

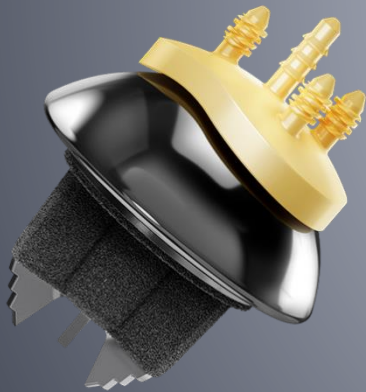
Anatomic Shoulder Arthroplasty



Levy Shoulder to Hand Center

Jonathan Levy, MD
Casey Beleckas, MD

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Boca Raton, Florida USA



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

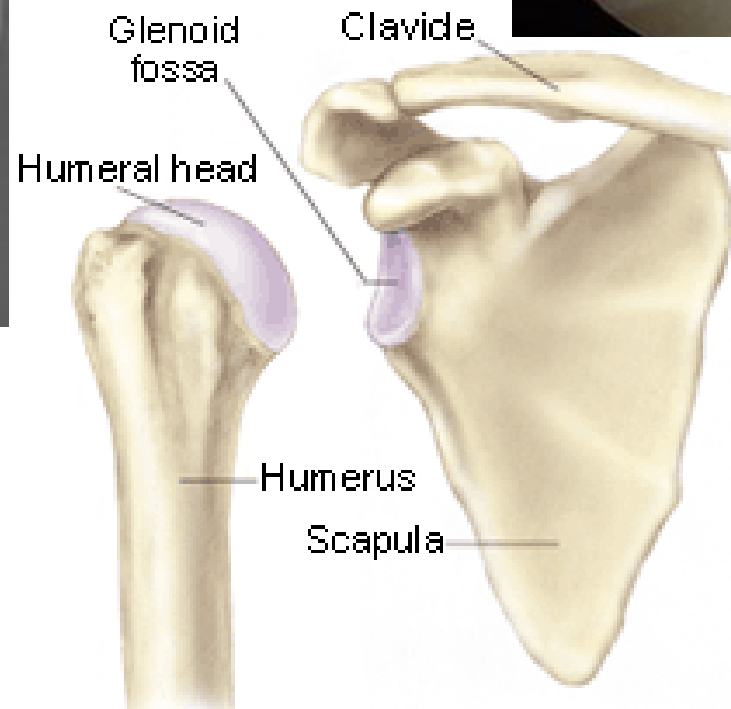
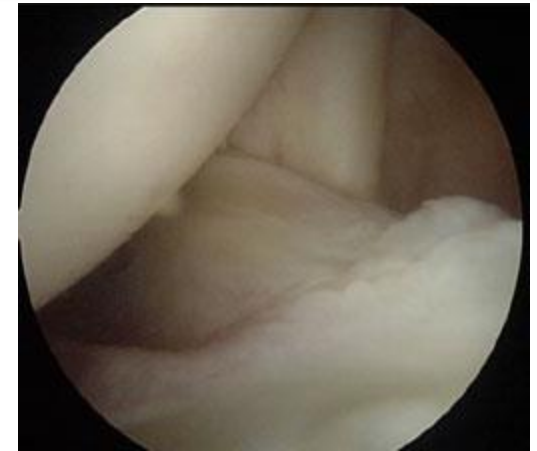
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Disclosures – Dr. Levy

