

Shoulder Pain: Causes and Cures

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Shoulder Pain

- Why does my shoulder hurt?
- What can be done about it?
- Do I need surgery?
- Will it Work?
- Recovery?



Shoulder Pain

- Anxiety
- Fear
- Hope
- Patients want to get better



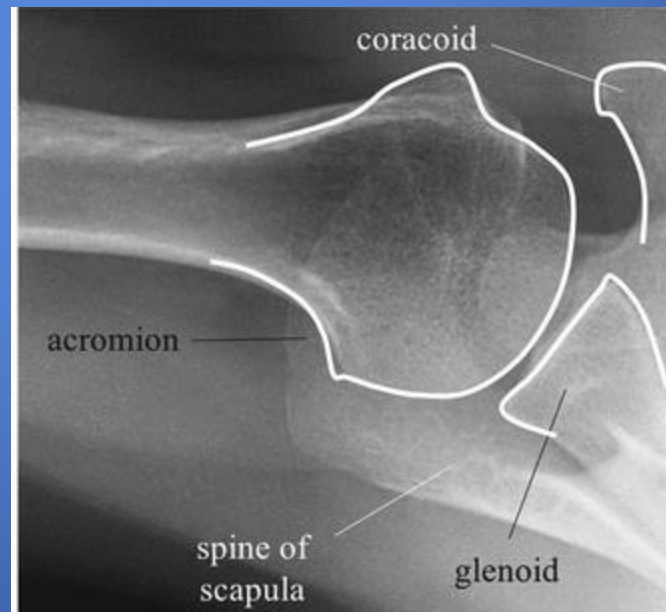
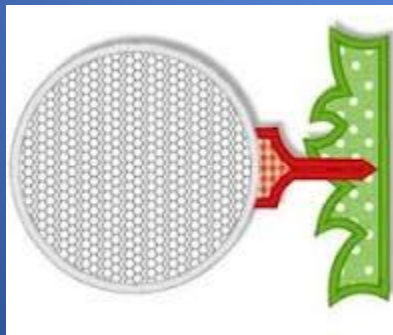
Shoulder Pain

- Causes
 - Common things are common
 - Similar to causes of pain in other joints
 - Trauma
 - Wear and tear
 - Sports related
 - Infection
 - tumor



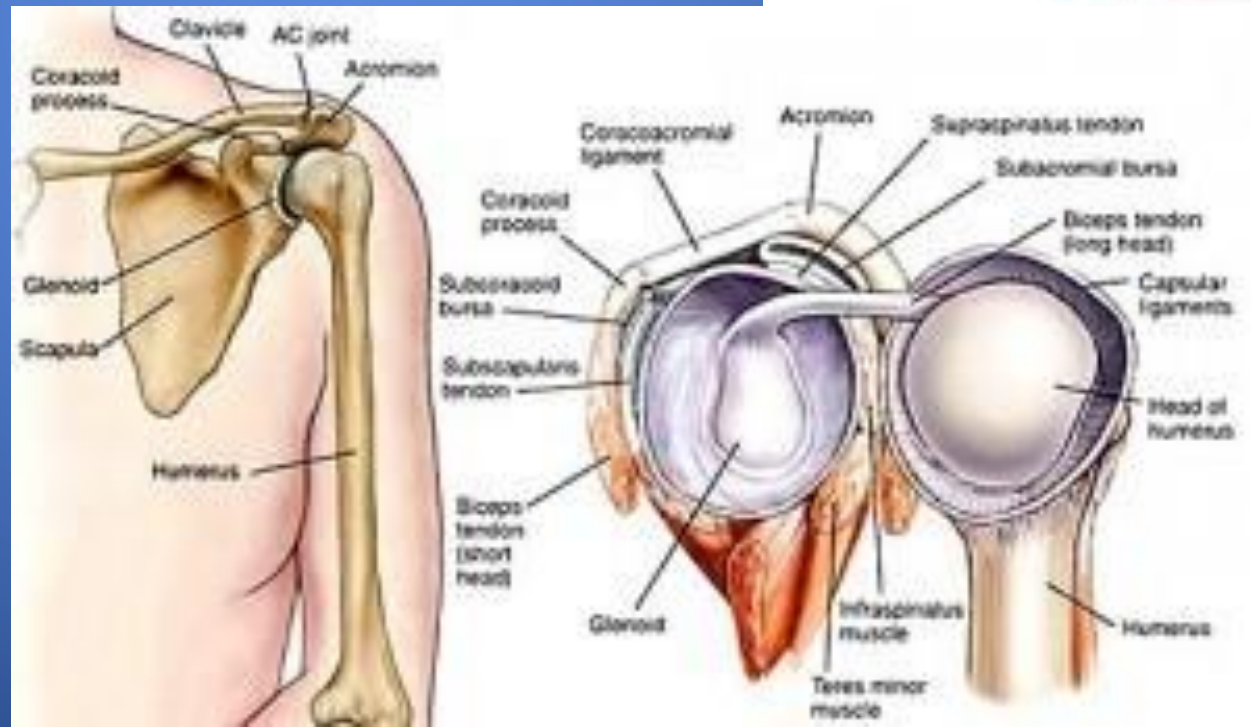
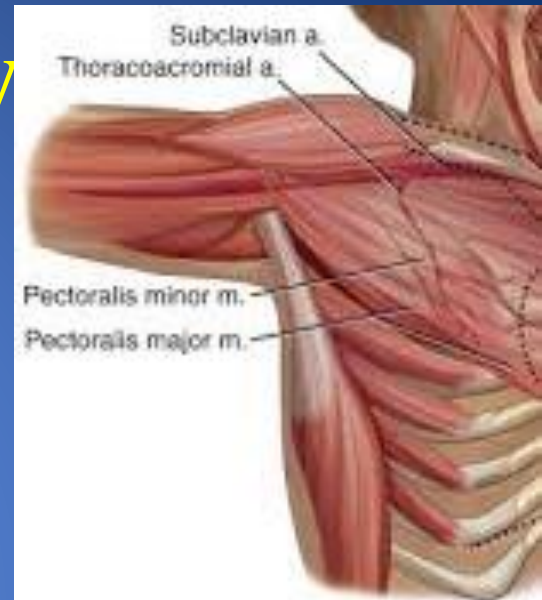
Shoulder Anatomy

