklet will help provide answers to the questions you may have about shoulder replacement (arthroplasty). It contains information about what to expect before, during and after your hospitalization. You will learn about the hospital routines, the people who will assist in your recovery and changes in your lifestyle.

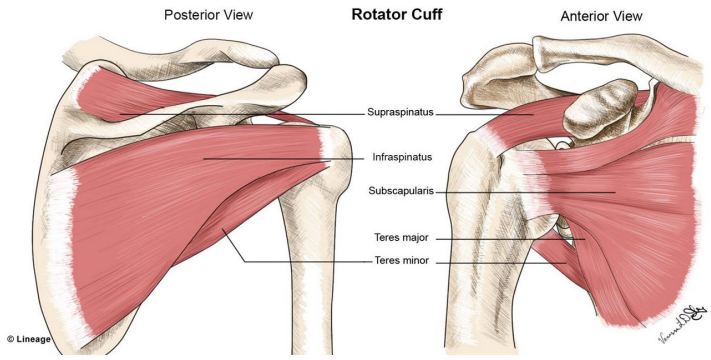
The nursing staff, physicians and other healthcare team members are available to answer your questions or concerns.

Normal Shoulder Joint

Joints are areas where bones connect and motion occurs. The shoulder joint is one of the most complex joints in the body. It is a ball and socket joint with greater range of motion than any other joint. Most shoulder movement occurs where the head or top of the humerus (ball) fits into the glenoid cavity of the scapula (socket).



Three joints form your shoulder. Working in unison, they allow you to move your arm. The largest joint—and the one most often affected by arthritis—is the glenohumeral joint. Most of your shoulder movement occurs here. When you have arthritis, a significant amount of stiffness will lead to restricted motion as well as pain upon attempting movement.



In instances where the health of the shoulder has decreased, shoulder replacement may a viable treatment option. Many people know someone with an artificial knee or hip joint. Less common, but just as successful in relieving joint pain, is a shoulder replacement (arthroplasty). This procedure may be recommended if arthritis or degenerative joint disease makes your shoulder stiff and painful or if the upper arm bone is fractured so badly that tissue death may result.

INTRODUCTION CONT.

How Arthritis Affects Your Shoulder

Various types of arthritis can affect the integrity of your shoulder. The most common types include:

- **Osteoarthritis:** Osteoarthritis usually affects the shoulder of the arm that you use the most. It causes severe pain and sometimes causes extreme loss of motion in your shoulder.
- **Rheumatoid arthritis:** Rheumatoid arthritis is not as common as in other large joints, such as your knees and hips. But when it does occur, rheumatoid arthritis often causes pain and weakness in both shoulders.
- **Rotator cuff tears and arthritis:** Sometimes arthritis damages your shoulder enough to cause tears in your rotator cuff—the muscles that surround your shoulder joint and help you move your arm. Rotator cuff tears that go unrepaired can also lead to arthritis.
- **Other types of arthritis:** If you have other types of arthritis in your shoulder, such as post-traumatic arthritis and avascular necrosis, surgery may help in relieving pain and regaining range of motion.

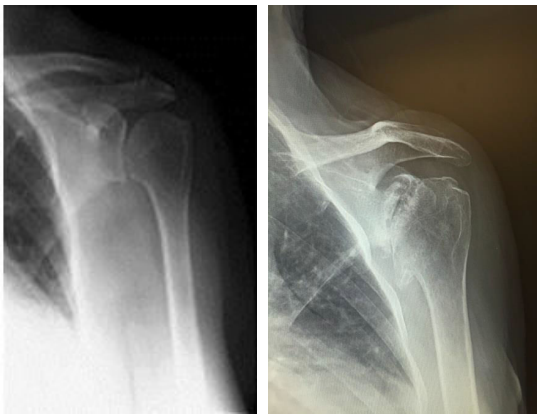
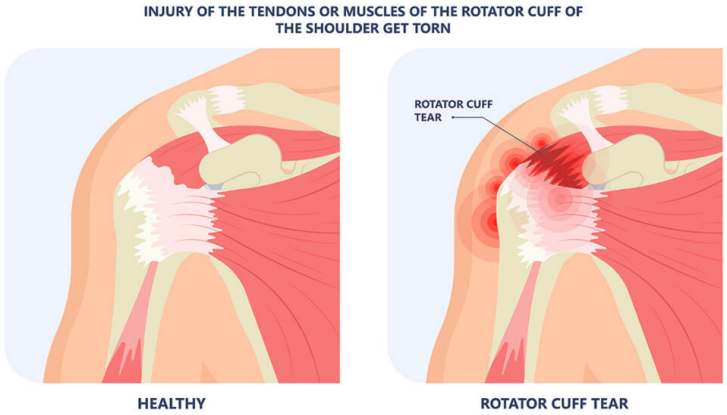


Figure: Normal shoulder joint on the left. An arthritic shoulder joint with reduced joint space and bone spurs on the right.



In the arthritic shoulder there is very little, if any, space between the glenoid and humerus, and in most cases very large bone spurs develop leading to a decreased range of motion.



Figure: Shoulder that has developed arthritis

INDICATIONS FOR SHOULDER REPLACEMENT

Chronic (ongoing) shoulder pain or loss of movement is the most common reason for shoulder replacement surgery (arthroplasty). If you have tried medication and exercises for your shoulder, but have not had any reduction in symptoms, you are probably going to be thinking about surgery. Although joint replacement is not the only surgical procedure available, it is the most common one for shoulder arthritis.

