

Reverse Shoulder Arthroplasty



Levy Shoulder to Hand Center



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LEVY SHOULDER TO HAND CENTER
AT THE PALEY ORTHOPEDIC & SPINE INSTITUTE

LEVYREHAB.COM

Disclosures – Dr. Levy

- DJO/Enovis
 - Consultant for shoulder replacement technique
 - Designer
 - Next Generation Reverse & Anatomic Shoulder
- No financial benefit from any devices used
- Select the best implant for each patient

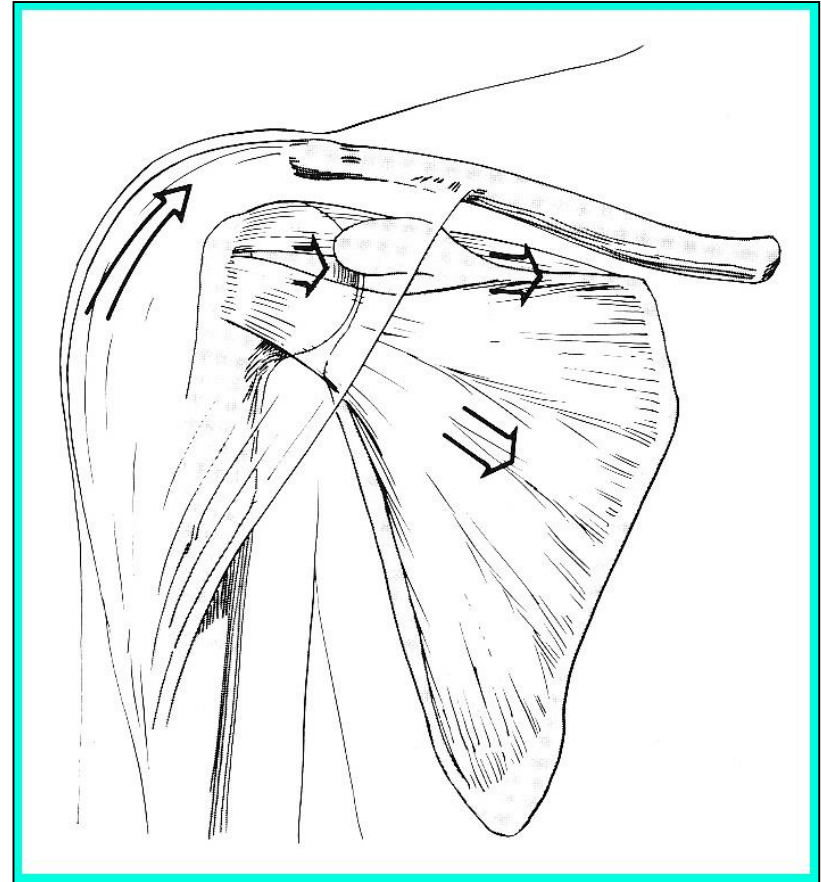


Common Indications

- Rotator cuff arthropathy
- Severe shoulder arthritis
- Massive not repairable rotator cuff tear
- Proximal humerus fracture
- Poorly healed fracture
- Revision shoulder replacement