- Bony Anatomy
 - Golf ball on a tee
 - ball = humerus
 - Socket = scapula (shoulder blade)



Shoulder Anatomy

- Tendons
 - Rotator cuff
 - Biceps - Popeye
 - Pectoralis - chest
 - Triceps
- Cartilage
- Labrum
- Bursas



Causes of Shoulder Pain

- Trauma
 - Fractures
 - Dislocation
- Wear and Tear
 - Inflammation
 - Tendon tearing
 - Cartilage loss – arthritis
- Sports related – labrum



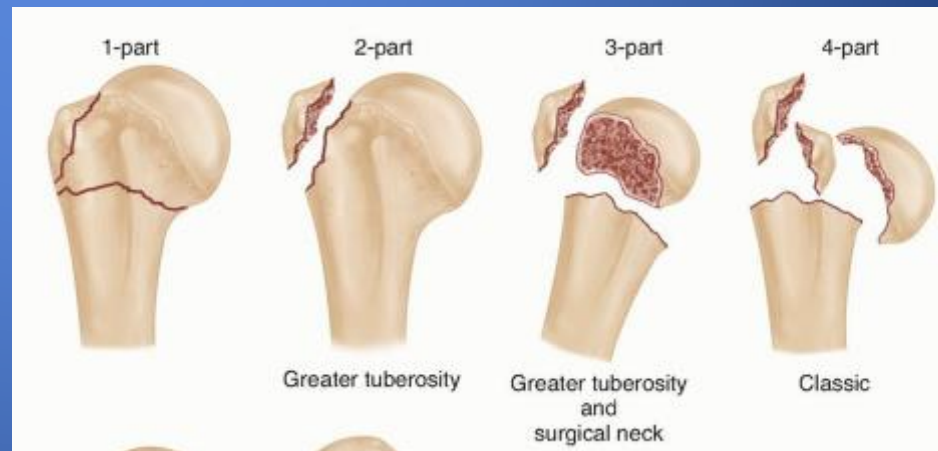
Causes of Shoulder Pain

- Zebras – won't cover..
 - Tumor / cancer
 - Infections
 - Rare genetic deformities



Fracture

- Fracture = break = broken
- Load exceeds strength
- Trauma – can include falls
- 2-4 months recovery
- Surgery? Maybe.