Total joint replacement can increase the range of motion in your shoulder, making it easier to move your arm. It also improves strength and reduces pain in your shoulder. In most situations, the range of motion can be returned to approximately 75% of normal. Most importantly (and this is the main reason to have surgery) a significant amount of your pain will typically be eliminated by the surgery.



DETERMINING YOUR PROSTHETIC

The two primary options for shoulder replacement include Anatomic Total Shoulder Replacement or Reverse Total Shoulder Replacement. Your surgeon will help you decide which operative route is best for you. Both are described in detail below.

Anatomic Total Shoulder Replacement

You have decided to proceed with a total shoulder replacement. During surgery, the surgeon and assistants will remove the damaged parts of your shoulder and replace them with artificial parts or components called prostheses. This may be a stemless implant or implant with stem depending on the quality of the bone. The metal ball is typically cobalt chrome alloy, while the stem, if utilized, is generally titanium and the socket is medical grade plastic called polyethylene. If you have a metal allergy that is rare, you should let your surgeon know as a different prosthesis can be used. The diagrams and x-rays below show what the two devices look like and where each will be located in your shoulder.







In anatomical total shoulder replacement surgery a plastic socket is used with a metal ball to reform the shoulder joint and provide greater range of motion and pain relief.

The biggest question most people have is usually “how long does it last?” This is a great question, but unfortunately it varies from person to person. In most of the available studies where patients have been followed over a number of years, 85% of the shoulders are functioning well at an average of 12-15 years. However, this is just an average and individual results vary depending on your age and activity level. In general, the younger and more active you are, the more likely the device will potentially have problems as a result of the “mileage” that it experiences.

DETERMINING YOUR PROSTHETIC CONT.

Reverse Total Shoulder Replacement

In some cases, there is significant arthritis in the joint, but there is also a tear or dysfunction of the rotator cuff. In these cases, a different type of replacement is necessary. This is called a Reverse Replacement. The reason it is called “reverse” is because the ball and socket are inverted from the normal (see Figures). The reason this device is necessary is because the muscle that rotate/stabilize the shoulder are no longer connected or working. By changing the orientation of the ball and socket, the deltoid muscle is now able to move the shoulder and improve your function. Despite the reverse design most patients report a “normal” feeling of the shoulder with improvements in motion and pain. Long term studies are limited but a 90% success rate has been reported for 10 year outcomes. In shoulder replacement, a reverse arthroplasty in younger patients has higher chance of failure. Additionally, because of the designs, there is a small chance (2-5%) of the joint dislocating or slitting out of place.

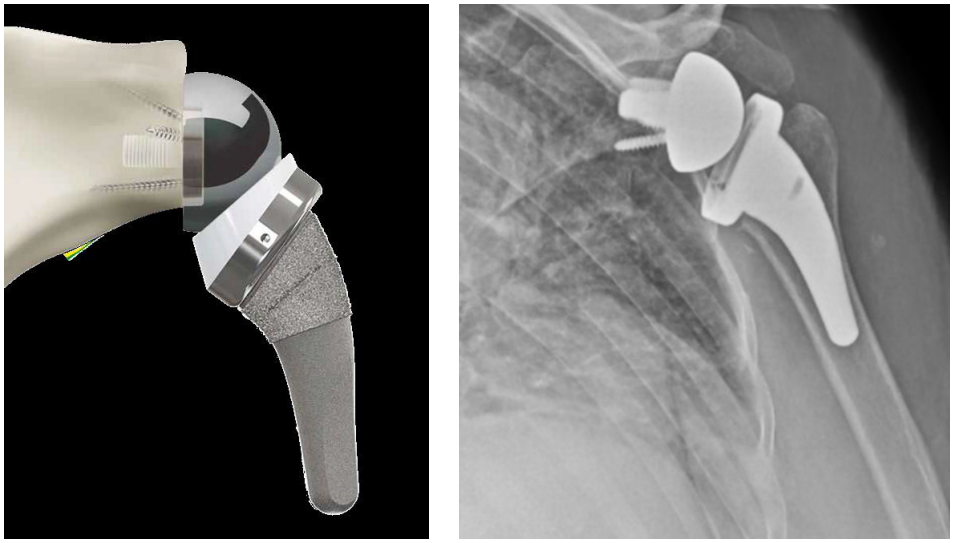


Figure: In reverse total shoulder surgery the joint’s ball and socket are effectively ‘reversed,’ as the ball implant is placed onto the glenoid and the socket is implanted onto the humerus.

SHOULDER REPLACEMENT PROCEDURES

Anatomic Total Shoulder Procedure

The anatomic total shoulder surgical procedure begins with the surgeon making an incision along the front of the shoulder and upper arm. After this the muscles are retracted and the front rotator cuff tendon of the shoulder is peeled off the bone to expose the joint cavity. Next, the ball of the humerus is removed and the center reamed to fit the humeral implant.

The glenoid (socket) is then exposed and the damaged cartilage of the glenoid is then removed and the bone smoothed out so that the surface is shaped for the implant. Now both the glenoid and the humerus are ready for their respective implants. First, a shallow cup-shaped implant is positioned on the glenoid, and is cemented into place. This implant acts as a smooth surface that acts in place of the removed cartilage for the artificial shoulder. Next, a humeral implant is inserted into the humerus bone and is also fitted into place. There is then a metal ball positioned onto the top of the humeral which replaces the previously damaged humeral ball that was removed. After this the surgeon will fit the artificial ball into the artificial cup, check the range of motion with the implants, and finally suture the front rotator cuff tendon back to the bone. Last, the incision is closed with absorbable sutures and steri strips (small white tapes).

