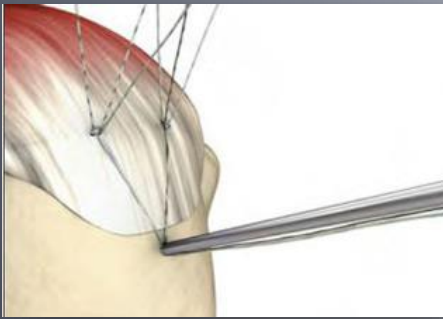
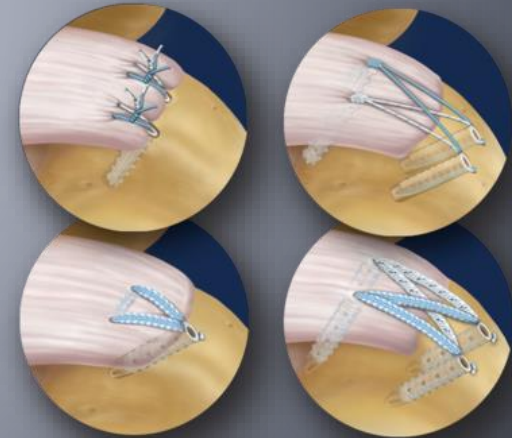


Arthroscopic Rotator Cuff Repair

Levy Shoulder to Hand Center

Jonathan Levy, MD
Casey Beleckas, MD

Paley Orthopedic and Spine Institute
Boca Raton, Florida USA



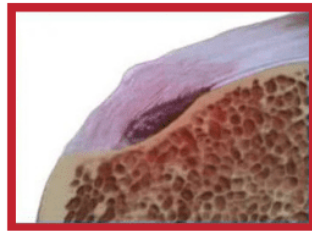
LEVY SHOULDER TO HAND CENTER
AT THE PALEY ORTHOPEDIC & SPINE INSTITUTE

LEVYREHAB.COM

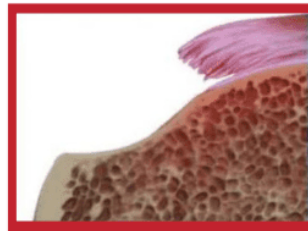
What we know...

- Rotator cuff tears are common
- Partial Tears vs. Full Thickness Tears

- By age of 60 -- ~50% have at least a partial tear Milgrom, JSES 1999
- By age 70 – ~30% have full thickness tears Tempelhof JSES 1999



Partial-Thickness Tear



Full-Thickness Tear

- Most tears (80%) are degenerative
 - Some are traumatic (20%)
- Larger tears have greater loss of shoulder function

What we know...

- Rotator cuff tears ***do not*** heal on their own
- Rotator cuff tears get **larger** over time
- Many patients with rotator cuff tears do not have pain
 - Many patients ***will eventually*** have pain

(Yamagucci, *JSES* 2001)

Non-operative Treatment

- Vast Majority (60-91%) of degenerative tears will improve without surgery
 - Rotator cuff will not heal
- Anti-inflammatory medications
- Physical therapy



Injections

- **Cortisone**

- Increased risk of repair failure if performed within 6 months of surgery
- May lead to tear progression

- **PRP (platelet rich plasma)**

- Improvement in pain and function for partial thickness rotator cuff tears



Surgical Treatment

- Options
 - Surgical treatment – rotator cuff repair
 - Opportunity to heal tendon
 - Arthroscopic surgery
 - Outpatient
 - Well-tolerated
 - Small-medium size tears have 90-95% chance of improvement



Challenges

- Smoking
 - 2.5x risk of requiring additional surgery (Traven et al Arthroscopy 2019)
- Increased age (Diebold et al, JBJS 2017; Khazzam et al, JSES Int 2020)
- Diabetes
- Large/massive rotator cuff tears
 - 88-95% improvement in symptoms (Savoie, Arthroscopy 2003; Burkhart et al, Arthroscopy 2001)
 - 36% re-tear (Haleem et al, Knee Surg, Sports Traum 2021)
- Recurrent tear after previous repair
- Rotator cuff muscle atrophy
- Multiple cortisone injections (Watson JBJS 1985)