Shoulder Fractures

- Ball – “proximal humerus”
- Socket / shoulder blade
 - “glenoid”
 - “scapula”
- Range of Severity
 - complex
 - simple



Fracture of Ball / Proximal Humerus

- Crack
 - “minimally displaced”
 - Non-surgical
- Fall, pain
- Treatment
 - Sling
 - Physical therapy
 - Recovery: 6-10 weeks



Fracture of Ball / Proximal Humerus

- **Displaced**
 - Parts separated
 - Higher energy ?
- **Treatment**
 - **Non-surgical**
 - Decreased use, P.T.
 - **Operative**
 - Re-assembling pieces, fixing
 - Shoulder replacement
- **Recovery: 3-5 months**



Fracture of Ball / Proximal Humerus

- Prognosis
 - Crack: excellent
 - Displaced: goodish
 - Loss of blood supply
 - Poor motion
 - Weakness
 - Need for surgery



Fracture of Socket / Shoulder Blade

- Treatment largely driven by displacement of socket surface
 - None? -> no surgery
 - Lots? Consider surgery
 - Pendulum swinging to more non-surgical care



Shoulder Dislocation

- Shoulder less stable than other joints
- Socket? Plate?
- Cause: trauma, fall
- Symptom: deformity, pain, motion loss
- Imaging abnormal
- Treatment – pop it back in!



Shoulder Dislocation

- Single Dislocations – non-surgical care
- Multiple dislocators – need surgery
 - Tissues tear / stretch, don't heal
 - Lesser provocation
 - Surgery usually successful
 - Recovery 3-6 months



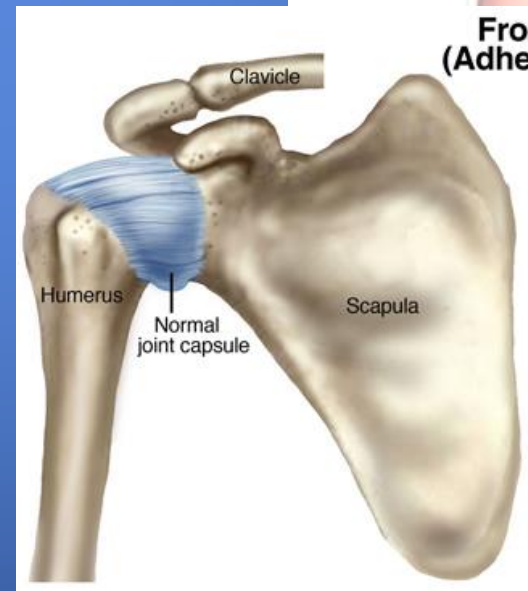
Rotator Cuff

- Collection of 4 muscles and tendons
- Start as muscles on shoulder blade
- Converge into a single cuff, sheet of tendon
- Attach to upper humerus, control



Causes of Shoulder Pain: Inflammation

- Inflammation
 - Normal response
 - Usually in response to injury
 - Micro: overuse
 - Trauma
 - 1st step toward healing
 - Cells release chemicals
 - Chemicals cause irritation
 - Pain
 - Can go on longer than it should