Reverse Total Shoulder Procedure

The reverse total shoulder surgical procedure, much like the total shoulder procedure, begins with the surgeon making an incision along the front of the shoulder and upper arm. After this the muscles are retracted and the front rotator cuff tendon of the shoulder is peeled off the bone (if present) to expose the joint cavity. Next, the ball of the humerus is removed and the center reamed to fit the humeral stem implant. The glenoid (socket) is then exposed and the damaged cartilage of the glenoid is then removed and the bone smoothed out so that the surface is shaped for the implant. Now both the glenoid and the humerus are ready for their respective implants. First, a metal base plate is positioned into the cavity of the glenoid, and is subsequently fastened into place with screws. Next, a metal ball is attached to that plate. The surgeon will then place the humeral stem implant into humerus bone and has it fitted into place. A cup-shaped plastic implant is then positioned on top of the humeral stem to provide a smooth gliding surface for the metal ball which was affixed to the glenoid. After this the surgeon will fit the artificial ball into the artificial cup, check the range of motion with the implants, and finally suture the front rotator cuff tendon back to the bone (if present). Last, the incision is closed with absorbable sutures and steri strips (small white tapes).







PREPARING YOURSLEF & YOUR HOME BEFORE SURGERY

Recovery is a gradual process and will take time after surgery. Plan for your return home before you enter the hospital. Most patients return home the same day of surgery.

- Ask your spouse, children, or friends if they can assist you with activities of daily living for about two days.
- Before surgery, it maybe helpful to practice daily activities that will be affected by surgery.
- Practice putting your Shoulder Sling on and taking it off, keeping your injured shoulder as still as possible. Read the instructions for the Shoulder Sling for help. Try to practice in front of a mirror so you can easily find and attach the two straps.



If you're interested in assistance from a home healthcare agency, select the agency before hospitalization. Your doctor's office can help you with these arrangements. Most of the time, your insurance will cover the cost of home health care if it will be difficult for you to leave your house after surgery. It can be arranged that you have a nursing assistant come to your house and help with day to day things you may need as well as help with physical therapy exercises.

BEFORE SURGERY CHECKLIST

☐ BENZOYL PEROXIDE



Use benzoyl peroxide over the operative shoulder, neck, chest, back, and armpit region for 3 mornings before surgery (preop day 1 & 2, and morning of surgery).
Apply solution to affected rinsed shoulder for 3 minutes before washing away

☐ SLEEP



A good night's rest is important before surgery.

☐ NO FOOD/DRINK



Before surgery, do not eat or drink anything after midnight. Your stomach must be empty before you receive the anesthetic. This helps prevent nausea, vomiting and other complications during and after anesthesia.

☐ SUPPLEMENTS



Supplements: in general, you should discontinue all herbal over-the-counter supplements one week before surgery. You may continue multivitamins and Vitamin C, but nothing else. Some supplements affect bleeding tendencies and may cause problems with wound healing.

☐ POST-OP MEDICATIONS

Please make sure you have picked up your post-op medications **PRIOR** to your surgery. Failing to do so can lead to delays in receiving the medications and pain relief.

☐ SHOWER



Take a shower or bath the evening before surgery. This will help decrease the amount of bacteria on your skin.

☐ OTHER MEDICATIONS



You should stop all medications that have a potential to cause bleeding before surgery. The most common medications that fall into this category include aspirin (14 days prior), anti-inflammatories (such as Advil, Motrin, Naprosyn) (7 days prior) and blood thinners such as Plavix and Coumadin. (ask your PCP or refer to the surgery medication sheet you were given by Dr. Conner's office)

DAY OF SURGERY CHECKLIST

You will be provided a time to come and check into the surgery center or hospital. It is important to follow these instructions:

☐ BENZOYL PEROXIDE



Use benzoyl peroxide over the operative shoulder, neck, chest, back, and armpit region for 3 mornings before surgery (preop day 1 & 2, and morning of surgery).
Apply solution to affected rinsed shoulder for 3 minutes before washing away

☐ SHOES



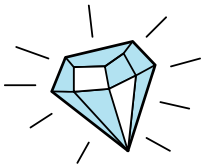
Comfortable, non-skid walking or athletic shoes. Elastic laces are available, eliminating the need to tie your shoes. Athletic shoes are available with hook and loop fasteners. Another option are slip on shoes or slippers.

☐ SLING



Please remember to bring your shoulder sling! Forgetting to do so can lead to a delay in leaving and result in you leaving with an uncomfortable alternate sling.

☐ NO VALUABLES



Leave your valuables at home.

☐ CLOTHES



Clothes that are soft and loose fitting. Bring comfortable clothes that open in the front with buttons or a zipper. Women can bring pants with elastic waistbands. For men, gym pants are easiest.

☐ MAKEUP



Do not wear makeup the morning of surgery. This includes nail polish.

☐ USUAL MEDICATIONS



Take only the medications your physician or nurse tells you to take on the morning of your surgery. (with a small sip of water)

Do **NOT** bring your medications that you usually take. It is important to have a list with the appropriate dosages. This will be requested from you at the time of registration.

YOUR SURGERY CENTER OR HOSPITAL STAY

You will be provided a time to come and check into the surgery center or hospital.