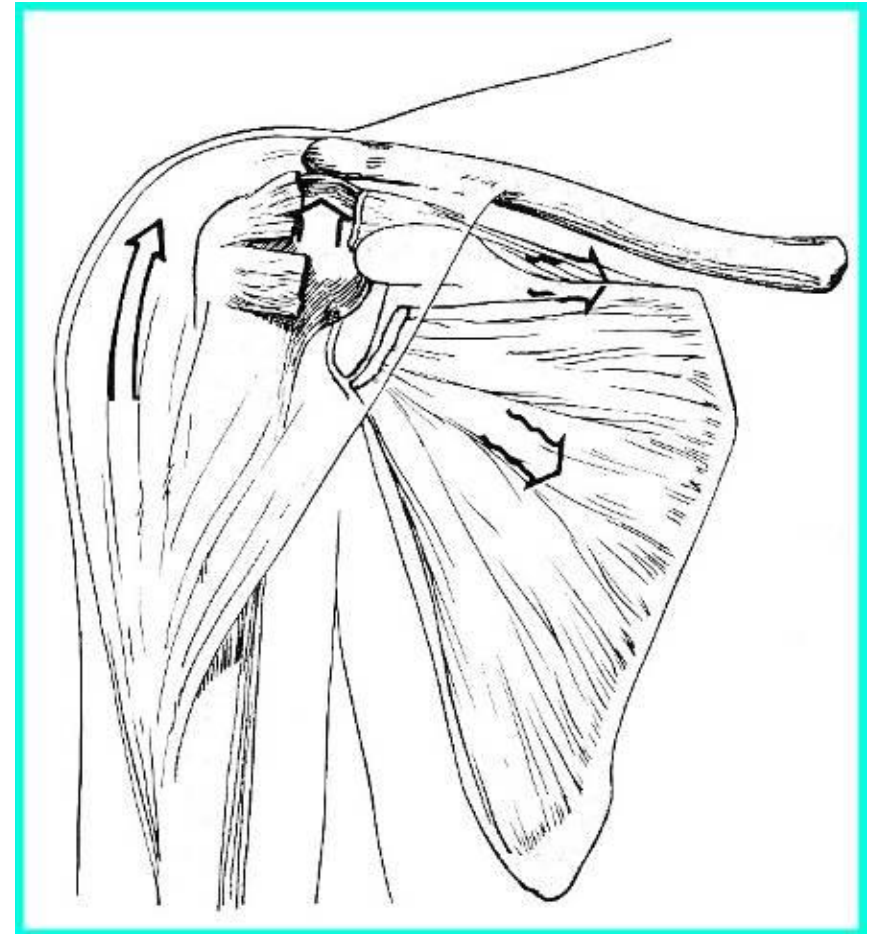
Muscle Action of the Shoulder

- Deltoid
 - Wants to pull arm up
 - Requires stable joint
- Rotator Cuff
 - Pulls humeral head into glenoid
 - Establishes stability of the joint to allow deltoid to elevate the arm



Rotator Cuff Deficiency

- Loss of muscle balance
- Leads to upward and forward instability (anterosuperior escape)



Symptoms

- Pain
 - Progress over time
 - Worse with activity
 - Interferes with sleep
- Instability
- Loss of motion
- Atrophy (wasting) of muscles
- Swelling
- Crepitus (clicking, popping or crunching sound)
- Tenderness to touch

Treatment – non-operative

- Anti-Inflammatories (NSAIDs)
- Cortisone injection
- Physical therapy
- Activity modifications

- Limited evidence
 - PRP
 - Stem cells
 - Visco-supplementation



When to Consider Surgery

- Quality of life decision
 - Interferes with activities
 - Loss of independence
 - Grooming
 - Bathing
 - Dressing, etc.
 - Interferes with sleep
 - Interferes with work

Surgery

- West Boca Medical Center
- West Boca Outpatient Surgical Center
- Typically outpatient operation
 - General anesthesia with nerve block
 - Multimodal pain management
 - Nerve block
 - Cold therapy
 - Anti-Inflammatory
 - Steroids
 - Tylenol
 - Opioids



A comparison of patient same-day discharge selection after shoulder arthroplasty before and after the COVID-19 pandemic

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**85.4% Same Day Discharge Home
after Shoulder Arthroplasty**