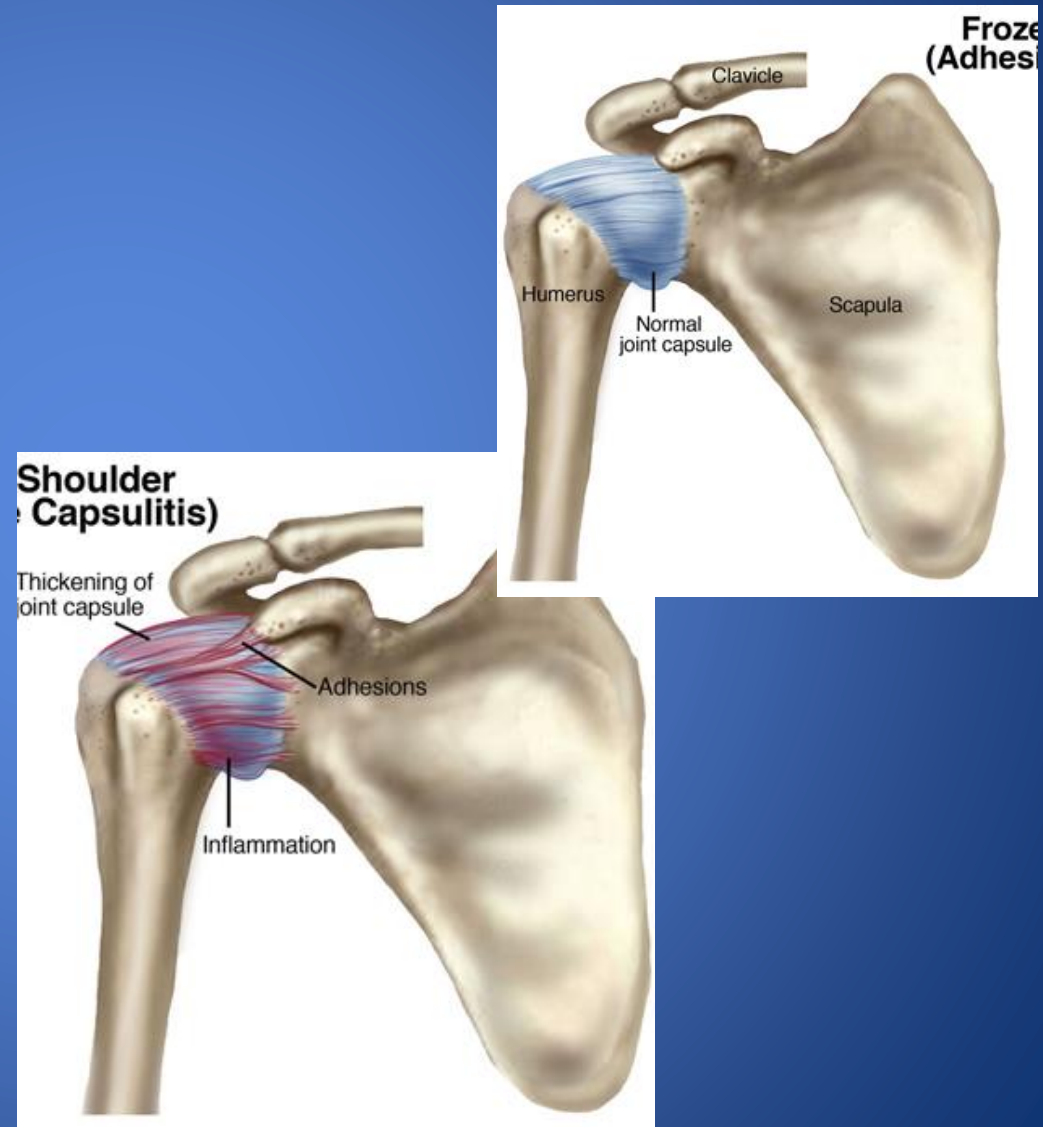
Shoulder Inflammation

- Bursa
 - Gelatinous film overlying tendons
 - ? Lubricating tendon
 - Can become inflamed, thickened, painful
- Symptoms – pain with motion
- Normal imaging
- Treatment
 - Non-op usually successful
 - Surgery rarely needed



Shoulder Inflammation

- Frozen Shoulder
 - “adhesive capsulitis”
 - Joint lining inflamed
 - Causes
 - Trauma
 - Diabetes
 - Unknown
 - Symptoms – painful motion
 - Loss of motion in all planes
 - Leathery endpoints



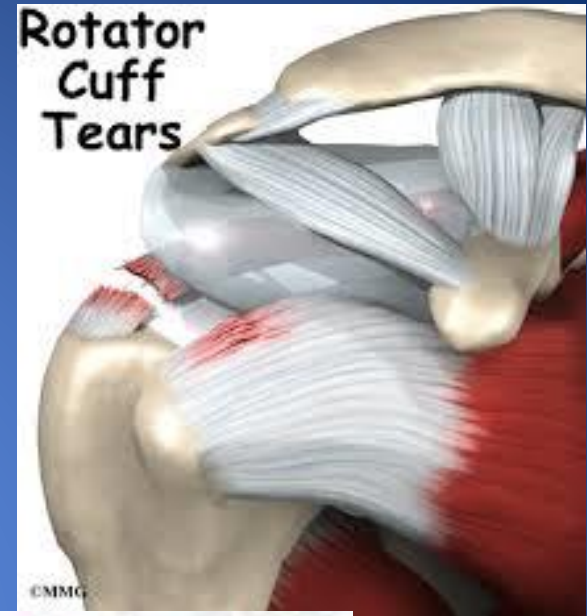
Shoulder Inflammation

- Frozen Shoulder
 - treatment
 - Non-operative
 - Usually effective
 - Time alone
 - PT
 - Meds
 - Cortisone injection
 - Surgery – rarely needed



