

# INJECTION THERAPY OF COMMON UPPER EXTREMITY MUSCULOSKELETAL PROBLEMS

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# SHOULDER CAPSULITIS (FROZEN SHOULDER)

- **HISTORY:** age over 40, shoulder stiffness and pain often lateral shoulder and or deep seated, worse w movement & sleeping on affected shoulder, night pain; decreased function hard to comb hair; more prone to those w diabetes; may have had some injury/overuse
- **PHYSICAL EXAM:** may have atrophy of rotator cuff muscles; most significant finding is decreased rom especially external rotation
- **XRAYs:** may show glenohumeral osteoarthritic changes, may be normal



# SHOULDER INJECTION TECHNIQUE FOR FROZEN SHOULDER

- **PATIENT POSITION:** ptn sitting w forearm held across waist
- **LANDMARKS OUTLINED:** index finger on coracoid process, thumb on posterior angle of acromion
- **TISSUE TO AVOID:** humeral head; axillary nerve is 4 fingerbreaths below the posterior acromial angle
- **PREP:** betadine, alcohol wipe, local anesthetic (lidocaine, ethylchloride)
- **NEEDLE INSERTION:** insert 25g 1 1/2" needle, thru anesthetized skin, 1 fingerbreath below thumb (on posterior acromial angle) aiming needle toward coracoid process
- **DEPOSITION:** aspirate, inject by bolus, 5-7ml lido 1%, 20-40mg TAC
- **OBSERVE PATIENT:** watch for vaso-vagal reaction, apply gentle "healing" massage and range of motion, re-examine for improvement of symptoms
- **PATIENT EDUCATION:** reinforce wholistic care; provide post injection instructions and f/u