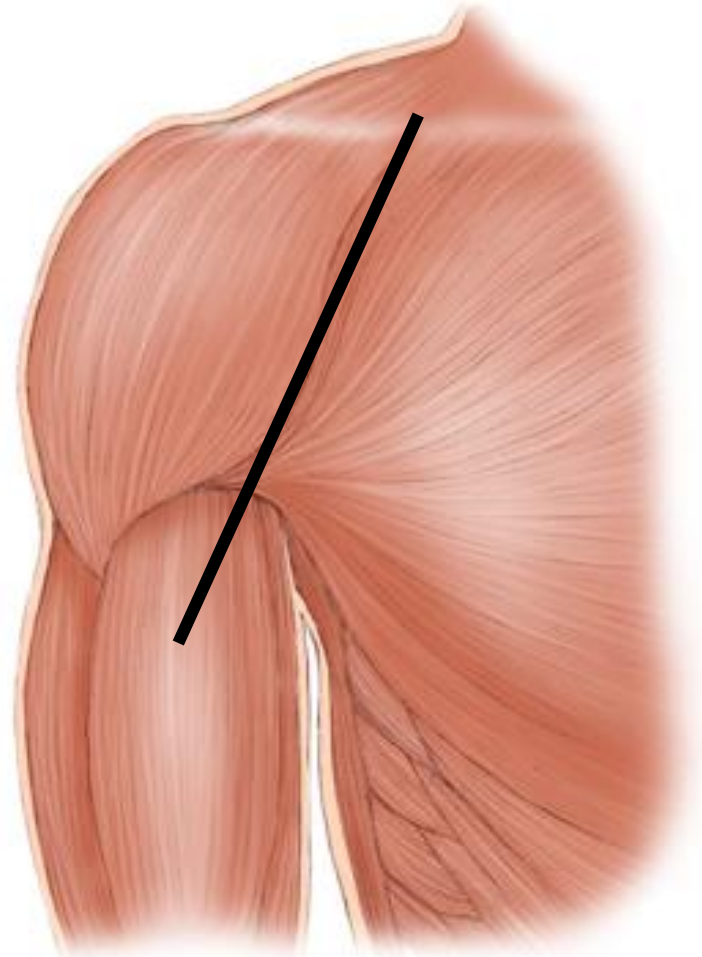
Surgery

Since 2023:

99% of Shoulder Replacement Patients Have Been
Discharged Home

Operation

- **Incision**
 - From collar bone down the arm



Operation

- **Incision**
 - From collar bone down the arm
- Release subscapularis tendon
 - Rotator cuff tendon
 - Allows visibility of joint
 - **MUST BE REPAIRED AND PROTECTED**



Operation

- Remove the humeral head (ball)



Operation

- Prepare the glenoid (socket)



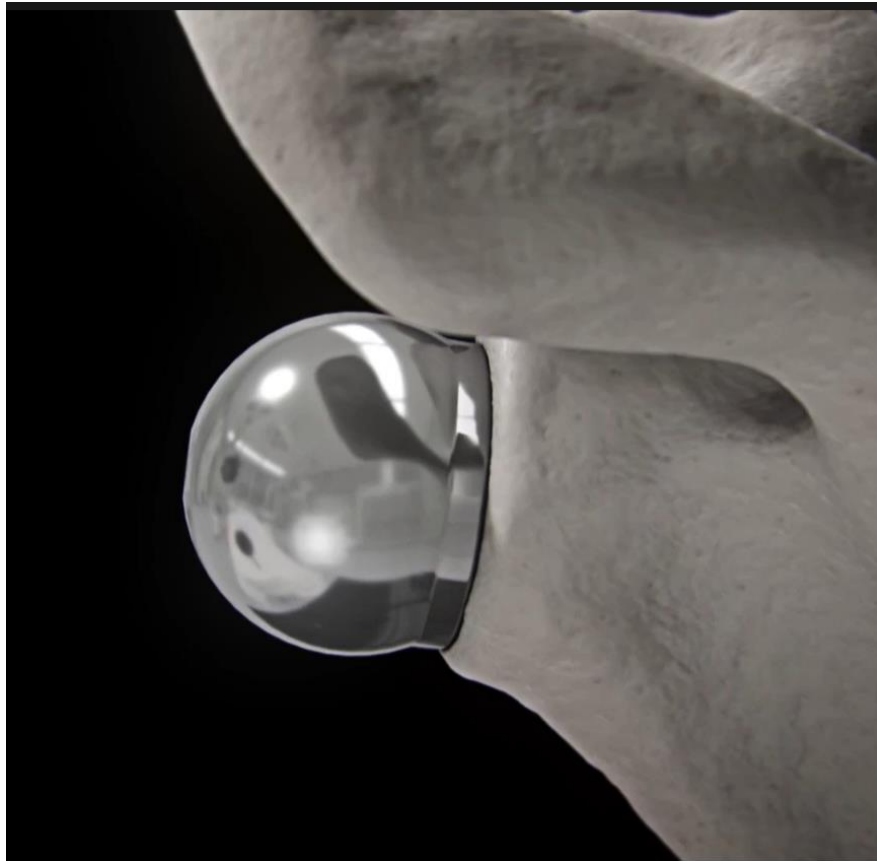
Operation

- Insert plate to support ball (glenosphere)



Operation

- Insert ball (glenosphere)