Rotator Cuff

- Blood supply marginal
- Tendon weakens with age
- straw breaks camel's back
- Part of tendon attachment tears
 - Starts small
 - Often enlarges
 - Can become unfixable



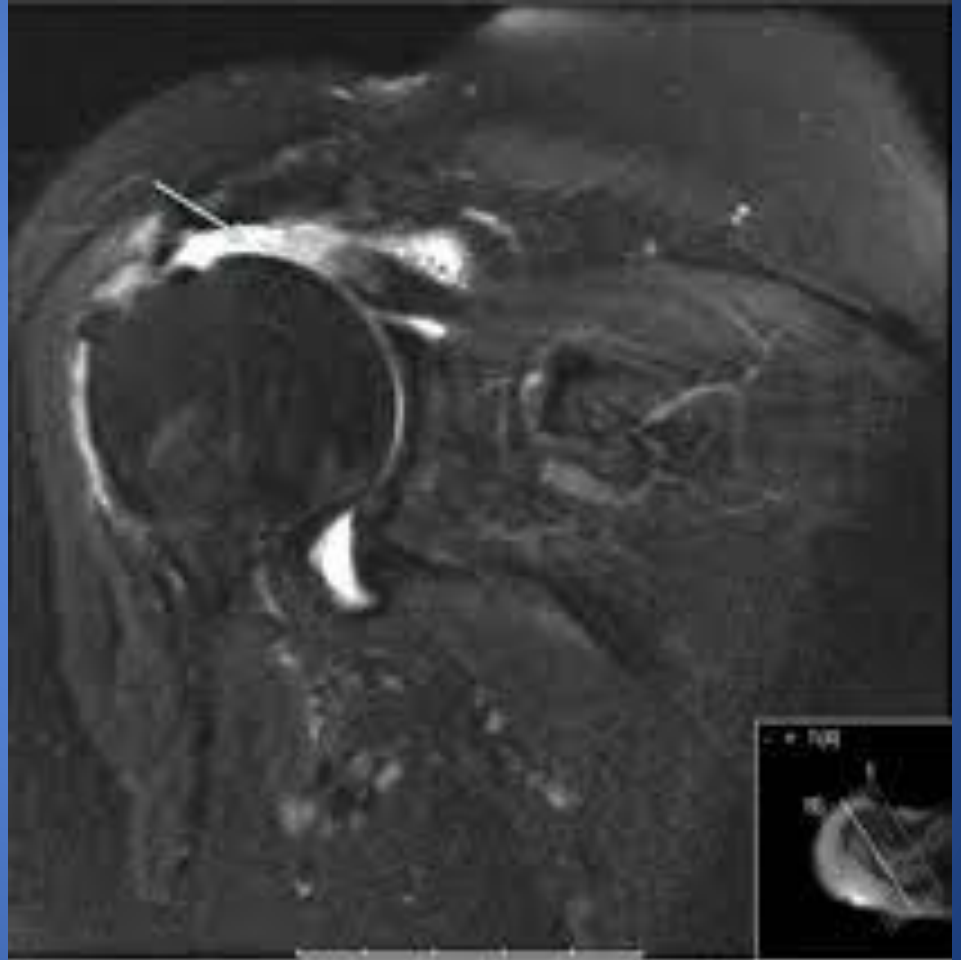
Rotator Cuff Tears

- Patient usually does not recall a trauma
- Pain begins out of nowhere
- Popping, snapping
- With use, at night
- Weakness



Rotator Cuff Tears

- Diagnosis
 - Doctor's exam – weakness
 - X-rays – normal
 - MRI +



Rotator Cuff Tears

- Treatment
 - Non-surgical
 - Rest
 - P.T.
 - Injection
 - Helpful if...
 - tear is small
 - demand is low
 - Do NOT fix the tear
 - Decreases pain