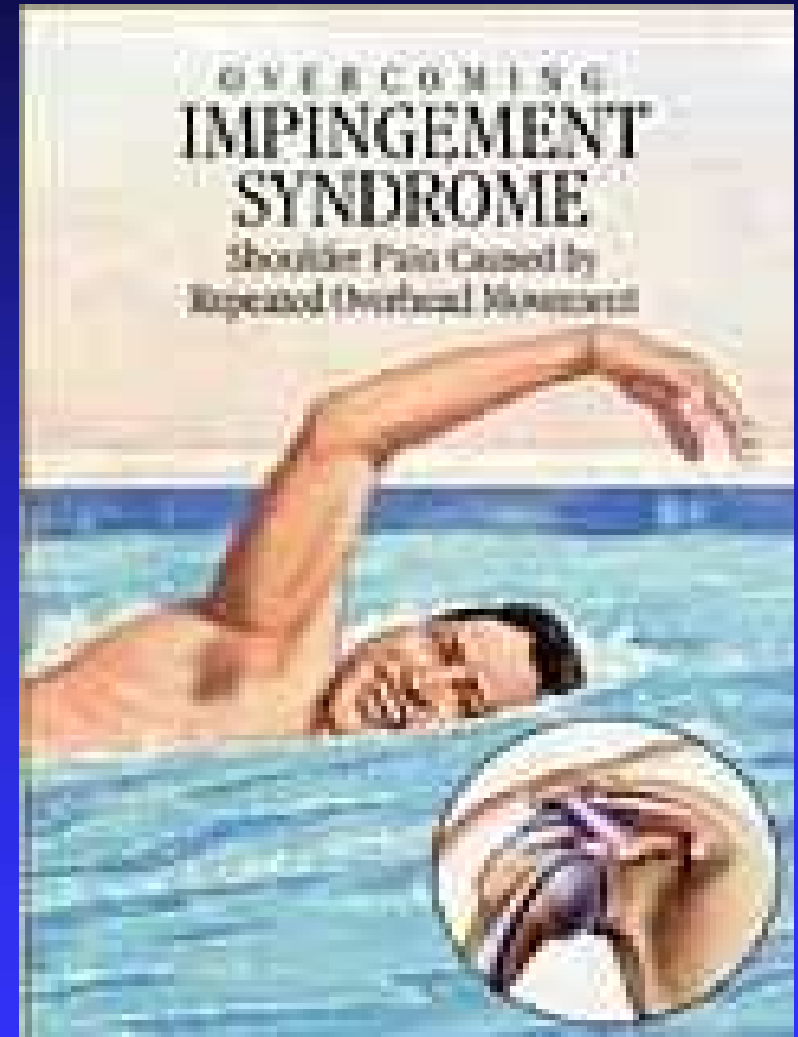
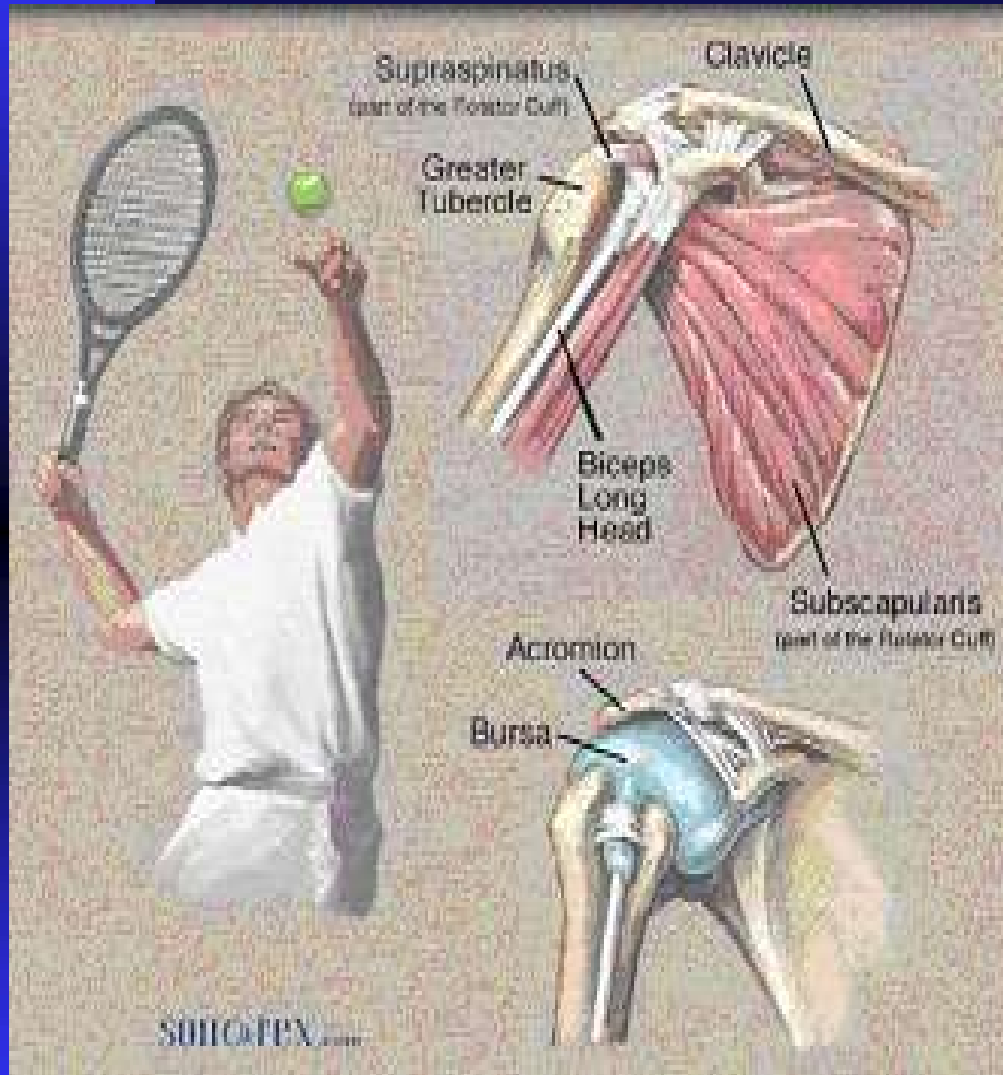


# IMPINGEMENT SYNDROME (ROTATOR CUFF TENDONOPATHY; SUBACROMIAL BURSTITIS)

- **HISTORY:** ache in shoulder region, usually lateral deltoid aspect, ache worse w movement, dressing oneself, abduction and internal rotation, night pain, may wake up at night; may have some injury/overuse

