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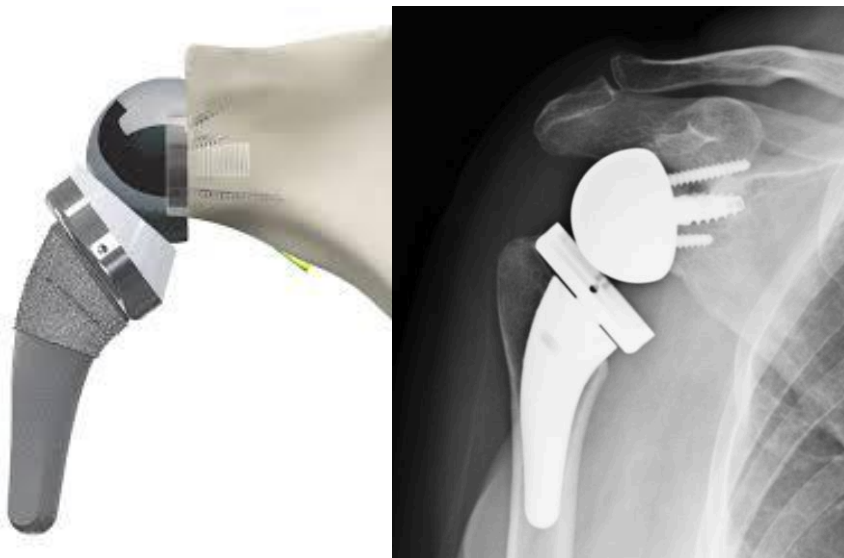
## **Reverse Shoulder Arthroplasty Information Packet**

### **Reverse Total Shoulder Arthroplasty**

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 tendons/muscles.

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.

### **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, the 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 are made differently 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
- Reconstruction following some tumor surgeries
- Failure of nonoperative 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 are not candidates for a reverse shoulder replacement.

### **Expected Outcomes**

Reverse shoulder arthroplasty has been performed in the United States since 2004. Therefore, long-term outcomes and risks of long-term complications are not known at this time. In the short to mid-term, up to 2 to 10 years, reverse shoulder replacement have performed very well clinically. As materials and technology continues to evolve, as a profession we believe longevity of the current implants on the market likely will last well beyond 10 years but long-term data is still lacking. What we do know, is that 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 tissue. 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 as well. After a reverse shoulder replacement, most patients will lose some

motion reaching behind the back. Many patients will be able to reach their belt line or back pocket only. 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 up to 10% of patients.

Most patients can be very active following a reverse shoulder replacement. Golf, tennis, swimming and light yard work and gardening are allowed. 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 slightly lengthens the arm (approximately 1/2 inch). 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.

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 determine if you are a candidate for a reverse shoulder replacement and to help with surgical planning.

### **Your Surgery and Hospital Stay**

You will arrive at the hospital or surgery center 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. The anesthesia staff will discuss this with you at the time of your pre-testing. Upon arrival to the hospital or surgery center 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) or placement of a catheter 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 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 plan on remaining in or near the waiting area in order to be accessible at the completion of the procedure. Belongings will be stored in a locker in the pre-operative area. Please leave valuables at home or with family.

When you wake from surgery you will be located in the post-operative recovery room.

Unfortunately, family members cannot be present with you at this time as there are many other patients and many nurses in this area. Once you have been stabilized and are comfortable, approximately 1-2 hours after surgery, you will be transferred to the nursing division and you will be able to see your family. Shortly after that you will be transferred to your own private room on the orthopedic floor. With advancements in surgical technique, many patients are able to go home the same day. Others stay overnight, or longer if there are pain control or medical issues. If you are planning to go to an extended care or rehab facility you may need to stay 3 nights due to insurance reasons. If you are planning to go to one of these facilities you may want to research facilities in your area prior to surgery. The social work staff will assist with placement once you are in the hospital.