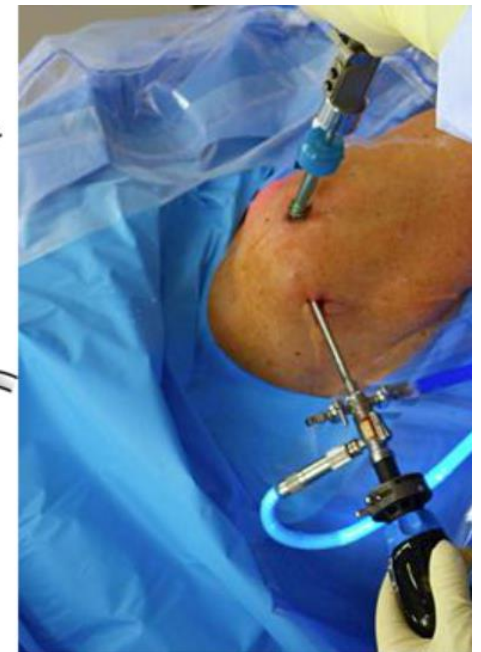
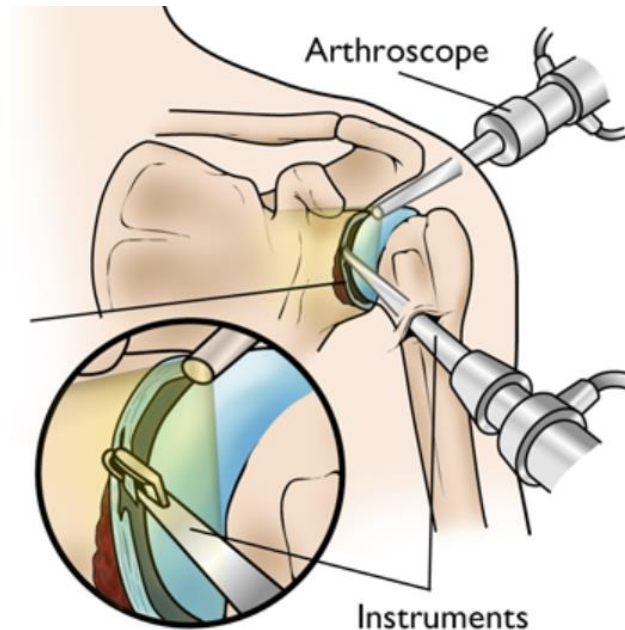
Surgery

- West Boca Outpatient Surgical Center
- Outpatient Surgery
 - General Anesthesia with nerve block
 - Multimodal Pain Management
 - Nerve Block
 - Cold Therapy
 - Anti-Inflammatory
 - Steroids
 - Tylenol
 - Opioids

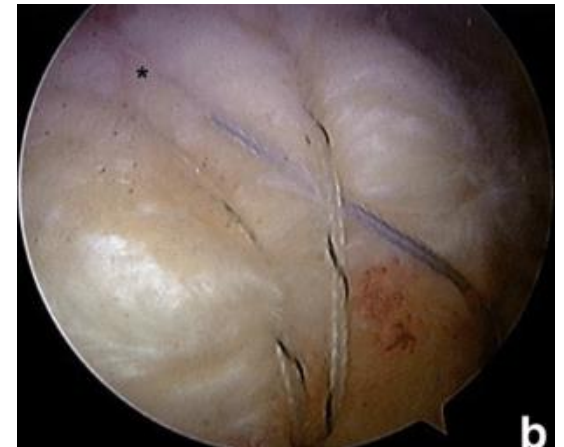
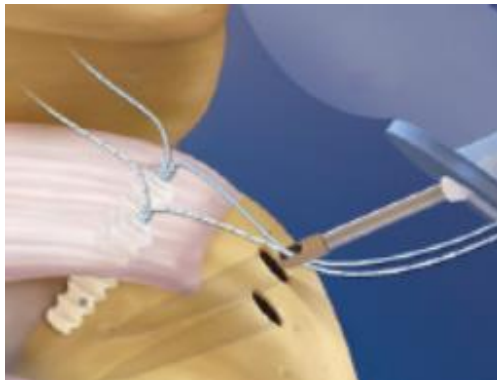
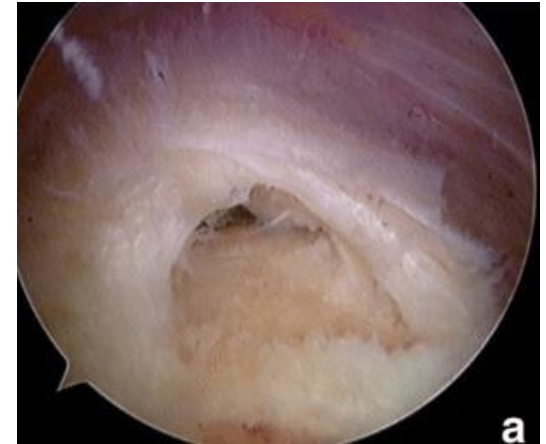
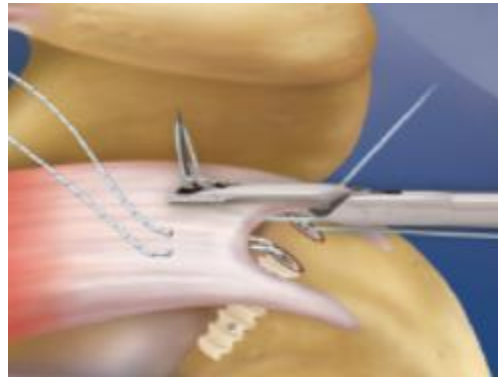