- **PHYSICAL EXAM:** tender over anterior shoulder, crepitus; painful arc between 60-120 degrees; positive impingement test of Neer's, Hawkin's, positive resisted supraspinatus test

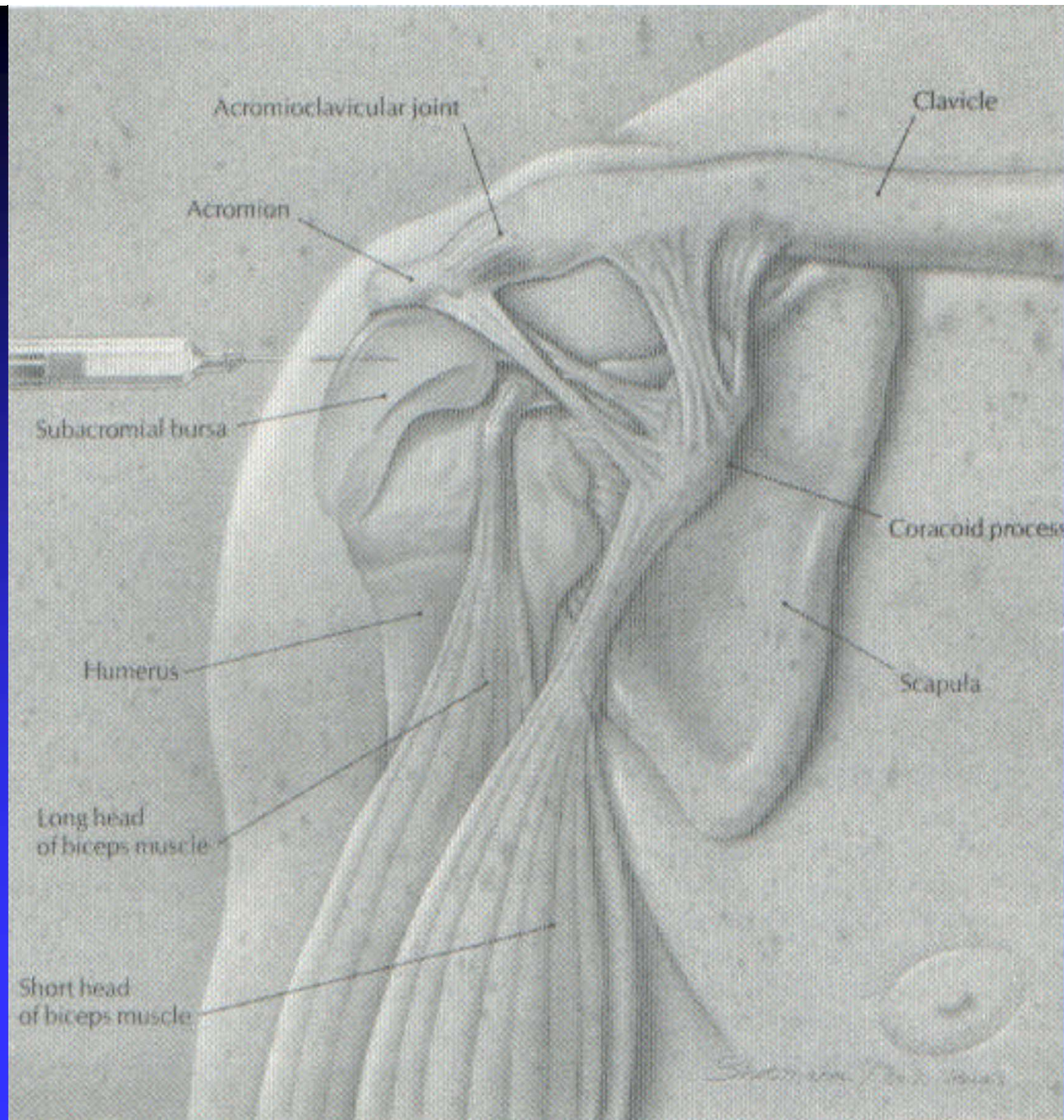
- **XRAYs:** high riding humeral head, osteophytic spur underside of acromion or AC joint