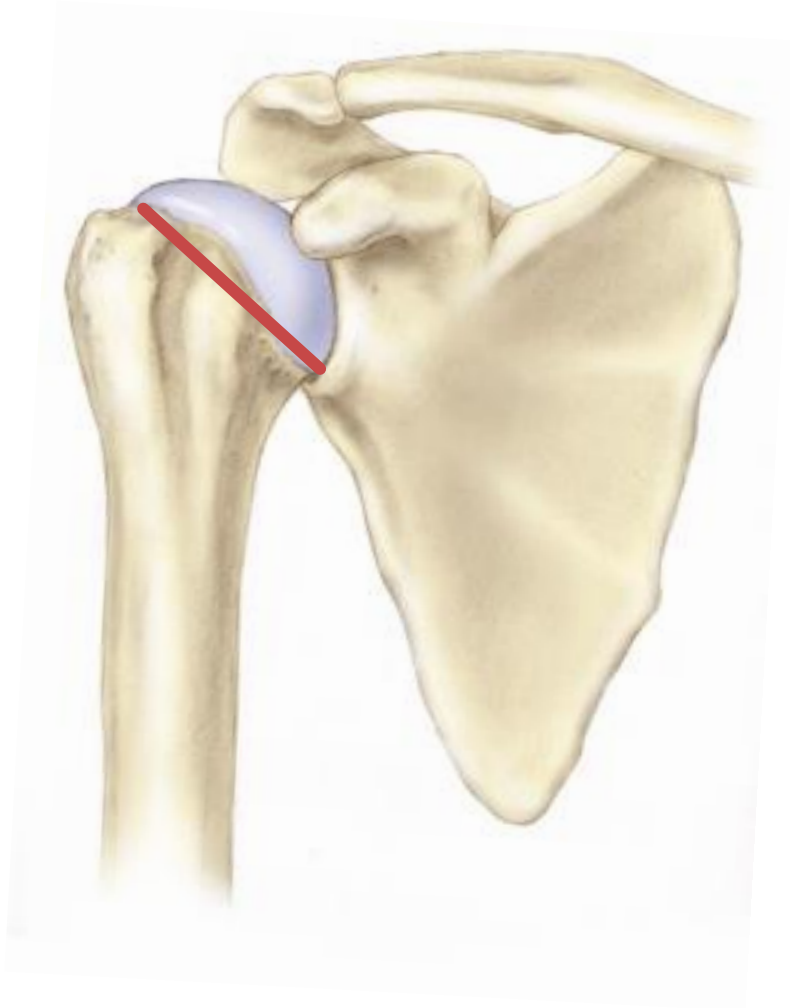


Operation

- Place socket into humerus



Operation



Reverse Shoulder Replacement



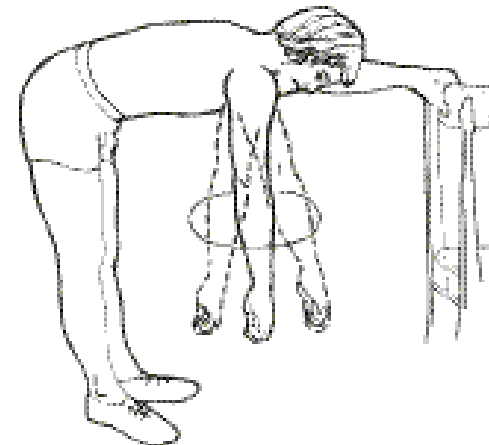
Post-operative Rehabilitation

- **Phase 1 -- Healing (0-6 weeks)**
 - Ultra Sling
 - Initial 2 weeks
 - Shoulder Immobilizer
 - 2 weeks – 6 weeks
 - **Pendulum exercises only**
 - 3 Times per day
 - 25 Clockwise
 - 25 Counterclockwise
 - May use hand for activities immediately in front of you
 - Eating, drinking, shaving, brushing teeth, etc.
 - **NOT PAINFUL REHAB**
 - Most patients off pain medication within a few days

First 2 Weeks



Until 6 Weeks



Post-operative Rehabilitation

■ Phase 2 – Stretching (6-12 weeks)

- Discontinue brace
- Stretching 3x per day
- Begin to use arm
 - Golf putt, no swing
- No lifting >2 lb

Rehabilitation Stage 2 – Stretching (6 to 12 weeks)

1) Shoulder Immobilizer

You may discontinue the use of your shoulder immobilizer.
You **do not** need to sleep with the sling or wear it around the house.

2) Overhead stretches- 3 options (choose 1)

A) Slides- Start with your arm at waist height on a countertop or table. Begin to slowly slide your arm forward extending to a point of maximal tightness, hold the position for 30 seconds. After 30 seconds, stretch a bit more and hold for 10 seconds.



B) Assisted- while lying flat on your back use the power of your other arm to assist the stretching of your arm moving forward in a straight line. When you reach the point of maximal tightness, hold the position for 30 seconds. After 30 seconds, stretch a bit more and hold for 10 seconds.