Arthroscopic Rotator Cuff Repair

- Small incisions
- Arthroscope
 - “Under Water”



Arthroscopic Repair



Rehabilitation

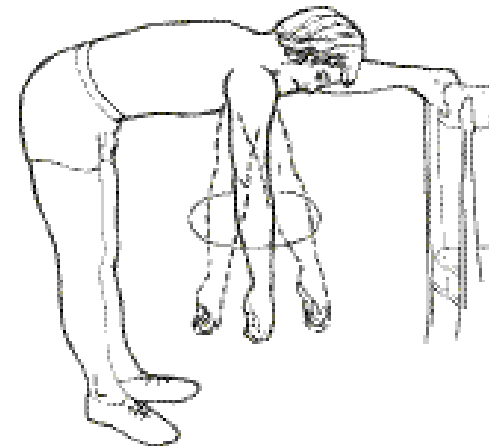
- Individualized rehabilitation protocol
 - Tear size
 - Rotator cuff quality
- Types of Therapy
 - Home based therapy
 - Formal physical therapy at outpatient facility

Post-operative Rehabilitation

- **Phase 1 -- Healing (0-6 weeks)**
 - **Ultra-Sling**
 - 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.



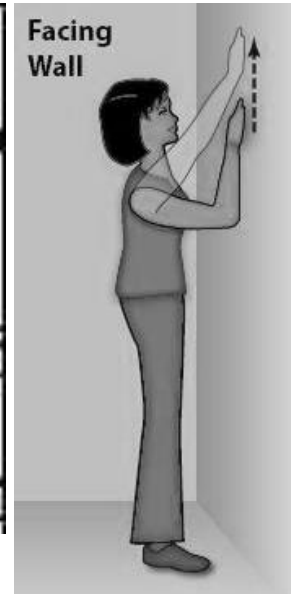
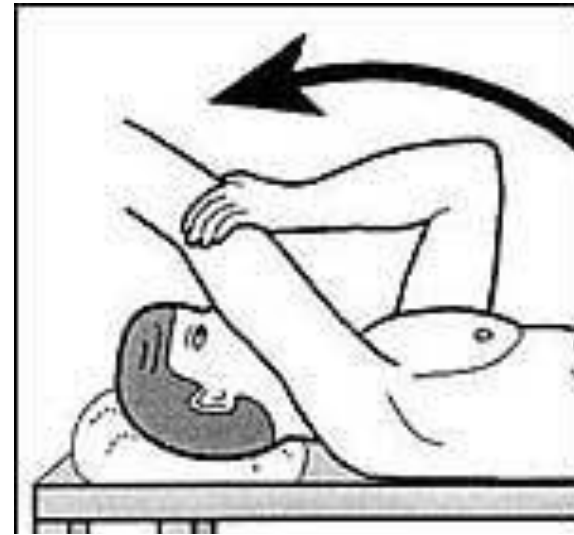
Ultra-Sling



Pendulum exercises

Post-operative Rehabilitation

- **Phase 2 – Stretching (6-12 weeks)**
 - Discontinue brace
 - Stretching 3x per day
 - Begin to use arm
 - No lifting >2 lb



Post-operative Rehabilitation

- Phase 3 – Return to Activity (3 months+)
 - Rotator cuff and periscapular strengthening
 - Gradual return to activities



Internal Rotation

Keeping your elbow in at your side, rotate arm inwards 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.