# SHOULDER INJECTION TECHNIQUE FOR IMPINGEMENT SYNDROME

- **PATIENT POSITION:** ptn sitting w arm hanging down loose
- **LANDMARKS:** lateral edge of acromion; head of humerus
- **TISSUE TO AVOID:** head of humerus; rotator cuff tendons
- **PREP:** betadine, alcohol wipe, local anesthetic (lidocaine, ethylchloride)
- **NEEDLE PLACEMENT:** insert 25g 1 1/2", thru anesthetized skin, 1 fingerbreath below lateral edge of acromion, between acromion and humeral head, angle needle 90 degrees to skin
- **DEPOSITION:** aspirate, inject by bolus 6-8ml lido 1%, 20-40mg TAC
- **OBSERVE PATIENT :** watch for vaso-vagal reaction, apply gentle "healing" massage and range of motion, re-examine for improvement of symptoms
- **PATIENT EDUCATION:** reinforce wholistic care; provide post injection instructions and f/u



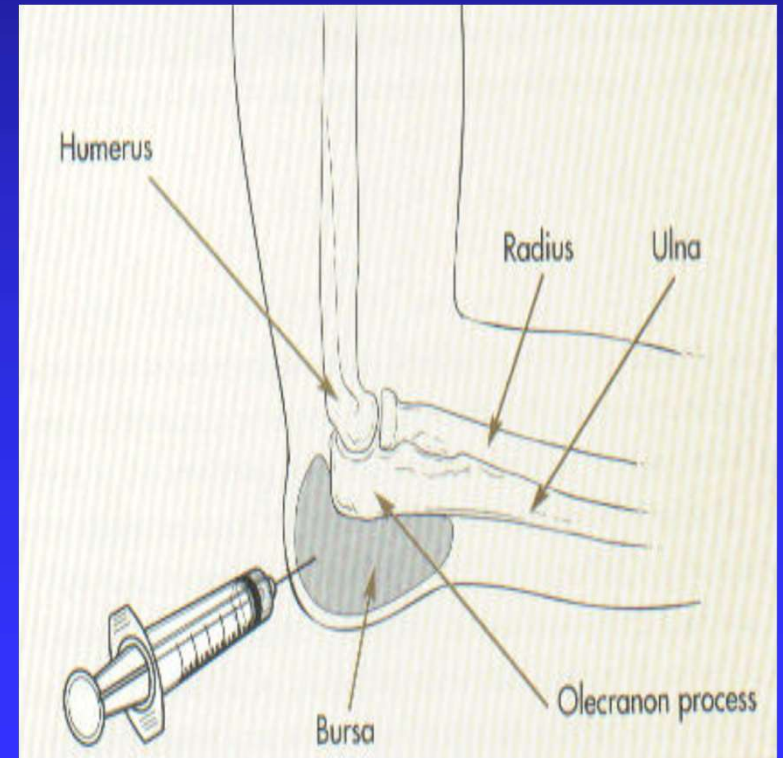
# OLECRANON BURSTITIS

- **HISTORY:** age over 40, history of recurrent pressure, trauma, leaning on elbow; complaints of pain, swelling, and or warmth at elbow tip
- **PHYSICAL EXAM:** swollen, fluctuant cystic mass at tip of elbow; may be red, hot, tender
- **XRAYs:** may be normal