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

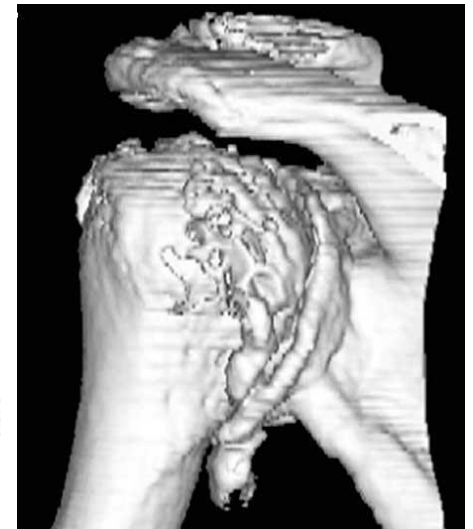
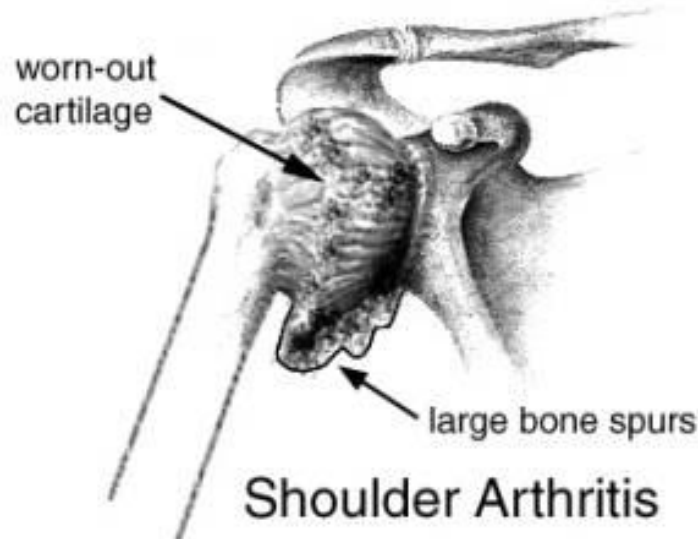


Normal Joint Anatomy



Development of Arthritis

- Breakdown of cartilage
- Loss of smooth surfaces
- Loss of joint space
- Bone spurs



Symptoms

- Pain
 - Progresses over time
 - Worse with activity
 - Interferes with sleep
- 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-inflammatories
 - 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**

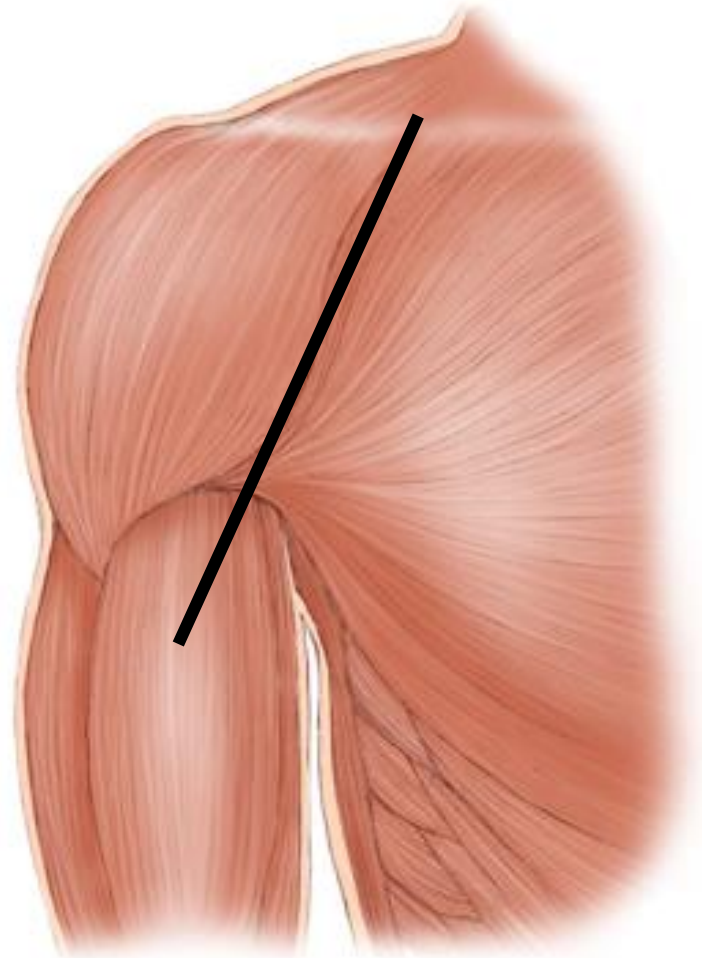
Surgery

Since 2023:

99% of Shoulder Replacement Patients Have Been
Discharged Home

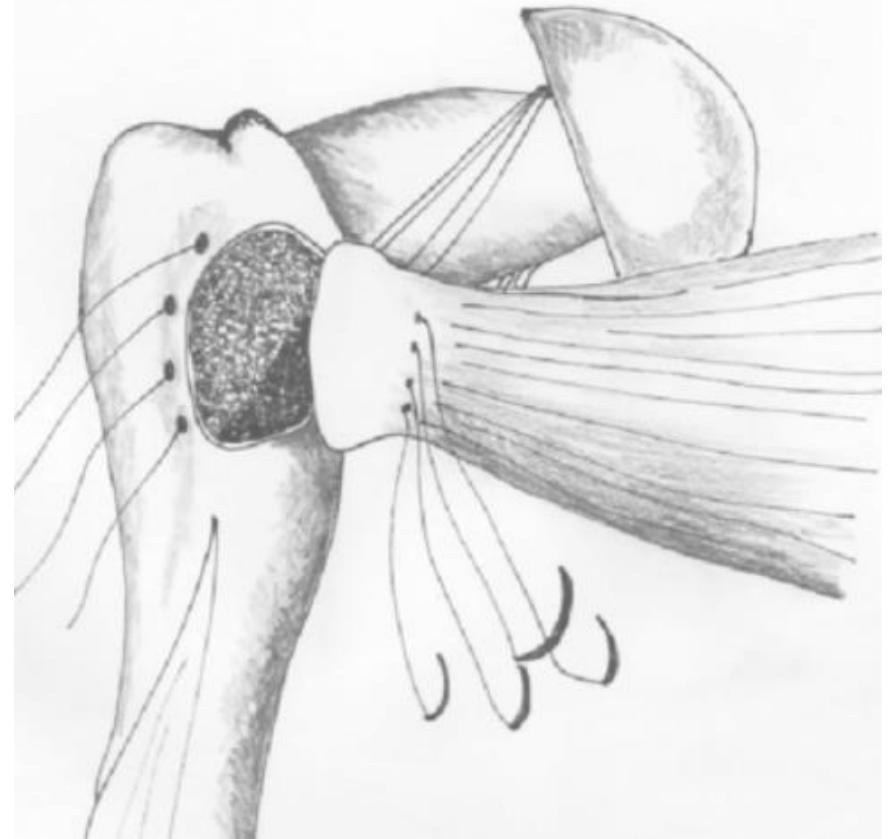
Operation

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



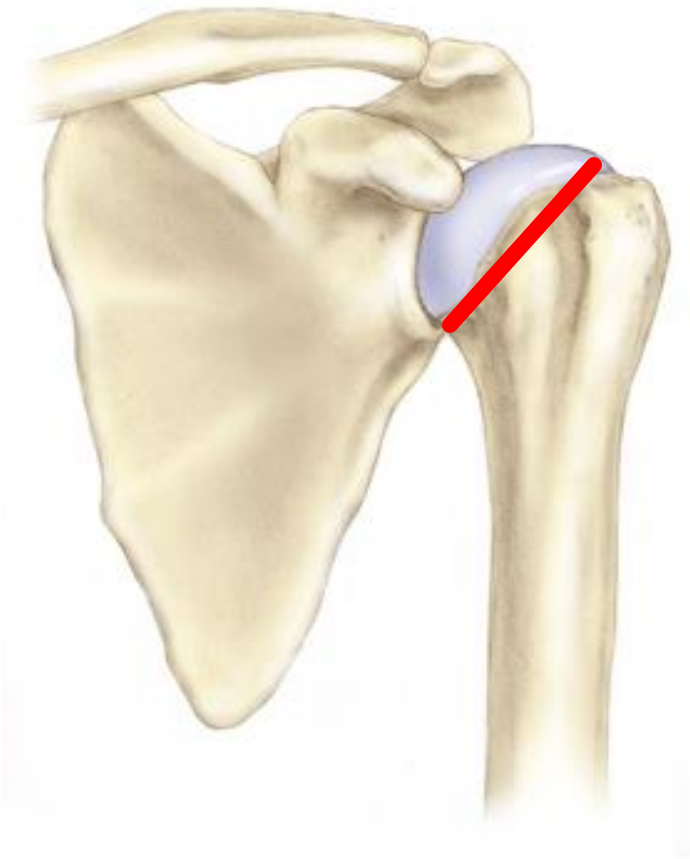
Operation