MORNING OF SURGERY

- After admission, the nursing staff will take your temperature, pulse, respiration rate, and blood pressure.
- Anti-embolism or support stockings may be provided to promote circulation to the legs.
- An intravenous (IV) line will be started before surgery.
- You should receive a dose of antibiotics before surgery.
- The anesthesiologist will discuss the types of anesthesia to be used.
- Bring your Shoulder Sling with you to the operating room.

GOING TO SURGERY

- You will be asked to empty your bladder.
- Remove all jewelry (including rings), dentures, and contact lenses.
- You may wear your glasses/hearing aid if necessary.
- You will be taken to the operating room on a hospital bed.
- An intravenous (IV) line will be started before surgery.
- The affected shoulder may be shaved and scrubbed to prepare for surgery.



ANESTHESIA

The surgery is most commonly performed under general anesthetic. In most cases a regional local anesthetic block is performed by the anesthesiologist prior to the surgery. This is a nerve block that will numb the nerves to your arm to help decrease or minimize postoperative pain for the first 6-18 hrs after the surgery. You may notice some tingling in the arm/hand as the block wears off. There is a very small risk of nerve injury with this procedure but the benefits of pain relief are typically thought to outweigh the risks. Most times, anesthesia will also place a small catheter in your neck that will allow medication to numb the area of your shoulder for several days following the surgery. It will have a dial that will allow you to adjust the flow of medication. If the arm is to numb, you can turn the dial down, or if it is hurting more than desired, turn the dial up. Change will usually not take effect for *2 hours*. Be careful, especially when changing positions to not pull the catheter our of your neck or separate the tubing from itself of the medicine ball. Once it is pulled apart it can not be replaced.

WHAT TO EXPECT AFTER SURGERY

IMMEDIATELY AFTER SURGERY: 

After surgery, you will be moved to the Post-Anesthesia Care Unit (PACU). Your relative will be told when you are in the PACU. One of the most important functions of the PACU is to manage pain and nausea as you awaken from anesthesia. Nurses will monitor your vital signs, alertness, pain, or comfort level and need for medications. In the PACU, you may notice a variety of equipment. The room is brightly lit, and as you awaken the noises may seem louder than usual. If you feel cold, blankets are available. It is normal to receive oxygen through a facemask. The average length of stay in the PACU is one to two hours. If there is an extended delay, your relative may check with the nursing staff. When the anesthesiologist decides you are ready to leave the PACU, a surgical nurse or a surgical orderly will take you back to your room.

RELIEF OF PAIN: 

You will be prescribed pain medication to be used at home after your surgery. This is a narcotic pain reliever. Take 1-2 tablets every 4-6 hours as needed for pain. It is usually recommended to take the pain medicine every 4 hours for the first 24-48 hours, and then take it as needed. Keep in mind that the medication will cause drowsiness and should not be used with alcohol. Also, taking this medication on an empty stomach may result in nausea. It is common to feel discomfort when lying down to sleep at night, so you may find it beneficial to take the pain pill at bedtime. Oftentimes it may be more comfortable to sleep with a recliner with a pillow behind. If unusual side effects occur, please discontinue the medication and contact our office. We recommend taking 1000mg of Tylenol every 6-8 hours for pain around the clock to help get ahead of the pain.

DRESSING: 

The shoulder dressing may be kept in place after surgery, or if it is soiled. Please call the office to arrange replacement with a new one. The small tapes (steri-strips) covering the incisions under the dressing should be left in place. Showering may begin 2 days after surgery. In some cases, oozing at the point of incision does persist for several days. If this should persists beyond this amount of time by soiling the dressing then please contact our office.

SHOWERING: 

Showers are acceptable, no use of bathtubs or Jacuzzi. Although the dressing is waterproof, protect it further by applying a clear plastic wrap (Saran wrap) prior to showering. Then pat dry.

WHAT TO EXPECT CONT.

SLEEPING: 

Most people are most comfortable sleeping propped up for the first several weeks post-op and sometimes longer. When it is comfortable for you to do so, you may sleep on side with your arm in the shoulder sling resting on your top side. Do not sleep on your side with the shoulder sling down. Sleeping in a recliner often is more comfortable for the first several weeks

SWELLING: 

Swelling is commonly experienced after the surgery. The use of ice packs or a ice cooler and pad over the affected shoulder improves the swelling and gives pain relief. This can be used for approximately 20 min at a time every 2 hours during the day to help with the swelling and pain.

COUGHING AND DEEP BREATHING: 

You should be encouraged to cough and deep breathe frequently for the first few days after surgery. To help you cough, take a slow, deep breath. Breathe in through your nose and concentrate on fully expanding your chest. Breathe in through your nose and concentrate on fully expanding your chest. Breathe out through your mouth and concentrate on feeling your chest sink downward and inward. Then, take a second breathe in the same manner. Now, take a third breath. This time, hold your breath for a moment. Then cough vigorously. As you cough, concentrate on forcing all the air out of your chest. Repeat this exercise two more times.

COLD THERAPY: 

Ice packs or a cold therapy pad should be used following surgery. This is done to decrease inflammation and swelling. It is important to have a towel to avoid injury of the skin or frostbite. Typically, if you have a ice pad, it can be worn continuously after surgery overnight, and then it may be more comfortable to ice for 20 minutes at a time every 1-2 hours. The ice pad may be removed from your shoulder when not icing.