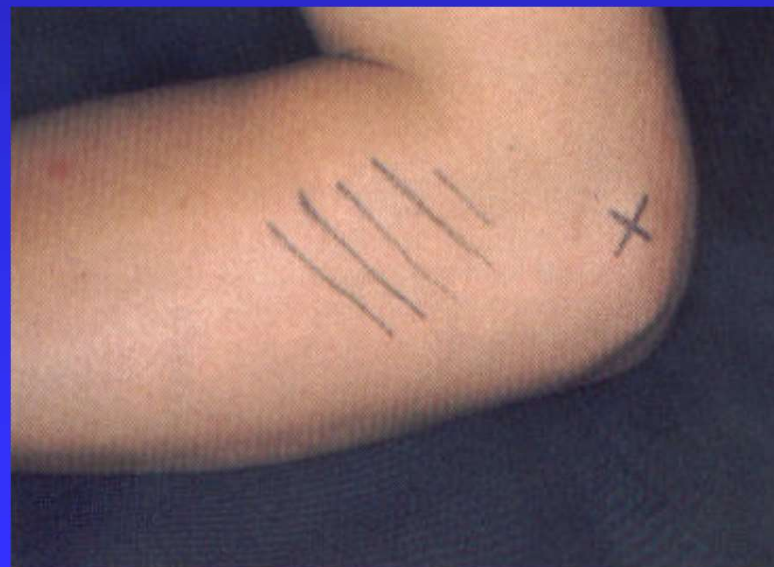
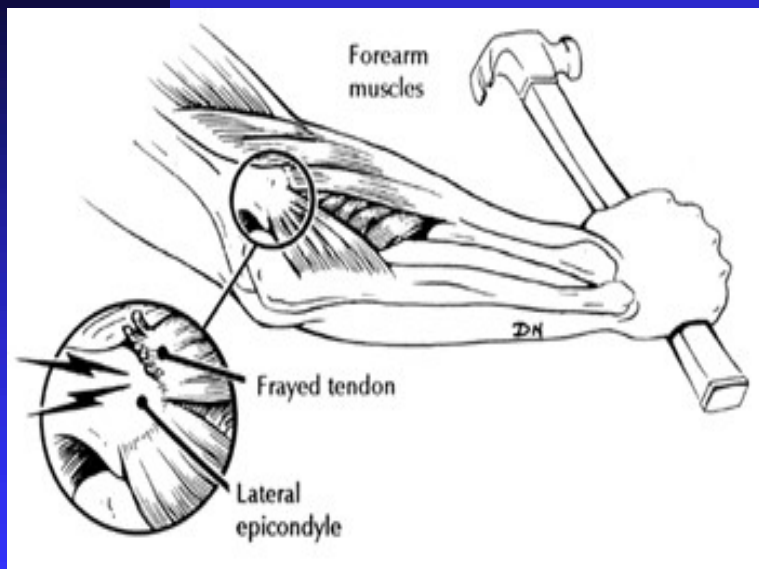
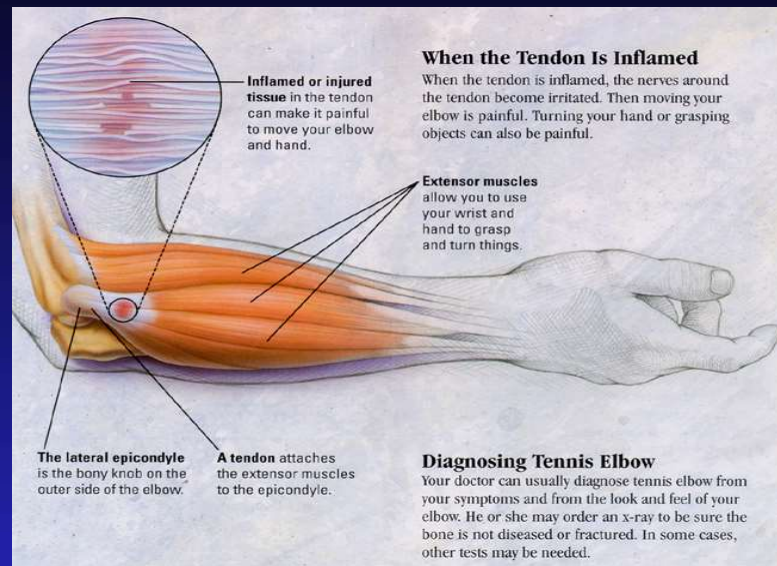
# OLECRANON BURSITIS ASPIRATION & INJECTION

- **PATIENT POSITION:** ptn sitting w forearm and elbow supported
- **LANDMARKS OUTLINED:** lateral & medial epicondyle
- **TISSUE TO AVOID:** ulnar nerve
- **PREP:** betadine, alcohol wipe, local anesthetic (lidocaine, ethylchloride)
- **NEEDLE INSERTION:** thru anesthetized skin insert 20g 1 1/2" needle; aspirate fluid, if appropriate, hold needle w hemostat; change syringes and inject 1ml lido 1% and 10mg TAC
- **DEPOSITION:** as above; bolus
- **OBSERVE PATIENT:** watch for vaso-vagal reaction, apply gentle "healing" massage and range of motion, re-examine for improvement of symptoms
- **PATIENT EDUCATION:** reinforce wholistic care; provide post injection instructions and f/u