C) Wall Crawls- Similar to assisted but you are going to stand facing a wall. Place surgical arm straight out in front of you against the wall. Slowly use fingers to raise your arm up the wall. When you reach the point of maximal tightness, hold the position for 30 seconds. After 30 seconds, stretch a bit more and hold for 10 seconds. Slowly lower the arm back down with assistance from non-operated side.



**Remember choose 1 of the 3 overhead stretches listed above.
Complete 5 repetitions, 3 times a day (total of 15 times daily).**

3) External Rotation (*gentle stretching ONLY after anatomic total shoulder*)

Use a cane, broom, golf club, or any object at least shoulder width apart. Make sure your elbow stays tucked in at your side. With the elbow bent to 90 degrees you are going to gently force your surgical arm to the outside of your body with the aid of the stick in your non affected side applying the force.

When you reach the point of maximal tightness, hold the position for 30 seconds. After 30 seconds, stretch a bit more and hold for 10 seconds. Breathe slowly and deeply while the arm is moved.



Complete 5 repetitions; 3 times a day (total of 15 times daily).

4) Lifting Restrictions

You are encouraged to use the arm for normal daily activities. However, you should not carry, lift, push, or pull anything greater than two (2) pounds.

5) Begin to use arm for everyday activities that do not require lifting. Return to driving (if no longer taking narcotic medication), washing hair, golf putt, etc.

Post-operative Rehabilitation

- Phase 3 – Return to activity (3 months+)
 - Deltoid focused strengthening
 - Gradual return to activities
 - Golf, Swimming, Tennis, Pickleball, etc.

Deltoid Strengthening Program Jonathan Levy, MD (adapted from Reading Shoulder Unit program)

The following sets of exercises are designed to strengthen the outer muscle of your shoulder (deltoid muscle). Improving your deltoid strength is the key to achieving improved strength and function of your shoulder.

- Key Points:**
- Sets of 10
 - 3-5 times each day.
 - Stop exercises if your pain increases or you do not feel well.
 - Expect to see improvement by 6-12 weeks

Exercises:

1. Warm up with **Pendulum Exercise** -- While standing, bend forward and let your arm dangle free and perform gentle pendulum movement for about 2-3 minutes. This will help you in relieving pain and free up your muscles around the shoulder.



2. Lie down flat on your back, with a pillow supporting your head.

3. Raise your weak arm to 90 degrees vertical, using the stronger arm to assist if necessary. The elbow should be straight and in line with your ear.



4. Hold your arm in this upright position with its own strength.

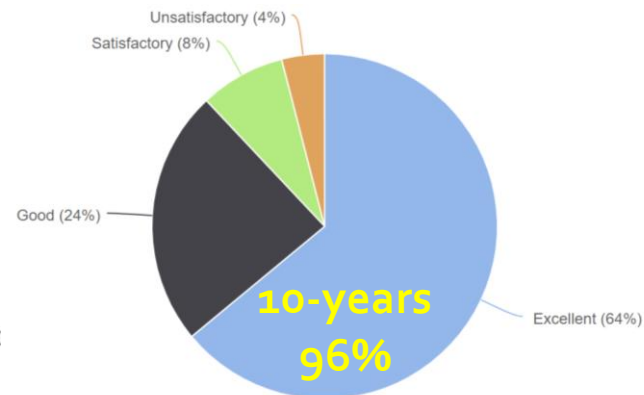
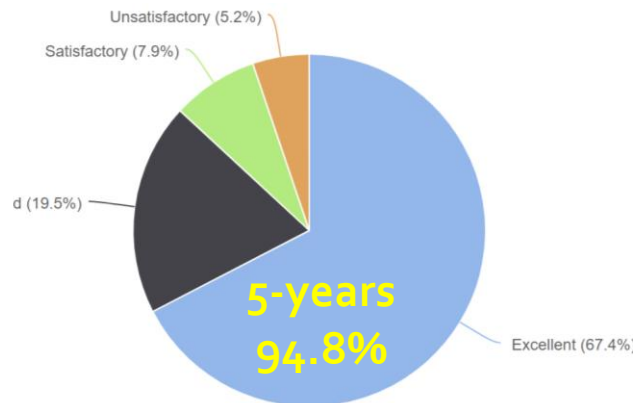
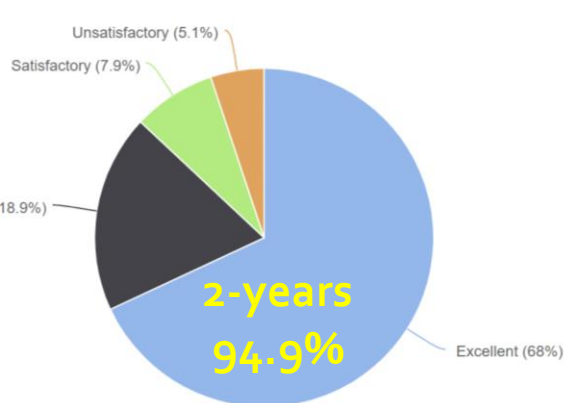
5. Slowly with your fingers, wrist and elbow straight move the arm forwards and backwards in line with the outside of the leg, as per diagram. This should be a slow gentle movement. Keep the movement smooth and continuous for 5 minutes or until fatigue.