CIRCULATION AIDS: 

Circulation aids promote the return of blood to the heart and decrease your chance of developing a blood clot while you are less active after surgery. Support stockings (TEDs) are one type of circulation aid. If prescribed, wear them to surgery, and throughout your hospital stay. Your stockings should be removed at least once or twice daily for at least 30 minutes to allow air to your skin. These may be worn for 2 weeks following your surgery.

WHAT TO EXPECT CONT.

DIET: 

The day after surgery, drink lots of fluids and eat soft, nutritious foods. An adequate diet is essential for the healing process.

NAUSEA AND VOMITING: 

Although unusual, both can be experienced after anesthesia. If you have a tendency for this, please discuss it with the anesthesiologist. Otherwise, it is usually alleviated with a clear liquid diet.

DROWSINESS: 

After anesthesia, drowsiness may persist for quite a while. It should cause no undue concerns. Do not drive until you feel clear-headed.

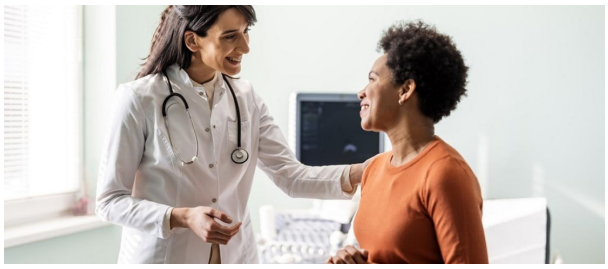
SIGNS OF INFECTION: 

With any surgery it is important to be aware of signs of infection, which can include: unusual looking incision such as increased redness or smell, drainage to be green or yellow, and increased fever. It is normal to have a slight temperature after surgery, but above 101 degrees; you need to contact our office immediately.

POST-OPERATIVE APPOINTMENTS

Typically your appointment for after surgery was made at the time of surgery scheduling for 7 to 10 days after your surgery with a Physician Assistant or Nurse Practitioner. If an appointment was not made please call the office at 254-752-9638 to schedule a post-op appointment. Please make the scheduler aware that this is your first post-op appointment. At this appointment, we will change the steri-strips, take x-rays, and go over your exercises.

Following the initial appointment you will typically be seen by your surgeon at approximately 6 weeks postoperatively, then at 12 weeks postoperatively. If everything is going well at that point, then you will be asked to follow-up at a year to obtain an x-ray and make sure all of the components are working properly.



PHYSICAL THERAPY

After surgery, you will begin your initial shoulder exercise the day after surgery as seen on the next page. A formal physical therapy program should start within the first week of the surgical procedure. You will be given a prescription for therapy at your preoperative appointment so that you can set up your rehabilitation program prior to your surgery. It is ideal to have visits set up with your therapist so that you begin within the first week, usually 2-3 days after surgery.

At your first appointment a physical therapist will examine you. Physical therapists are trained professionals in rehabilitation. With direction from your surgeon, they will determine an exercise program for you.



To increase your comfort during exercise, you may want to continue taking Tylenol to improve your comfort during your physical therapy sessions. Your physical therapy program will include “passive” and “active” exercises for your affected arm. Your therapist will gently perform “passive” exercises with your shoulder. In these exercises, you relax and the therapist carries the weight of the arm through various movements. He or she also will teach you “active” exercises (those you can do by yourself) for your elbow, wrist, and hand.



If possible, a member of your family or a friend should accompany you to some physical therapy sessions to learn the exercises you should do at home. Your friend or family member will practice these exercises at your sessions, under the supervision of the physical therapist. The therapist will give you and your relative or friend verbal and written instructions on how to assist you with these exercises.

POST-OP SHOULDER EXERCISES

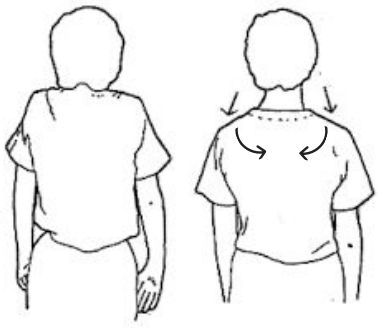
Begin these exercises the next day after your surgery. You may stand or sit. Repeat each exercise 20-30 times and repeat each set 3-4 times daily. Before starting, gently remove your Shoulder Sling.

Exercise and movement are important following surgery. Muscle contractions through exercise release nitric oxide, which decreases inflammation, aids wound healing and helps prevent stiffness.
Be sure to squeeze the ball attached to your Shoulder Sling frequently throughout the day.

*** DO NOT ACTIVELY MOVE YOUR SHOULDER ***

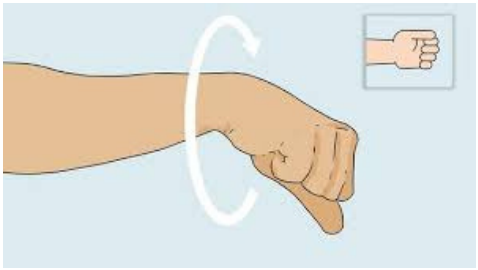
1. Shoulder Shrugs:

Move your shoulder blades up, pinch them together and then move them back and then down to the starting position.



2. Wrist Circles:

Make a fist with your palms up. Start with your forearm supported by your other hand and then move your hand in a circle. Repeat this pattern in a clockwise direction and then in a counter-clockwise direction.



3. Elbow Flexion and Extension:

Make a fist with your palms up. Start with your arms at your side, your elbows fully extended and your fists down towards your knees, flex your elbows up towards your shoulders keeping your arms next to your body, then return your arms to the starting position.