# LATERAL EPICONDYLITIS (TENNIS ELBOW)

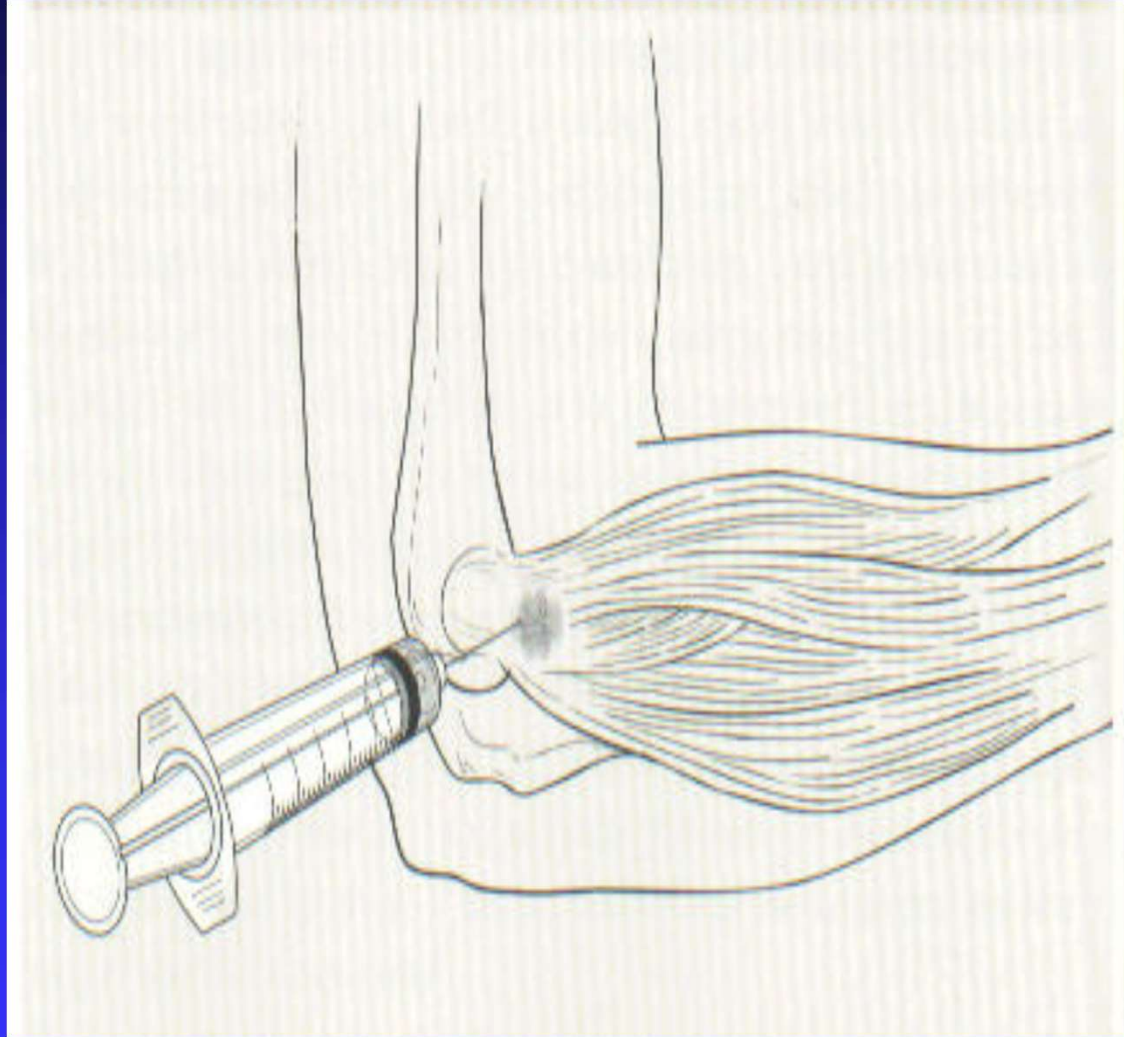
- **HISTORY**: age over 40, may have had hx of repetitive hand/wrist activities (tennis; hammering); hurts to shake hands, pick up cup of coffee, pick up quart of milk, or with various activities of wrist/hand
- **PHYSICAL EXAM**: point tender lateral epicondyle; pain w resisted wrist extension while elbow held in extension; possibly painful w resisted supination
- **XRAYs**: may be normal