- **Release subscapularis tendon**
 - Rotator cuff tendon
 - Allows visibility of joint
 - **MUST BE REPAIRED AND PROTECTED**



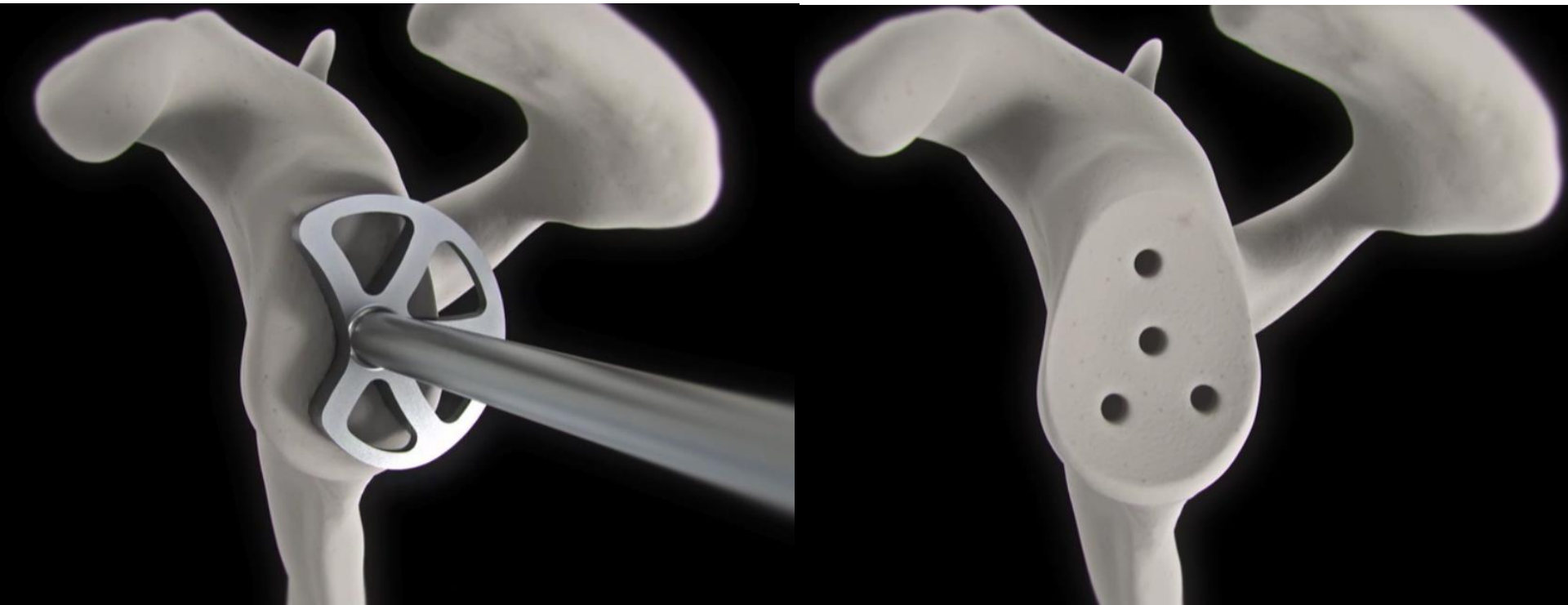
Operation

- Remove the humeral head (ball)