EXTENSION



FLEXION

4. Forearm Pronation and Supination:

Make a fist with your palms up. Start with your elbows at your side and your forearms in front of your body at a 90-degree angle, then rotate your fists from the palm up to the palm down position and back again.



PRONATION



SUPINATION

5. Pendulums:

Bend at the waist so your arm is dangling down. You may want to hold onto a table or chair for support. Gently rock your body weight from your left to your right foot or in a circular motion to move your arm in circular pattern. Alternate between clockwise and counterclockwise circles.





ACTIVITY AT HOME

Everyone's progress is different after this surgery. Listed are guidelines to follow. Follow all specific instructions from your surgeon, nurse, and physical therapists. The following basic guidelines and restrictions may be of benefit:

- Use your sling as directed. It will provide stability for the shoulder and allow the soft tissue to heal and regain normal strength. (see sling questions above or ask your doctor)
- Use your hand for gentle activities directly in front of you. You may bend the elbow, wrist, and hand but be careful with shoulder motion. In general, tabletop activities such as eating, writing, and computer work are alright to do.
- No lifting or holding weight until given permission by the surgeon. No heavy housework such as vacuuming. Some housework can be done with the unaffected arm. At the six-week follow-up appointment, your surgeon may permit you to start lifting up to five pounds.
- No heavy lifting (as defined by your surgeon) for the rest of your life.
- Increase your activity only as your surgeon has directed. It may take three months to one year before you regain optimum function and strength of your arm.
- Do not put weight on your hand, arm, or shoulder by pushing, pulling, or leaning.

PHYSICAL THERAPY AND EXERCISES: 

This usually will start after you are discharged from the hospital unless your replacement is because of surgical care of fracture or is a revision. We will communicate with you when you should start and send a prescription for the physical therapy. You should do the exercises 3-4 times each day as well. These help you maintain the function of the affected joint as well as in unaffected joints. The exercises should not be painful in any way. If you begin to develop increasing pain following this simple routine, rest for the rest of the day and restart the exercises the next day. You will not lose any ground by resting and resuming exercises when the pain impr

DRIVING: 

Usually, you can drive after one week, once you are off narcotics and both you an a family member feel safe with you doing so. To drive, remove your sling and use your repaired arm to hold the bottom of the steering wheel only. Do not actively use your arm to turn the steering wheel.

SEXUAL ACTIVITY:

You may resume sexual activity after your follow-up appointments, depending on the extent of your surgery. During sexual activity, it is important that your shoulder does not rotate or twist. Keep your arm at your side. It is suggested that you lie on your back. Feel free to discuss sexual activity with your surgeon, nurse, or physical therapist.

ACTIVITY AT HOME CONT.

DIET AFTER SURGERY: 

Follow an eating plan to achieve and maintain a healthy body weight for the rest of your life. Maintaining a healthy weight will help avoid straining your new joint.

Eat a variety of foods to maintain a nutritionally balanced diet. This means including foods from all food groups on a daily basis. Wound healing depends on a well-balanced diet.

Constipation can occur as a side effect of pain medication and as a result of decreased activity after surgery. Eat high fiber foods such as fresh fruits/vegetables and whole grains to help prevent constipation. Drink six to eight glasses of water daily unless instructed otherwise.

Ask a dietitian your general nutrition questions. They may provide instructions for a special diet if recommended by your surgeon.

ALERT FUTURE PHYSICIANS AND DENTISTS 

You must always protect the new part of your body from infection. Expect to take an antibiotic before and after any invasive procedure to help protect the new joint from the possibility of infection. Always notify your physician and dentist that you have a shoulder replacement joint. Likewise, if you have a infection occur in your body anytime following your replacement, then please seek medical attention promptly to minimize risk of infection in your shoulder joint.

If you are going to have any of the following procedures, you may need to take an antibiotic:

- Dental work
- Urinary catheterization
- Surgery of any kind
- Proctoscopy
- Colonoscopy
- Any procedure where an instrument or tube is inserted into your body

Recommended antibiotics:

- Dental procedure: Amoxicillin 2.0g orally 1 hour prior to procedure
- Genitourinary and Gastrointestinal procedures: Amoxicillin 2.0g orally 1 hour prior to procedure
- Allergic to penicillin: You can take Clindamycin 600mg orally 1 hour before the procedure.

RETURN

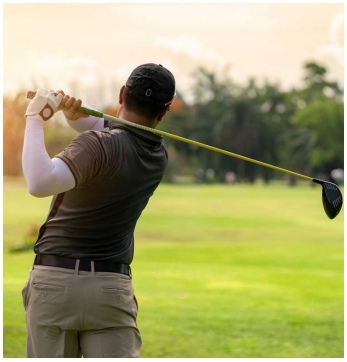
RETURN TO WORK:

The decision to return to work is made depending on your job requirements. In most occupations that involve the office and/or computer work, you may be able to return within about seven days. The return at this point will not be normal and you may not be able to work all day, but you will certainly be able to be productive. Complete, unrestricted abilities with regards to office work will occur by about one month.

If your job requires significant manual labor and lifting, the return will not occur completely until approximately three months following surgery. Even after the three months, there may be significant restrictions applied. This includes a permanent restriction of 50 pounds maximum lifting.