Rotator Cuff Tears

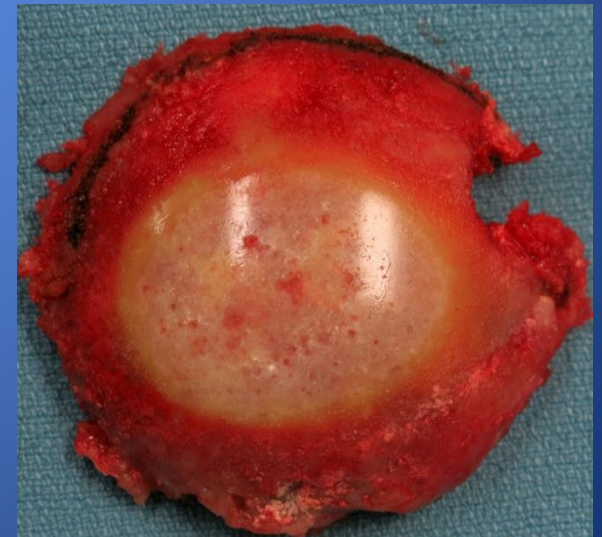
– Surgical

- Repair: sewing torn tendons back to bone
 - Suture through tendon and through bone
 - 3-5 month recovery
 - Good results
- Trimming –
 - Salvage option
 - if tear too big to repair
- Replacement
 - If tear too big to repair



Shoulder Wear and Tear: Cartilage

- Cartilage
 - Smooth gristle covering ends of bones
 - Permits smooth, low friction motion
 - Painless
- Relatively frail tissue
- Can wear out
- Leave denuded bony surface
- Arthritis!



Shoulder Arthritis

- Loss of Cartilage
- Bone-on-bone
- Much higher friction
- Bone spurs
- Bony erosion
- Limits motion
- Inflammation
- Pain!



Shoulder Arthritis

- X-rays
 - Loss of joint space
 - Bone-on-bone
 - Spurs
 - erosion



Shoulder Arthritis Treatment

- Non-surgical
 - Activity restriction
 - Medications
 - P.T.
 - Cortisone injection
 - Still bone-on-bone
- Stem cells
 - Experimental
 - Expensive
 - unregulated
 - No proven benefit
 - Where do they go?



Shoulder Arthritis: Surgery

- Usually required when severe
- No rush
- 1-2 hours
- Anaesthesia
- Eliminates bone-on-bone
- Resurface arthritic ball, socket



Shoulder Replacement

- New ball and socket
 - Metal and plastic
 - Std. Vs. Reverse
- Standard
 - Metal ball / stem
 - Plastic socket
- Reverse
 - Ball on glenoid
 - Socket on humerus



Standard vs. Reverse

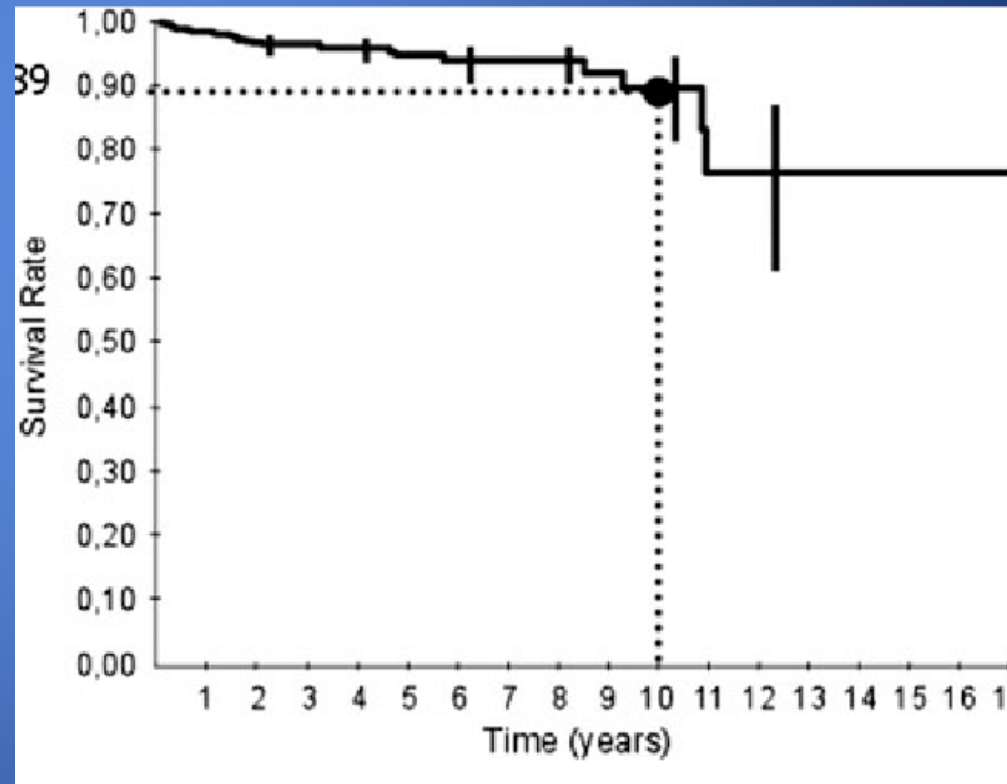
- **Complication rates the same**
- Complications of reverse more severe
- Standard better if rotator cuff intact
- **Reverse better if cuff torn, deformity severe**