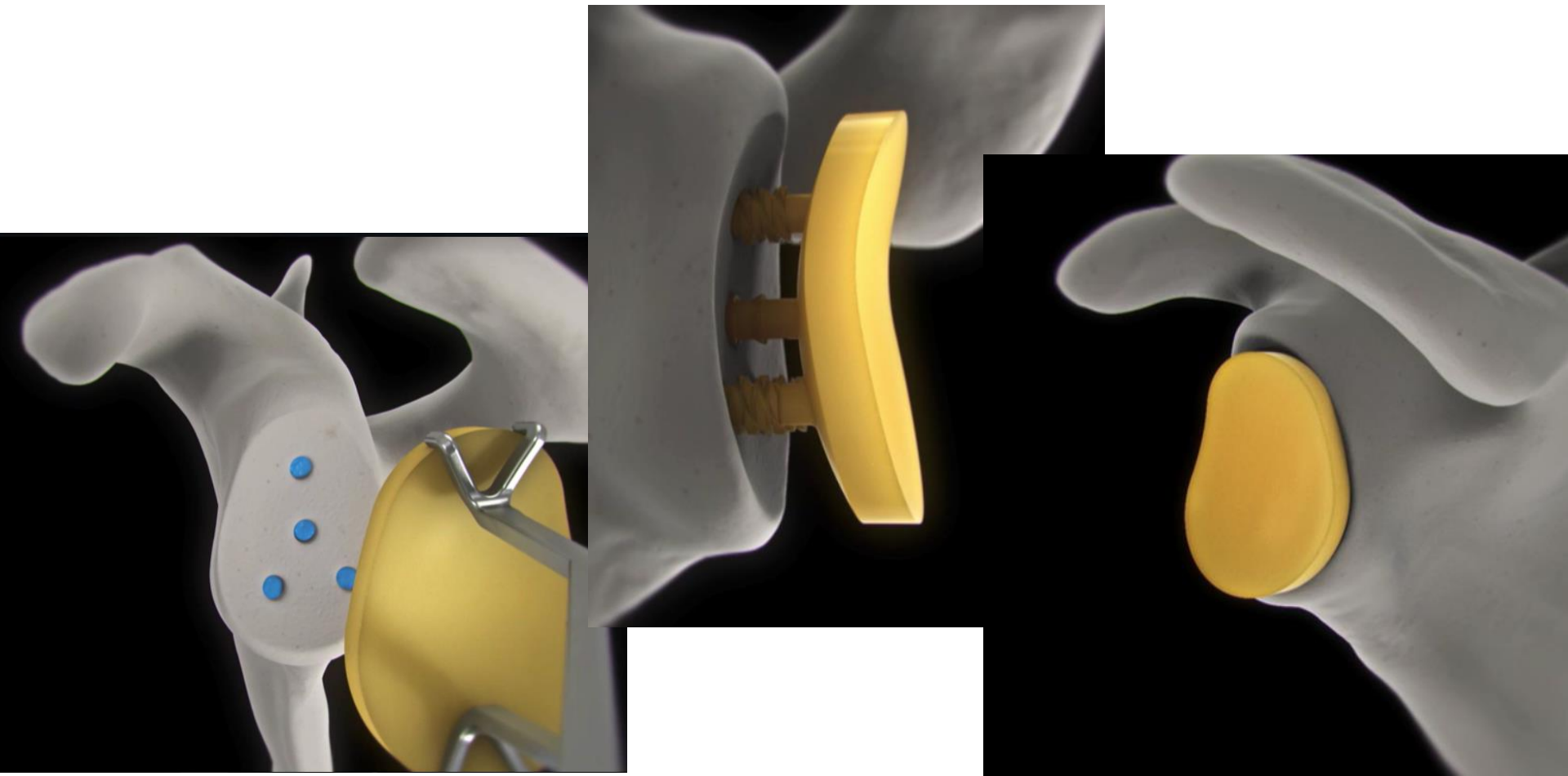
Operation

- Prepare the glenoid (socket)



Operation

- Insert plastic socket (glenoid)