RETURN TO SPORT:

The first six weeks following surgery should be reserved for returning your range of motion under the guidance of a physical therapist. The use of a stationary bicycle is appropriate in the first few days. Return to light weightlifting and swimming should be delayed until you are cleared by your therapist or surgeon. Complete unrestricted activities are delayed until three months postoperatively and you are cleared by your surgeon. This includes sports such as golf, tennis, bowling, waterskiing, etc. Essentially any sport requiring higher impact to the shoulder should be delayed until this time. The bone is healing to the prosthesis during the first 3 months, so protecting that healing during the first 3 months is very important.





WHEN TO CONTACT YOUR SURGEON

If you experience any of the following symptoms, please call our office at (254)-752-9638:

- Drainage or odor from the incision.
- Fever (temperature above 100.4oF or 38oC for two days)
- Increased pain unrelieved with pain medications
- Sudden, severe shoulder pain
- Increased redness around the incision
- Increased swelling at the incision
- A bulge that can be felt at the shoulder
- Arm or shoulder pain, tenderness or swelling
- Numbness or tingling of the arm after the nerve block has been removed.
- Changes in color and temperature of the arm
- Change in motion ability
- A urinary tract infection, bronchitis, or any other type of infection

SLING QUESTIONS

Why do I need to wear the shoulder sling?



Your arm will be placed in a sling following the surgery (Figure). You will be given the sling at your preoperative visit and you will be fitted for it prior to leaving the office. Following the surgery, you can take the sling off while sitting in your house. When sitting or lying down, it is important to keep a small pillow or folded blanked under your elbow and behind your arm to prevent the arm from falling back and straining the area of your operation. When you look down at your arm you should be able to see your elbow crease. It is encouraged that you wear your sling while you are walking around or in an environment where your arm may be placed at risk, such as in crowded places.



Figure: Be sure to have your sling placed forward on the side pad to facilitate proper healing.

What if I am experiencing Numbness/Tingling in my arm?

Loosening the sling and straightening the elbow some can help with these symptoms. Additionally, if you are having forearm discomfort or elbow pain or numbness to your fingers, then placing a folded towel or piece of egg crate foam beneath the forearm (not touching the elbow) may improve comfort at night.

How long do I need to wear the shoulder sling?

Total Shoulder Replacement: in most cases, you should wear the sling to bed for the first week or so, until you have good arm control and it seems comfortable to go without it. The sling can be discontinued altogether after two weeks. However, some patients find that their arm becomes slightly more painful and/or tired toward the end of the day for a couple of weeks after that. In these situations, the sling can still be used during those times.

Reverse Total Shoulder Replacement: you should wear the sling for four weeks, and then it may be discontinued.

What if I don't want to wear the shoulder sling that long?

You will risk pulling the tissues apart and weakening the repair.

May I take the shoulder sling off sometimes?

You may remove the shoulder sling when you are sitting. You should not allow the weight of your arm to pull on the rotator cuff, so support your arm by keeping it on your lap. A pillow beneath your arm may help as well. You may work at your desk with your hands in front of your body and your arm supported.

FREQUENTLY ASKED QUESTIONS



1 HOW LONG DOES SURGERY TAKE?

About 2 hours.

2 WHEN CAN I DRIVE?

Usually, you can drive after one week, once you are off narcotics and both you an a family member feel safe with you doing so. To drive, remove your sling and use your repaired arm to hold the bottom of the steering wheel only. Do not actively use your arm to turn the steering wheel.

3 DO I NEED SOMEONE WITH ME?

You will need to have someone available to take you home as you will be under the influence of prescription medication and will not be able to drive. If you have any additional questions or should problems develop, please do not hesitate to contact us.

4 WHAT IF MY ARM AND FOREARM LOOK SWOLLEN OR BRUISED?

Bruising and swelling within a week or ten days following surgery is normal. Bruising, which is discoloration due to the break down in blood, results from the intentional release of bone marrow during surgery. Bone marrow is a rich source of both stem cells and growth factors, both key to the healing process. Exercising your elbow, wrist and hand will help dissipate the excess fluid.

Chad S. Conner, MD
254-752-9638
Chad S. Conner, MD

Reverse Total Shoulder Arthroplasty Protocol:

The intent of this protocol is to provide the physical therapist with a guideline/treatment protocol for the postoperative rehabilitation management for a patient who has undergone a Reverse Total Shoulder Arthroplasty (rTSA). It is by no means intended to be a substitute for a physical therapist's clinical decision making regarding the progressing of a patient's postoperative rehabilitation based on the individual patient's physical exam/findings, progress, and/or the presence of postoperative complications. If the physical therapist requires assistance in the progression of a postoperative patient who has had rTSA the therapist should consult with the referring surgeon.

The scapular plane is defined as the shoulder positioned in 30 degrees of abduction and forward flexion with neutral rotation. ROM performed in the scapular plane should enable appropriate shoulder joint alignment.

Shoulder Dislocation Precautions*:
No Shoulder motion behind back. (NO combined shoulder adduction, internal rotation, and extension.)
No Glenohumeral (GH) extension beyond neutral.
*Precautions should be implemented for 12 weeks postoperatively unless surgeon specifically advises patient or therapist differently.

Progression to the next phase based on clinical Criteria and Time Frames as Appropriate.