Results



- Most do really well
 - Good pain relief
 - Painless motion
 - Motion usually less than normal
- Complication rates low
- Recovery 2-5 months
- Good durability



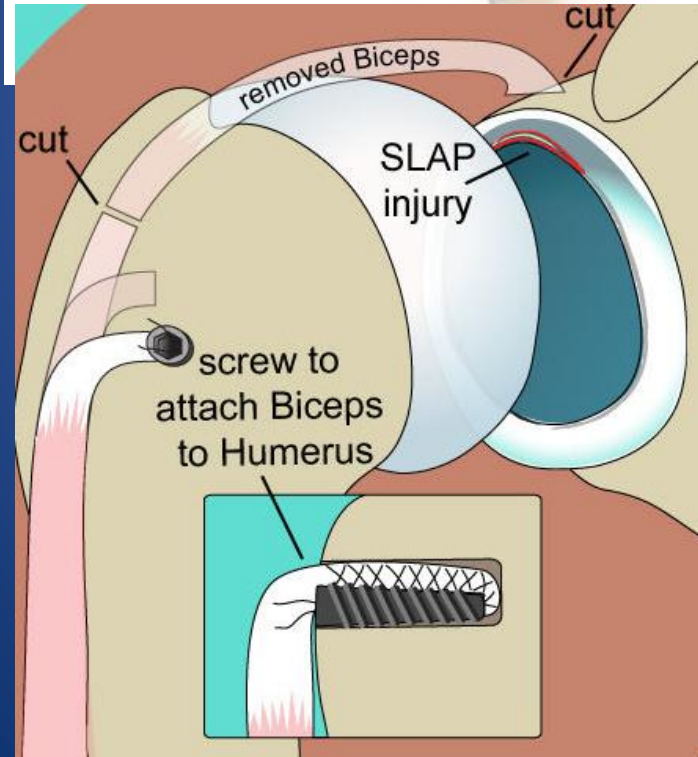
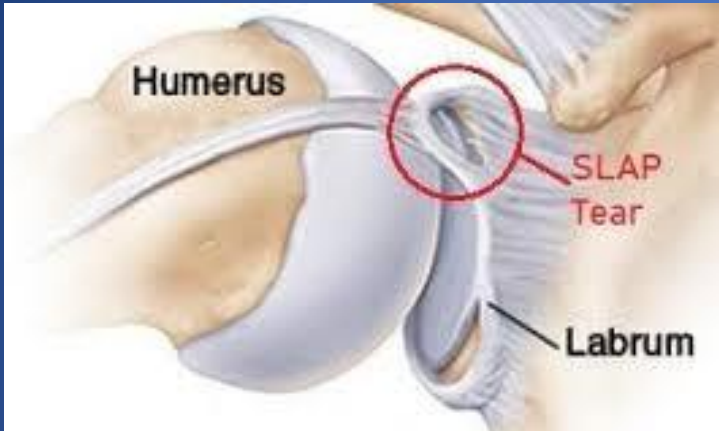
Sports Related Shoulder Pain

- Understood only recently
- Labrum and biceps
- Shoulder designed for out-front use
- Not designed for throwing
 - Baseball
 - Swimming
 - Volleyball
- Twist and torsion on superior labrum





Shoulder Pain in Sports



- Upper labrum
– SLAP
- Pain – apex of throwing
- Non-surgical - Rest, activity restriction, medication, P.T.
- Surgery – trimming of labrum, biceps tenodesis
- High success rate, recovery 3-6 months

Shoulder Pain

- Many parts can fail
- Fixable
 - Non-operative
 - Surgical
- High rates of satisfaction