Operation

- Place ball into humerus

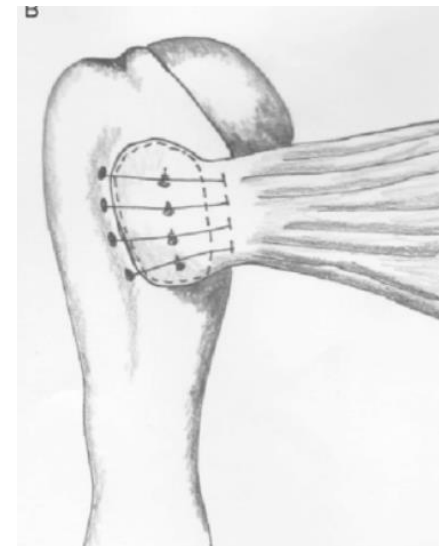
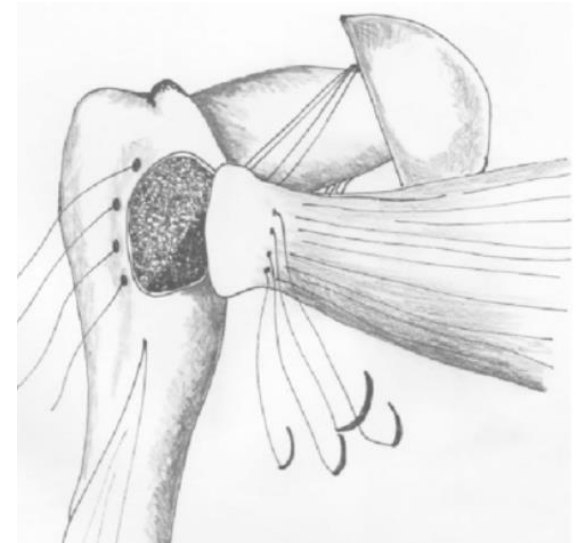


Anatomic Shoulder Replacement



Operation

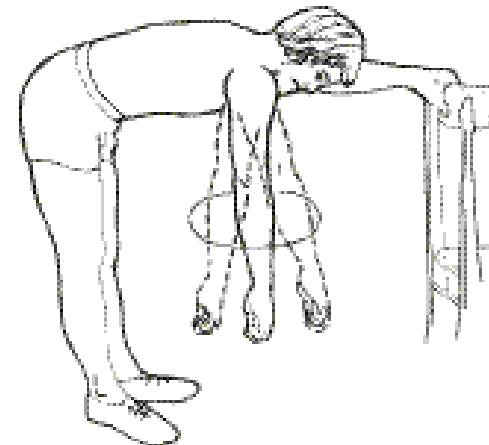
- Subscapularis tendon repaired
 - Takes 3 months to heal
 - Must be protected
 - Shoulder immobilizer for 6 weeks



Post-operative Rehabilitation

- **Phase 1 -- Healing (0-6 weeks)**
 - Shoulder Immobilizer
 - 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

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

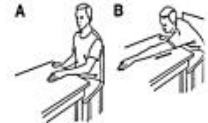
Rehabilitation Stage 2 – Stretching (6 to 12 weeks)

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+)**
 - Rotator cuff and periscapular strengthening
 - Gradual return to activities (including golf, tennis, weightlifting)



Internal Rotation

Keeping your elbow in at your side, rotate arm inwards towards your body. Make sure the forearm is parallel to the floor.



External Rotation

Keeping your elbow in at your side rotate arm out away from your body. Make sure the forearm is parallel to the floor.



Shoulder Extension

Keeping the elbow straight pull the arm back.



Shoulder Adduction

Starting with your arm at your side. Pull your arm back down to your side.



Shoulder Flexion

Keeping the elbow straight, Raise the arm forward.



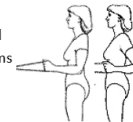
Shoulder Abduction

Start with arm at side slightly in front of stomach. Raise your arm from midline out to your side.