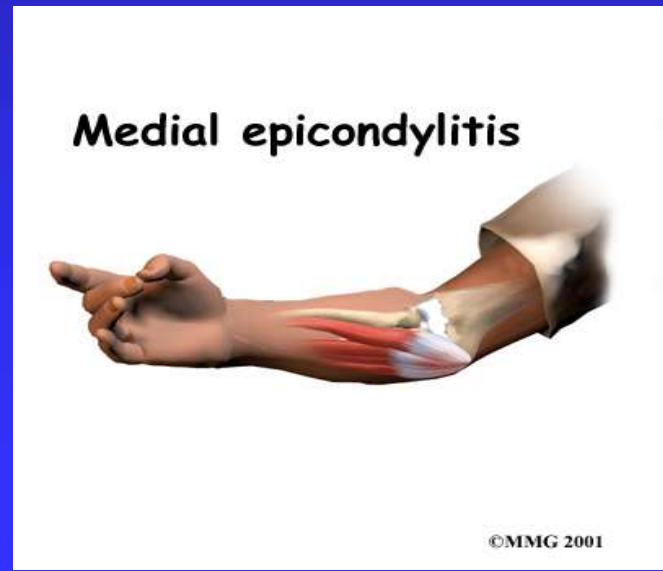
# LATERAL EPICONDYLITIS (TENNIS ELBOW) INJECTION

- **PATIENT POSITION:** forearm supported; elbow in 90° flexion
- **LANDMARKS OUTLINED:** radial head; lateral epicondyle; mark point of maximum tenderness
- **TISSUE TO AVOID:**
- **PREP:** betadine, alcohol wipe, may use local anesthetic (lidocaine, ethylchloride)
- **NEEDLE INSERTION:** insert 25g 1 1/2" needle, thru anesthetized skin, into point of maximum tenderness following angle of elbow crease; caress bone withdraw 1mm
- **DEPOSITION:** aspirate, inject by peppering technique 1ml lido 1% and 10-20mg TAC
- **OBSERVE PATIENT:** watch for vaso-vagal reaction, apply gentle "healing" massage and range of motion, re-examine for improvement of symptoms
- **PATIENT EDUCATION:** reinforce wholistic care; provide post injection instructions and f/u



# MEDIAL EPICONDYLITIS (GOLFER'S ELBOW)

- **HISTORY:** age over 40, some history of overuse (golfing, frisbee throwing), inner elbow pain worse with lifting palm up
- **PHYSICAL EXAM:** point tender medial epicondyle; pain w resisted wrist flexion while elbow held in extension; possibly painful w resisted wrist pronation
- **XRAYs:** may be normal



# MEDIAL EPICONDYLITIS (GOLFER'S ELBOW) INJECTION

- **PATIENT POSITION:** sitting or laying w arm in extension and supination
- **LANDMARKS OUTLINED:** medial epicondyle; mark point of maximum tenderness; ulnar nerve
- **TISSUE TO AVOID:** ulnar nerve (posterior to medial epicondyle)
- **PREP:** betadine, alcohol wipe, may use local anesthetic (lidocaine, ethylchloride)
- **NEEDLE INSERTION:** insert 25g 1 1/2" needle, thru anesthetized skin, into point of maximum tenderness, caress bone withdraw 1mm
- **DEPOSITION:** aspirate, inject by peppering technique 1ml lido 1% and 10-20mg TAC
- **OBSERVE PATIENT:** watch for vaso-vagal reaction, apply gentle "healing" massage and range of motion, re-examine for improvement of symptoms
- **PATIENT EDUCATION:** reinforce wholistic care; provide post injection instructions and f/u

