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Reverse Shoulder Replacement

A reverse shoulder replacement has been advised for your current shoulder condition. Indications for a reverse shoulder replacement are multiple and include a massive irreparable rotator cuff tear, a massive tear with shoulder arthritis (rotator cuff arthropathy), malunited fracture, or failed previous shoulder replacement surgery. The goal of reverse shoulder replacement surgery is primarily pain relief and secondarily the return of function (motion) to the shoulder. The average motion following replacement surgery is 120 degrees of forward elevation (arm lifted straight out in front of you), however, the best predictor of motion after surgery is the motion that you are starting with (i.e. good starting motion typically equates with comparable motion after surgery). Previous surgery has been implicated as a predictor of poorer outcome following reverse replacement surgery. This surgery is unique in the sense that the anatomy of the shoulder is being "reversed" such that the ball becomes the socket and the shoulder socket is replaced with a ball (glenosphere). This changes the biomechanics of the shoulder and allows the deltoid muscle to function for the torn rotator cuff tendons. More information may be reviewed at Indyshoulder.com.

The surgery is performed thru a 6-10cm incision in the front of your shoulder (front crease of your deltoid). Dr. Badman utilizes the DJO Surgical Reverse Total shoulder system. This prosthesis has been associated with a lower complication rate than the European designed (Grammont style) implants. A metal stem (titanium alloy) will then be selected based on your specific anatomy and impacted (press-fit) into the bone. **If you have a nickel allergy please alert Dr. Badman and staff of this in advance as this implant does contain nickel.** A shell with a plastic socket is then impacted onto the stem. On the socket side, a ball (glenosphere) is anchored into the bone via multiple screws (one large central screw and four peripheral locking screws). This provides a new smooth surface for your shoulder, improves the efficiency of the deltoid and hopefully results in improvement of pain and function. You will be placed in a shoulder abduction sling after surgery which will remain in place for 3-6 weeks depending on if a repair of your front rotator cuff tendon (subscapularis) occurs during surgery. This will usually be done as an outpatient procedure where you will go home the same day unless your health requires an overnight stay which will be assessed and discussed beforehand. The biggest risks of reverse shoulder replacement surgery include but are limted to acromial fracture (3-10%), instability or dislocation (<1%), prosthetic failure(10% at ten years), persistent pain, and risk of infection (<1%). Typically the first 2 weeks can be the roughest but each week it gets better. By your forth to sixth week the sling is removed and improvements are noted with regard to pain. Gradual return of motion is achieved with therapy between 6-12 weeks. By 4-6 months most patients are able to resume activities of daily living. Improvements are continued for up to 18 months following surgery. An annual follow-up x-ray is advised for the first 2 years then at 5 years, 10 years and then typically every 2-3 years beyond 10 years.

Facts About Reverse Shoulder Replacement Surgery

- <u>The average orthopedic surgeon performs less than 30 shoulder replacement surgeries per year (lower volume has been correlated with poorer outcome and higher failures)</u>

- <u>A high volume shoulder replacement surgeon performs at least 50 per year so please educate yourself on the experience your surgeon has (Dr. Badman has averaged over 250-300/year over the past 5 years)</u>

- There is a significant difference in available implants (similar to differences in Mercedes Benz versus Kia). Two designs are the European Grammont style (Depuy, Zimmer, Tornier, etc) and American (DJO). Dr. Badman uses the American version and trained under the designer (Mark Frankle) during his fellowship. Higher complication rates (notching leading to implant failure) have been reported with the European design

so please educate yourself with regard to the implant your surgeon uses and understand there is a significant difference or educate your surgeon on the differences.

- 8-10% of DJO reverse shoulder replacements will fail by 15 years typically a result of polyethylene wear

- A reverse shoulder replacement is not indestructible and will never be like the shoulder you had as a teenager. Lifetime activity modification after surgery is advised with recommendation to limit repetitive weight greater than 20lbs overhead to increase the lifespan of your joint replacement. If you have to occasionally lift heavier than this, Dr. Badman has no problem with that and these numbers are purely expert level opinion and only general recommendations. Ultimately you will resume your activities as tolerated and the weight restriction is advisable but not mandatory. Occasionally lifting more than 20lbs will not damage your shoulder.

NOTES REGARDING PRE AND POST SURGERY

- It will be advised you begin a protein or amino acid drink 2 weeks in advance of surgery and continue for 2-4 weeks post surgery to improve healing. This can be purchased thru Thrive Nutrition using the QR code below.

- **YOUR PAIN MEDICATION WILL BE CALLED TO YOUR PHARMACY LISTED 24-72 HOURS IN ADVANCE OF SURGERY SO MAKE SURE THESE ARE PICKED UP AHEAD OF TIME**

- You will be enrolled in a preoperative pathway to prepare you for surgery. This can be sent via text or email. Much of this information is also on my website Indyshoulder.com under "Preoperative Pathways" in a video format if for some reason you missed a section or can't pull it up. Some of these questions postoperatively are for research purposes only. If you cannot do a specific task do not assume you are to try these things and simply answer no. An example would be "can you throw a ball?" at a 6 week time point. The expected answer is "No" or "I cannot do".

POTENTIAL BENEFITS

The primary benefit from shoulder replacement surgery is pain relief, as well as an improvement in shoulder function and motion.

POTENTIAL RISKS

Total shoulder replacement surgery is considered a major surgical procedure. Serious medical risks associated with the surgery may include, and are not limited to, problems with anesthesia, heart attack, heart beat irregularities, and stroke. Blood loss can occur during or after the surgery which may require transfusions. In very rare situations, a person may die from complications related to the surgery. Other general medical risks related to this orthopedic procedure include, but are not limited to: blood clots; pulmonary embolism; infection; dislocation; fracture of bones around the shoulder; hematoma formation (a collection of blood) that can require surgical drainage; nerve injury; blood vessel injury; and numbness and scarring around the surgical incision. Shoulder stiffness can occur which limits expected motion and function. Pain may be incompletely relieved and shoulder replacement may not fully restore the function of the shoulder. Internal rotation (ability to reach behind your back) is the most unpredictable motion after reverse shoulder surgery and may be so

ALTERNATIVES TO SURGERY

Conservative (non-surgical) measures may help control shoulder pain. These include the use of anti-inflammatory and/or pain medications, and appropriate therapy.

CONSEQUENCES OF DECLINING CARE

Arthritis and rotator cuff arthropathy or chronic rotator cuff tears, by themselves, are not considered life threatening illnesses. If the patient elects to not undergo treatment, then it is likely that shoulder pain will

continue and both pain and disability may increase over time. If left unattended, the underlying process may result in progressive damage to the joint, compromising surgery performed later.

LONG TERM CONCERNS

Long term complications are possible after total shoulder replacement. Late loosening, wear, infection or progressive bone loss may occur and require re-operation. Close follow-up is necessary to monitor for changes around the joint replacement which could threaten the strength of the bone near the joint replacement. Regular follow-up (every one to two years) becomes more important as the joint replacement becomes older. The risk of problems related to wearing of the artificial joint surfaces increases over time.