Phase I - Immediate Post-Surgical Phase/Joint Protection (Day 1-6 weeks):

Phase I Goals:
Patient and family independent with:
Joint Protection
Passive range of motion (PROM)
Assisting with don/doff of sling and clothing
Assisting with home exercise program (HEP)
Cryotherapy
Promote healing of soft tissue/maintain the integrity of the replaced joint.
Enhance PROM.
Restore active range of motion (AROM) of elbow/wrist/hand.
Independent with Activities of Daily Living (ADLs) with modifications.
Phase I Precautions:
Sling is worn for 3-4 weeks postoperatively. The use of a sling may be extended for a total of six weeks, often in a revision setting.
While lying supine, the distal humeral/elbow should be supported by a pillow or towel roll to avoid shoulder hyperextension. Patients should be advised to "always be able to visualize their elbow while lying supine".
No shoulder AROM.
No lifting of objects with operative extremity.
No supporting of body weight with involved extremity.
Keep incision clean and dry (no soaking/wetting for 2 weeks); No whirlpool, Jacuzzi, ocean/lake wading for 4 weeks.

DAY ONE TO TWENTY-ONE:

Acute Care Therapy (Day One to Four):

Begin PROM in supine after complete resolution of interscalene block.

Activity instructions (continued)

Forward flexion and elevation in the scapular plane in supine to 90 degrees.
External rotation (ER) in scapular plane to available ROM as indicated by operative findings. Typically around 20-30 degrees.
No Internal Rotation (IR) ROM.
Active /Active Assisted ROM (A/AAROM) of cervical spine, elbow, wrist, and hand.
Begin periscapular sub-maximal pain-free isometrics in the scapular plane.
Continuous cryotherapy for first 72 hours postoperatively, then frequent application (4-5 times a day for about 20 minutes).

Day Five to Twenty-one:

Continue all exercises as above.
Begin sub-maximal pain-free isometrics in scapular plane (avoid shoulder hyperextension when isolating posterior deltoid).
Frequent (4-5 times a day for about 20 minutes) cryotherapy.

3 WEEKS TO 6 WEEKS:
Progress exercises as above.
Progress PROM:
Forward flexion and elevation in the scapular plane in supine to 120 degrees.
ER in scapular plane to tolerance, respecting soft tissue constraints.
At 6 weeks post op start PROM IR to tolerance (not to exceed 50 degrees) in the scapula.
Gentle resisted exercise of elbow, wrist, and hand.
Continue frequent cryotherapy.

Criteria for progression to the next phase (Phase II)
Tolerates shoulder PROM and AROM program for elbow, wrist, and hand.
Patient demonstrates the ability to isometrically activate all components of the deltoid and periscapular musculature in the scapular plane.

Phase II - Active range of Motion / Early Strengthening Phase (Week 6 to 12):

Phase II Goals:
Continue progression of PROM (full PROM is not expected).
Gradually restore AROM.
Control pain and inflammation.
Allow continued healing of soft tissue / do not overstress healing tissue.
Re-establish dynamic shoulder stability.

Phase II Precautions:
Continue to avoid shoulder hyperextension.
In the presence of poor shoulder mechanics avoid repetitive shoulder AROM exercises/activity.
Restrict lifting of objects to no heavier than a coffee cup.
No supporting of body weight by involved upper extremity.

WEEK 6 TO WEEK 8:
Continue with PROM program.
Begin shoulder AA/AROM as appropriate.
Forward flexion and elevation in scapular plane in supine with progression to sitting/standing.
ER and IR in the scapular plane in supine with progression to sitting/standing.
Begin gentle GH IR and ER sub-maximal pain-free isometrics.
Initiate gentle scapulothoracic rhythmic stabilization and alternating isometrics in supine as appropriate. Begin gentle periscapular and deltoind sub-maximal pain-free isotonic strengthening exercises, typically toward the end of the 8th week.
Progress strengthening of elbow, wrist and hand.
Gentle GH and scapulothoracic joint mobilizations as indicated (Grade I and II).
Continue use of cryotherapy PRN.
Patient may begin to use hand of operative extremity for feeding and light activities of daily living.

WEEK 9 TO 12:
Continue with above exercises and functional activity progression.
Begin AROM supine forward flexion and elevation in the plane of the scapula with light weights (1-3lbs.) at

Activity instructions (continued)

varying degrees of trunk elevation as appropriate. (i.e. supine lawn chair progression with progression to sitting/ standing).
Progress to gentle GH IR and ER isotonic strengthening exercises.

Criteria for progression to the next phase (Phase III).
Improving function of shoulder.
Patient demonstrates the ability to isotonically activate all components of the deltoid and periscapular musculature and is gaining strength.

Phase III - Moderate strengthening (Week 12+):

Phase III Goals:
Enhance functional use of operative extremity and advance functional activities.
Enhance shoulder mechanics, muscular strength, power, and endurance.

Phase III Precautions:
No lifting of objects heavier than six pounds (6lbs.).
No sudden lifting or pushing activities.

WEEK 12 TO WEEK 16:
Continue with the previous program as indicated.
Progress to gentle resisted flexion and elevation in standing as appropriate.

Phase IV - Continued Home Program (Typically 4 + months postop):

Typically the patient is on a HEP at this stage to be performed 3-4 times per week with the focus on:
Continued strength gains.
Continued progression toward a return to functional and recreational activities within limits as identified by progress made during rehabilitation and outlined by surgeon and physical therapist.

Criteria for discharge from skilled therapy:
Patient is able to maintain pain-free shoulder AROM demonstrating proper shoulder mechanics. (Typically 80-120 degrees of elevation with functional ER of about 30 degrees).
Typically able to complete light household and work activities.

Any questions or concerns should be communicated to the prescribing physician.

Chad S. Conner MD
254 752-9638



Ascension