What to Expect

- 95% Overall Satisfaction (65-70% Excellent)
 - Pain relief
 - Improvement in function
 - Increased range of motion
 - Increased ability to perform activities
 - Improved quality of life
 - Return of independence

How would you rate your personal satisfaction with your surgery?



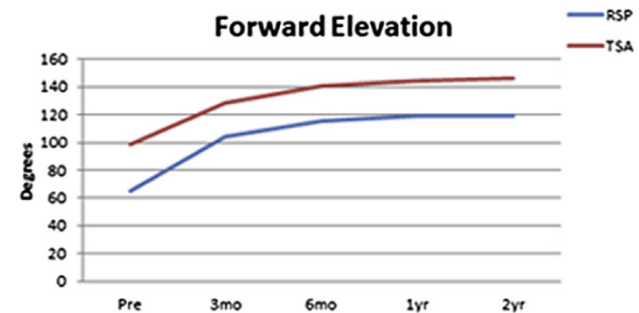
Recovery Expectations

- **Pain Relief**
 - Quick!
 - Most patients off pain medication within days
- **Function Recovery**
 - 3-6 months to return to activities
- **Motion**
 - 3 months 70%
 - 6 months 80-90%
- **Internal Rotation**
 - 75% Easy toileting
 - 60% Reach bra/mid-back

Speed of recovery after shoulder arthroplasty: a comparison of reverse and anatomic total shoulder arthroplasty

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Functional internal rotation after shoulder arthroplasty: a comparison of anatomic and reverse shoulder arthroplasty

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Return to Sports

■ Return to Golf

- 92% performance same or better
- 48% with improved driving distance
- Return to play
 - 59% by 6 months; 91% by 12 months

■ Return to Racket Sports

- 80% ability to return to sport
- 90% performance same or better
- Return to play
 - 46% by 6 months; 92% by 12 months

■ Return to Swimming

- 64% returned to swim
- 74% with improved performance
- 71% with increased enjoyment

Return to golf after shoulder arthroplasty: golf performance and outcome scores

*Andrew Boltuch, DO, Gagan Grewal, MD, Dylan Cannon, BS, Justin Toma, MD, and Jonathan C. Levy, MD**

Return to racket sports after shoulder arthroplasty: performance and outcome scores

Austin Vegas, BA^a, Dylan Cannon, MD^b, Jose Rafael Garcia, BS^c, Hugo C. Rodriguez, DO, MBS^d, Jordan Levy^a, Hans Lapica, MD^e, and Jonathan C. Levy, MD^{f,}*

Appointments

- **Surgical Discussion** (with Sara Blum, PA-C)
 - Review CT scan
 - Review medical clearance
 - Baseline outcome scores
- **2 Weeks Post-operative Visit** (with Sara Blum, PA-C)
 - Check X-rays
 - Remove sutures
- **6 Weeks** – X-rays, stretching exercises (with Sara Blum, PA-C)
- **12 weeks** – X-rays, strengthening exercises, outcome scores
- **6 months** – X-rays, outcome scores
- **1 year** – X-rays, outcome scores
- **Annual Visits** – X-rays, outcome scores

Complications

- Subluxation or dislocation of the prosthesis
- Acromion stress fracture
- Infection
- Wound problems
- Hematoma
- Excessive blood loss
- Injury to nerves and/or blood vessels
- Mechanical failure of device
- Wear or loosening
- Fracture
- Weakness
- Stiffness
- Requirement for additional surgery
- Anesthetic and nerve block risks