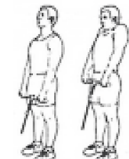
Shoulder Rows

Keeping your elbows tucked in at your side. Pull both arms back keeping your elbows parallel to the floor.



Shoulder Shrugs

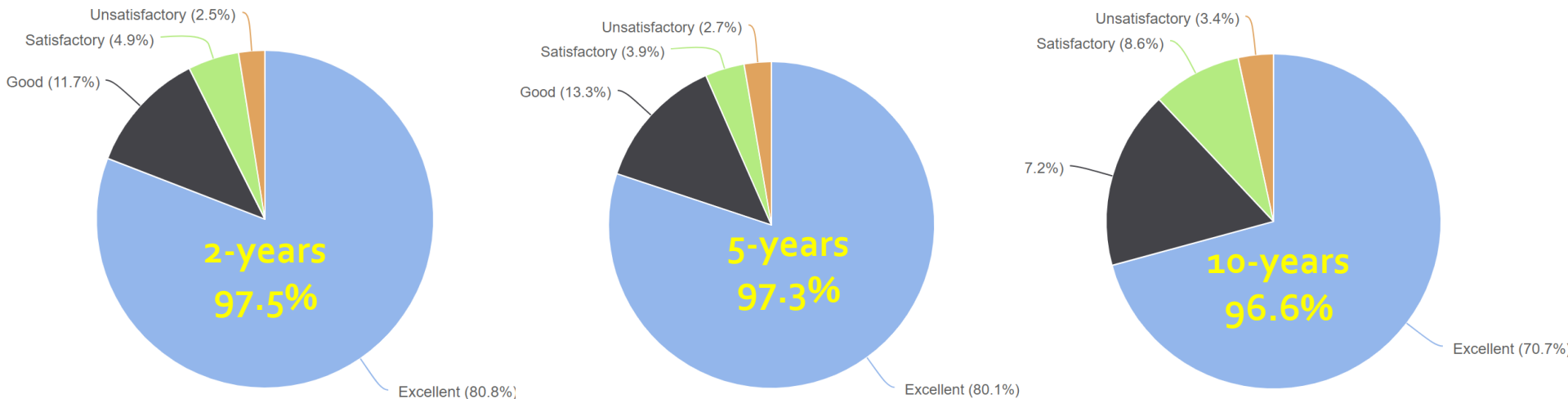
With arms at your side raise your shoulders up towards your ears.



What to expect

- 97% Overall satisfaction (80% 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?



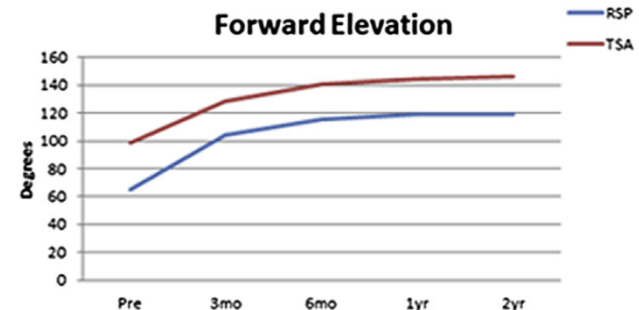
Recovery Expectations

- **Pain Relief**
 - Quick!
 - Most patients off pain medication within days
- **Function Recovery**
 - 3 months ~70%
 - 6 months 100%
- **Motion**
 - 3 months 60%
 - 6 months 90%
- **Internal Rotation**
 - 80% Easy toileting
 - 84% 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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^aNova Southeastern University, College of Osteopathic Medicine, Fort Lauderdale, FL, USA

^bHoly Cross Orthopedic Institute, Fort Lauderdale, FL, USA

Return to Sports

■ Return to Golf

- 92% performance same or better
- 60% with improved driving distance
- Return to play
 - 49% by 6 months; 85% by 12 months

■ Return to Racket Sports

- 96% ability to return to sport
- 90% performance same or better
- Return to play
 - 50% by 6 months; 81% by 12 months

■ Return to Swimming

- 82% returned to swim
- 70% with improved performance
- 70% 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

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