Recovery Expectations

J Shoulder Elbow Surg. 2017 Jan 26. pii: S1058-2746(16)30575-4. doi: 10.1016/j.jse.2016.11.002. [Epub ;

Speed of recovery after arthroscopic rotator cuff repair.

Kurowicki J¹, Berglund DD¹, Momoh E¹, Disla S¹, Horn B¹, Giveans MR¹, Levy JC².

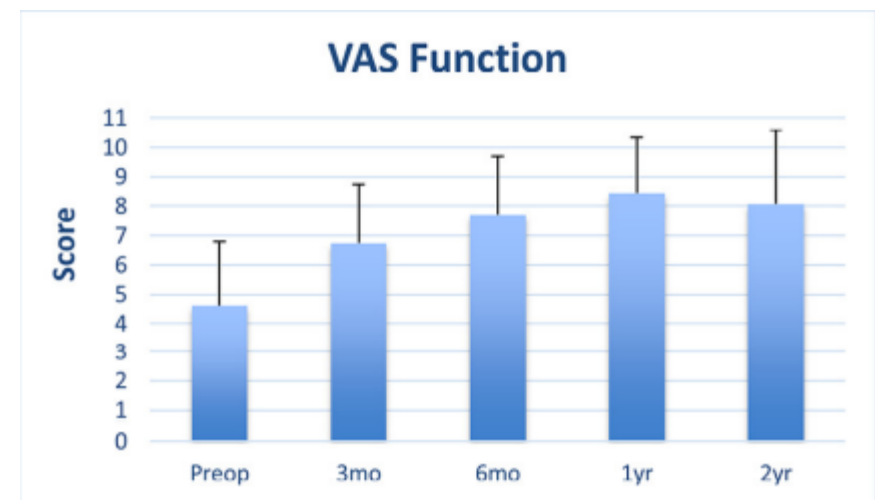
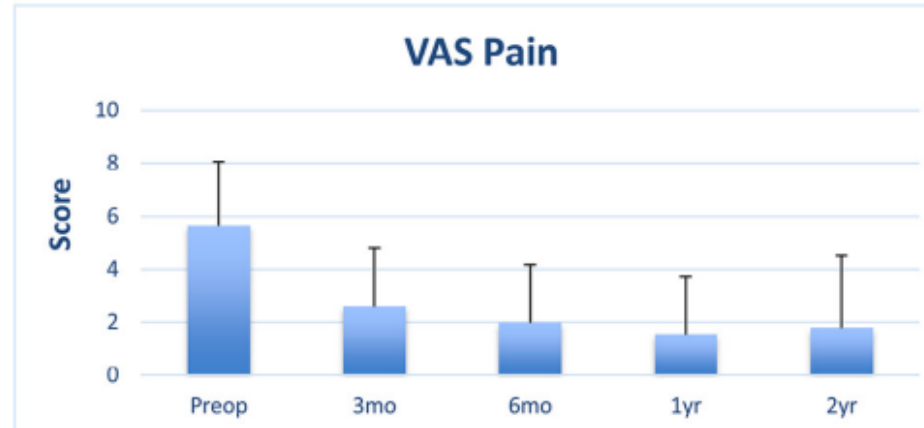
■ Pain Relief

- Quick
- Most patients off pain medication within 1-2 weeks

■ Functional Recovery

- 3 months- ~50% improvement
- 6 months- ~80% improvement

3-6 Month Recovery



Appointments

- **Surgical Discussion** (with Sara Blum, PA-C)
 - Review medical clearance
 - Review individualized post-operative therapy protocol
 - Baseline outcome scores
- **7 Day Post-operative Visit** (with Sara Blum, PA-C)
 - Remove sutures
 - Review intra-operative imaging
- **6 Weeks** – Advance to stretching exercises (with Sara Blum, PA-C)
- **12 weeks** – Advance to strengthening, outcome scores obtained
- **6 months** – Follow-up on return to activity, outcome scores obtained

Complications

- Rotator cuff re-tear
 - Up to 5-30% for small tears (Boileau et al *JBJS* 2005)
 - Up to 94% for massive tears (Galatz et al *JBJS* 2004)
 - Dependent on co-morbidities (ie smoking, diabetes, etc.)
- Stiffness
- Infection
- Arthritis/chondrolysis
- Nerve injury
- Suture or anchor related complications
- Anesthesia risks