You will have a dressing on your shoulder and your arm will be immobilized in a sling with a wedge pillow attached. You may also have a drain in place to collect fluid and blood from the surgery. This will be monitored closely during your hospital stay. It will be removed the morning you are discharged. Other equipment you can expect to have while hospitalized includes: an IV until you are eating, drinking and urinating normally, a cold therapy unit in the place of ice bags, compression and sequential stockings on your legs to prevent blood clots, possibly oxygen tubing according to your needs, and possibly a catheter if you are not able to urinate normally.

As previously noted, you may be given a regional block. This block usually wears off sometime in the night. Your nurse will be offering you pain medication every 4 hours. We recommend that you begin taking the medication when it is offered so that you will have medication in your system when/if the block wears off. In addition to the routine pain medication you can ask for additional pain medication in IV or pill form if needed. Please ask for additional pain medication when you first begin feeling uncomfortable. You will also have medication for nausea if needed.

Lab work or “blood work” may be done during your stay. By looking at these results, decisions are made regarding your care. In order for the lab results to be ready for your doctor in the morning the staff will collect samples from you. This is normally done very early in the morning (2am -5am). We apologize for any inconvenience this may cause you.

Depending on your needs you may need a blood transfusion after your surgery. It is requested that you not donate blood for yourself prior to surgery. If a friend or family donated blood prior to your surgery, you will receive that blood. Otherwise you will receive blood from the blood bank. Your doctor or nurse can answer questions you may have about this.

A physical and/or occupational therapist will see you after your surgery to evaluate your needs. You will be doing some gentle range of motion for the first few weeks. The therapist will instruct you on these exercises. It is recommended to have a family member attend the therapy session.

### **General Information**

- **Wound care**
  - After surgery, you will have a bandage on your wound that is to remain in place until your first post-op visit. This dressing is waterproof and you are

permitted to shower after 72 hours post-op with the dressing in place. See bathing instructions below

- DO NOT get into a pool, bathtub, spa, lake, or ocean until 1-month post-op
- Please contact our office immediately if you notice any of the following as these could be signs of infection:
  - Significant wound drainage or bleeding, some bleeding on dressing post-op can be expected
  - Foul odor from the wound/dressing
  - Any significant redness or warmth around the wound/dressing
- Please check your temperature if you begin to feel ill, warm, or have body chills. Contact our office immediately if your temperature is above 101 degrees or you think you may have an infection anywhere in your body. It is common to have a low temperature within the first week of surgery. Make sure to stay well hydrated as this will help minimize this
- It is common to have swelling and/or bruising after surgery and is expected. The bruising may start out black-red-purple and change to a yellowish-green color over a few weeks. The bruising may go down the arm. You also may have swelling in your hand. This will go away with time; squeezing a ball or making a fist repeatedly will help with this
- **Blood clots**
  - Surgery may slow the blood flow in your legs, which rarely may result in a blood clot. If a clot does form, your leg will usually become swollen and painful. Walking regularly early after surgery can prevent blood clots as moving the ankle and toes frequently. You should additionally avoid crossing your legs in the initial post-op period
  - Please contact our office right away if you have any leg swelling, tenderness, pain, warmth or redness
  - Call 911 immediately if you begin to have any chest pain, trouble breathing, rapid breathing, sweating, or confusion as this is a sign that a blood clot may have moved to your lungs
- **Rehab diary**
  - Please keep track of therapy visits and exercises done at home. Please bring this diary to each clinic visit

### **Strategies for Independence with Activities of Daily Living**

- **Upper body dressing**
  - Select loose-fitting clothing
  - Always dress operative arm first
  - Use nonoperative arm to pull shirt onto the operative arm, pulling the shirt as far up the arm as possible. Use the nonoperative arm to pull the shirt over your head or behind your back and down your body. The nonoperative arm goes into the shirt last
  - Always undress the operative arm last
  - Consider large shirts with buttons or zippers in the first few weeks following surgery or obtain sling specific shirts ([www.slingshirt.com](http://www.slingshirt.com) OR [www.reboundwear.com](http://www.reboundwear.com) for shirts with snaps that are easy to wear/remove or search “post-operative shoulder surgery shirt” on Amazon)

- Remember to keep your operative arm close to your body while assisting with buttoning or zipping
- Females may consider wearing a camisole or tank top as an alternative to a bra following surgery. If a bra is preferred, consider sports bras that zip or close in the front or a strapless bra to avoid irritation at incision site
- **Lower body dressing**
  - Utilize your nonoperative arm to thread both feet into pants while sitting. Stand up to pull pants up past your hips using your nonoperative arm. When securing pants, the operative arm may assist, but be sure to keep it close to your body
  - Consider pants with elastic
- **Sling management**
  - Week 1-2: sling with abduction pillow at all times, removed for showering and dressing only.
  - Week 3-6: sling while out of home/uncontrolled environment, continue wearing while sleeping. May remove sling while at home for home exercises and during the day for activities of daily living. Activities should be performed only in front of the body
    - Typing, eating utensils, meal preparation, washing face with elbow at side of body
    - No lifting, reaching, pushing or pulling anything heavier than cup of coffee with arm at side
    - No reaching to the side or behind the body/back
    - No using the arm to push up from a chair
  - After 6 weeks the sling can be discontinued entirely
  - Make sure your elbow remains at a 90° angle while in sling. If your hand becomes swollen, it may be a sign that your elbow is too straight and the elbow position is not 90°. Discuss additional options for edema control with your therapist
  - While in sling remember to move wrist and fingers, may remove intermittently throughout day to move elbow/wrist/fingers keeping arm at side
- **Eating**
  - After 2 weeks it is permitted to bend at the elbow and bring food to your mouth
  - Begin with foods that do not require cutting
- **Bathing**
  - You may shower after 72 hours post-op, the post-op dressing can get wet
  - Your arm comes out of the sling and rests at your side during the shower
  - Do not scrub the surgical site or dressing
  - To wash and clean the underarm of your surgical arm, bend at the waist and let the arm passively move away from your body as you bend forward, similar to pendulum exercises
  - No submerging under water in a bath, pool or hot tub until 4 weeks post-op
  - Consider purchasing a bath mat for prevention of falls while showering
- **Grooming**
  - Bend forward from your trunk, similar to pendulum exercises) to move your arm away from your body for activities such as bathing, deodorant, and shaving underarms

- **Toileting**
  - Use your nonoperative arm
  - Place toilet paper on nonoperative side
  - Consider using toileting aid
- **Sleeping**
  - Keep sling on when sleeping
  - It is preferred that you sleep on your back or in a semireclined position
  - While lying on your back, place a small pillow behind your operative arm so that it stays aligned with your body
  - Consider sleeping in a recliner if available
  - If you must sleep on your side, it is best to sleep on the nonoperative side, the abduction pillow can be removed but keep the sling on and prop the operative arm up on a stack of pillows in front of your body keeping it in a slight abducted position
- **Home management**
  - Consider preparing meals and freezing them prior to surgery
  - Temporarily move frequently used items from higher shelves to counter top level
- **Driving**
  - No driving until 6 weeks post-op
  - Start with low risk driving on local streets and progress to riskier freeway driving

### **Risks and 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 complications 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 bone where the deltoid originates, a blood clot in your arms or legs which may very rarely travel to your lungs, complex regional pain syndrome and dislocation. This type of joint replacement is more susceptible to dislocation because of the way the cup is perched beneath the ball. Fortunately, this is usually a solvable problem. 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.

### **Follow Up Appointment**

Patients are seen in the office 10-14 days after surgery for wound and radiographic evaluation. If you have not been scheduled for a follow up, please call the office to set up an appointment at 702-990-2290. We will then schedule your second follow up appointment for approximately 4 to 5 weeks thereafter.